Appendix G

GEOLOGICAL INVESTIGATION

DESIGN LEVEL GEOTECHNICAL INVESTIGATION
CARGILL HILL PARCEL
HICKORY STREET
NEWARK, CALIFORNIA

FOR
DUMBARTON AREA 2, LLC
October 14, 2013

Job No. 3268.001

BERLOGAR STEVENS & ASSOCIATES

Via E-Mail and Mail

October 14, 2013
Job No. 3268.001

BERLOGAR
STEVENS &
ASSOCIATES

Mr. C. Evan Knapp
Dumbarton Area 2, LLC
3 San Joaquin Plaza, Suite 100
Newport Beach, California 92660

Subject: Design Level Geotechnical Investigation
Cargill Hill Parcel
Hickory Street
Newark, California

Dear Mr. Knapp:

INTRODUCTION

This report presents the results of our design level geotechnical investigation for a proposed residential development for the Cargill Hill Parcel in Newark, California. The site is located on the west side of Hickory Street, just southwest of the intersection of Hickory Street and Enterprise Drive as shown on Plate 1, Vicinity Map. It is our understanding that the approximately 58-acre site will be developed with one- to four-story wood frame, single-family and multi-unit residential dwellings. The planned development is shown on Plate 2, Proposed Development, and consists of 656 units as follows:

- Villages 6A and 6B -- 3 story townhomes with a penthouse.
- Villages 7, 8 and 9 – 3 story townhomes.
- Villages 10 and 11 – 1 and 2 story single family detached residences.
- Village 12 – 4 story apartments.

Approximately 20 acres of the southwestern corner of the site is currently planned to be left undisturbed as wetlands. Several community parks and trails will be included in the development. Grading will consist of cutting two knobs on the site (referred as the North Hill and South Hill) and filling several feet the portions of the site to be developed.

We have performed several geotechnical investigations for this parcel and the adjacent Torian property as listed below. The data from these previous investigations have been reviewed and incorporated into this report:

- Deep Dynamic Compaction (DDC) Test Program Results and Recommendations, Torian Property, Tract 8085, Willow Street and Perrin Avenue, dated November 27, 2012.
- Naturally Occurring Asbestos Investigation, Hill Parcel of the Cargill Salt Property, BSA Project No. 2914.101, dated October 12, 2007. Seven test pits were excavated at the North hill and 10 surface samples were obtained from the South hill.

- Preliminary Geotechnical Investigation, Hill Parcel, BSA project No. 2914.100, dated December 12, 2006. Three borings were drilled up to about 30 feet deep and a single 50-foot deep boring.
- Quantity Investigation of Magnesia Material, FMC Site, (BSA Project No. 1629.403, dated July 30, 1998. Sixteen shallow borings were drilled to native material on the North hill.
- Due-Diligence Level Geotechnical Investigation, Cargill Hill Parcel, Project No. 3268.100, dated August 27, 2010.

PURPOSE AND SCOPE OF SERVICES

The purpose of this investigation was to evaluate the proposed development with respect to site soil, bedrock, and groundwater conditions, and to provide geotechnical recommendations for the design and construction of the proposed residential development. The scope of our services included a review of available geotechnical and geologic reference materials, previous geotechnical reports, field exploration, laboratory testing, engineering analyses based on field and laboratory data, and preparation of this report. Our services were performed in general conformance with our proposals dated September 23, 2011 and September 24, 2013.

FIELD EXPLORATION AND LABORATORY TESTING

Our field exploration was performed between December 13, 2011 and December 27, 2011, and consisted of drilling 4 borings (B-1 through B-4) and performing 14 cone penetration tests (C-1 through C-14) at the approximate locations shown on Plate 3, Site Plan.

Borings B-1 through B-4 were drilled by Exploration Geoservices, Inc. to depths ranging from about 30 to 33 feet below the existing ground surface using a truck-mounted, hollow-stem auger drilling rig. Materials encountered in each boring were visually classified in the field and a log was recorded. The boring logs showing soil classification and blow counts and a Key to Boring Log Symbols are presented in Appendix A.

Cone penetration tests (CPTs) C-1 through C-14 were performed by Gregg Drilling & Testing, Inc., to depths up to 50 feet using a 30-ton truck-mounted CPT rig. At C-10, refusal was encountered at a depth of approximately 10 feet. For confirmation, C-10A was performed about 15 feet away from C-10, where refusal was encountered at a depth of approximately 22½ feet. At C-11, refusal was encountered at a depth of approximately 7½ feet. For confirmation, C-11A was performed about 25 feet away from C-11, and refusal was also encountered at a depth of approximately 9 feet. Measurement of tip resistance, sleeve friction, and pore pressures at 5 centimeter intervals were recorded to a data file as the cone was advanced. The CPT logs are presented in Appendix B. Upon completion of the borings and CPTs, the holes were backfilled with neat cement grout as required by the Alameda County Water District.

Data from the previous investigations by Berlogar Geotechnical Consultants (BGC) was reviewed. The approximate locations of the previous borings (B06-1 through B06-4 and B98-1 through B98-16), CPTs (C10-1 through C10-5), and test pits (T07-1 to T07-7) by BGC are

shown on the Site Plan, Plate 2. The previous borings, CPTs, and test pit logs are also presented in Appendices A through C, respectively.

Laboratory testing was performed on selected samples from our borings, including moisture content, dry density, Atterberg limits, sieve analysis, percent passing number 200 sieve, hydrometer analysis, unconfined compressive strength, and consolidation tests. Most of the laboratory test data are presented on the boring logs. Detailed laboratory test results are presented in Appendix D.

A soil sample (from Boring B-3 at 1½ to 2 feet) was delivered to CERCO Analytical, Inc. in Concord, California for corrosivity testing. The results for corrosivity tests are included in Appendix D. The corrosivity test results should be forwarded to the structural and utility engineers.

SITE CONDITIONS

SURFACE CONDITIONS

The project site is irregularly-shaped and is bordered on the east by Hickory Street, on the south by open space, on the west by a levee for salt ponds, and on the north by industrial development and undeveloped land. Overhead electric transmission lines run north-south through the central portion of the site. A drainage ditch runs north to south through the site, which bisects the site on the north end and runs along the western property line on the south end. The ditch was dry at the time of our field exploration. Site elevations range between 4 to 9 feet (NGVD29), except for the two elongate hills.

Two elongate rock outcrops, which we refer to as the North Hill and South Hill, are aligned in a northwest-southeast direction at the site. The North Hill is approximately 1,000 feet long, approximately 400 feet wide, and has a top elevation of approximately 35 feet. Previous investigations indicate that the North Hill is composed of sandstone and claystone and is mantled with undocumented fill. The North Hill was partially covered with magnesia from salt production operations, which has been reportedly removed from the site. The South Hill is composed of serpentinite and is about 700 feet long in the northwest-southeast direction, approximately 200 feet wide, with two knobs that are about 30 feet (NGVD29).

Several areas of stockpiled fill are present at the site, and the approximate locations and thickness are shown on the Plate 3, Site Plan. These fill areas are located in the northern half of the site. A lower lying area in the northwest corner of the site, west of the North Hill, was used as a storage pond. Whitish-gray material lines the bottom of this pond, which is reported to be gypsum.

A pair of plastic pipelines was observed along the southwest boundary of the parcel. Currently, the western part of the North hill is occupied by construction equipment and materials. An abandoned shooting range with a small building and a dog training facility are located on the northeast and south sides of South Hill, respectively. Other areas are mostly covered by seasonal weeds and grasses.

It is our understanding that East Bay Dischargers Authority (EBDA)'s twin 33-inch sewer force mains are located in Hickory Street, which is adjacent to the eastern property boundary. The force mains turn westerly and through the northeast corner of the site. Based on the 1977 record drawings provided by EBDA, these force mains have about 5 to 10 feet of soil cover along Hickory Street. It is our understanding that the existing twin 33-inch diameter sanitary sewer force mains will either remain and be protected during construction or relocated.

SUBSURFACE CONDITIONS

Our previous test pits and borings indicate that the North Hill is composed of sandstone and claystone, and is generally capped with fill materials ranging from 1½ to 12 feet thick. This fill material is a mixture of clayey and silty gravel, silty clay, sandy clay, and clayey sand. Sandstone, claystone or very stiff soil (presumed to be soil over the bedrock) was encountered in the borings and test pits at elevations of approximately -2 to 7 feet (NGVD29) on the lower flanks and up to 27 feet in the central portion of the North Hill. The east side of the North Hill is covered with about 10 feet of stockpile soil, which in turn is underlain by alluvial soils. The South Hill is composed of serpentinite with silty sands and silty clays around the hill. Our previous investigation concluded that the serpentinite and soils adjacent to the outcrop contains naturally occurring asbestos (NOA).

B-1 and B-4 in the northwest portion of the site suggest that the alluvial soils are primarily clayey with interbedded sandy layers extending from about Elevation -13 to -26 feet, where bedrock or very stiff material is encountered. The northeastern portion of the site contained more silty material in the upper 30 feet, and sandier soil below 30 feet in depth. Based on the CPT and boring data from this study and from previous investigations, the alluvium underlying the remainder of the site was found to be predominately gray and brown, medium stiff to very stiff, clayey soil. A layer (2½ to 6 feet) of loose silty sand was encountered between 8 to 16½ feet deep in Borings B-1, B-3, and B-4. Bedrock or very stiff soil was encountered at approximately Elevation -5 to -15 feet in the southern part and 7 to below Elevation -44 feet in the northern portion of the parcel. The upper existing native soils at the site are marginally to highly expansive.

Plate 3, Site Plan, shows the elevation of the top of top of bedrock or stiff soil encountered in the borings, CPT's, and test pits. Estimated existing fill thicknesses are also shown on the Site Plan. For more detailed descriptions of the subsurface conditions, refer to the boring logs, CPT graphs, and test pit logs contained in Appendices A through C.

GROUNDWATER

Groundwater was encountered at depths ranging from 5 to 9 feet below existing ground surface in the borings. The groundwater map from the California Geological Survey's Seismic Hazard Zone Report 090 for Newark 7.5-Minute Quadrangle (CGS, 2003) indicates historically-high groundwater to be about 5 feet deep. It should be anticipated that the actual groundwater conditions may vary depending on factors such as tidal fluctuations, seasonal rainfall, time of the year, water level in the adjacent Cargill Salt ponds and local irrigation practices.

GEOLOGIC HAZARDS

SURFACE FAULT RUPTURE

The site is located outside the designated State of California Earthquake Fault Zone for active faults. According to published mapping by the California Geological Survey (CGS), no known fault traces cross the site, and no visible evidence of surface ground rupture was noted during our site reconnaissance. It is our opinion that the likelihood of surface fault rupture at the site is very low.

GROUND SHAKING

The site is located in a region of high seismicity. As for all sites in the San Francisco Bay Area, the site should be expected to experience at least one moderate to large earthquake during the lifespan of the development. According to the USGS 2008 Interactive Deaggregation website, the site peak ground acceleration for a CBC Site Class D (V_{s30} = 270 m/s) with a 10 percent probability of exceedance in 50 years (475-year return period) is 0.51g.

LIQUEFACTION

Liquefaction is the temporary transformation of saturated, loose to medium dense sandy soils into a viscous liquid during strong ground shaking from a major earthquake. The site is located within a State-designated Liquefaction Hazard Zone (CGS, Newark Quadrangle, 2003) and a liquefaction analysis is required to assess the liquefaction impacts to the site.

CONCLUSIONS AND RECOMMENDATIONS

GENERAL

We conclude that, from a geotechnical engineering standpoint, the proposed residential development can generally be constructed, provided the conclusions and recommendations contained in this report are incorporated into the design and construction of the project. The main geotechnical considerations for this site are:

- Liquefaction induced settlement
- Undocumented fill
- Presence of Naturally Occurring Asbestos
- Shallow bedrock
- Shallow groundwater
- Corrosive soils

LIQUEFACTION INDUCED SETTLEMENT

We have performed a liquefaction analysis using the CPT-based evaluation procedures as described in Idriss and Boulanger (2008): "Soil Liquefaction During Earthquakes, Monograph MNO-12, Earthquake Engineering Research Institute." The following input parameters were incorporated in our liquefaction analysis:

- Earthquake Magnitude (M_w = 6.65): This earthquake magnitude represents the most probable earthquake magnitude obtained from the USGS 2008 Interactive Deaggregation website with a 10 percent probability of exceedance in 50 years.
- Peak Ground Acceleration (PGA = 0.51g): This PGA value represents the peak ground acceleration obtained from the USGS 2008 Interactive Deaggregation website for CBC Site Class D (V_{s30} = 270 m/s) with a 10 percent probability of exceedance in 50 years.
- Groundwater Table: The groundwater table used in the liquefaction analysis was based on the historically-high groundwater indicated by CGS at a depth of approximately 5 feet as mentioned earlier.
- An Ic of 2.2 was utilized as the limit for sandy soil behavior based on the results of our DDC Test Program Results and Recommendations report dated November 27, 2012

We performed liquefaction analyses for the proposed development areas, and did not include the proposed wetland area at the south end of the site in our analyses. Total liquefaction induced settlement for the southern portion of the site around the South Hill was found to be zero to ½ inches. Hence, the southern portion of the site is considered to be minimally impacted by liquefaction.

The northern portion of the site east and west of North Hill was found to have total liquefaction induced settlement up to 6 inches. However, the total settlement of the soils in the upper 25 feet was found to be only up to 1 inch, and the total below 25 was up to 6 inches. The highest settlement was found in CPT C8. The remaining CPTs C6, C9, C10, C10-1, C10-2, C10-3 and C10-4 had up to 1 inch of settlement in the upper 25 feet and up to 1 inch of settlement below 25 feet in depth. Hence, we have delineated two areas on Plate 4, Liquefaction Remediation Plan, where liquefaction remediation should be performed. The following are pre-remediation estimated liquefaction induced differential settlements for the site.

Structures within the Designated Liquefaction Remediation Areas on Plate 4	3 inches differential settlement of the ground surface within a 50 foot horizontal distance
Structures not located within the Designated Liquefaction Remediation Areas on Plate 4	1 inch differential settlement of the ground surface within a 50 foot horizontal distance

UNDOCUMENTED FILL

Undocumented fill is prevalent in the northern two-thirds of the site as shown on the Site Plan, Plate 2. This material will have to be removed and replaced as engineered fill. The flanks of the North Hill are mantled with undocumented fill of varying thickness. The geotechnical

characteristics of the stockpile fills in the northeast corner of the site should be evaluated. Sampling this material should be performed with either an excavator or drill rig with large diameter augers.

NATURALLY OCCURRING ASBESTOS

The South Hill is composed of serpentinite bedrock that is likely to contain more than 0.25% Naturally Occurring Asbestos (NOA). NOA was found in the serpentinite and the soil immediately adjacent to the South Hill bedrock. The environmental consultant should determine the appropriate method to remediate bedrock and soil containing NOA.

SHALLOW BEDROCK EXCAVATION

Near surface bedrock is present in the areas designated as the South Hill and North Hill as shown on Plate 2, Site Plan. The North Hill was found to be composed of sandstone and claystone, and the South Hill was found to be hard serpentinite. The shallow bedrock at the site can be hard, but contains fractures, and should be able to be excavated with heavy grading equipment. Hard zones of serpentinite may be encountered when excavating the South Hill. These zones may need to be broken with rock hammers.

Overexcavation of the bedrock will be required under building pads to reduce potential differential settlement. We recommend a minimum 4 foot thick layer of engineered fill under building pads. If the structures are more than 3 stories tall and located around the perimeter of the bedrock outcrops, we may recommend additional overexcavation to offset potential differential settlement. Currently, some of the structures for Villages 6B, 8, and 9 have structures straddling the margins of the North Hill bedrock outcrop as shown on Plate 2, Proposed Development. Additional borings will likely be needed to determine the fill differential requirements to reduce potential differential settlements.

For utility corridors located in bedrock areas, consideration should be given to overexcavating the bedrock and backfilling with engineered fill during mass grading to facilitate utility trench excavation. The bedrock should be overexcavated to at least 1 foot below the deepest utilities. Oversize material generated from excavating the bedrock can be buried at least 5 feet below pad grade or at least 2 feet below the deepest utilities.

SHALLOW GROUNDWATER

Shallow groundwater was encountered during our field explorations. The groundwater at the site is likely influenced by tidal fluctuations. Water stops should be utilized to minimize tidal groundwater seepage through the bedding and shading material around utility pipes. The impacts of groundwater should be considered in planning underground improvements and site grading. In areas where deep utilities are planned, dewatering may be required. The contractor should be prepared to accommodate seepage and/or groundwater in excavations either with pumping from sumps (if minor seepage is encountered during excavation) or a dewatering system using well points (if heavy seepage is encountered during excavation). The dewatering system should be designed, installed and operated by an experienced contractor. The contractor should also be aware that grading in low-lying areas (near or below the groundwater table) may

need to be stabilized and/or dewatered to facilitate placement of structures and/or compaction of fill.

CORROSIVITY CONSIDERATIONS

A sample of soil from B-3 at 1½ to 2 feet was classified as severely corrosive by CERCO. The corrosion test results and a brief evaluation of the results are contained in Appendix D. The soil sample was found to contain chloride ion concentrations of 4,800 mg/kg, which is sufficient to attack steel embedded in a concrete mortar coating. Sulfate ion concentrations were found to be 1,000 mg/kg, which is corrosive to concrete in contact with the ground. It is suggested that the concrete mix be designed in conformance with the requirements in CBC. The corrosivity test results should be transmitted to your structural engineer and underground utility consultants, and should be incorporated in the design of underground utilities and structures that are buried or in contact with on-site soils.

LIQUEFACTION REMEDIATION

Villages 6A, 7, 9 and 12 are located within the Liquefaction Remediation Area shown on Plate 4. Given the length and height of the structures in Villages 6A, 7, 9 and 12, we recommend the following:

1. Once plans are finalized, additional CPTs and borings should be performed in these locations. Additional liquefaction settlement analyses should then be performed.
2. The structural engineer and the geotechnical engineer should discuss the potential liquefaction induced settlement impacts for the various structures.
   - If a structural system is able to withstand the potential liquefaction induced settlements, then ground improvement will not be required.
   - If ground improvement is required in order to reduce the amount of potential liquefaction induced settlement impacts on the structures, then a Liquefaction Remediation program contained in our DDC Test Program Results and Recommendations report should be implemented. A detailed ground improvement program can then be developed.

The twin EBDA pipelines are located within the liquefaction remediation zone shown on Plate 4. It is our understanding that a plan to replace the twin EBDA pipelines is currently being formulated. The Geotechnical engineer should review the impacts of a DDC ground improvement program on the EBDA pipelines.

SITE PREPARATION AND GRADING

Our general site preparation and grading recommendations are as follows:

1. Vegetation should be removed by mowing and raking. This material can be used in landscape areas or removed from the site. The remaining stubble can be disced into the surface soils.

2. If zones of soft or saturated soils are encountered during excavation and compaction, deeper excavations may be required to expose firm soils. This should be determined in the field by the soils engineer.

3. Following stripping and clearing operations, the exposed ground surface in building areas and areas to receive fill should be scarified to a depth of 1 foot, moisture conditioned and compacted.

4. Loose soil in the former water pond west of the North Hill and the ditch should be removed. A representative from our firm should observe the overexcavation and scarification of the soil in this area.

5. Import fill should contain no deleterious matter and rocks greater than 4 inches in largest dimension, and have Plasticity Index (PI) less than 20. Import fill materials should be subject to the evaluation by the soil engineer prior to their use. We suggest that the import fill be checked for toxic or hazardous materials prior to importing to the site.

6. Fill and backfill should be placed in thin lifts (normally 6 to 8 inches in loose lift thickness depending on the compaction equipment), properly moisture conditioned and compacted as discussed below:

On-site expansive soils	At least 88 percent relative compaction at not less than 5 percent above optimum moisture content.
Import fill (PI less than 20)	At least 90 percent relative compaction at not less than 3 percent above optimum moisture content.

Relative compaction refers to the in-place dry density of the soil expressed as a percentage of the maximum dry density determined by ASTM D1557 compaction test procedure. Optimum moisture is the water content (percentage by dry weight) corresponding to the maximum dry density.

7. Observations and soil density tests should be carried out during grading and backfilling operations to assist the contractor in obtaining the required degree of compaction and proper moisture content. Where the compaction or moisture content are outside the required range, the soil should be reworked until the specified compaction and moisture conditioning is achieved.

8. The soils engineer should be notified at least 48 hours prior to grading and backfill operations. The procedure and methods of grading may then be discussed between the contractor and the soils engineer.

SEISMIC DESIGN PARAMETERS

According to the United States Geologic Survey, Earthquake Ground Motion Parameters program, Version 5.1.0 dated February 10, 2011, the following California Building Code (CBC) seismic design criteria should be incorporated into the design of proposed structures (for a site located at 37.519 degrees latitude and -122.054 degrees longitude).

Site Class	D
Mapped Spectral Acceleration for Short Periods, Ss, for Site Class B with 5% damping Mapped Spectral Acceleration for 1-second Period, S1, for Site Class B with 5% damping	1.50 g 0.60 g
Site Coefficient F_a (for Site Class D) Site Coefficient F_v (for Site Class D)	1.00 1.50
SMs for Site Class D SM1 for Site Class D	1.50 g 0.90 g
SDs for Site Class D SD1 for Site Class D	1.00 g 0.60 g

PRELIMINARY POST-TENSIONED SLAB FOUNDATIONS

Preliminary recommendations are based on anticipated soil conditions after mass grading is completed. Actual conditions will most likely vary from our assumed soil conditions. We recommend that additional borings up to 15 feet deep be drilled in building pad areas to confirm the preliminary PT slab design criteria.

The proposed structures can generally be supported on post-tensioned (PT) slab foundations constructed on properly prepared subgrade soils. The upper 12 inches of subgrade soils should be pre-soaked to at least 7 percent above optimum moisture content prior to concrete placement. The pre-soaked pads should not be allowed to dry out to less than the recommended moisture content before concrete is placed. Subgrade moisture should be checked by a BSA representative prior to concrete placement. We recommend the following criteria be incorporated in the design of post-tensioned slab foundations, utilizing the third edition of the Post-Tensioning Institute (PTI) design manual:

Preliminary PT Slab Recommendations in Areas NOT Designated for Potential Liquefaction Remediation*

Allowable Bearing Capacity (may be increased by 1/3 for seismic and/or wind load to be used at the discretion of the structural engineer)	1,500 psf
Passive Equivalent Fluid Pressure	Not applicable due to the shallow PT slabs
Base Friction Coefficient	0.30
Edge Moisture Variation Distance Center Lift Edge Lift	 9.0 feet 4.8 feet
Differential Swell Center Lift Edge Lift	 1.05 inches 1.35 inches

*Additional shallow borings should be drilled after fill placement and mass grading is completed

Preliminary PT Slab Recommendations in Areas Designated for Potential Liquefaction Remediation **

Allowable Bearing Capacity (may be increased by 1/3 for seismic and/or wind load to be used at the discretion of the structural engineer)	1,500 psf
Passive Equivalent Fluid Pressure	Not applicable due to the shallow PT slabs
Base Friction Coefficient	0.30
Edge Moisture Variation Distance Center Lift Edge Lift	 9.0 feet 4.5 feet

Differential Swell Center Lift Edge Lift	 1.54 inches 2.35 inches

** Preliminary recommendations before additional field investigation to determine if liquefaction remediation ground improvement is necessary

Where moisture vapor through the slabs would be objectionable, the use of a vapor retarder and capillary moisture break should be considered by the slab designer. Compacted subgrade soils may become disturbed during utility trench excavation and backfilling. These soils should be uniformly moisture conditioned and recompacted as recommended in the grading section of this report.

REINFORCED CONCRETE MAT FOUNDATIONS

Minor structures, such as trash enclosures and equipment pads, can be supported on reinforced concrete mat foundations. Reinforced concrete mat foundations should be underlain by at least 6-inches of Class 2 aggregate baserock. The following are preliminary recommendations for reinforced concrete mat foundations. After mass grading and fill placement, the mat foundation recommendations should be reviewed to determine if the soil conditions of the new fill material impacts these recommendations.

Allowable Bearing Capacity (DL + LL) – (may be increased by one-third for seismic and wind loads)	1,500 psf
Modulus of Subgrade Reaction	70 pci
Minimum Thickness	8 inches

DRILLED PIER FOUNDATIONS

Drilled pier foundations can be utilized to support canopies, light poles or other lightly-loaded pole-type structures. We recommend that the following preliminary geotechnical criteria be used in the drilled pier foundation design. Again, these design parameters should be reviewed once mass grading has been completed.

Allowable Skin Friction • neglect the upper 1 foot if the ground surface is not confined by pavement or slabs • may be increased by 1/3 for seismic and/or wind loads to be used at the discretion of the structural engineer	500 psf
Allowable Passive Equivalent Fluid Pressure • neglect the upper 1 foot for flat ground condition if the ground surface is not confined by pavement or slab • neglect upper 3 feet for sloping ground condition	300 pcf
Minimum Pier Diameter Canopies Light poles or other lightly loaded pole-type structures	 18 inches 12 inches
Minimum Pier Depth Canopies Light poles or other lightly loaded pole-type structures	 10 feet 5 feet
Minimum Pier Spacing (center to center) Full skin friction Full passive resistance	 3 pier diameters 6 pier diameters

The piers should be drilled and poured on the same day. The pier holes should not be left open overnight or through the weekend. If the drilled hole is left open during the day, the hole should be covered to prevent tools, soil, or personnel from falling into the drilled hole.

When water is encountered during drilling, the water should be removed prior to placement of concrete. Casing may be needed for piers extending below the water table. Alternatively, the concrete may be placed using tremie method. Concrete placed using the tremie method should be pumped into the excavation with sufficient head to lift the groundwater and suspended particles present in the excavation to the ground surface. The concrete should be placed in one continuous pour and should continue until concrete is observed pouring out of the top of the pier hole.

The drilled pier should be advanced to at least the design depth. The completed pier hole should be verified by observations and measurement by this office. The bottom of pier holes should be verified to be clean and without significant slough. During rains, water should be prevented from flowing into the drilled hole.

EXTERIOR CONCRETE FLATWORK

Exterior concrete flatwork, such as sidewalks and patios, can be placed directly on the prepared subgrade. The subgrade should be presoaked to at least 5 percent over optimum moisture content prior to placing concrete. The moisture content of the subgrade soils should be checked immediately prior to the placement of baserock or concrete (if the flatwork is supported directly on the subgrade). Flatwork should be doweled into the foundation at doorways to reduce the potential for tripping hazards that could result from heaving of the underlying expansive soil. Reinforcing steel should be utilized to reduce potential tripping hazards caused by expansive soil swell and tree roots. Deep, scored joints spaced no more than about 6 feet apart should be considered. Placing aggregate base beneath flatwork is not recommended since the more permeable baserock can become saturated and provide moisture to the underlying expansive soil. Additional recommendations can be provided once more detailed information is available.

SITE RETAINING WALLS

Relatively low site retaining walls may be required for the project. Site retaining walls may consist of conventional concrete and masonry retaining walls, or mechanically stabilized earth (MSE) retaining walls. These recommendations are for soils that are similar to the onsite materials. These recommendations should be reviewed after soil import and mass grading.

CONCRETE AND MASONRY RETAINING WALLS

Concrete and masonry retaining walls can be supported by shallow foundations founded on compacted engineered fill or firm on-site soils. We recommend that the following geotechnical criteria be incorporated in the concrete and masonry retaining wall design:

Active Equivalent Fluid Pressure Level Backfill 3H:1V Backfill 2H:1V Backfill	 60 pcf 70 pcf 80 pcf
Traffic or other Surcharge Loads	To be determined by the structural engineer
Additional Seismic Lateral Pressure (for walls designed for active condition)	16H psf Rectangular pressure distribution where H is the total height of the backfill
Allowable Bearing Capacity (may be increased by one-third for seismic and/or wind loads at the discretion of the structural engineer)	2,500 psf
Passive Equivalent Fluid Pressure • neglect the upper 1 foot for flat ground condition if the ground surface is not confined by slabs or pavement • neglect upper 3 feet for sloping ground condition	300 pcf
Base Friction Coefficient	0.3
Minimum Footing Depth (below the lowest adjacent grade)	24 inches

The retaining walls should be provided with permanent backdrains. The above recommended lateral pressures are based on drained conditions to prevent hydrostatic pressure build-up. The backdrain should consist of a blanket of Class 2 Permeable Material and a 4-inch diameter perforated PVC pipe (SDR 35). The permeable materials should be in conformance with Section 68-1.025 of the May 2006 Caltrans "Standard Specifications." The permeable material blanket should be at least 12 inches thick and should be placed from the base of the retaining wall to about 1 foot below the finished grade behind the retaining wall. Alternatively, a geo-composite drain, such as Miradrain 6200 or approved equivalent, may be used in lieu of the Class 2 Permeable Material blanket. The perforated pipe should be placed near the bottom of the wall to carry collected water to a suitable gravity discharge. Backdrains are not required for retaining walls of 2 feet or less in height.

MSE RETAINING WALLS

If MSE walls are used for the retaining walls, we recommend that the following geotechnical criteria be incorporated in the retaining wall design:

Reinforced Fill, Retained Fill and Foundation Materials Unit Weight Friction Angle Cohesion	 125 pcf 28 degrees 0 psf

The base of the MSE walls should be at least 6 inches (level ground) and 18 inches (sloping ground) below the lowest adjacent finished grade.

Subdrains should be installed behind the MSE walls to prevent the buildup of hydrostatic pressure. Subdrains should consist of a vertical blanket of Class 2 Permeable Material (conforming to Section 68-1.025 of State of California Standard Specifications) a minimum of 1 foot thick and a 4-inch diameter perforated pipe (SDR 35). Subdrain pipes should be set at the level of the base of the wall's gravel pad. The perforated pipes should have two rows of holes

and be placed holes-down. The permeable material blanket should extend up to about 1 foot of finished ground surface at the top. Subdrain pipes from behind walls should be connected to solid collector pipes that outlet to drainage inlets, storm drains, or concrete-lined ditches.

UTILITY TRENCH EXCAVATION AND BACKFILL

Excavations should conform to applicable State and Federal safety requirements. Where trench excavations are more than 5 feet deep, they should be sloped and/or shored. Trench walls should be sloped no steeper than 1½ horizontal to 1 vertical (1½ H:1V) in dry granular soils, and no steeper than 1H:1V in dry cohesive soils. Flatter trench slopes may be required if seepage is encountered during construction or if exposed soil conditions differ from those encountered by the test borings and CPTs. If full-sloped trench walls cannot be excavated due to site constraints, shoring should be provided for trench stability and safety. We can provide soil parameters for shoring design on request.

Materials quality, placement procedures and compaction operations for utility pipe bedding and shading materials should meet local agency requirements. Utility trench backfill above the shading materials may consist of native soil, processed to remove rubble, rock fragments over 4 inches in largest dimension, rubbish, vegetation and other undesirable substances. Backfill materials should be placed in level lifts about 8 to 12 inches in loose thickness, moisture conditioned and compacted according to the recommendations in the grading section of this report. No jetting is permissible on this project.

STRUCTURAL PAVEMENT SECTIONS

We recommend the following structural asphalt pavement sections based on an assumed R-value of 5 for the subgrade soil and the Caltrans Design Method for Flexible Pavement. We have assumed that the assigned "T.I.'s" include provisions for heavy truck traffic related to construction activities.

Traffic Index (T.I.)	Thickness (inches)	
	Asphalt Concrete Type B	Aggregate Base Class 2
4	2½	8
4½	2½	10
5	2½	11
5½	3	12
6	3	14
6½	3½	15
7	4	16
7½	4½	17
8	5	18
8½	5½	19
9	6	20
9½	6	22
10	7	22

Prior to subgrade preparation, utility trench backfill in the pavement areas should be properly placed and compacted as previously recommended. Subgrade soils for asphalt concrete

pavement should be rolled to at least 95 percent relative compaction to provide a smooth, unyielding surface. Subgrade soils should be maintained in a moist and compacted condition until covered with the complete pavement section.

Class 2 aggregate base should conform to the requirements in Section 26, Caltrans "Standard Specifications," (May 2006). The aggregate base should be placed in thin lifts in a manner to prevent segregation, uniformly moisture conditioned, and compacted to at least 95 percent relative compaction to provide a smooth, unyielding surface.

To provide relief for water that is likely to infiltrate into the aggregate base layer, roadway pavement edge underdrains should be installed at the bottom of the aggregate base and below the curb and gutter, as shown on Plate 5, Pavement Edge Drain.

ADDITIONAL SOIL ENGINEERING SERVICES

Prior to construction, our firm should be provided the opportunity to review the plans and specifications to determine if the recommendations of this report have been implemented in those documents. We would appreciate the opportunity to meet with the contractors prior to the start of site grading, underground utility installation and pavement construction to discuss the procedures and methods of construction. This can facilitate the performance of the construction operation and minimize possible misunderstanding and construction delays.

To a degree, the performance of the proposed project is dependent on the procedures and quality of the construction. Therefore, we should provide observations of the contractor's procedures and the exposed soil conditions, and field and laboratory testing during site preparation and grading, placement and compaction of fill, underground utility installation, and foundation and pavement construction. These observations will allow us to check the contractor's work for conformance with the intent of our recommendations and to observe any unanticipated soil conditions that could require modification of our recommendations.

LIMITATIONS

The conclusions and recommendations of this report are based upon the information provided to us regarding the proposed development, subsurface conditions encountered at the CPT, boring and test pit locations, and professional judgment. This study has been conducted in accordance with currently accepted standards of geotechnical engineering practice; no other warranty is expressed or implied.

The field exploration locations were determined by pacing from the existing surface features and should be considered approximate only. Site conditions described in the text were existing at the time of our field exploration in December 2011, and are not necessarily representative of such conditions at other locations and times.

The logs show subsurface conditions at the locations and on the date indicated. It is not warranted that they are representative of such conditions elsewhere or at other times. In the event that changes in the nature, design or location of the proposed residential development are

planned or if subsurface conditions differ from those described in this report, then the conclusions and recommendations in this report shall be considered invalid, unless the changes are reviewed and the conclusions and recommendations modified or approved in writing.

We trust this provides the necessary information at this time. If you have any questions, please contact us.

Respectfully submitted,

BERLOGAR STEVENS & ASSOCIATES

William R. Stevens
Principal Engineer
GE 2339

REGISTERED PROFESSIONAL ENGINEER
WILLIAM R. STEVENS
No. 2339
GEOTECHNICAL
STATE OF CALIFORNIA

Frank Berlogar

WRS/FB:jmo

Attachments:
- Plate 1 – Vicinity Map
- Plate 2 – Proposed Development
- Plate 3 – Site Plan
- Plate 4 – Liquefiable Soil Remediation Plan
- Plate 5 – Pavement Edge Drain
- Appendix A – Boring Logs
- Appendix B – CPT Graphs
- Appendix C –Test Pit Logs
- Appendix D - Laboratory Test Results

Copies
- Addressee (1)
- Integral Communities (4), Peter Lezak
- Integral Communities (email only), Glenn Brown
- Integral Communities (email only), Mark Butler
- CBG (1) Greg Miller

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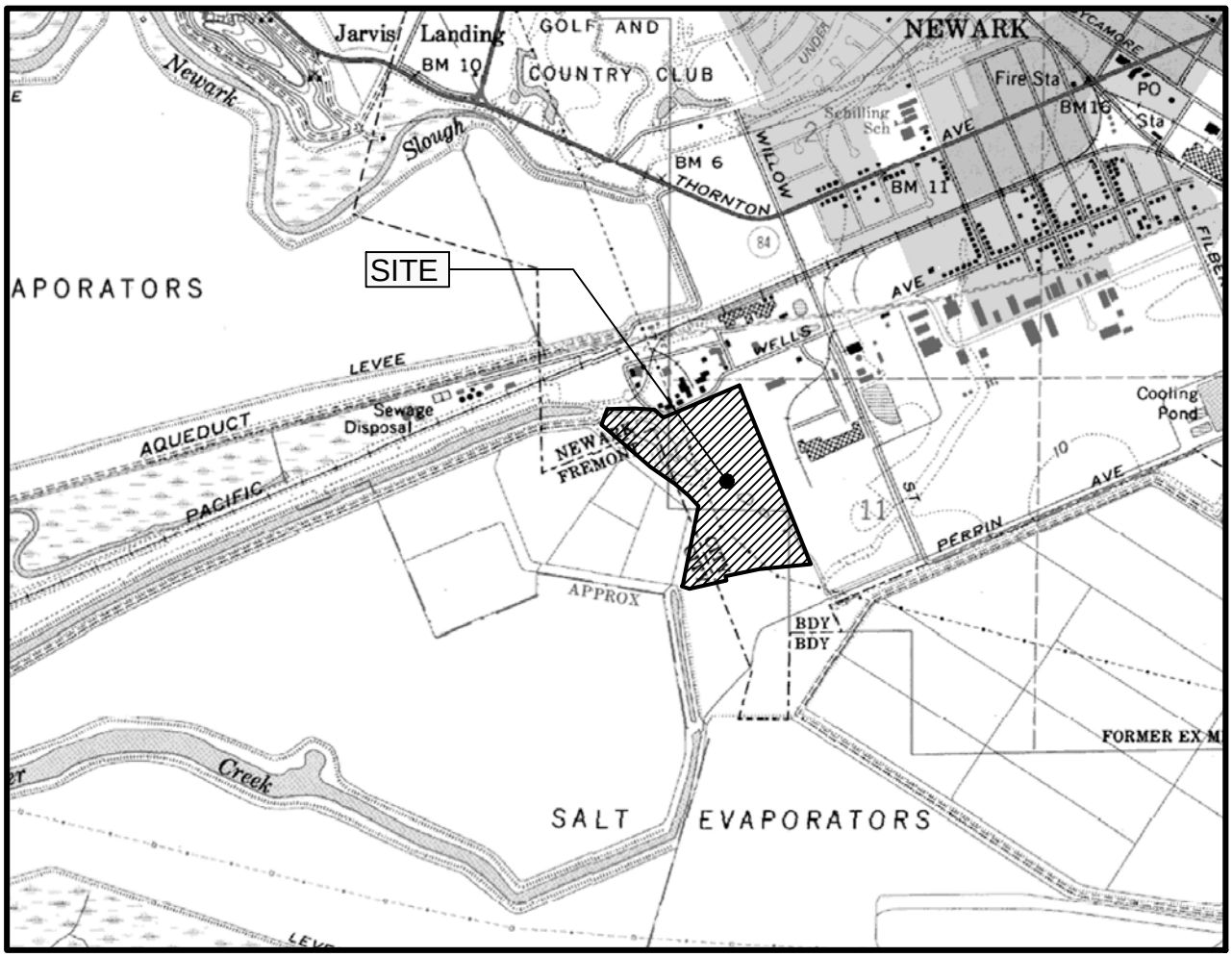
JOB NUMBER: 3268.001 DATE: 10-14-13 BY: CC



N

0 2000

1"=2000'

ICINITY MAP

CARGILL PARCEL

HICKORY STREET AND ENTERPRISE DRIVE

NEWARK, CALIFORNIA

FOR

DUMBARTON AREA 2, LLC

BASE: PORTION OF U.S.G.S. 7.5 MINUTE TOPOGRAPHIC QUADRANGLE, NEWARK, CALIFORNIA, PHOTOREVISED 1983, AT A SCALE OF 1:24,000.

DRAWN BY: CC

DATE: 10-10-13

JOB NUMBER: 3268.001

CARGILL SITE PLAN

VILLAGE 6A & 6B
Urban Arena Cube
Average SF: 2,020 SF
Total Units: 156
STO IES STO Y
TO N OMES AN PENT OUSES

VILLAGE 7
Urban Arena Loft Split
Average SF: 1,798 SF
Total Units: 73
STO Y
TO N OMES

VILLAGE 8
Urban Arena P9
Average SF: 1,639 SF
Total Units: 71
STO Y
TO N OMES

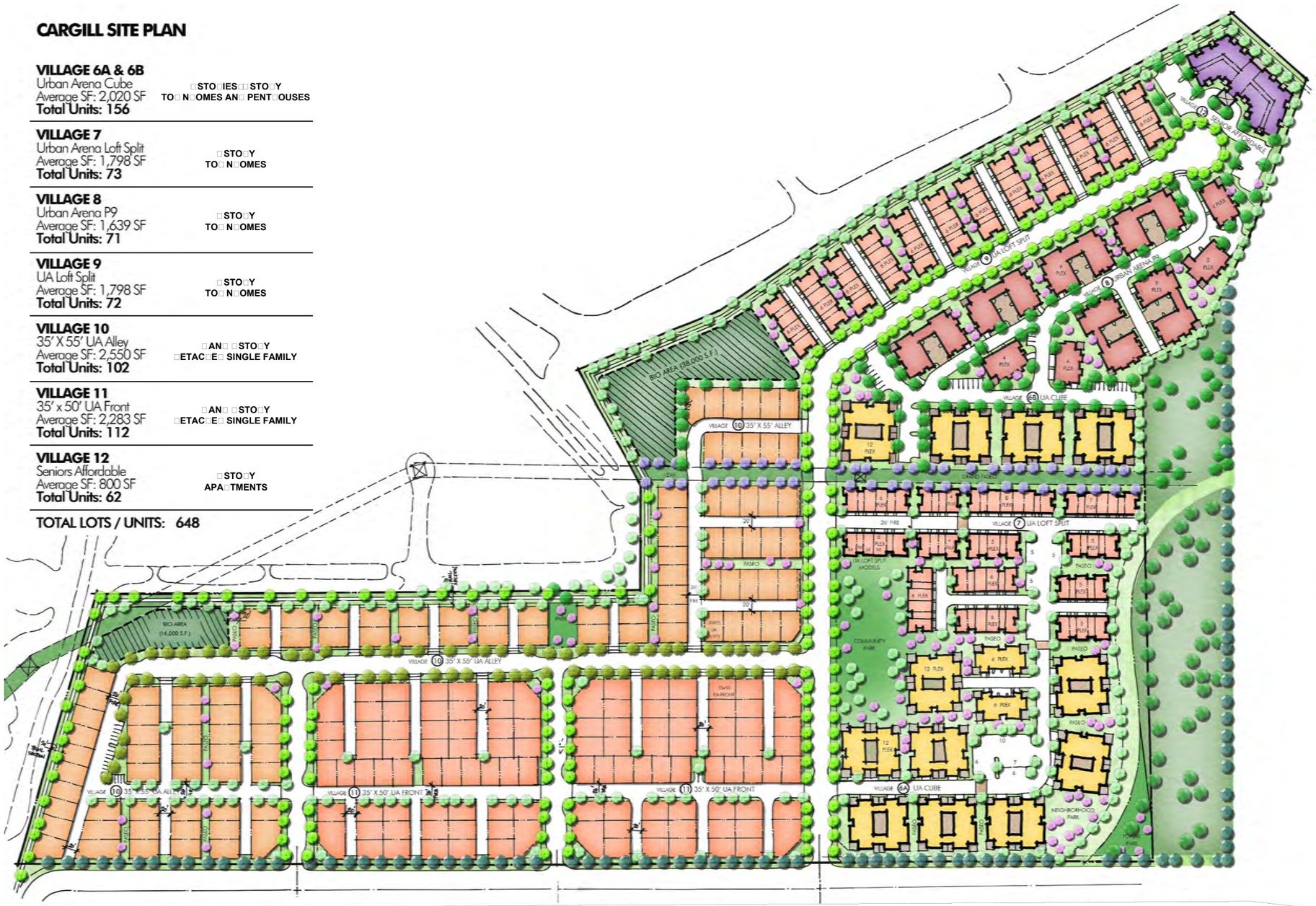
VILLAGE 9
UA Loft Split
Average SF: 1,798 SF
Total Units: 72
STO Y
TO N OMES

VILLAGE 10
35' X 55' UA Alley
Average SF: 2,550 SF
Total Units: 102
AN STO Y
ETAC E SINGLE FAMILY

VILLAGE 11
35' x 50' UA Front
Average SF: 2,283 SF
Total Units: 112
AN STO Y
ETAC E SINGLE FAMILY

VILLAGE 12
Seniors Affordable
Average SF: 800 SF
Total Units: 62
STO Y
APA TMENTS

TOTAL LOTS / UNITS: 648



N

0 200

1"=200'

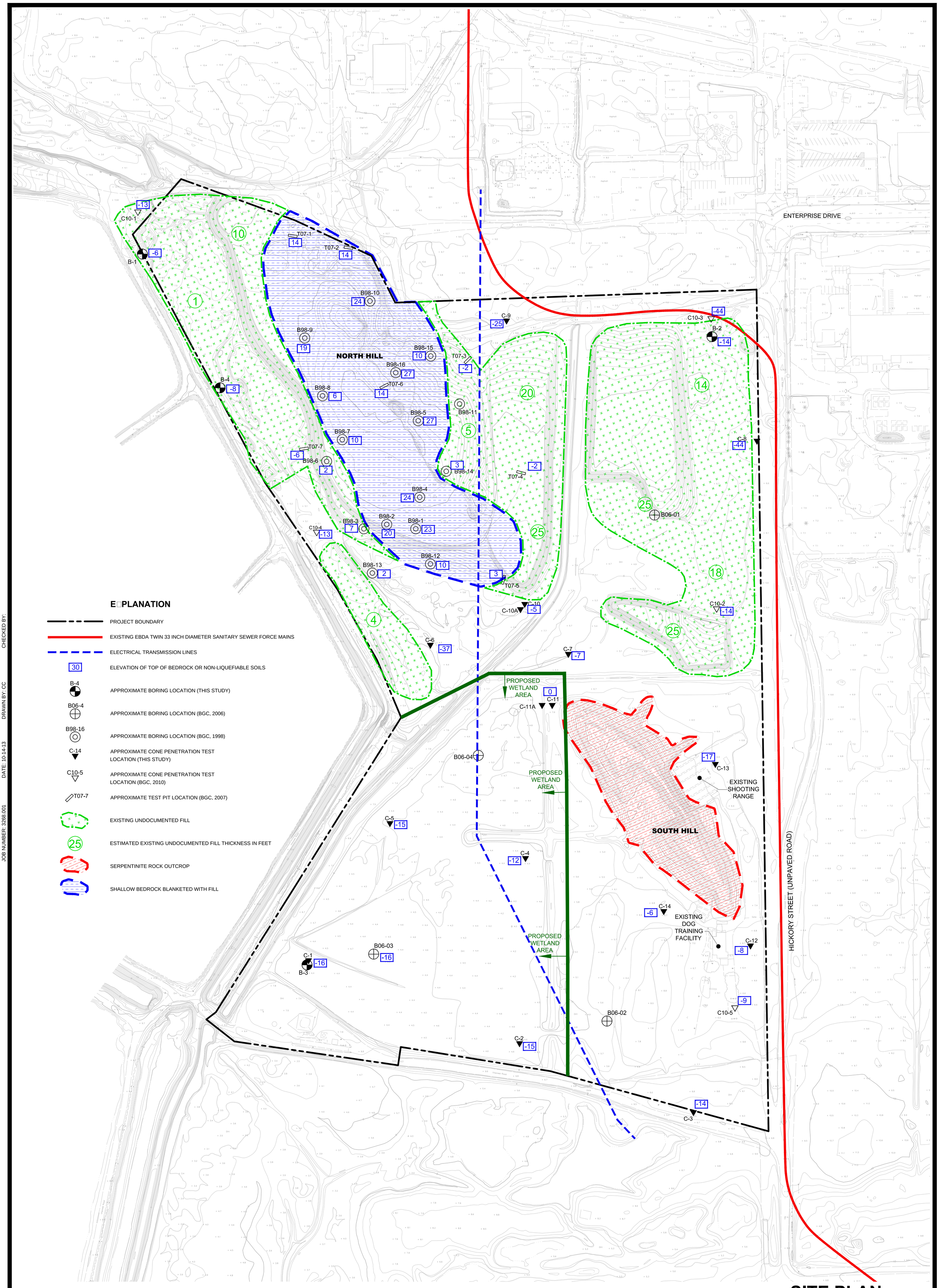
P OPOSE
E ELOPMENT

CA GILL PA CEL

HICKORY STREET AND
ENTERPRISE DRIVE
NEWARK, CALIFORNIA
FOR
DUMBARTON AREA 2, LLC

B r r S A
SOIL ENGINEERS * ENGINEERING GEOLOGISTS

BASE: SHEET SP0.0 TITLED, "SITE PLAN", PREPARED BY URBAN ARENA, DATED 10-8-13



E□PLANATION

	PROJECT BOUNDARY
	EXISTING EBDA TWIN 33 INCH DIAMETER SANITARY SEWER FORCE MAINS
	ELECTRICAL TRANSMISSION LINES
30	ELEVATION OF TOP OF BEDROCK OR NON-LIQUEFIABLE SOILS
B-4	APPROXIMATE BORING LOCATION (THIS STUDY)
B06-4	APPROXIMATE BORING LOCATION (BGC, 2006)
B98-16	APPROXIMATE BORING LOCATION (BGC, 1998)
C-14	APPROXIMATE CONE PENETRATION TEST LOCATION (THIS STUDY)
C10-5	APPROXIMATE CONE PENETRATION TEST LOCATION (BGC, 2010)
T07-7	APPROXIMATE TEST PIT LOCATION (BGC, 2007)
	EXISTING UNDOCUMENTED FILL
25	ESTIMATED EXISTING UNDOCUMENTED FILL THICKNESS IN FEET
	SERPENTINITE ROCK OUTCROP
	SHALLOW BEDROCK BLANKETED WITH FILL

N

0 100
1"=100'

SITE PLAN

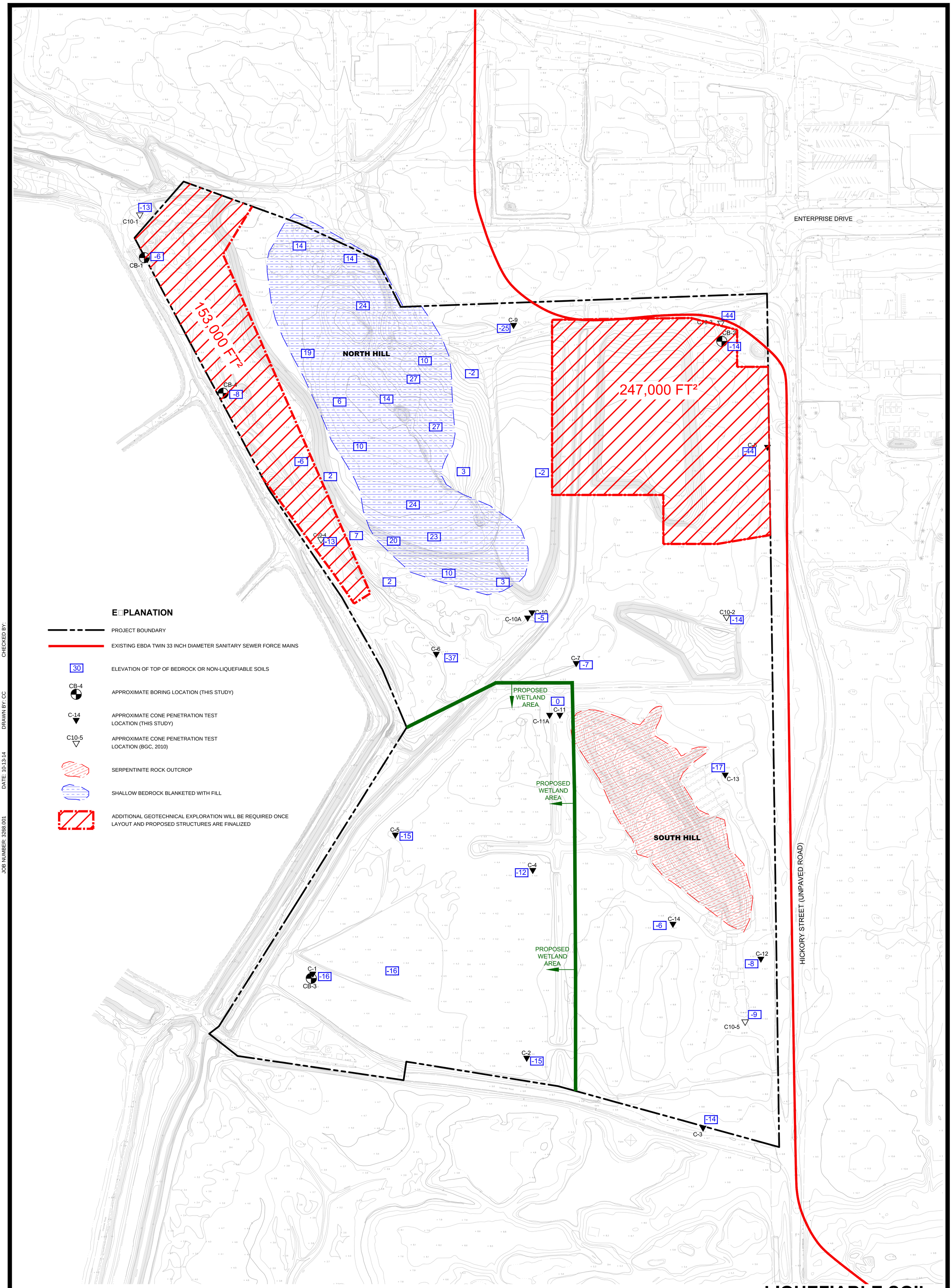
CA□GILL PA□CEL

HICKORY STREET AND ENTERPRISE DRIVE
NEWARK, CALIFORNIA
FOR
DUMBARTON AREA 2, LLC

B□r□□□r S□□□□□□ □ A□□□□□□□□
SOIL ENGINEERS * ENGINEERING GEOLOGISTS

DRAWN BY: CC
DATE: 10-14-13
JOB NUMBER: 3268.001
CHECKED BY:

BASE: EXISTING TOPO PROVIDED BY CBG, VIA EMAIL DATED 12-20-11



LIQUEFIABLE SOIL □EME□IATION PLAN

CA□GILL PA□CEL

HICKORY STREET AND ENTERPRISE DRIVE
NEWARK, CALIFORNIA
FOR
DUMBARTON AREA 2, LLC

B□r□□□r S□□□□□□ □ A□□□□□□□□
SOIL ENGINEERS * ENGINEERING GEOLOGISTS

JOB NUMBER: 3268.001
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BASE: EXISTING TOPO PROVIDED BY CBG, VIA EMAIL DATED 12-20-11

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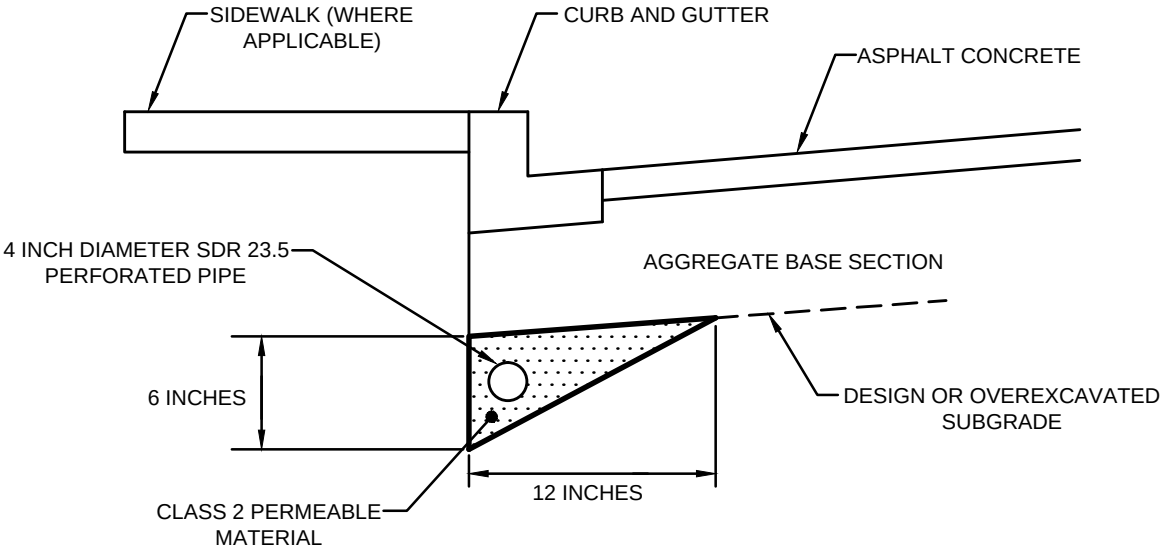
DATE: 10-14-13

JOB NUMBER: 3268.001



NOTES

1. 4 INCH DIAMETER PERFORATED PIPE TO BE SURROUNDED BY AT LEAST 2 INCHES OF CLASS 2 PERMEABLE MATERIAL.

2. 4 INCH DIAMETER PERFORATED PIPE TO DISCHARGE INTO EACH CATCH BASIN/DRAIN INLET.

3. PERFORATED PIPE TO BE LOCATED BELOW EXISTING SHALLOW UNDERGROUND UTILITIES WHERE THEY CROSS.

SCALE N□T□S□

PA□EMENT E□GE □□AIN

APPENDIX A

Boring Logs

BORING LOG B-1

Job No.: 3268.102	**Client:** Dumbarton Area 2, LLC	**Elevation**: 10 feet (NGVD 29)
Job Name: Cargill Hill Parcel	**Drill Method**: Hollow-Stem Auger	**Date Drilled**: 12-21-11

SAMPLER TYPE:	DRIVE WEIGHT (LBS.)	HEIGHT OF FALL (IN.)
2.5-inch I.D. Split Barrel	140	30
Standard Penetration Test	140	30

Moisture Content (%)	Dry Unit Weight (PCF)	Penetration Resistance (blows/foot)	Depth (feet)	Sample Symbol	USCS Classification	DESCRIPTION AND REMARKS
			0			
						AKALINE MATERIAL (magnesia), white, wet, soft
-	-	6				96.2% passing #200 sieve, PI=2 LL=43
			5			
					CL	SILTY CLAY, olive-brown, saturated, very stiff
19.9	109	35	10			87.5% passing #200 sieve, PI=18 LL=35 unconfined compressive strength = 3,909 psf
-	-	18	15		CL-ML	SILTY CLAY with SAND, gray-brown, stiff, saturated 77.5% passing #200 sieve, PI=5 LL=26
					SM	SILTY SAND, brown-gray, saturated, dense, fine-to medium-grained sand
-	-	47	20			19.7% passing #200 sieve
					CL	SILTY CLAY, dark brown, saturated, stiff

BORING LOG B-1

Job No.: 3268.102	**Client:** Dumbarton Area 2, LLC	**Elevation**: 10 feet (NGVD 29)
Job Name: Cargill Hill Parcel	**Drill Method**: Hollow-Stem Auger	**Date Drilled**: 12-21-11

SAMPLER TYPE:	DRIVE WEIGHT (LBS.)	HEIGHT OF FALL (IN.)
2.5-inch I.D. Split Barrel	140	30
Standard Penetration Test	140	30

Moisture Content (%)	Dry Unit Weight (PCF)	Penetration Resistance (blows/foot)	Depth (feet)	Sample Symbol	USCS Classification	DESCRIPTION AND REMARKS
-	-	47			SM	SILTY SAND, brown-gray, saturated, dense, fine-to medium-grained sand
			20			
			-		CL	SILTY CLAY, dark brown, saturated, stiff
			-			
			-			
31.2	93	20	-			unconfined compressive strength = 1,904 psf
			25			
			-			
			-			
			-			
-	-	76/11”	-			below 29 feet, yellow-gray-brown, saturated, hard, trace coarse-grained sand
			30			
			-			Boring terminated at 30 feet Groundwater encountered at 6 feet
			-			
			-			
			-			
			35			
			-			
			-			
			-			
			40			

BORING LOG B-2

Job No.: 3268.102	**Client:** Dumbarton Area 2, LLC	**Elevation**: 8 feet (NGVD 29)
Job Name: Cargill Hill Parcel	**Drill Method**: Hollow-Stem Auger	**Date Drilled**: 12-21-11

SAMPLER TYPE:	DRIVE WEIGHT (LBS.)	HEIGHT OF FALL (IN.)
2.5-inch I.D. Split Barrel	140	30

Moisture Content (%)	Dry Unit Weight (PCF)	Penetration Resistance (blows/foot)	Depth (feet)	Sample Symbol	USCS Classification	DESCRIPTION AND REMARKS
			0			
-	-	72	-		SC	CLAYEY SAND with GRAVEL, dark brown, dry to moist, dense, fine-to coarse-grained sand, fine subangular to subrounded gravel 30.6% passing #200 sieve, PI=15 LL=29
-	-	81	-		CL	SILTY CLAY with SAND, gray-brown, moist, hard
			5			
						below 7 feet, saturated
20.3	109	51				below 8-1/2 feet, orange-brown, very stiff 89.1% passing #200 sieve, PI=12 LL=32 unconfined compressive strength = 3,383 psf
			10			
-	-	24	-		ML	SILT with SAND, yellow-brown, saturated, very stiff, fine-grained sand 71.1% passing #200 sieve
			15			
-	-	27	-		ML	SILT, yellow-brown, saturated, very stiff 92.3% passing #200 sieve, PI=6 LL=31
			20			

BORING LOG B-2

Job No.: 3268.102	**Client:** Dumbarton Area 2, LLC	**Elevation**: 8 feet (NGVD 29)
Job Name: Cargill Hill Parcel	**Drill Method**: Hollow-Stem Auger	**Date Drilled**: 12-21-11

SAMPLER TYPE:	DRIVE WEIGHT (LBS.)	HEIGHT OF FALL (IN.)
2.5-inch I.D. Split Barrel	140	30

Moisture Content (%)	Dry Unit Weight (PCF)	Penetration Resistance (blows/foot)	Depth (feet)	Sample Symbol	USCS Classification	DESCRIPTION AND REMARKS
-	-	27			ML	SILT, yellow-brown, saturated, very stiff
			20			
			-			
			-		CL	SILTY CLAY, gray, saturated, very stiff
			-			
31.7	88	29	-			unconfined compressive strength = 1,661 psf
			25			
			-			
			-			
			-			
-	-	74	-			below 28-1/2 feet, blue-gray, hard
			30			
			-			Boring terminated at 30 feet Groundwater encountered at 7 feet
			-			
			-			
			35			
			-			
			-			
			-			
			40			

BORING LOG B-3

Job No.: 3268.102	**Client:** **Dumbarton Area 2, LLC**	**Elevation**: 4-1/2 feet (NGVD 29)
Job Name: Cargill Hill Parcel	**Drill Method**: Hollow-Stem Auger	**Date Drilled**: 12-21-11

SAMPLER TYPE:	DRIVE WEIGHT (LBS.)	HEIGHT OF FALL (IN.)
2.5-inch I.D. Split Barrel	140	30
Standard Penetration Test	140	30

Moisture Content (%)	Dry Unit Weight (PCF)	Penetration Resistance (blows/foot)	Depth (feet)	Sample Symbol	USCS Classification	DESCRIPTION AND REMARKS
			0			
					CL	SILTY CLAY, dark brown, dry to moist, very stiff
-	-	42				
-	-	31				
						below 4 feet, moist
			5			below 5 feet, saturated
-	-	23				below 8-1/2 feet, olive-brown
			10			
-	-	20				
					ML	SANDY SILT, olive-brown, saturated, stiff, fine-grained sand
			15			
					SM	SILTY SAND, gray, saturated, loose
-	-	9				
					CL	SILTY CLAY, gray, saturated, stiff
			20			

BORING LOG B-3

Job No.: 3268.102	**Client:** **Dumbarton Area 2, LLC**	**Elevation**: 4-1/2 feet (NGVD 29)
Job Name: Cargill Hill Parcel	**Drill Method**: Hollow-Stem Auger	**Date Drilled**: 12-21-11

SAMPLER TYPE:	DRIVE WEIGHT (LBS.)	HEIGHT OF FALL (IN.)
2.5-inch I.D. Split Barrel	140	30
Standard Penetration Test	140	30

Moisture Content (%)	Dry Unit Weight (PCF)	Penetration Resistance (blows/foot)	Depth (feet)	Sample Symbol	USCS Classification	DESCRIPTION AND REMARKS
-	-	9			CL	SILTY CLAY, gray, saturated, stiff
			20			
			-			
			-			
			-			
-	-	46	-			below 23-1/2 feet, olive-gray, hard
			25			
			-			
			-			
			-			
-	-	69/11”	-			below 28-1/2 feet, blue-gray
			30			
			-			Boring terminated at 30 feet Groundwater encountered at 5 feet
			-			
			-			
			-			
			35			
			-			
			-			
			-			
			40			

BORING LOG B-4

Job No.: 3268.102	**Client:** **Dumbarton Area 2, LLC**	**Elevation**: 6 feet (NGVD 29)
Job Name: Cargill Hill Parcel	**Drill Method**: Hollow-Stem Auger	**Date Drilled**: 12-27-11

SAMPLER TYPE:	DRIVE WEIGHT (LBS.)	HEIGHT OF FALL (IN.)
Standard Penetration Test	140	30

Moisture Content (%)	Dry Unit Weight (PCF)	Penetration Resistance (blows/foot)	Depth (feet)	Sample Symbol	USCS Classification	DESCRIPTION AND REMARKS
			0		CL	SILTY CLAY, dark brown, moist, medium stiff
-	-	7				87.6% passing #200 sieve, PI=24 LL=41 below 2 feet, olive-brown
-	-	13				below 3 feet, stiff
-	-	6	5			below 5 feet, moist to wet, medium stiff, trace fine-grained sand 66.9% passing #200 sieve, PI=8 LL=25
					SM	SILTY SAND, olive-brown, saturated, loose, fine-grained sand
-	-	7	10			30.2% passing #200 sieve, non-plastic
					CL	SILTY CLAY, olive-brown, saturated, medium stiff
-	-	6	15			
-	-	6	20			

BORING LOG B-4

Job No.: 3268.102	**Client:** Dumbarton Area 2, LLC	**Elevation**: 6 feet (NGVD 29)
Job Name: Cargill Hill Parcel	**Drill Method**: Hollow-Stem Auger	**Date Drilled**: 12-27-11

SAMPLER TYPE:	DRIVE WEIGHT (LBS.)	HEIGHT OF FALL (IN.)
Standard Penetration Test	140	30

Moisture Content (%)	Dry Unit Weight (PCF)	Penetration Resistance (blows/foot)	Depth (feet)	Sample Symbol	USCS Classification	DESCRIPTION AND REMARKS
					CL	SILTY CLAY, olive-brown, saturated, medium stiff
-	-	6	20			at 20 feet, trace fine-grained sand
						86.9% passing # 200 sieve, PI=15 LL=32
-	-	5	25			
-	-	19	30			below 30 feet, very stiff
-	-	49				below 31-1/2 feet, hard
						Boring terminated at 33 feet Groundwater encountered at 9 feet
			35			
			40			

UNIFIED SOIL CLASSIFICATION SYSTEM

MAJOR DIVISIONS			CLASSIFICATION SYMBOL	TYPICAL NAMES
COARSE GRAINED SOILS MORE THAN HALF OF THE MATERIAL IS LARGER THAN NO. 200 SIEVE	GRAVELS MORE THAN HALF COARSE FRACTION IS LARGER THAN NO. 4 SIEVE	CLEAN GRAVELS WITH LITTLE TO NO FINES	GW	WELL GRADED GRAVELS, GRAVEL/SAND MIXTURES
			GP	POORLY GRADED GRAVELS, GRAVEL/SAND MIXTURES
		GRAVEL WITH OVER 12% FINES	GM	SILTY GRAVELS, POORLY GRADED GRAVEL/SAND/SILT MIXTURES
			GC	CLAYEY GRAVELS, POORLY GRADED GRAVEL/SAND/CLAY MIXTURES
	SANDS MORE THAN HALF COARSE FRACTION IS SMALLER THAN NO. 4 SIEVE	CLEAN SANDS WITH LITTLE TO NO FINES	SW	WELL GRADED SANDS, GRAVELLY SANDS
			SP	POORLY GRADED SANDS, GRAVELLY SANDS
		SANDS WITH OVER 12% FINES	SM	SILTY SANDS, POORLY GRADED SAND/SILT MIXTURES
			SC	CLAYEY SANDS, POORLY GRADED SAND/CLAY MIXTURES
FINE GRAINED SOILS MORE THAN HALF OF THE MATERIAL IS SMALLER THAN NO. 200 SIEVE	SILTS AND CLAYS LIQUID LIMIT LESS THAN 50		ML	INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS, OR CLAYEY SILTS WITH SLIGHT PLASTICITY
			CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
			OL	ORGANIC CLAYS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY
	SILTS AND CLAYS LIQUID LIMIT GREATER THAN 50		MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SANDY OR SILTY SOILS, ELASTIC SILTS
			CH	INORGANIC CLAYS OF HIGH PLASTICITY, FAT CLAYS
			OH	ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS
HIGHLY ORGANIC SOILS			Pt	PEAT AND OTHER HIGHLY ORGANIC SILTS

KEY TO BORING LOG SYMBOLS

Depth in Feet	Moisture Content (%)	Dry Unit Weight (pcf)	Blows per foot	Unified Soil Classification System	
					Bulk Sample
					2.5-inch I.D. Split Barrel Sample
					2.8-inch I.D. Shelby Tube Sample
					No Sample recovered
					Standard Penetration Test interval
					Well-defined stratum change
					Gradual stratum change
					Interpreted stratum change
					Apparent ground water level measured at date noted; seasonal weather conditions, site topography, etc., may cause fluctuations in water level indicated on boring logs
					Stabilized ground water level measured at date noted

Note: Soils described as dry, moist, and wet are estimated to be dry of optimum, near optimum, and more wet than optimum moisture content, respectively. Saturated soils are estimated to be within areas of free groundwater.

BY: CC

DATE: 1-9-12

JOB NUMBER: 3268.102

BORING LOG B06-1

JOB NUMBER: 2914.100 **DATE DRILLED:** 7-13-06

JOB NAME: Hill Parcel **SURFACE ELEVATION:** 5-1/2 feet

DRILL RIG: Rotary Wash **DATUM:** NGVD 29

SAMPLER TYPE: 2.5 inch I.D. Split Barrel

DRIVE WEIGHT - LB: 140

HEIGHT OF FALL - IN: 30*

*Automatic Trip Hammer

BLOWS PER FT.	MOISTURE CONTENT %	DRY UNIT WEIGHT p.c.f.	DEPTH IN FEET	USCS CLASSI-FICATION	DESCRIPTION
				CL	SANDY CLAY with abundant GRAVEL, light gray-brown, dry to damp, stiff (fill)
				CL	SILTY CLAY, dark gray, damp, stiff, rootlets
20	18.7	106			
				CL	SILTY CLAY, yellow-brown, moist, stiff, gray rootlets
16	21.0	106	5		
				CL	SANDY CLAY,yellow-brown, saturated, medium stiff, fine-grained sand
6	24.3	101	10		
				CL/ML	SANDY CLAY/CLAYEY SILT, yellow-brown, moist to saturated, medium stiff, fine-grained sand
7	26.8	95	15		
				CL	SILTY CLAY, green-gray, moist, stiff
10	32.9	86	20		

BORING LOG B06-1

JOB NUMBER: 2914.100 **SHEET:** 2 **OF:** 2

JOB NAME: Hill Parcel **DEPTH:** 20 feet **TO** 30-1/2 feet

NOTES:

BLOWS PER FT.	MOISTURE CONTENT %	DRY UNIT WEIGHT p.c.f.	DEPTH IN FEET	USCS CLASSI-FICATION	DESCRIPTION
42	21.4	106	25	CL	SILTY CLAY, green-gray, moist, stiff below 23 feet, hard
21	-	-	30	CL	SILTY CLAY, yellow-brown, moist, very stiff, minor carbonate
			35 40		Boring terminated at 30-1/2 feet Groundwater obscured by rotary wash drill method

BORING LOG B06-2

JOB NUMBER: 2914.100 **DATE DRILLED:** 7-14-06

JOB NAME: Hill Parcel **SURFACE ELEVATION:** 5-1/2 feet

DRILL RIG: Rotary Wash **DATUM:** NGVD 29

SAMPLER TYPE: 2.5 inch I.D. Split Barrel

DRIVE WEIGHT - LB: 140

HEIGHT OF FALL - IN: 30*

*Automatic Trip Hammer

BLOWS PER FT.	MOISTURE CONTENT %	DRY UNIT WEIGHT p.c.f.	DEPTH IN FEET	USCS CLASSI-FICATION	DESCRIPTION
20	-	-		CL	SANDY CLAY, dark gray-brown, moist, stiff, fine-grained sand, rootlets
11	20.2	100	5	CL	SILTY CLAY, light gray-brown, wet, stiff, some fine-grained sand, trace fine gravel at 4 feet, clayey sand
9	21.1	107	10	CL	SILTY CLAY/SANDY CLAY, brown, saturated, medium stiff to stiff, fine-grained sand
24	20.6	101	15	CL/SC	SANDY CLAY/CLAYEY SAND, brown, saturated, very stiff/medium dense, fine-grained sand, some silt
				CL	SILTY CLAY, light gray-brown, saturated, stiff
11	-	-	20	SM	SILTY SAND, light gray-brown, saturated, loose, fine-grained sand, some clay

BORING LOG B06-2

JOB NUMBER: 2914.100 **SHEET:** 2 **OF:** 2

JOB NAME: Hill Parcel **DEPTH:** 20 feet **TO** 34-1/2 feet

NOTES:

BLOWS PER FT.	MOISTURE CONTENT %	DRY UNIT WEIGHT p.c.f.	DEPTH IN FEET	USCS CLASSI-FICATION	DESCRIPTION
				SM	SILTY SAND, light gray-brown, saturated, loose, fine-grained sand, some clay
				CL	SILTY CLAY, light gray to dark gray, saturated, very stiff
27	31.8	91			
			25		
				CL	SILTY CLAY, brown, saturated, very stiff to hard, trace fine-grained sand
31	21.1	106			
			30		
				CL	SILTY CLAY/SANDY CLAY, brown, saturated, stiff, fine-grained sand, some silt
11	22.4	111			
			35		Boring terminated at 34-1/2 feet Groundwater obscured by rotary wash drill method
			40		

BORING LOG B06-3

JOB NUMBER: 2914.100 **DATE DRILLED:** 7-14-06

JOB NAME: Hill Parcel **SURFACE ELEVATION:** 4-1/2 feet

DRILL RIG: Rotary Wash **DATUM:** NGVD 29

SAMPLER TYPE:	DRIVE WEIGHT - LB	HEIGHT OF FALL - IN
■ 2.5 inch I.D. Split Barrel	140	30*
☑ Standard Penetration Test	140	30*

*Automatic Trip Hammer

BLOWS PER FT.	MOISTURE CONTENT %	DRY UNIT WEIGHT p.c.f.	DEPTH IN FEET	USCS CLASSI-FICATION	DESCRIPTION
				CL	SANDY CLAY, dark gray to light gray-brown, moist, very stiff, fine-grained sand, trace rootlets
24	14.8	112			
				CL	SILTY CLAY, light gray-brown, moist to wet, stiff
15	22.5	104	5		
23	18.8	110			below 9 feet, very stiff, trace coarse gravel
			10		
				CL/SC	SANDY CLAY/CLAYEY SAND, brown, saturated, loose to medium stiff
6	-	-			
			15		
				SM/ML	SILTY SAND/SANDY SILT, light gray-brown, saturated, loose to medium dense, fine-grained sand
17	23.9	99			
			20	CL	SILTY CLAY, light gray-brown, saturated, stiff

BORING LOG B06-3

JOB NUMBER: 2914.100 **SHEET:** 2 **OF:** 3

JOB NAME: Hill Parcel **DEPTH:** 20 feet **TO** 40 feet

NOTES:

BLOWS PER FT.	MOISTURE CONTENT %	DRY UNIT WEIGHT p.c.f.	DEPTH IN FEET	USCS CLASSI-FICATION	DESCRIPTION
17	23.9	99		CL	SILTY CLAY, light gray-brown, saturated, stiff
				CL	SILTY CLAY, gray, saturated, very stiff to hard
35	27.9	95	25		
				CL	SILTY CLAY, brown with light gray mottling, saturated, hard
54	19.0	109	30		
				CL	SILTY CLAY, light gray-brown, saturated, stiff, some fine-grained sand, trace caliche
16	26.4	99	35		
					below 38 feet, very stiff
35	22.4	105	40		

BORING LOG B06-3

JOB NUMBER: 2914.100 **SHEET:** 3 **OF:** 3

JOB NAME: Hill Parcel **DEPTH:** 40 feet **TO** 50-1/2 feet

NOTES:

BLOWS PER FT.	MOISTURE CONTENT %	DRY UNIT WEIGHT p.c.f.	DEPTH IN FEET	USCS CLASSI-FICATION	DESCRIPTION
35	22.4	105		CL	SILTY CLAY, light gray-brown, saturated, very stiff, some fine-grained sand, trace caliche
27	29.0	93	45		below 44 feet, trace black mottling
48	-	-	50	SP/GP	SAND/GRAVEL, gray-brown, saturated, dense, fine-to coarse-grained sand, fine to coarse gravel
			55 60		Boring terminated at 50-1/2 feet Groundwater obscured by rotary wash drill method

BORING LOG B06-4

JOB NUMBER: 2914.100 **DATE DRILLED:** 7-14-06

JOB NAME: Hill Parcel **SURFACE ELEVATION:** 4-1/2 feet

DRILL RIG: Rotary Wash **DATUM:** NGVD 29

SAMPLER TYPE: 2.5 inch I.D. Split Barrel

DRIVE WEIGHT - LB: 140

HEIGHT OF FALL - IN: 30*

*Automatic Trip Hammer

BLOWS PER FT.	MOISTURE CONTENT %	DRY UNIT WEIGHT p.c.f.	DEPTH IN FEET	USCS CLASSI-FICATION	DESCRIPTION
26	20.2	101		CL	SANDY CLAY/SILTY CLAY, dark gray, moist, very stiff, fine-grained sand, trace caliche
25	19.9	109	5	CL	SILTY CLAY, light gray-brown, moist, very stiff
12	-	-			below 7 feet, stiff
			10	CL/SC	SANDY CLAY/CLAYEY SAND, light gray-brown, saturated, medium stiff, loose to medium dense, fine-grained sand
9	-	-		SM/SC	SILTY SAND/CLAYEY SAND, brown, saturated, loose, fine-grained sand
			15	CL/ML	SANDY CLAY/SILTY CLAY/CLAYEY SILT, brown, satuarted, medium stiff to stiff, fine-grained sand
17	18.2	109	20	CL	SILTY CLAY, dark brown to light gray-brown, saturated, stiff, some fine-grained sand

BORING LOG B06-4

JOB NUMBER: 2914.100 **SHEET:** 2 **OF:** 2

JOB NAME: Hill Parcel **DEPTH:** 20 feet **TO** 30 feet

NOTES:

BLOWS PER FT.	MOISTURE CONTENT %	DRY UNIT WEIGHT p.c.f.	DEPTH IN FEET	USCS CLASSI-FICATION	DESCRIPTION
				CL	SILTY CLAY, dark brown to light gray-brown, saturated, stiff, some fine-grained sand
				CL	SILTY CLAY, light gray-brown, saturated, hard, some bedrock structure
56	27.1	98			
			25		
				CL	SILTY CLAY with GRAVEL, saturated, hard, fine-gravel
60	24.7	101			
			30		
					Boring terminated at 30 feet Groundwater obscured by rotary wash drill method
			35		
			40		

BY: CC

DATE: 10-10-06

JOB NUMBER: 2914.100

MAJOR DIVISIONS			CLASSIFICATION	TYPICAL NAMES
COARSE GRAINED SOILS MORE THAN HALF IS LARGER THAN #200 SIEVE	GRAVELS MORE THAN HALF COARSE FRACTION IS LARGER THAN NO. 4 SIEVE SIZE	CLEAN GRAVELS WITH LITTLE OR NO FINES	GW	WELL GRADED GRAVELS, GRAVEL - SAND MIXTURES
			GP	POORLY GRADED GRAVELS, GRAVEL - SAND MIXTURES
		GRAVEL WITH OVER 12% FINES	GM	SILTY GRAVELS, POORLY GRADED GRAVEL - SAND - SILT MIXTURES
			GC	CLAYEY GRAVELS, POORLY GRADED GRAVEL - SAND - CLAY MIXTURES
	SANDS MORE THAN HALF COARSE FRACTION IS SMALLER THAN NO.4 SIEVE SIZE	CLEAN SANDS WITH LITTLE OR NO FINES	SW	WELL GRADED SANDS, GRAVELLY SANDS
			SP	POORLY GRADED SANDS, GRAVELLY SANDS
		SANDS WITH OVER 12% FINES	SM	SILTY SANDS, POORLY GRADED SAND- SILT MIXTURES
			SC	CLAYEY SANDS, POORLY GRADED SAND - CLAY MIXTURES
FINE GRAINED SOILS MORE THAN HALF IS SMALLER THAN #200 SIEVE	SILTS AND CLAYS LIQUID LIMIT LESS THAN 50		ML	INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS, OR CLAYEY SILTS WITH SLIGHT PLASTICITY
			CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
			OL	ORGANIC CLAYS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY
	SILTS AND CLAYS LIQUID LIMIT GREATER THAN 50		MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SANDY OR SILTY SOILS, ELASTIC SILTS
			CH	INORGANIC CLAYS OF HIGH PLASTICITY, FAT CLAYS
			OH	ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS
HIGHLY ORGANIC SOILS			Pt	PEAT AND OTHER HIGHLY ORGANIC SILTS

UNIFIED SOIL CLASSIFICATION SYSTEM

Blows per ft.	Moisture Content (%)	Dry Unit Weight (pcf)	Depth in Feet	USCS Classification	
					Bulk Sample
					2.5" I.D. Split Barrel Sample
					2.8" I.D. Shelby Tube Sample
					No sample recovered
					Standard Penetration Test interval
					Well defined stratum change
					Gradual stratum change
					Interpreted stratum change
					Apparent ground water level at date noted. Seasonal weather conditions, site topography, etc., may cause changes in water level indicated on logs.

Note: Soils described as dry, moist, and wet are estimated to be dry of optimum, near optimum, and wet of optimum moisture content, respectively. Saturated soils are estimated to be within areas of free groundwater.

KEY TO BORING LOG SYMBOLS

BORING LOG B98-1

JOB NUMBER: 1629.403 **DATE DRILLED:** 3-26-98

JOB NAME: FMC Site **SURFACE ELEVATION:** 47 feet

DRILL RIG: Hollow Auger **DATUM:** NGVD 29

SAMPLER TYPE: 2.5 inch I.D. Split Barrel Sample **DRIVE WEIGHT - LB** 140 **HEIGHT OF FALL - IN** 30

BLOWS PER FT.	MOISTURE CONTENT %	DRY UNIT WEIGHT p.c.f.	DEPTH IN FEET	USCS CLASSI-FICATION	DESCRIPTION
24	21.8	83			ALKALINE MATERIAL (magnesia), mottled gray-white and gray, very stiff, some gypsum
33	22.7	78			
22	28.5	77	5		at 5 feet, becomes dark gray at 5-1/2 feet, rust veinlet
37	34.2	58	10	M L	SANDY SILT, brown, moist, very stiff, yellow-white alkaline material
					ALKALINE MATERIAL (magnesia), gray-white, moist, very stiff
11	35.2	71	15	S W	SAND, light brown, moist, loose, medium grained
					ALKALINE MATERIAL (megnesia), gray-white, moist
35	23.5	85	20	M L	SANDY SILT, gray-brown, moist, medium stiff

BORING LOG B98-1

JOB NUMBER: 1629.403 **SHEET:** 2 **OF:** 2

JOB NAME: FMC Site **DEPTH:** 20 feet **TO** 25-1/2 feet

NOTES:

BLOWS PER FT.	MOISTURE CONTENT %	DRY UNIT WEIGHT p.c.f.	DEPTH IN FEET	USCS CLASSI-FICATION	DESCRIPTION
35	23.5	85		M L	SANDY SILT, gray-brown, moist, medium stiff
					ALKALINE MATERIAL (magnesia), gray-white and yellow-white, moist, medium stiff
50/3"	-	-	25		SILTSTONE, red-brown, highly weathered, friable, highly fractured
					Boring terminated at 25-1/2 feet. No free water encountered.
			30		
			35		
			40		

BORING LOG B98-2

JOB NUMBER: 1629.403 **DATE DRILLED:** 3-26-98

JOB NAME: FMC Site **SURFACE ELEVATION:** 42 feet

DRILL RIG: Hollow Auger **DATUM:** NGVD 29

SAMPLER TYPE: 2.5 inch I.D. Split Barrel Sample **DRIVE WEIGHT - LB** 140 **HEIGHT OF FALL - IN** 30

BLOWS PER FT.	MOISTURE CONTENT %	DRY UNIT WEIGHT p.c.f.	DEPTH IN FEET	USCS CLASSI-FICATION	DESCRIPTION
50	21.8	81		ML	SANDY SILT, gray, moist, hard, alkaline material
50/3"	23.1	74			ALKALINE MATERIAL (magnesia), mottled gray and white, moist, hard, trace sand
14	20.0	70	5		at 5 feet, mottled white and orange-white, stiff at 5-1/2 feet, white
19	19.7	75	10		
38	17.1	74	15		at 15 feet, siltstone fragments at 15-1/2 feet, white, very stiff, trace fine gravel
41	24.1	75	20		

BORING LOG B98-2

JOB NUMBER: 1629.403 **SHEET:** 2 **OF:** 2

JOB NAME: FMC Site **DEPTH:** 20 feet **TO** 21-1/2 feet

NOTES:

BLOWS PER FT.	MOISTURE CONTENT %	DRY UNIT WEIGHT p.c.f.	DEPTH IN FEET	USCS CLASSI-FICATION	DESCRIPTION
41	24.1	75			ALKALINE MATERIAL (magnesia), white, moist, very stiff, trace fine gravel
				CL	SILTY CLAY, dark brown, moist, very stiff
					Boring terminated at 21-1/2 feet. No free water encountered.
			25		
			30		
			35		
			40		

BORING LOG B98-3

JOB NUMBER: 1629.403 **DATE DRILLED:** 3-26-98

JOB NAME: FMC Site **SURFACE ELEVATION:** 38 feet

DRILL RIG: Hollow Auger **DATUM:** NGVD 29

SAMPLER TYPE: 2.5 inch I.D. Split Barrel Sample **DRIVE WEIGHT - LB** 140 **HEIGHT OF FALL - IN** 30

BLOWS PER FT.	MOISTURE CONTENT %	DRY UNIT WEIGHT p.c.f.	DEPTH IN FEET	USCS CLASSI-FICATION	DESCRIPTION
21	23.7	76			ALKALINE MATERIAL (magnesia), gray-white, moist, stiff
17	23.2	65			
13	25.3	69	5		at 6 feet, gypsum
14	26.7	61	10		at 10 feet, becomes white
20	30.0	61	15		at 15 feet, becomes gray-white
58	22.5	70	20		

BORING LOG B98-3

JOB NUMBER: 1629.403 **SHEET:** 2 **OF:** 2

JOB NAME: FMC Site **DEPTH:** 20 feet **TO** 31 feet

NOTES:

BLOWS PER FT.	MOISTURE CONTENT %	DRY UNIT WEIGHT p.c.f.	DEPTH IN FEET	USCS CLASSI-FICATION	DESCRIPTION
58	22.5	70			ALKALINE MATERIAL (magnesia), gray-white, moist, stiff
					at 20 feet, becomes hard, wood debris and gypsum
			25		
22	26.3	72			at 25 feet, very stiff
			30		
32	53.3	59		CL	SILTY CLAY, dark brown, moist, very stiff
					Boring terminated at 31 feet. No free water encountered.
			35		
			40		

BORING LOG B98-4

JOB NUMBER: 1629.403 **DATE DRILLED:** 3-26-98

JOB NAME: FMC Site **SURFACE ELEVATION:** 50 feet

DRILL RIG: Hollow Auger **DATUM:** NGVD 29

SAMPLER TYPE: 2.5 inch I.D. Split Barrel Sample **DRIVE WEIGHT - LB** 140 **HEIGHT OF FALL - IN** 30

BLOWS PER FT.	MOISTURE CONTENT %	DRY UNIT WEIGHT p.c.f.	DEPTH IN FEET	USCS CLASSI-FICATION	DESCRIPTION
50/5"	18.1	102		ML	SANDY SILT, gray-brown, dry to mist, hard
					ALKALINE MATERIAL (magnesia), gray-white, moist, hard, some silt
				ML	CLAYEY SILT, dry red, moist
76	30.9	79			ALKALINE MATERIAL (magnesia), mottled gray-white, dark gray and red, moist, hard
			5		
76	21.6	85			
				CL	SILTY CLAY, dark brown, moist
					Boring terminated at 7 feet. No free water encountered.
			10		
			15		
			20		

BORING LOG B98-5

JOB NUMBER: 1629.403 **DATE DRILLED:** 3-26-98

JOB NAME: FMC Site **SURFACE ELEVATION:** 32-1/2 feet

DRILL RIG: Hollow Auger **DATUM:** NGVD 29

SAMPLER TYPE: ■ 2.5 inch I.D. Split Barrel Sample **DRIVE WEIGHT - LB** 140 **HEIGHT OF FALL - IN** 30

BLOWS PER FT.	MOISTURE CONTENT %	DRY UNIT WEIGHT p.c.f.	DEPTH IN FEET	USCS CLASSI-FICATION	DESCRIPTION
17	48.4	62			ALKALINE MATERIAL (magnesia), white, moist to wet, stiff
66	30.0	63			at 2 feet, some silty sand, gray-brown
50/5"	--	-	5		
					SANDSTONE, red-orange and light brown, highly weathered, friable, highly fractured
					Boring terminated at 6 feet. No free water encountered.
			10		
			15		
			20		

BORING LOG B98-6

JOB NUMBER: 1629.403 **DATE DRILLED:** 3-26-98

JOB NAME: FMC Site **SURFACE ELEVATION:** 21 feet

DRILL RIG: Hollow Auger **DATUM:** NGVD 29

SAMPLER TYPE: 2.5 inch I.D. Split Barrel Sample **DRIVE WEIGHT - LB:** 140 **HEIGHT OF FALL - IN:** 30

BLOWS PER FT.	MOISTURE CONTENT %	DRY UNIT WEIGHT p.c.f.	DEPTH IN FEET	USCS CLASSI-FICATION	DESCRIPTION
25	33.4	75			ALKALINE MATERIAL (magnesia), white, dry to moist, very stiff
24	39.1	67			at 1/2 foot, mottled gray-brown and white, moist, trace medium-grained sand
13	30.1	75	5		at 5 feet, sandy silt, gray-brown, moist, stiff, white alkaline material
22	33.2	60	10		
					at 13-1/2 feet, more silt
			15		from 15 to 15-1/2 feet, clayey silt
37	33.7	87			from 17-1/2 to 18 feet, some gypsum
				CL	SILTY CLAY, dark brown, moist, very stiff
			20		Boring terminated at 19 feet. No free water encountered.

BORING LOG B98-7

JOB NUMBER: 1629.403 **DATE DRILLED:** 3-26-98

JOB NAME: FMC Site **SURFACE ELEVATION:** 26 feet

DRILL RIG: Hollow Auger **DATUM:** NGVD 29

SAMPLER TYPE: 2.5 inch I.D. Split Barrel Sample **DRIVE WEIGHT - LB** 140 **HEIGHT OF FALL - IN** 30

BLOWS PER FT.	MOISTURE CONTENT %	DRY UNIT WEIGHT p.c.f.	DEPTH IN FEET	USCS CLASSI-FICATION	DESCRIPTION
16	33.3	79			ALKALINE MATERIAL (magnesia), gray-brown and white, moist, stiff, some gypsum
28	25.4	83			at 1-1/2 feet, more silt, trace fine to medium gravel
					at 2-1/2 feet, some sand
11	32.5	79	5		at 5 feet, medium stiff
15	31.8	75	10		at 10 feet, gray-white, stiff
21	26.6	85	15	C L	SILTY CLAY, dark brown, wet, stiff
					ALKALINE MATERIAL (magnesia), gray-white, moist, stiff
				C L	SILTY CLAY, dark brown
			20		Boring terminated at 20 feet. No free water encountered.

BORING LOG B98-8

JOB NUMBER: 1629.403 **DATE DRILLED:** 3-26-98

JOB NAME: FMC Site **SURFACE ELEVATION:** 12-1/2 feet

DRILL RIG: Hollow Auger **DATUM:** NGVD 29

SAMPLER TYPE: 2.5 inch I.D. Split Barrel Sample **DRIVE WEIGHT - LB** 140 **HEIGHT OF FALL - IN** 30

BLOWS PER FT.	MOISTURE CONTENT %	DRY UNIT WEIGHT p.c.f.	DEPTH IN FEET	USCS CLASSI-FICATION	DESCRIPTION
26	28.5	70		M L	SANDY SILT, tan, moist, very stiff with alkaline material
65	41.1	68			ALKALINE MATERIAL (magnesia), gray white
				M L	SANDY SILT, tan, moist, hard
14	76.9	48	5		ALKALINE MATERIAL (magnesia), white, wet, stiff,
				M L	SANDY SILT, brown, saturated, stiff
					Boring terminated at 6-1/2 feet. Free water encountered at 6-1/2 feet.
			10		
			15		
			20		

BORING LOG B98-9

JOB NUMBER: 1629.403 **DATE DRILLED:** 3-27-98

JOB NAME: FMC Site **SURFACE ELEVATION:** 34-1/2 feet

DRILL RIG: Hollow Auger **DATUM:** NGVD 29

SAMPLER TYPE: 2.5 inch I.D. Split Barrel Sample **DRIVE WEIGHT - LB** 140 **HEIGHT OF FALL - IN** 30

BLOWS PER FT.	MOISTURE CONTENT %	DRY UNIT WEIGHT p.c.f.	DEPTH IN FEET	USCS CLASSI-FICATION	DESCRIPTION
72	18.1	94			ALKALINE MATERIAL (magnesia), mottled off-white and white, dry , hard
29	31.0	78			
				S M	SILTY SAND, light brown, dry, very stiff, fine to medium-grained,
46	43.9	63	5		ALKALINE MATERIAL (magnesia), off-white and white, dry to moist, hard, gypsum at 5-1/2 feet
28	51.8	59	10		
50/5"	--	-	15		SILTSTONE, dry, highly weathered, friable, highly fractured
			20		Boring terminated at 16-1/2 feet. No free water encountered.

BORING LOG B98-10

JOB NUMBER: 1629.403 **DATE DRILLED:** 3-27-98

JOB NAME: FMC Site **SURFACE ELEVATION:** 31 feet

DRILL RIG: Hollow Auger **DATUM:** NGVD 29

SAMPLER TYPE: 2.5 inch I.D. Split Barrel Sample **DRIVE WEIGHT - LB** 140 **HEIGHT OF FALL - IN** 30

BLOWS PER FT.	MOISTURE CONTENT %	DRY UNIT WEIGHT p.c.f.	DEPTH IN FEET	USCS CLASSI-FICATION	DESCRIPTION
20	31.8	76			ALKALINE MATERIAL (magnesia), white, moist, stiff, below 1/2 foot, red-brown and white
15	40.8	69			below 2 feet, white
59/9"	35.0	76	5		below 6 feet, white and tan, wet, gray, hard
				CL	SILTY CLAY, dark brown, moist with gravel
			10		Boring terminated at 7 feet. No free water encountered.
			15		
			20		

BORING LOG B98-11

JOB NUMBER: 1629.403 **DATE DRILLED:** 3-27-98

JOB NAME: FMC Site **SURFACE ELEVATION:** 30 feet

DRILL RIG: Hollow Auger **DATUM:** NGVD 29

SAMPLER TYPE: 2.5 inch I.D. Split Barrel Sample **DRIVE WEIGHT - LB** 140 **HEIGHT OF FALL - IN** 30

BLOWS PER FT.	MOISTURE CONTENT %	DRY UNIT WEIGHT p.c.f.	DEPTH IN FEET	USCS CLASSI-FICATION	DESCRIPTION
73	25.0	76			ALKALINE MATERIAL (magnesia), gray-white, moist, hard,
				M L	SANDY SILT, mottled brown and dark brown, dry, hard with siltstone fragments
25	27.0	76			ALKALINE MATERIAL (magnesia), gray-white, moist, hard
					below 1-1/2 feet, white, very stiff
25	26.7	81	5		below 5 feet, mottled white and gray
					below 5-1/2 feet, white
					below 6 feet, dark gray
14	25.1	78	10	M L	SANDY SILT, brown, moist, stiff, trace fine gravel
					ALKALINE MATERIAL (magnesia), mottled white, tan and green, moist, stiff
45	35.2	71	15		below 15 feet, off-white and white
2	--		20	M L	CLAYEY SILT, brown, wet, very soft

BORING LOG B98-11

JOB NUMBER: 1629.403 **SHEET:** 2 **OF:** 2

JOB NAME: FMC Site **DEPTH:** 20 **TO** 21-1/2 feet

NOTES:

BLOWS PER FT.	MOISTURE CONTENT %	DRY UNIT WEIGHT p.c.f.	DEPTH IN FEET	USCS CLASSI-FICATION	DESCRIPTION
2	-		-	M L	CLAYEY SILT, brown, wet, very soft
					Boring terminated at 21-1/2 feet. No free water encounterd.
			25		
			30		
			35		
			40		

BORING LOG B98-12

JOB NUMBER: 1629.403 **DATE DRILLED:** 3-27-98

JOB NAME: FMC Site **SURFACE ELEVATION:** 16-1/2 feet

DRILL RIG: Hollow Auger **DATUM:** NGVD 29

SAMPLER TYPE: 2.5 inch I.D. Split Barrel Sample **DRIVE WEIGHT - LB** 140 **HEIGHT OF FALL - IN** 30

BLOWS PER FT.	MOISTURE CONTENT %	DRY UNIT WEIGHT p.c.f.	DEPTH IN FEET	USCS CLASSI-FICATION	DESCRIPTION
50/3"	30.4	60			ALKALINE MATERIAL (magnesia), gray-white, moist, hard
					below 1/2 foot, gray-brown, some fine-grained gravel
					between 1-1/2 feet and 3 feet, hard
			5		
28	47.6	64			
				ML	CLAYEY SILT, dark brown, moist, very stiff
					Boring terminated at 7-1/2 feet. No free water encountered.
			10		
			15		
			20		

BORING LOG B98-13

JOB NUMBER: 1629.403 **DATE DRILLED:** 3-27-98

JOB NAME: FMC Site **SURFACE ELEVATION:** 10 feet

DRILL RIG: Hollow Auger **DATUM:** NGVD 29

SAMPLER TYPE: 2.5 inch I.D. Split Barrel Sample **DRIVE WEIGHT - LB** 140 **HEIGHT OF FALL - IN** 30

BLOWS PER FT.	MOISTURE CONTENT %	DRY UNIT WEIGHT p.c.f.	DEPTH IN FEET	USCS CLASSI-FICATION	DESCRIPTION
					ALKALINE MATERIAL (magnesia), gray-white, dry
8	31.5	60			below 2-1/2 feet, white, medium stiff, some medium-grained sand
			5		
36	35.9	80			
				C L	SILTY CLAY, black, moist to wet, very stiff
			10		Boring terminated at 8-1/2 feet. No free water encountered.
			15		
			20		

BORING LOG B98-14

JOB NUMBER: 1629.403 **DATE DRILLED:** 3-27-98

JOB NAME: FMC Site **SURFACE ELEVATION:** 22-1/2 feet

DRILL RIG: Hollow Auger **DATUM:** NGVD 29

SAMPLER TYPE: 2.5 inch I.D. Split Barrel Sample **DRIVE WEIGHT - LB** 140 **HEIGHT OF FALL - IN** 30

BLOWS PER FT.	MOISTURE CONTENT %	DRY UNIT WEIGHT p.c.f.	DEPTH IN FEET	USCS CLASSI-FICATION	DESCRIPTION
41	32.3	76			ALKALINE MATERIAL (magnesia), light gray, moist, very stiff
					below 1-1/2 feet, hard
77	33.6	80			
95/ 11"	37.4	74	5		
81	37.9	76	10		at 10 feet, orange veinlet below 10-1/2 feet, light gray and white below 11 feet, tan
13	51.6	64	15		below 15 feet, white, wet below 16 feet, speckled black and white
50/1"	-	-	20		SANDSTONE, brown, highly weathered, friable, highly fractured

BORING LOG B98-14

JOB NUMBER: 1629.403 **SHEET:** 2 **OF:** 2

JOB NAME: FMC Site **DEPTH:** 20 **TO** 20-1/2 feet

NOTES:

BLOWS PER FT.	MOISTURE CONTENT %	DRY UNIT WEIGHT p.c.f.	DEPTH IN FEET	USCS CLASSI-FICATION	DESCRIPTION
50/1"	-	-			SANDSTONE, brown, highly weathered, friable, highly fractured
					Boring terminated at 20-1/2 feet. No free water encountered at 18 feet.
			25		
			30		
			35		
			40		

BORING LOG B98-15

JOB NUMBER: 1629.403 **DATE DRILLED:** 3-27-98

JOB NAME: FMC Site **SURFACE ELEVATION:** 18 feet

DRILL RIG: Hollow Auger **DATUM:** NGVD 29

SAMPLER TYPE: 2.5 inch I.D. Split Barrel Sample **DRIVE WEIGHT - LB** 140 **HEIGHT OF FALL - IN** 30

BLOWS PER FT.	MOISTURE CONTENT %	DRY UNIT WEIGHT p.c.f.	DEPTH IN FEET	USCS CLASSI-FICATION	DESCRIPTION
				ML	CLAYEY SILT, gray-brown
21	35.5	66	5		ALKALINE MATERIAL (magnesia), white, moist, stiff
48	-	-		CL	SILTY CLAY, orange-brown, moist to wet, very stiff
			10 15 20		Boring terminated at 8-1/2 feet. No free water encountered.

BORING LOG B98-16

JOB NUMBER: 1629.403 **DATE DRILLED:** 3-27-98

JOB NAME: FMC Site **SURFACE ELEVATION:** 30 feet

DRILL RIG: Hollow Auger **DATUM:** NGVD 29

SAMPLER TYPE: ■ 2.5 inch I.D. Split Barrel Sample **DRIVE WEIGHT - LB** 140 **HEIGHT OF FALL - IN** 30

BLOWS PER FT.	MOISTURE CONTENT %	DRY UNIT WEIGHT p.c.f.	DEPTH IN FEET	USCS CLASSI-FICATION	DESCRIPTION
					ALKALINE MATERIAL (magnesia), white, moist, stiff
16	-	-		M L	SANDY SILT, dark brown, moist, stiff, sitlstone fragments
					Boring terminated at 3-1/2 feet. No free water encountered.
			5		
			10		
			15		
			20		

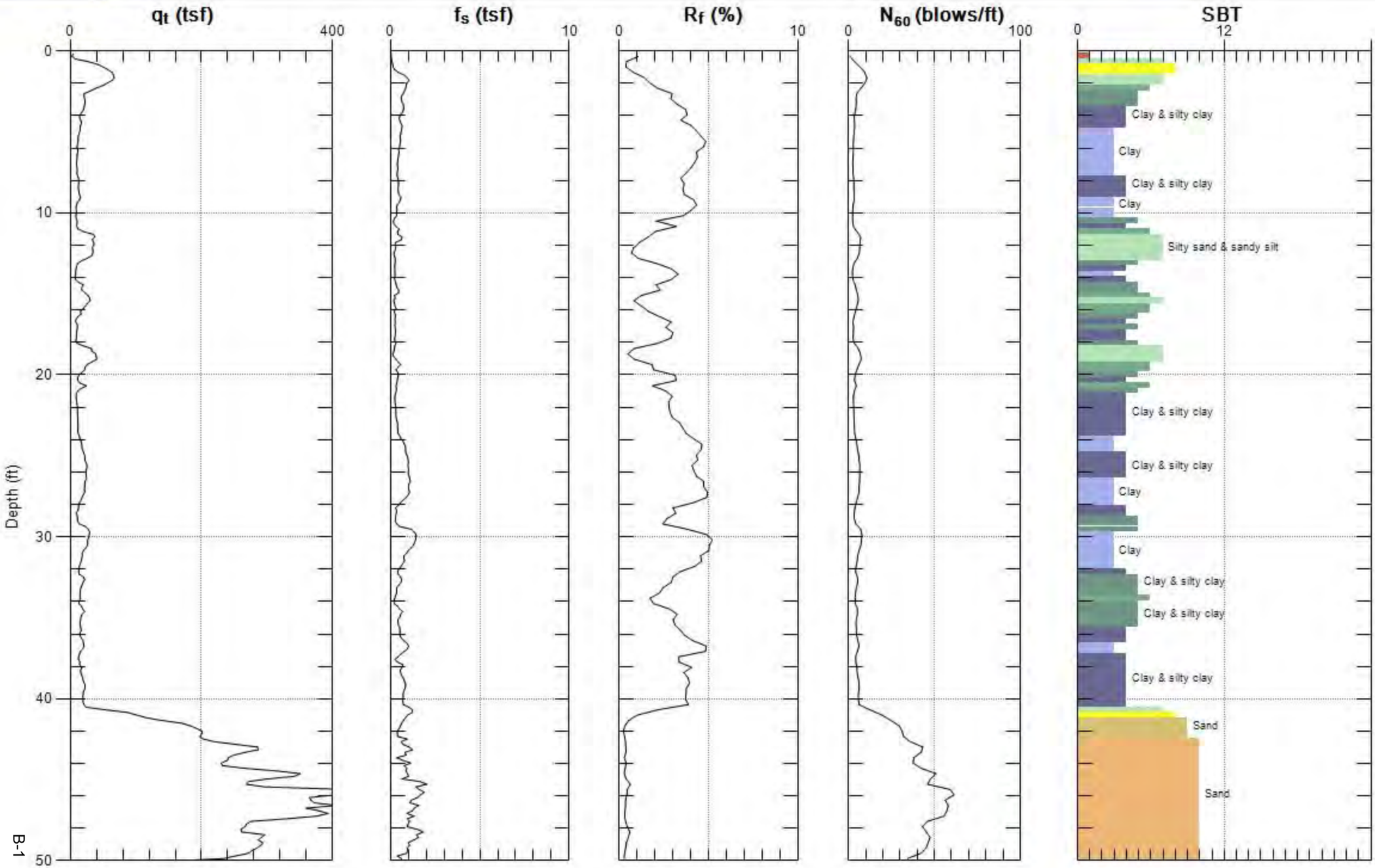
APPENDIX B

CPT Graphs

BERLOGAR STEVENS

Site: TORIAN-CARGILL
Sounding: CPT-01(C-1*)

Engineer: B.STEVENS
Date: 12/14/2011 07:46



Max. Depth: 50.197 (ft)
Avg. Interval: 0.328 (ft)

* CPT NUMBER USED BY BERLOGAR STEVENS AND ASSOCIATES

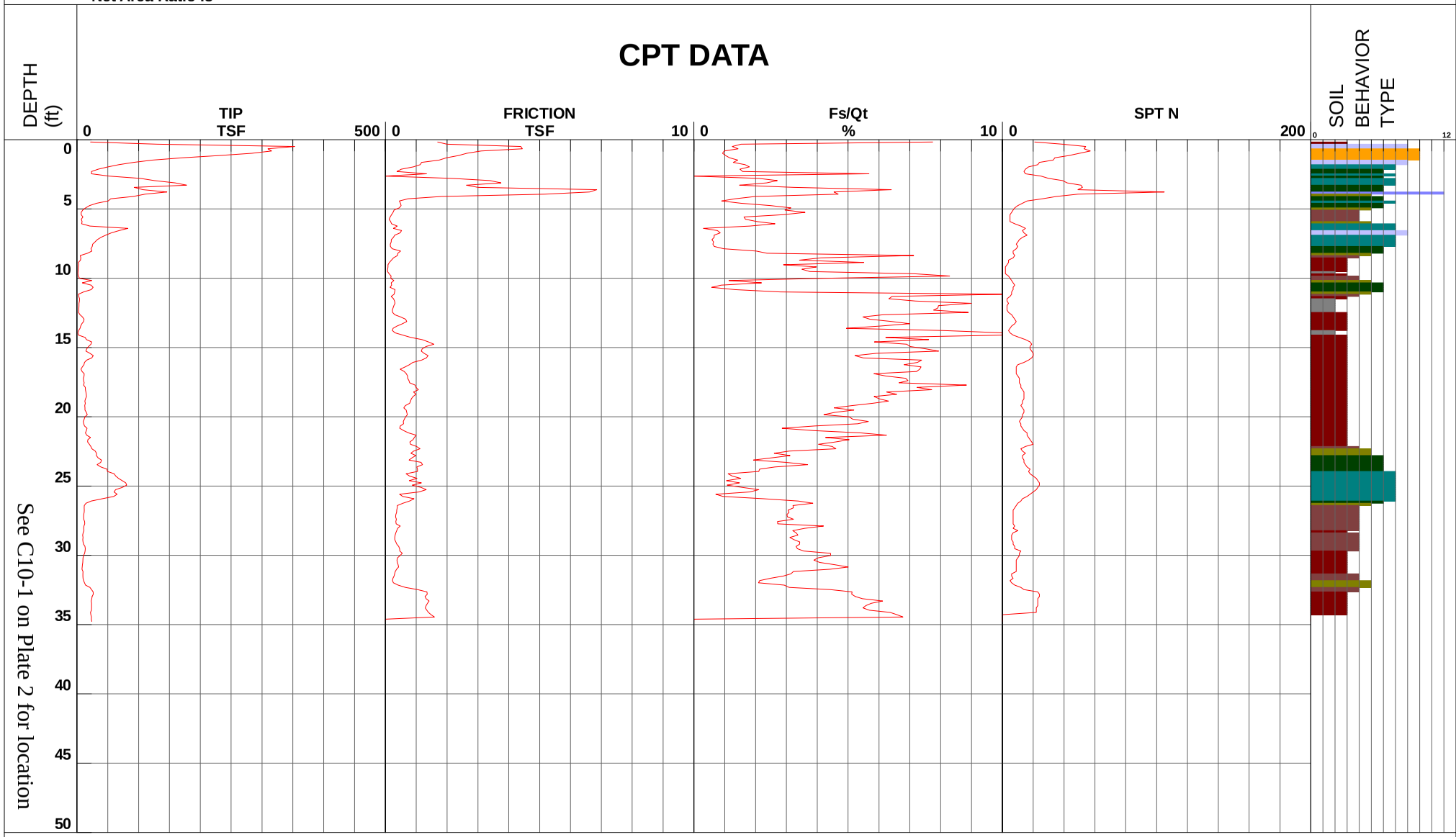
SBT: Soil Behavior Type (Robertson 1990)

Berlogar Geotechnical Consultants

Project	Hill Parcel	Operator	BH-TF	Filename	SDF(380).cpt
Job Number	3268.100	Cone Number	DSG0786	GPS	
Hole Number	CPT-01	Date and Time	7/27/2010 11:17:00 AM	Maximum Depth	34.78 ft
Water Table Depth	7.00 ft				

Net Area Ratio .8

CPT DATA



See C10-1 on Plate 2 for location

- 1 - sensitive fine grained
- 2 - organic material
- 3 - clay
- 4 - silty clay to clay
- 5 - clayey silt to silty clay
- 6 - sandy silt to clayey silt
- 7 - silty sand to sandy silt
- 8 - sand to silty sand
- 9 - sand
- 10 - gravelly sand to sand
- 11 - very stiff fine grained (*)
- 12 - sand to clayey sand (*)

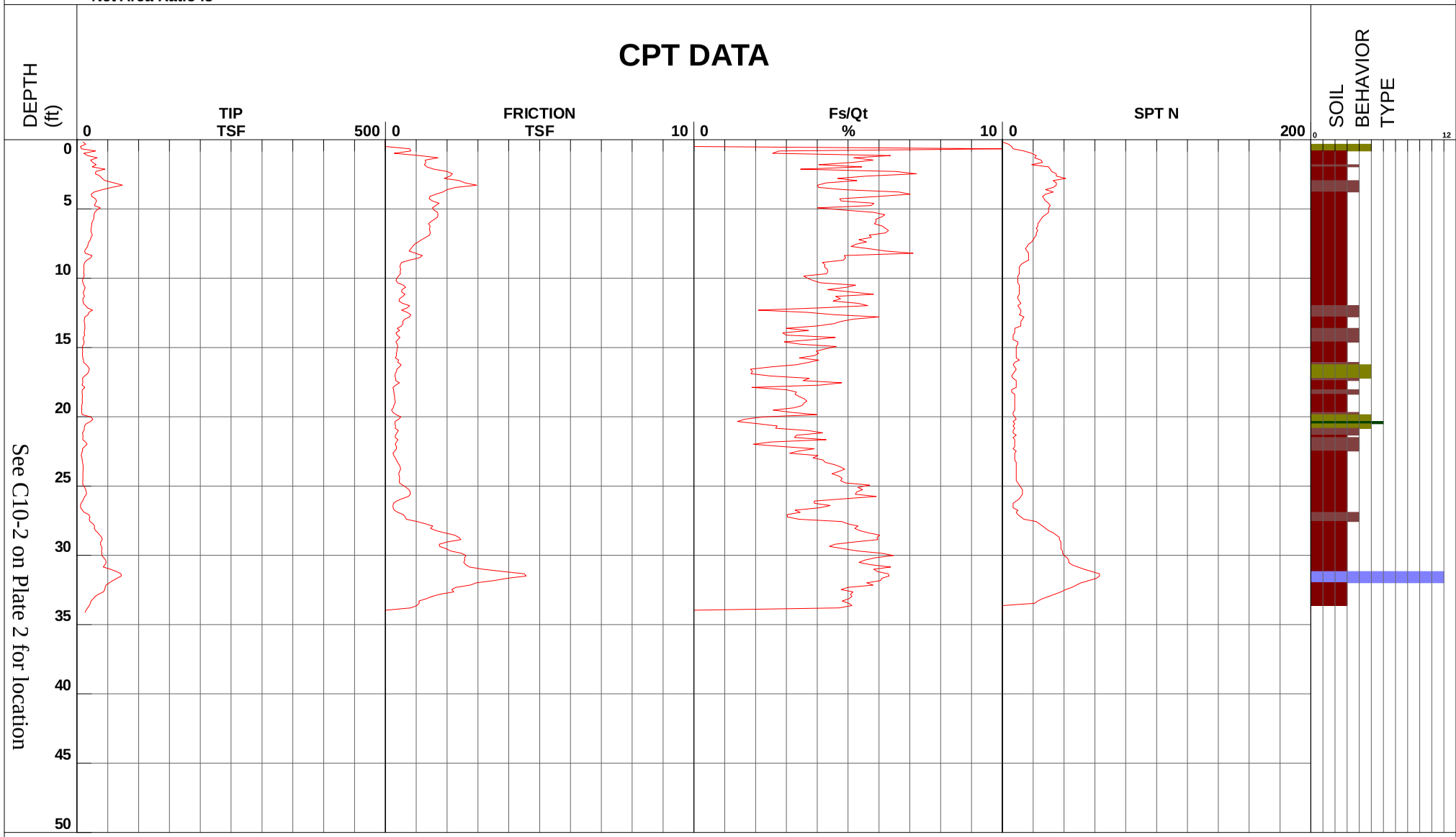
Cone Size 10cm squared

*Soil behavior type and SPT based on data from UBC-1983

Berlogar Geotechnical Consultants

Project	Hill Parcel	Operator	BH-TF	Filename	SDF(378).cpt
Job Number	3268.100	Cone Number	DSG0786	GPS	
Hole Number	CPT-02	Date and Time	7/27/2010 10:10:50 AM	Maximum Depth	34.12 ft
Water Table Depth		7.00 ft			

Net Area Ratio .8



See C10-2 on Plate 2 for location

- 1 - sensitive fine grained
- 2 - organic material
- 3 - clay
- 4 - silty clay to clay
- 5 - clayey silt to silty clay
- 6 - sandy silt to clayey silt
- 7 - silty sand to sandy silt
- 8 - sand to silty sand
- 9 - sand
- 10 - gravelly sand to sand
- 11 - very stiff fine grained (*)
- 12 - sand to clayey sand (*)

Cone Size 10cm squared

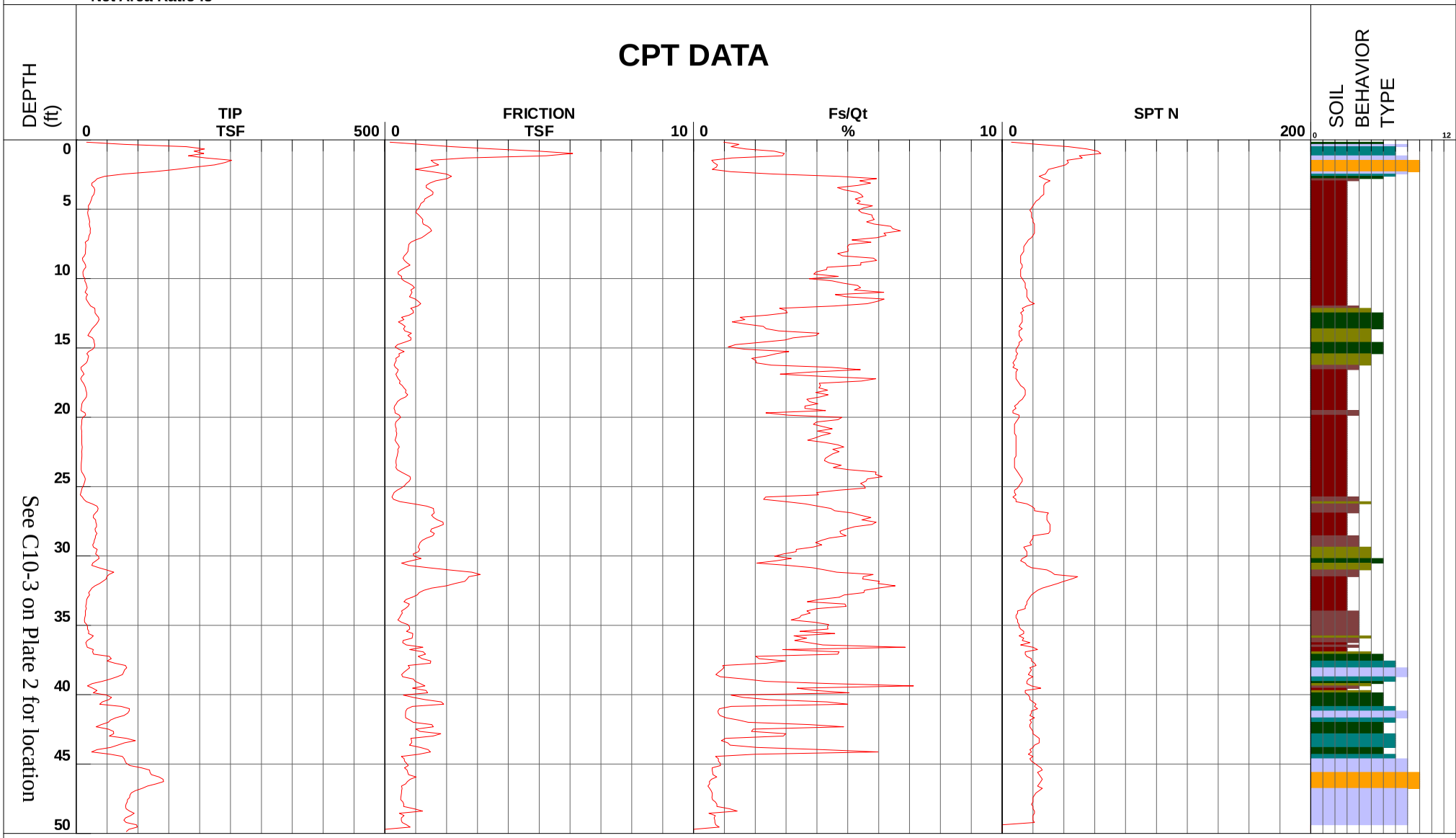
*Soil behavior type and SPT based on data from UBC-1983

Berlogar Geotechnical Consultants

Project	Hill Parcel	Operator	BH-TF	Filename	SDF(376).cpt
Job Number	3268.100	Cone Number	DSG0786	GPS	
Hole Number	CPT-03	Date and Time	7/27/2010 8:10:37 AM	Maximum Depth	49.87 ft
Water Table Depth	7.00 ft				

Net Area Ratio .8

CPT DATA



See C10-3 on Plate 2 for location

- 1 - sensitive fine grained
- 2 - organic material
- 3 - clay
- 4 - silty clay to clay
- 5 - clayey silt to silty clay
- 6 - sandy silt to clayey silt
- 7 - silty sand to sandy silt
- 8 - sand to silty sand
- 9 - sand
- 10 - gravelly sand to sand
- 11 - very stiff fine grained (*)
- 12 - sand to clayey sand (*)

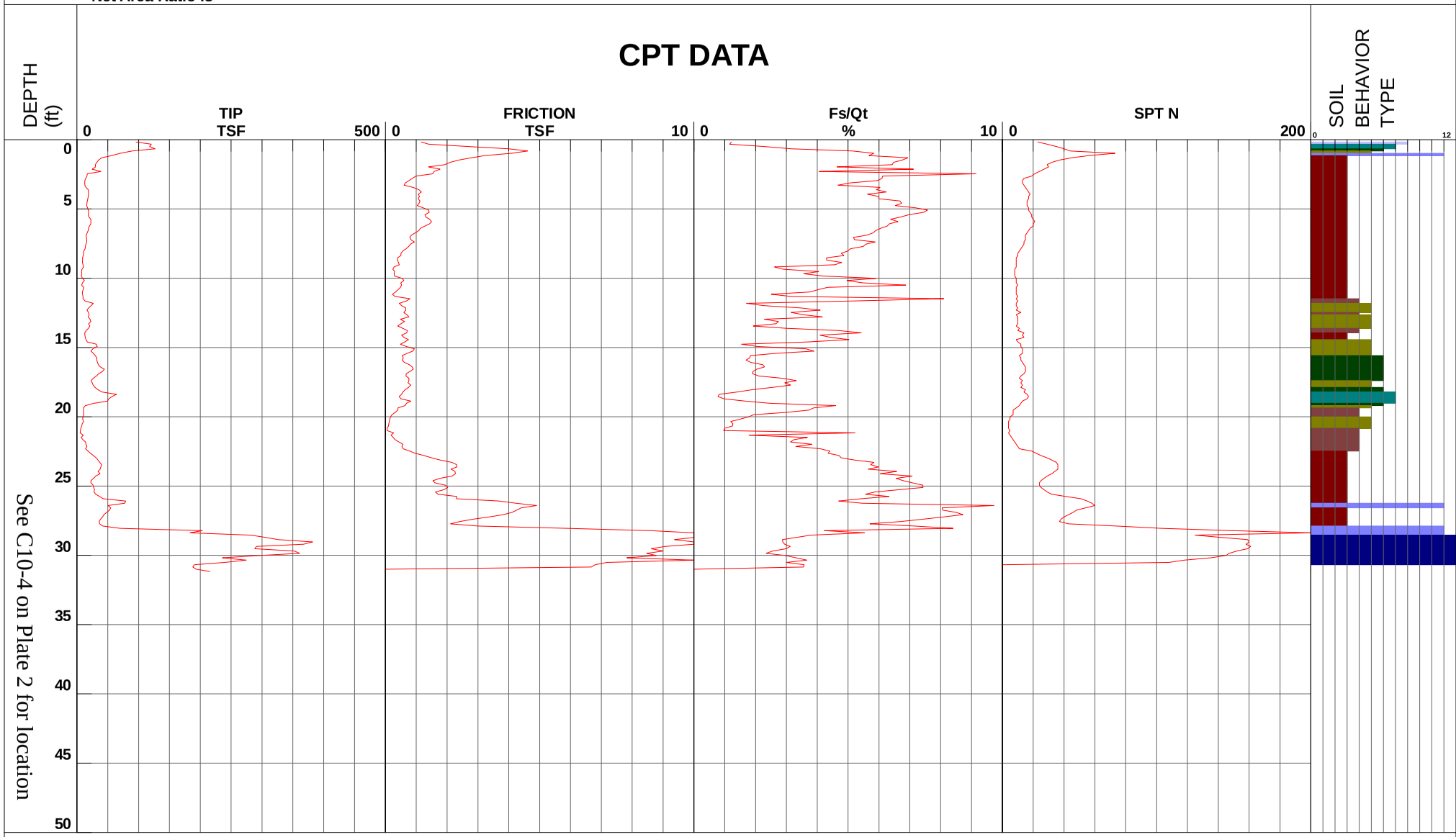
Cone Size 10cm squared

*Soil behavior type and SPT based on data from UBC-1983

Berlogar Geotechnical Consultants

Project	Hill Parcel	Operator	BH-TF	Filename	SDF(385).cpt
Job Number	3268-100	Cone Number	DSG0786	GPS	
Hole Number	CPT-04	Date and Time	8/10/2010 8:00:20 AM	Maximum Depth	31.17 ft
Water Table Depth	7.00 ft				

Net Area Ratio .8



See C10-4 on Plate 2 for location

1 - sensitive fine grained
2 - organic material
3 - clay
4 - silty clay to clay
5 - clayey silt to silty clay
6 - sandy silt to clayey silt
7 - silty sand to sandy silt
8 - sand to silty sand
9 - sand
10 - gravelly sand to sand
11 - very stiff fine grained (*)
12 - sand to clayey sand (*)

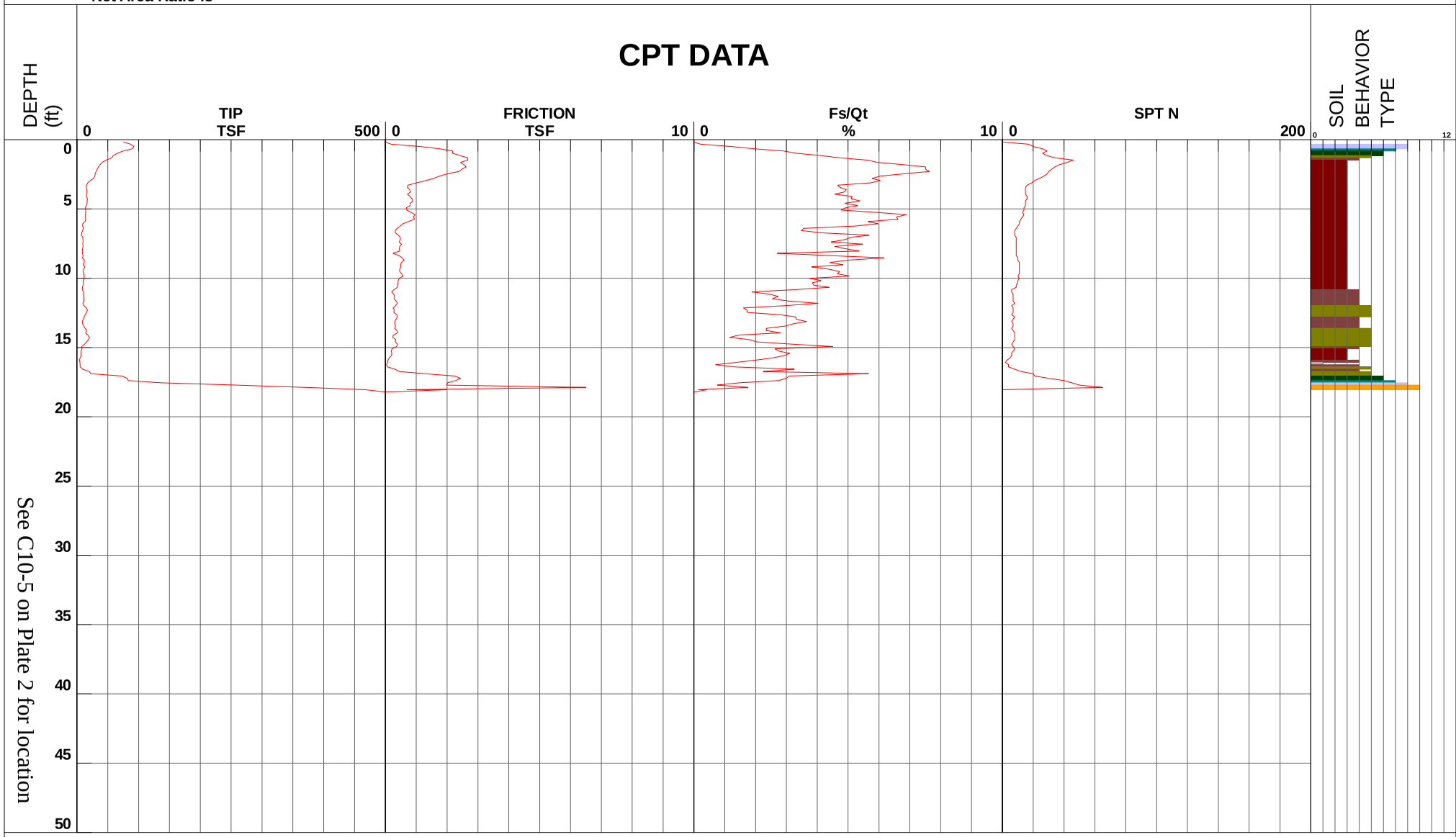
Cone Size 10cm squared

*Soil behavior type and SPT based on data from UBC-1983

Berlogar Geotechnical Consultants

Project	Hill Parcel	Operator	BH-TF	Filename	SDF(387).cpt
Job Number	3268-100	Cone Number	DSG0786	GPS	
Hole Number	CPT-05	Date and Time	8/10/2010 10:07:37 AM	Maximum Depth	18.37 ft
Water Table Depth	7.00 ft				

Net Area Ratio .8



See C10-5 on Plate 2 for location

- 1 - sensitive fine grained
- 2 - organic material
- 3 - clay
- 4 - silty clay to clay
- 5 - clayey silt to silty clay
- 6 - sandy silt to clayey silt
- 7 - silty sand to sandy silt
- 8 - sand to silty sand
- 9 - sand
- 10 - gravelly sand to sand
- 11 - very stiff fine grained (*)
- 12 - sand to clayey sand (*)

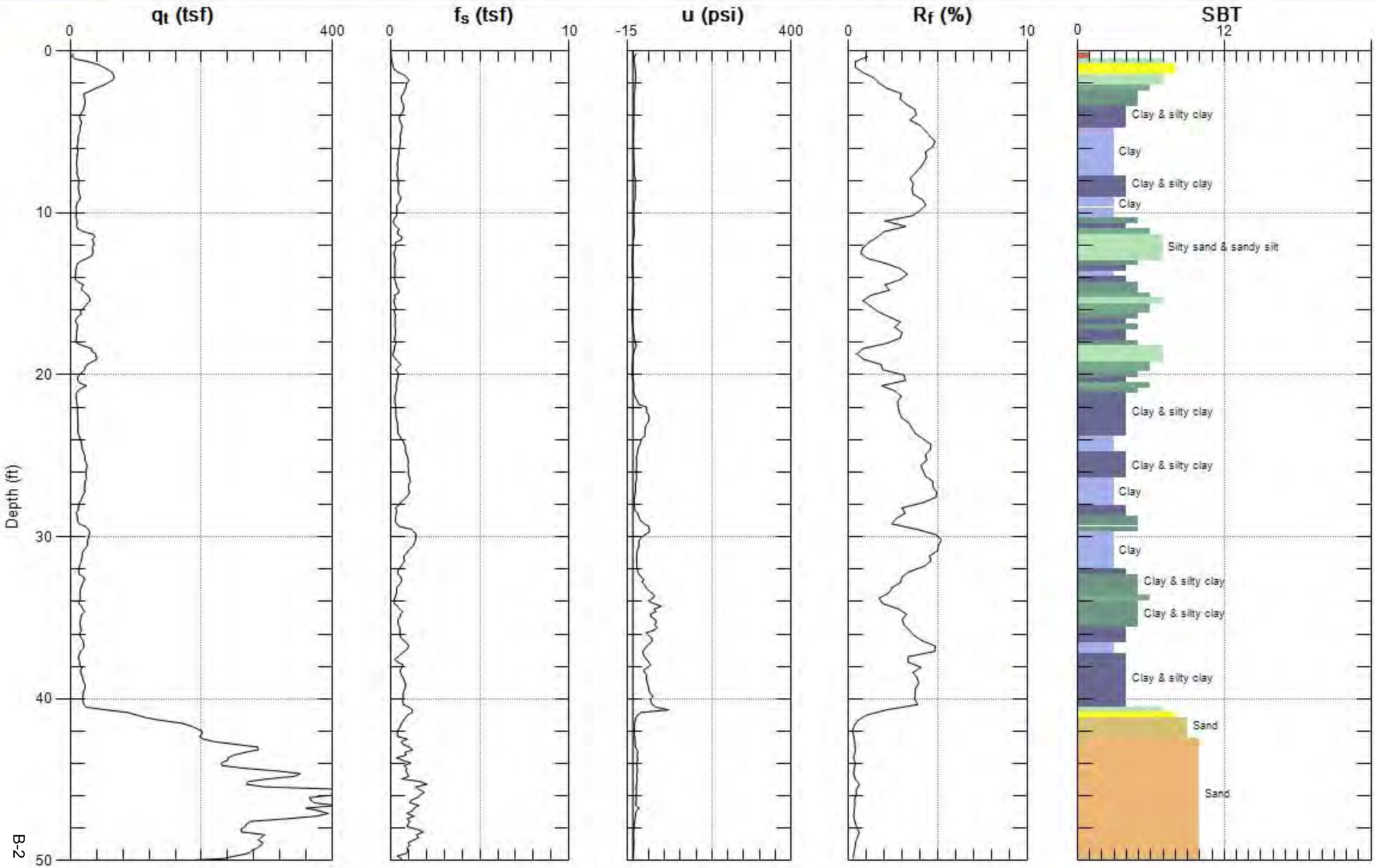
Cone Size 10cm squared

*Soil behavior type and SPT based on data from UBC-1983

BERLOGAR STEVENS

Site: TORIAN-CARGILL
Sounding: CPT-01(C-1*)

Engineer: B.STEVENS
Date: 12/14/2011 07:46



Max. Depth: 50.197 (ft)
Avg. Interval: 0.328 (ft)

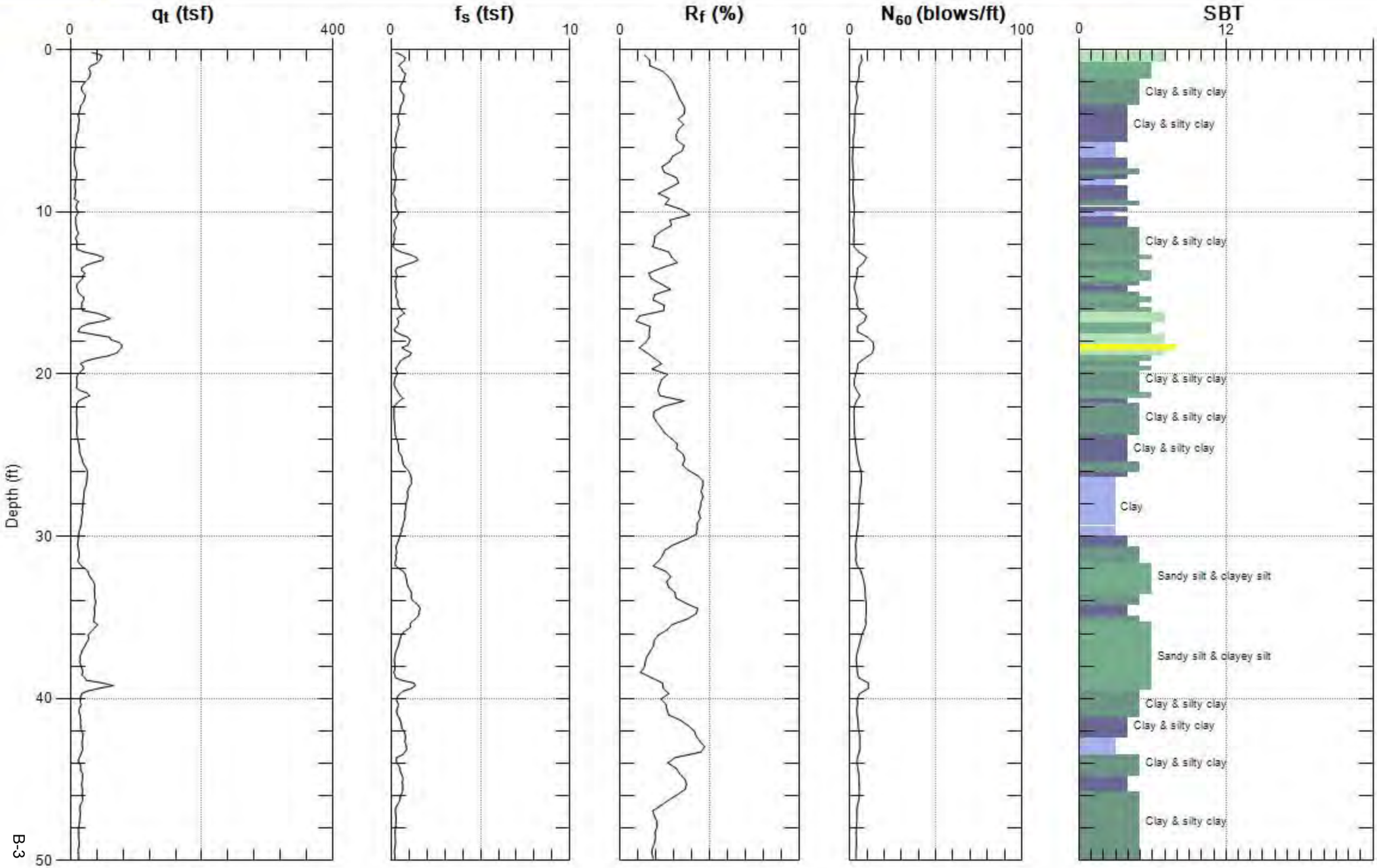
* CPT NUMBER USED BY BERLOGAR STEVENS AND ASSOCIATES

SBT: Soil Behavior Type (Robertson 1990)

BERLOGAR STEVENS

Site: TORIAN-CARGILL
Sounding: CPT-02(C-2*)

Engineer: B.STEVENS
Date: 12/14/2011 12:43



Max. Depth: 50.197 (ft)
Avg. Interval: 0.328 (ft)

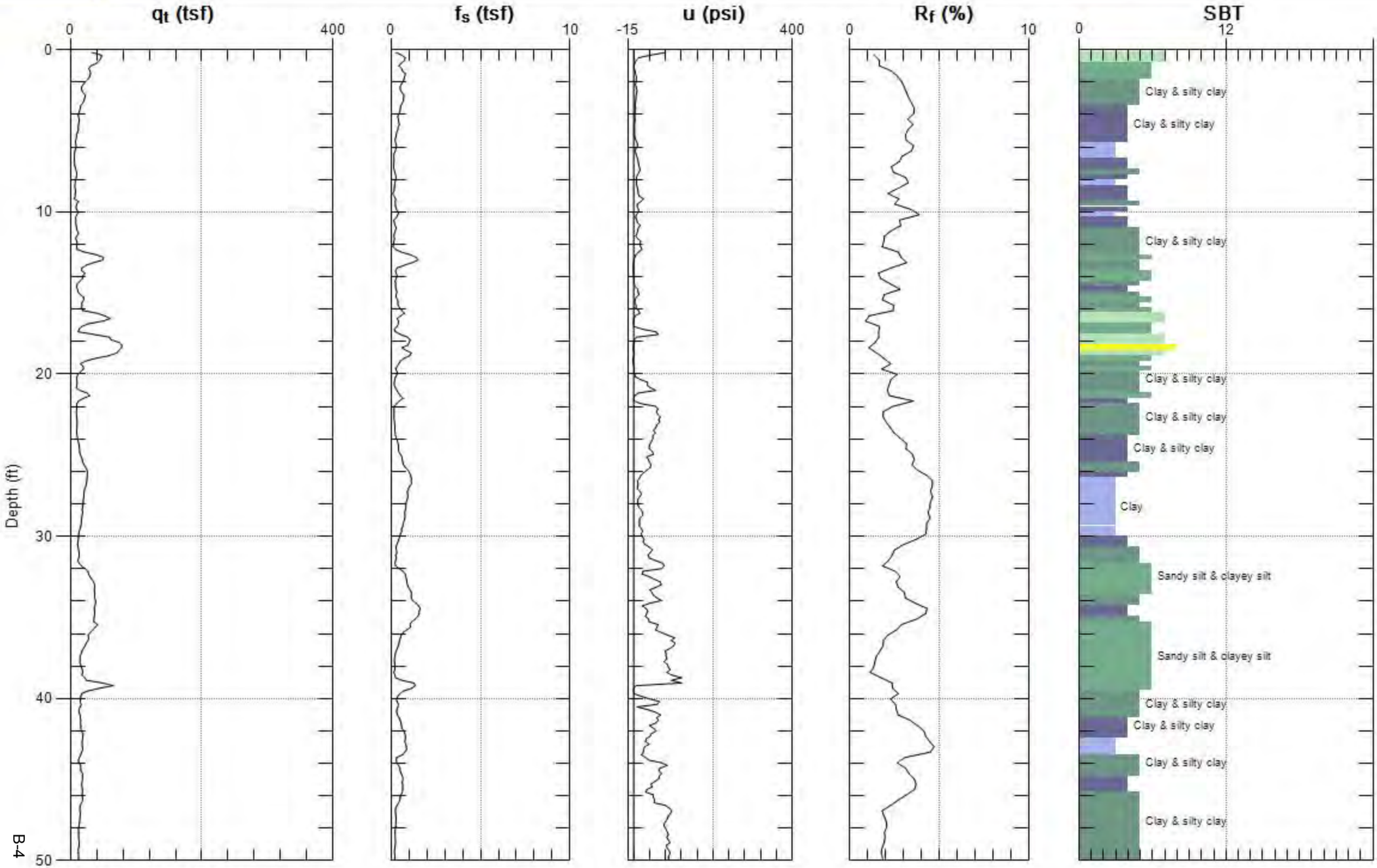
* CPT NUMBER USED BY BERLOGAR STEVENS AND ASSOCIATES

SBT: Soil Behavior Type (Robertson 1990)

BERLOGAR STEVENS

Site: TORIAN-CARGILL
Sounding: CPT-02(C-2*)

Engineer: B.STEVENS
Date: 12/14/2011 12:43



Max. Depth: 50.197 (ft)
Avg. Interval: 0.328 (ft)

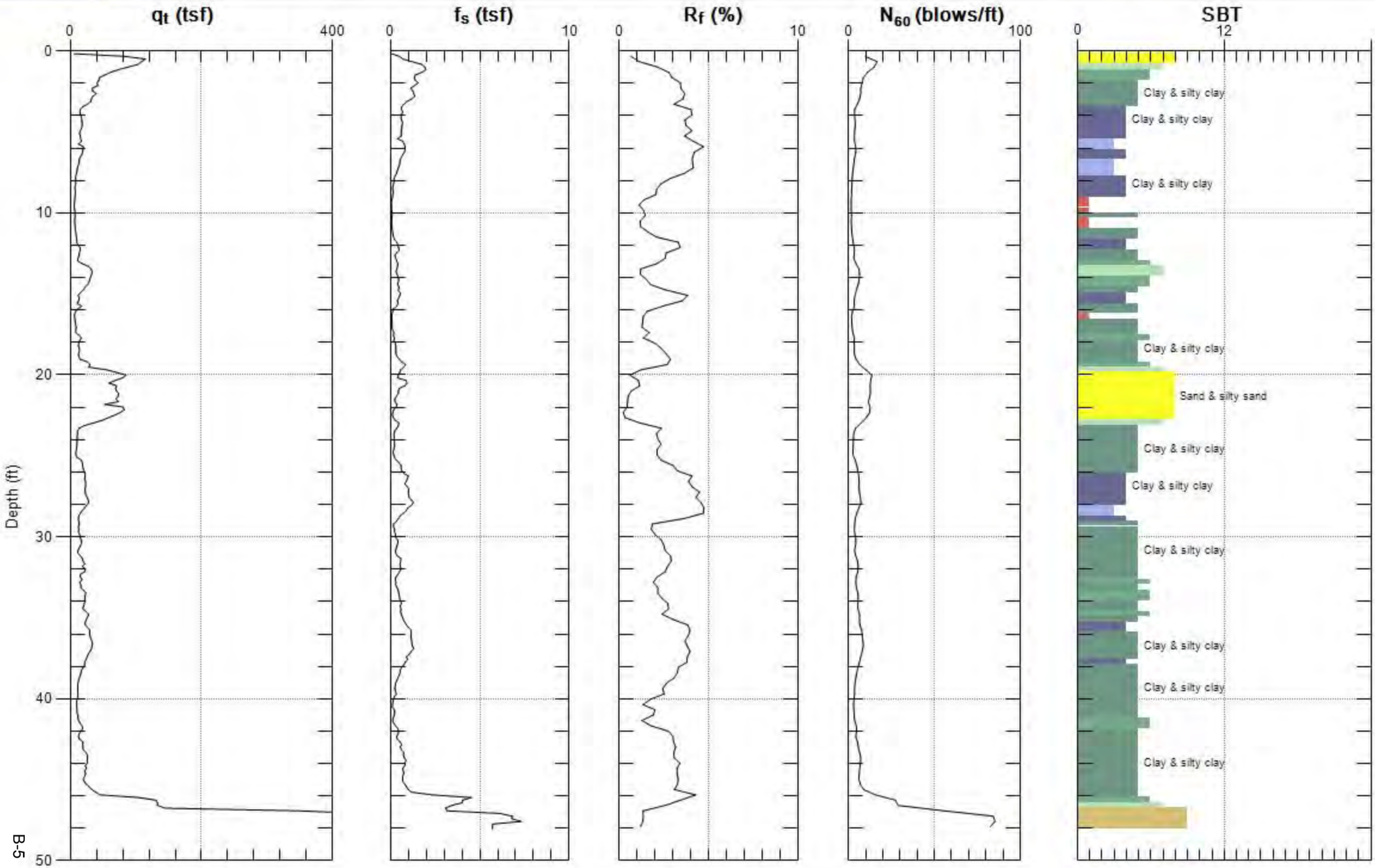
* CPT NUMBER USED BY BERLOGAR STEVENS AND ASSOCIATES

SBT: Soil Behavior Type (Robertson 1990)

BERLOGAR STEVENS

Site: TORIAN-CARGILL
Sounding: CPT-03(C-3*)

Engineer: B.STEVENS
Date: 12/13/2011 02:51



Max. Depth: 48.064 (ft)
Avg. Interval: 0.328 (ft)

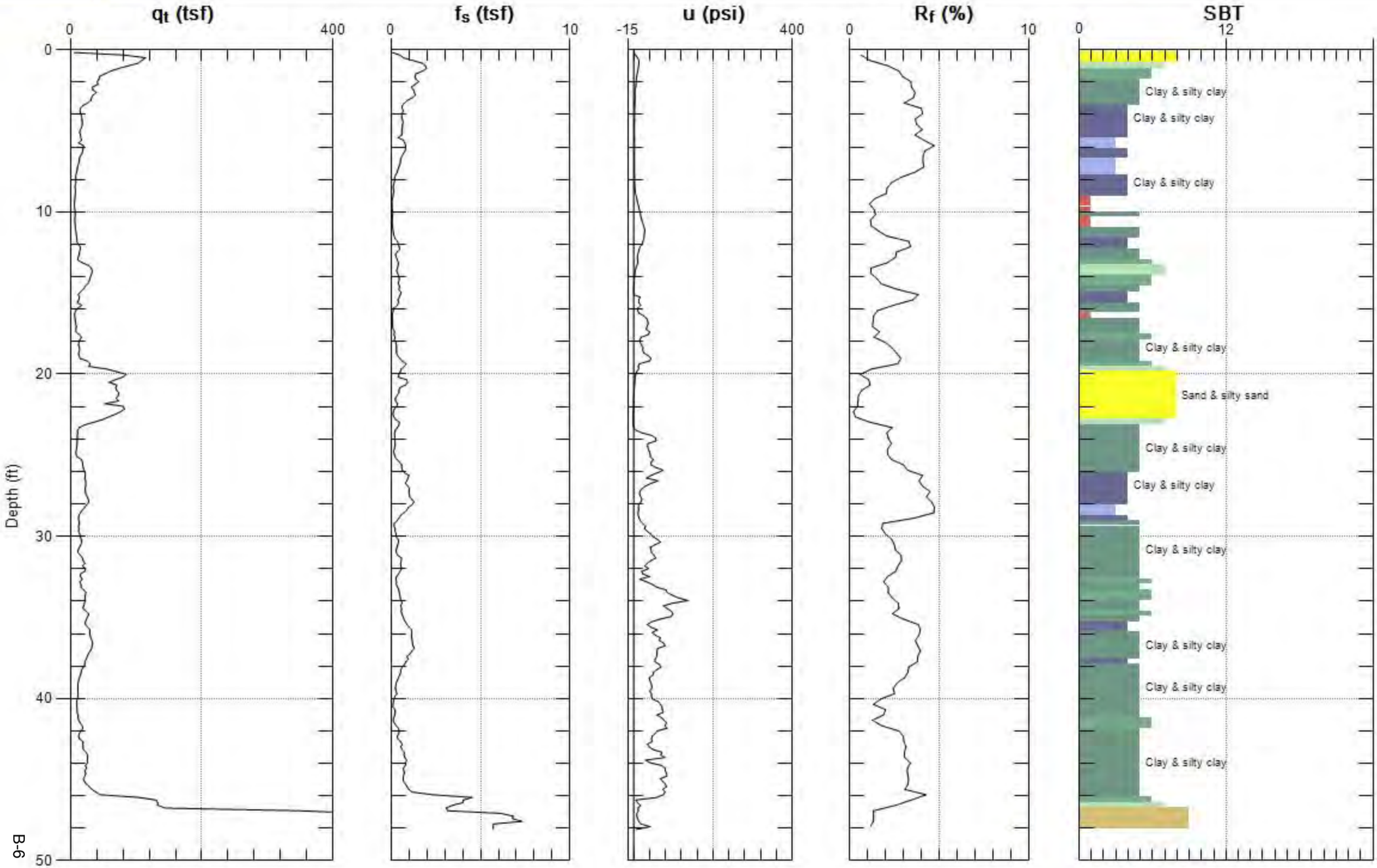
* CPT NUMBER USED BY BERLOGAR STEVENS AND ASSOCIATES

SBT: Soil Behavior Type (Robertson 1990)

BERLOGAR STEVENS

Site: TORIAN-CARGILL
Sounding: CPT-03 (C-3*)

Engineer: B.STEVENS
Date: 12/13/2011 02:51



Max. Depth: 48.064 (ft)
Avg. Interval: 0.328 (ft)

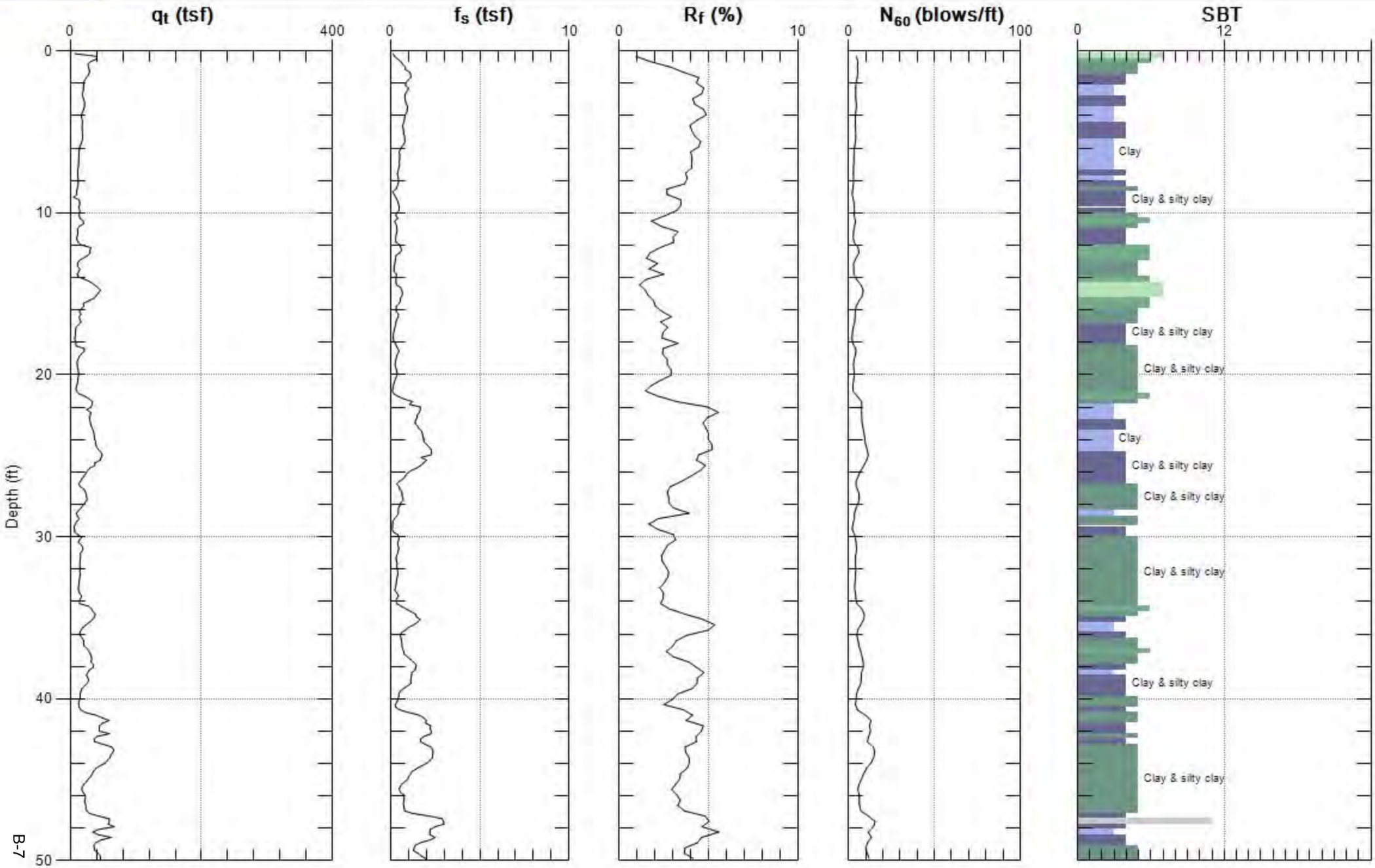
* CPT NUMBER USED BY BERLOGAR STEVENS AND ASSOCIATES

SBT: Soil Behavior Type (Robertson 1990)

BERLOGAR STEVENS

Site: TORIAN-CARGILL
Sounding: CPT-04 (C-4*)

Engineer: B.STEVENS
Date: 12/14/2011 10:42



Max. Depth: 50.197 (ft)
Avg. Interval: 0.328 (ft)

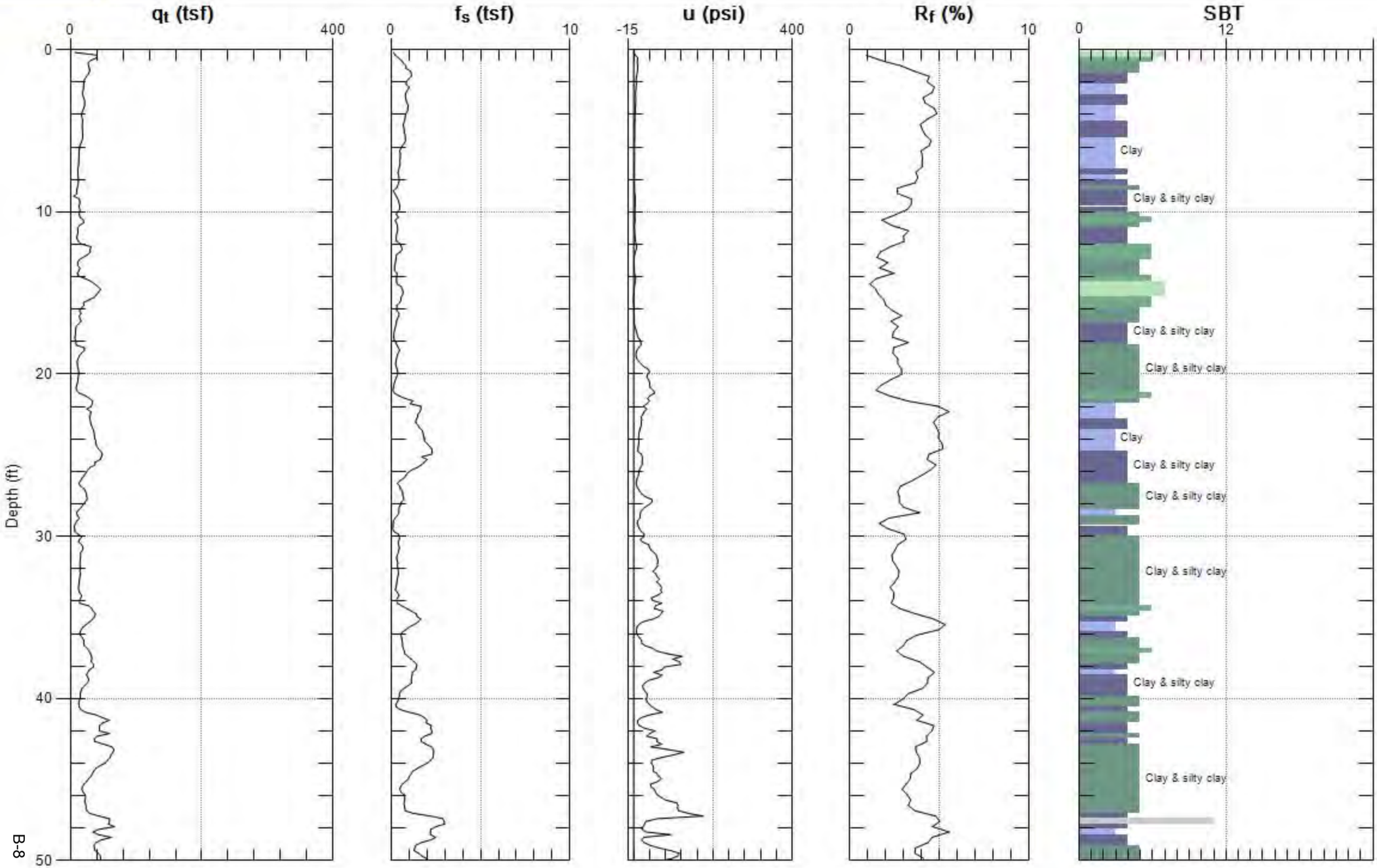
* CPT NUMBER USED BY BERLOGAR STEVENS AND ASSOCIATES

SBT: Soil Behavior Type (Robertson 1990)

BERLOGAR STEVENS

Site: TORIAN-CARGILL
Sounding: CPT-04(C-4*)

Engineer: B.STEVENS
Date: 12/14/2011 10:42



Max. Depth: 50.197 (ft)
Avg. Interval: 0.328 (ft)

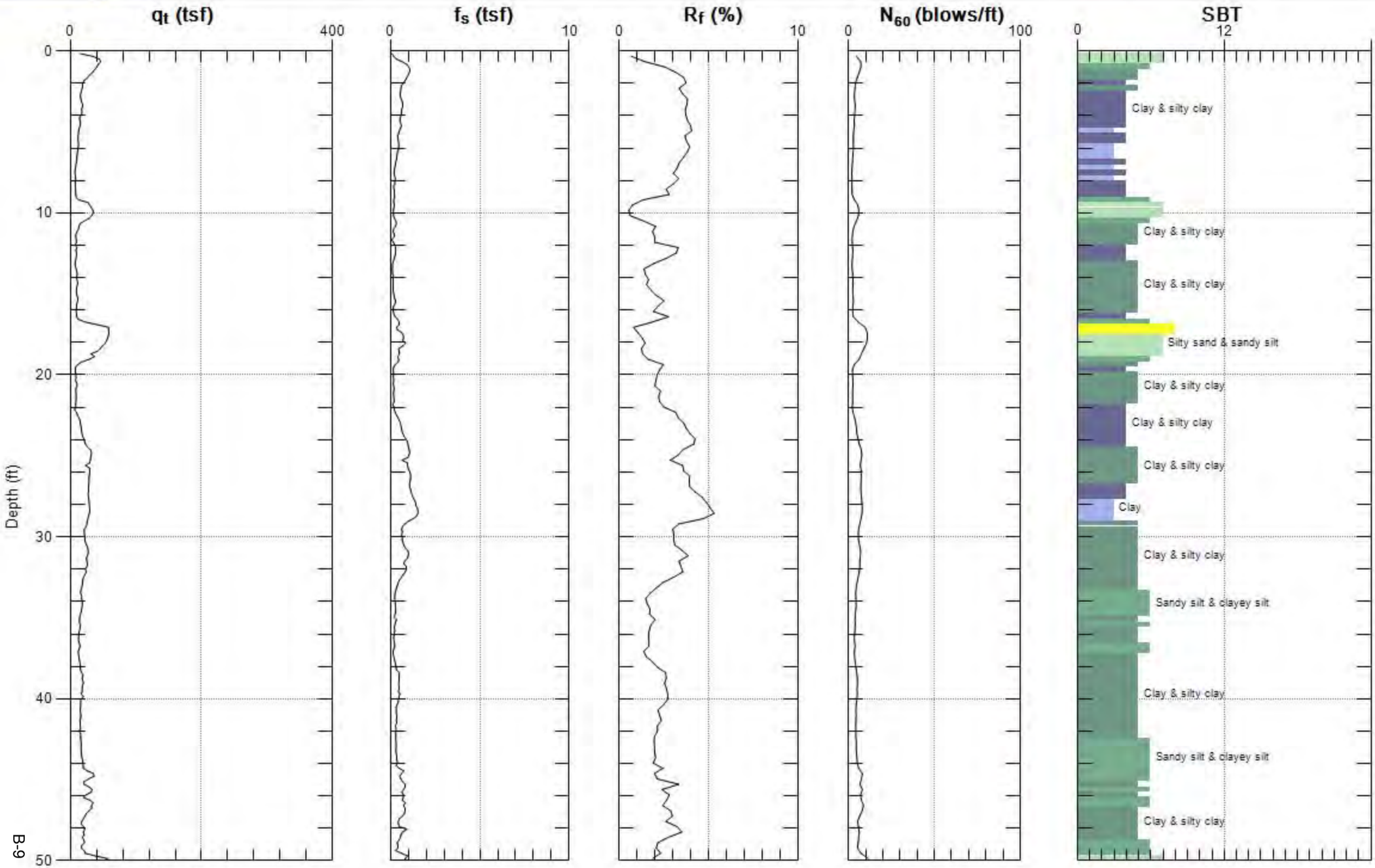
* CPT NUMBER USED BY BERLOGAR STEVENS AND ASSOCIATES

SBT: Soil Behavior Type (Robertson 1990)

BERLOGAR STEVENS

Site: TORIAN-CARGILL
Sounding: CPT-05 (C-5*)

Engineer: B.STEVENS
Date: 12/14/2011 09:09



Max. Depth: 50.197 (ft)
Avg. Interval: 0.328 (ft)

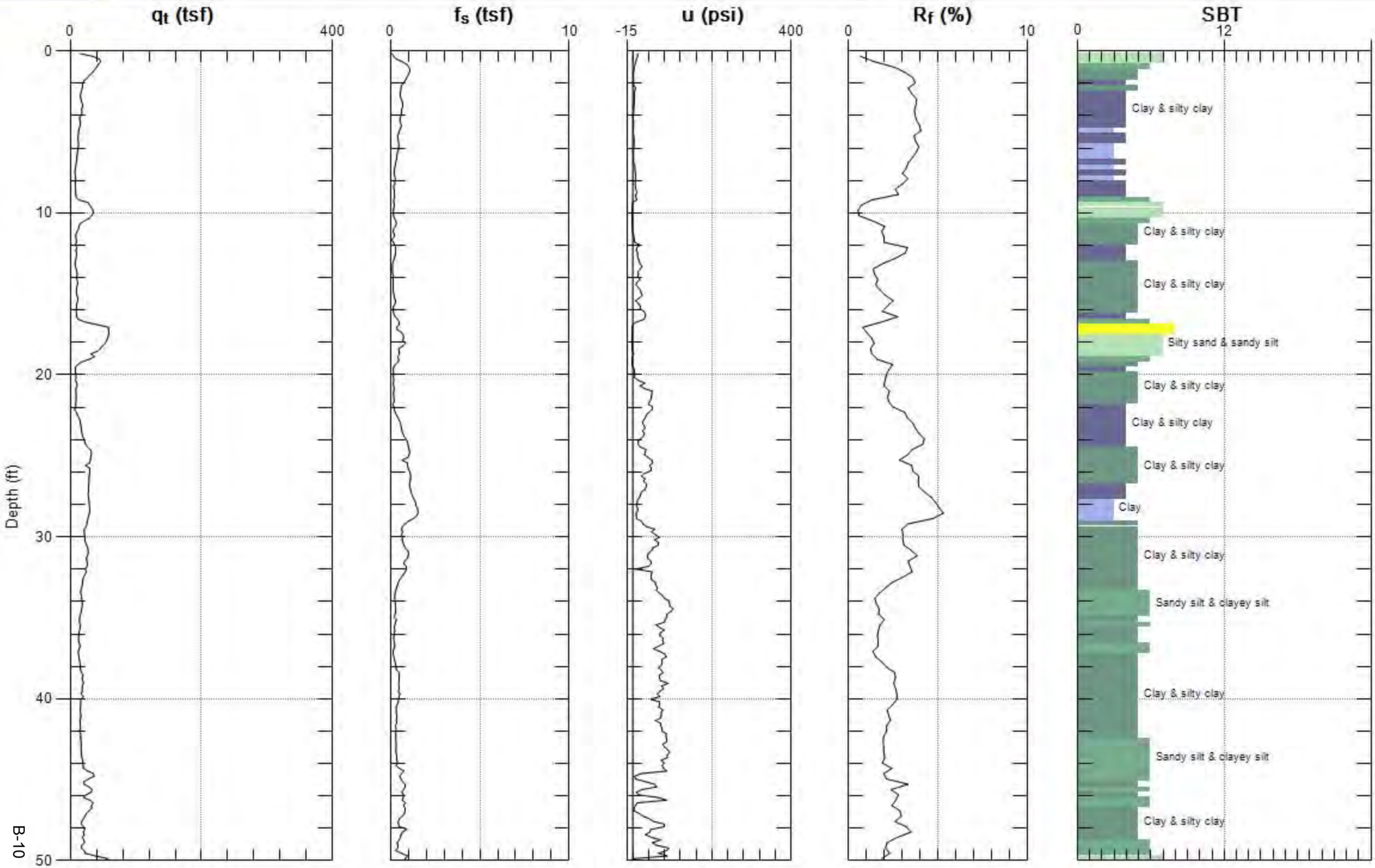
* CPT NUMBER USED BY BERLOGAR STEVENS AND ASSOCIATES

SBT: Soil Behavior Type (Robertson 1990)

BERLOGAR STEVENS

Site: TORIAN-CARGILL
Sounding: CPT-05(C-5*)

Engineer: B.STEVENS
Date: 12/14/2011 09:09



Max. Depth: 50.197 (ft)
Avg. Interval: 0.328 (ft)

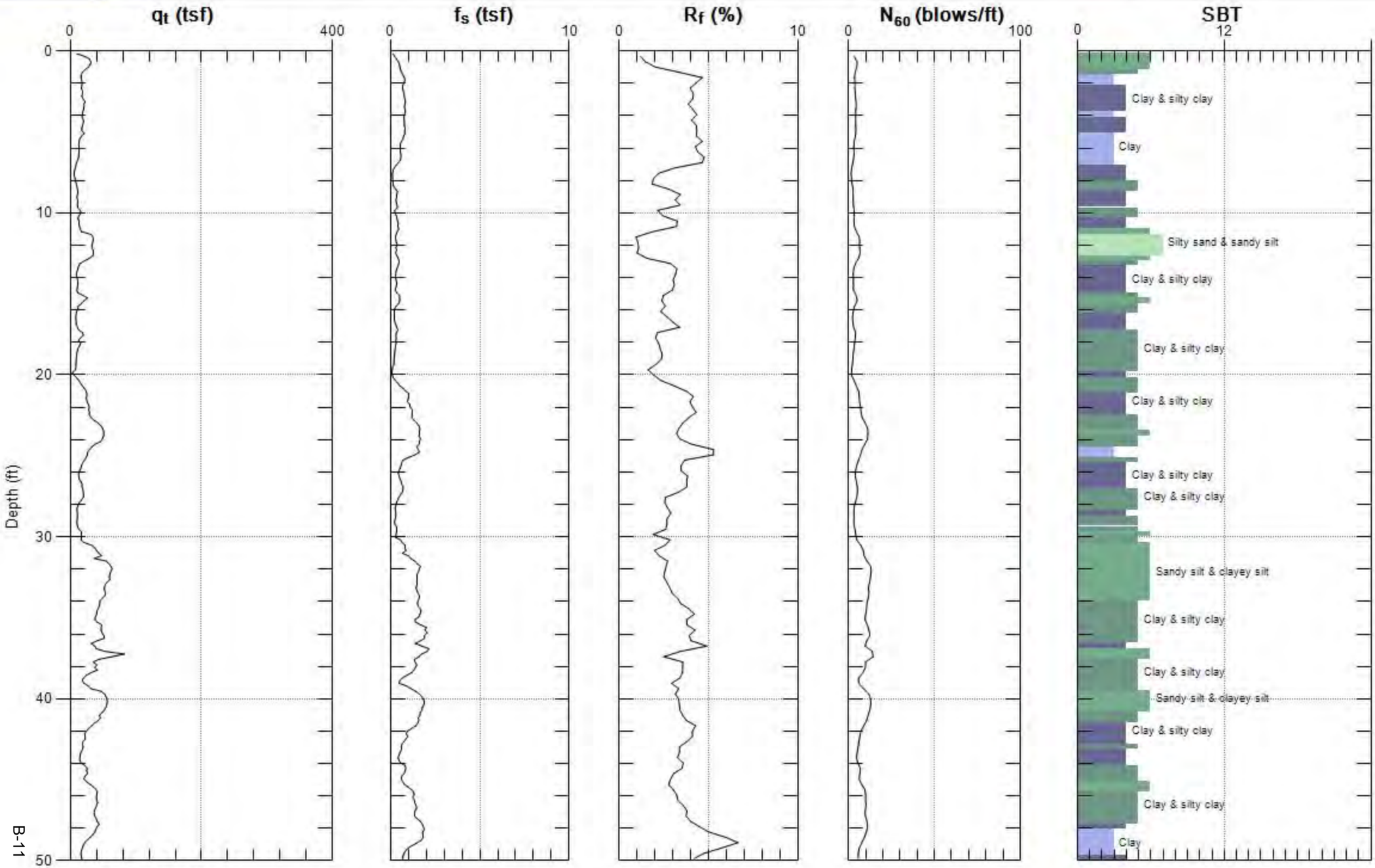
* CPT NUMBER USED BY BERLOGAR STEVENS AND ASSOCIATES

SBT: Soil Behavior Type (Robertson 1990)

BERLOGAR STEVENS

Site: TORIAN-CARGILL
Sounding: CPT-06(C-6*)

Engineer: B.STEVENS
Date: 12/13/2011 09:35



Max. Depth: 50.197 (ft)
Avg. Interval: 0.328 (ft)

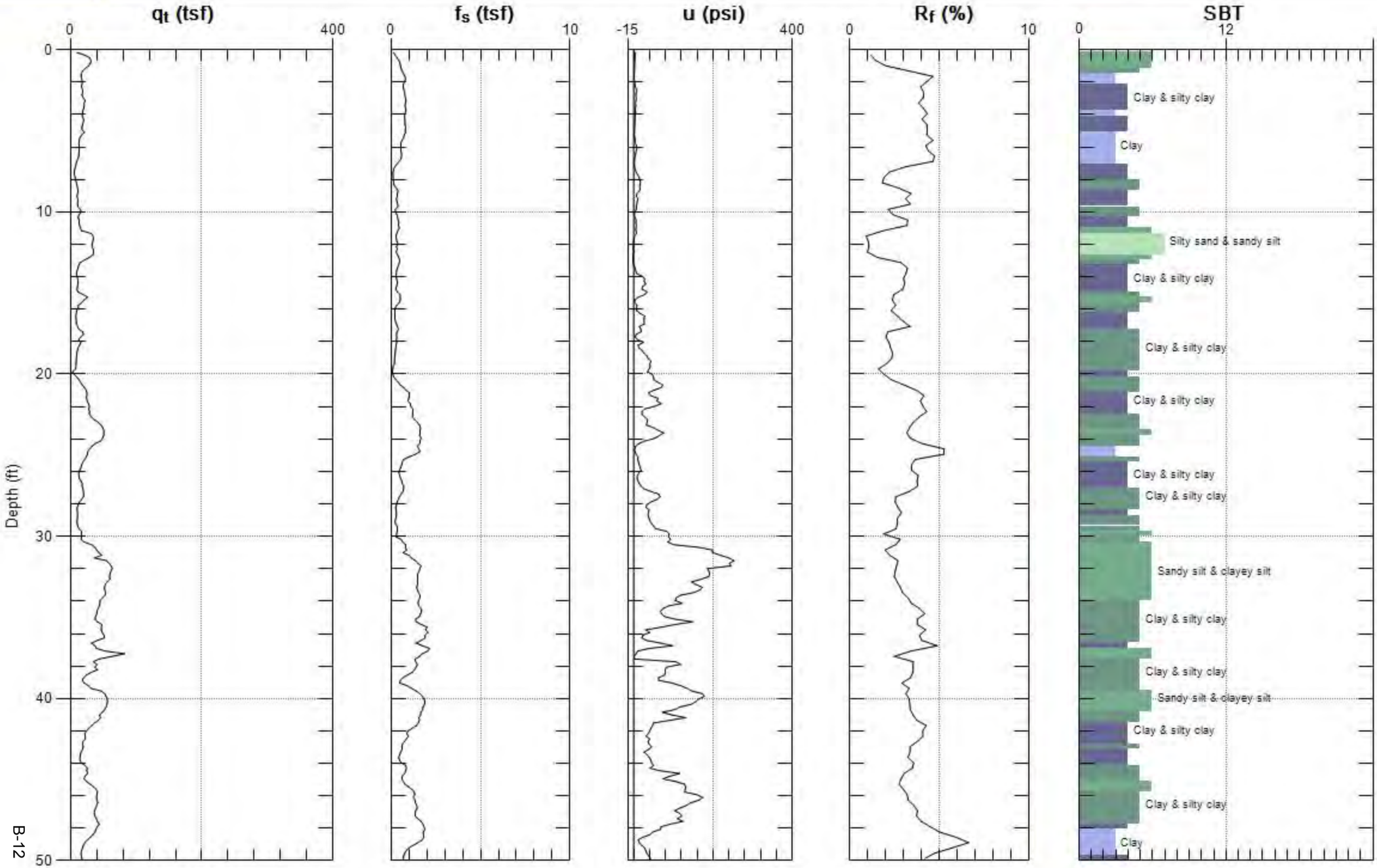
* CPT NUMBER USED BY BERLOGAR STEVENS AND ASSOCIATES

SBT: Soil Behavior Type (Robertson 1990)

BERLOGAR STEVENS

Site: TORIAN-CARGILL
Sounding: CPT-06 (C-6*)

Engineer: B.STEVENS
Date: 12/13/2011 09:35



Max. Depth: 50.197 (ft)
Avg. Interval: 0.328 (ft)

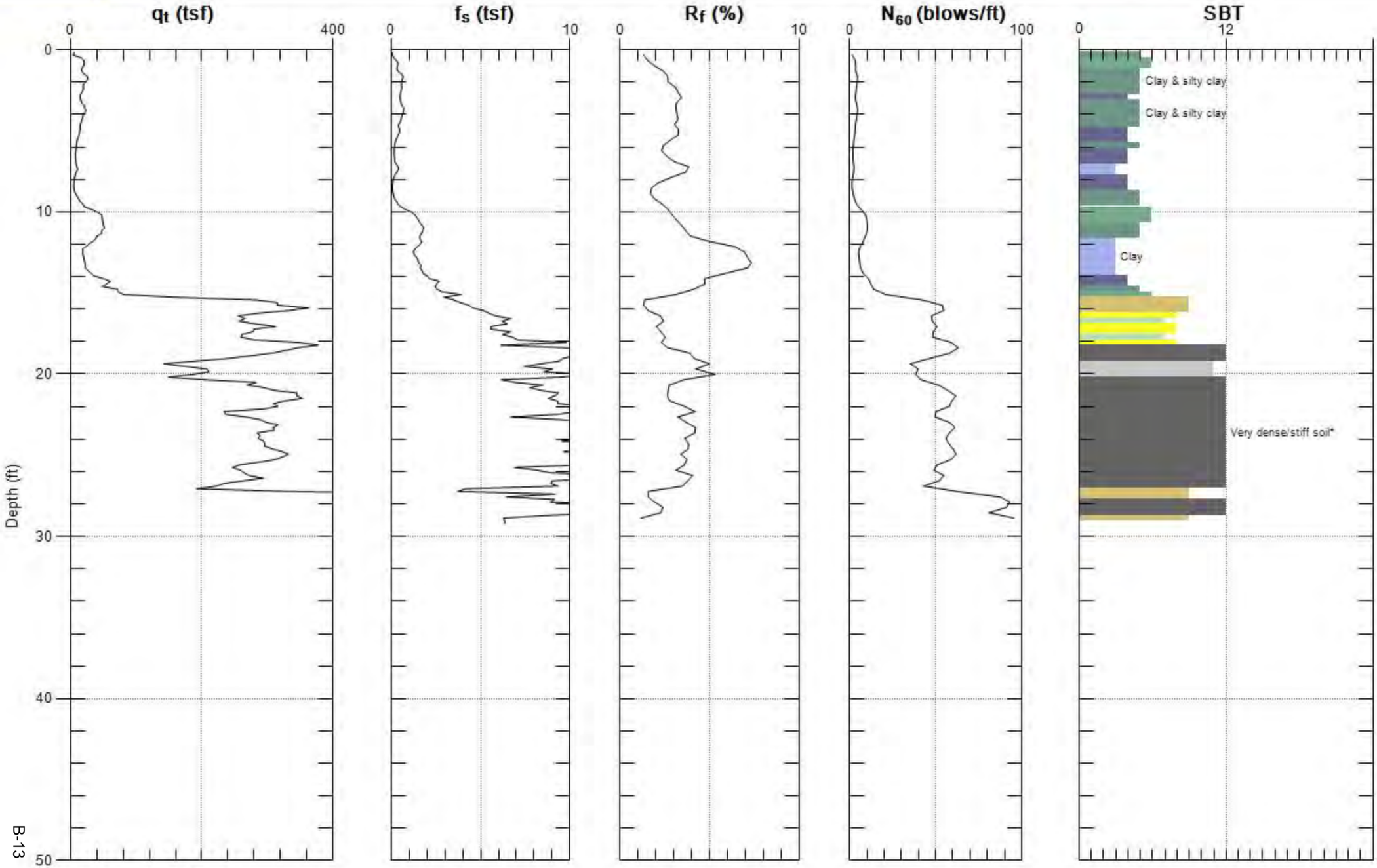
* CPT NUMBER USED BY BERLOGAR STEVENS AND ASSOCIATES

SBT: Soil Behavior Type (Robertson 1990)

BERLOGAR STEVENS

Site: TORIAN-CARGILL
Sounding: CPT-07(C-7*)

Engineer: B.STEVENS
Date: 12/13/2011 10:54



Max. Depth: 29.199 (ft)
Avg. Interval: 0.328 (ft)

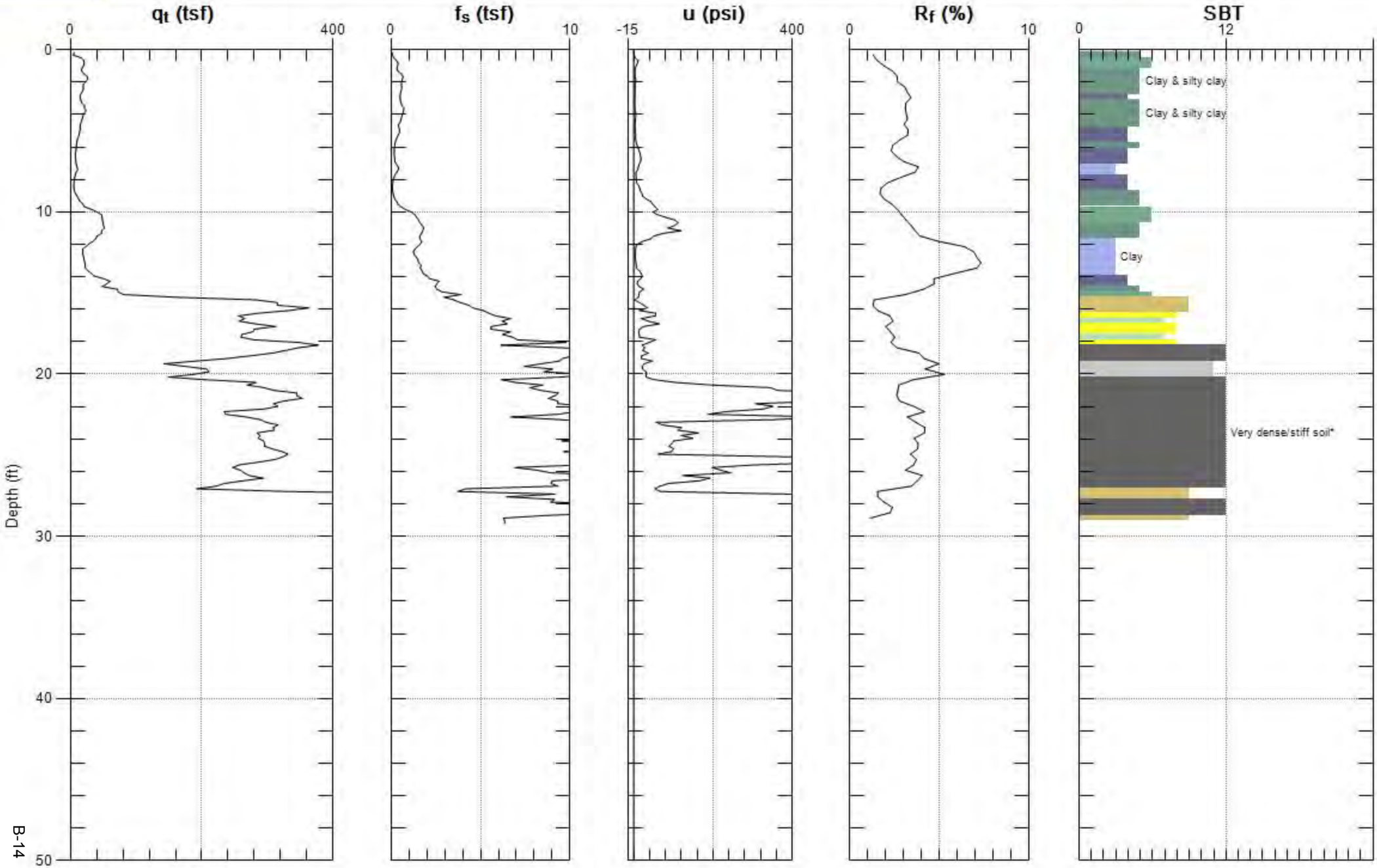
* CPT NUMBER USED BY BERLOGAR STEVENS AND ASSOCIATES

SBT: Soil Behavior Type (Robertson 1990)

BERLOGAR STEVENS

Site: TORIAN-CARGILL
Sounding: CPT-07(C-7*)

Engineer: B.STEVENS
Date: 12/13/2011 10:54



Max. Depth: 29.199 (ft)
Avg. Interval: 0.328 (ft)

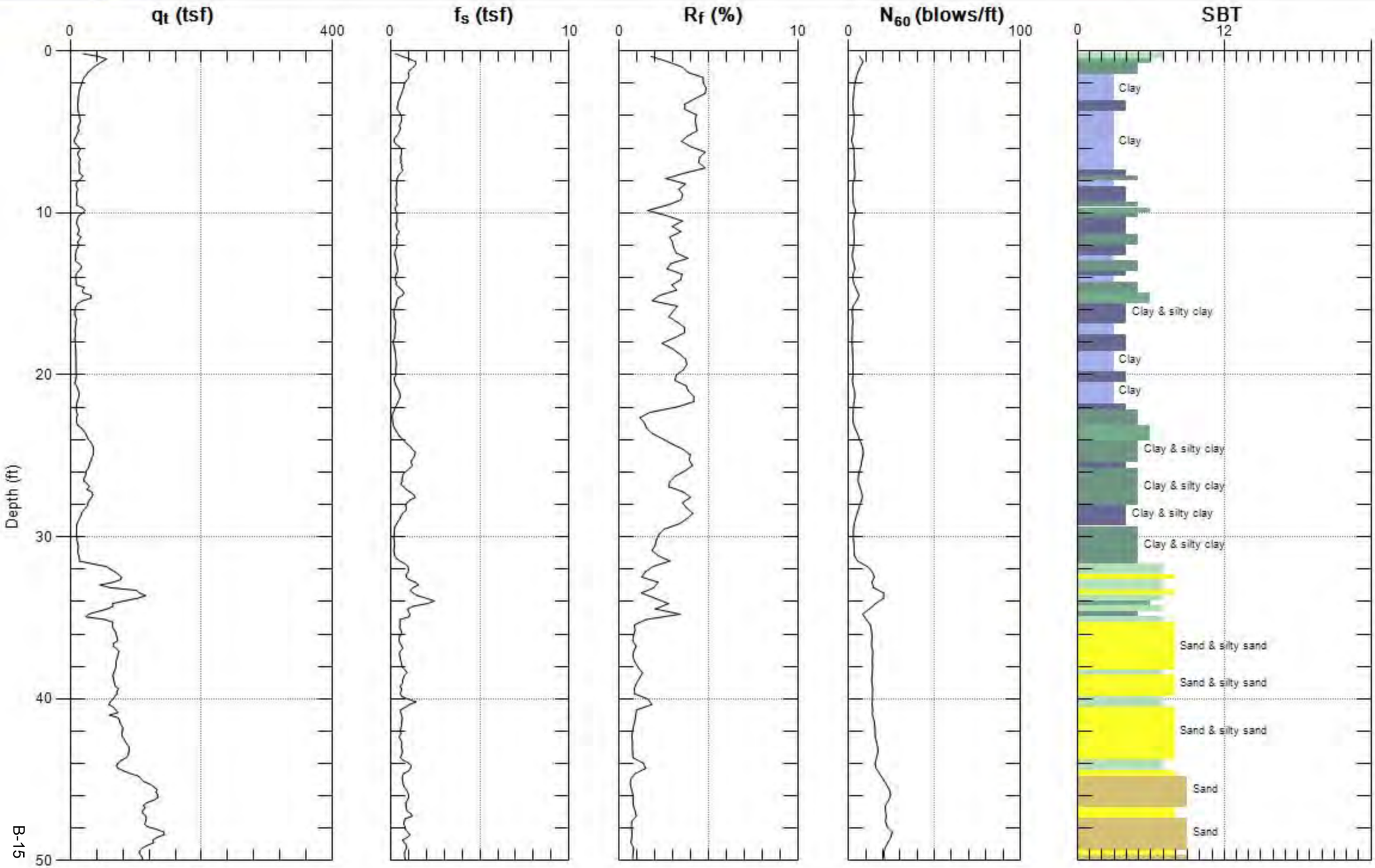
* CPT NUMBER USED BY BERLOGAR STEVENS AND ASSOCIATES

SBT: Soil Behavior Type (Robertson 1990)

BERLOGAR STEVENS

Site: TORIAN-CARGILL
Sounding: CPT-08 (C-8*)

Engineer: B.STEVENS
Date: 12/13/2011 12:56



Max. Depth: 50.197 (ft)
Avg. Interval: 0.328 (ft)

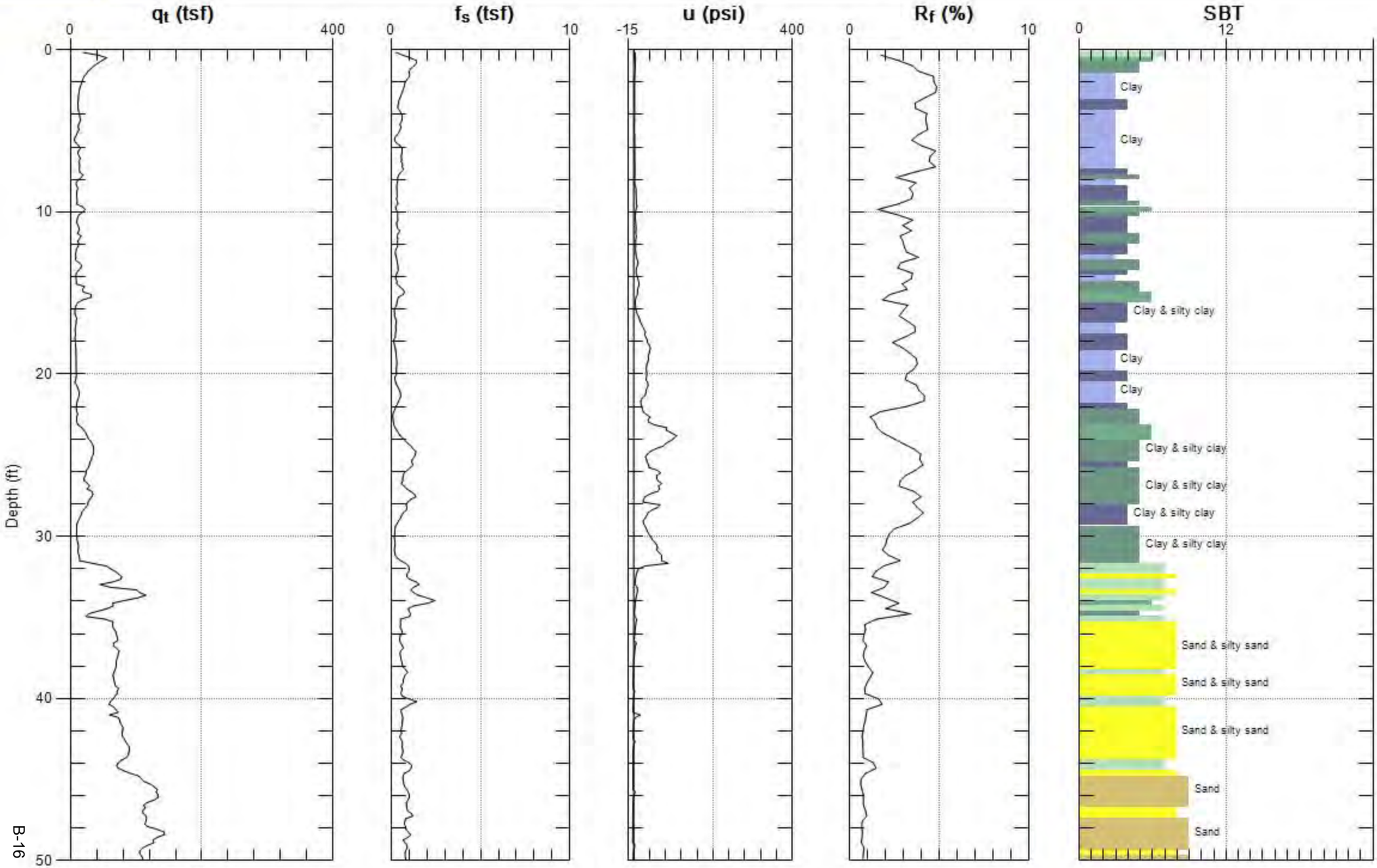
* CPT NUMBER USED BY BERLOGAR STEVENS AND ASSOCIATES

SBT: Soil Behavior Type (Robertson 1990)

BERLOGAR STEVENS

Site: TORIAN-CARGILL
Sounding: CPT-08(C-8*)

Engineer: B.STEVENS
Date: 12/13/2011 12:56



Max. Depth: 50.197 (ft)
Avg. Interval: 0.328 (ft)

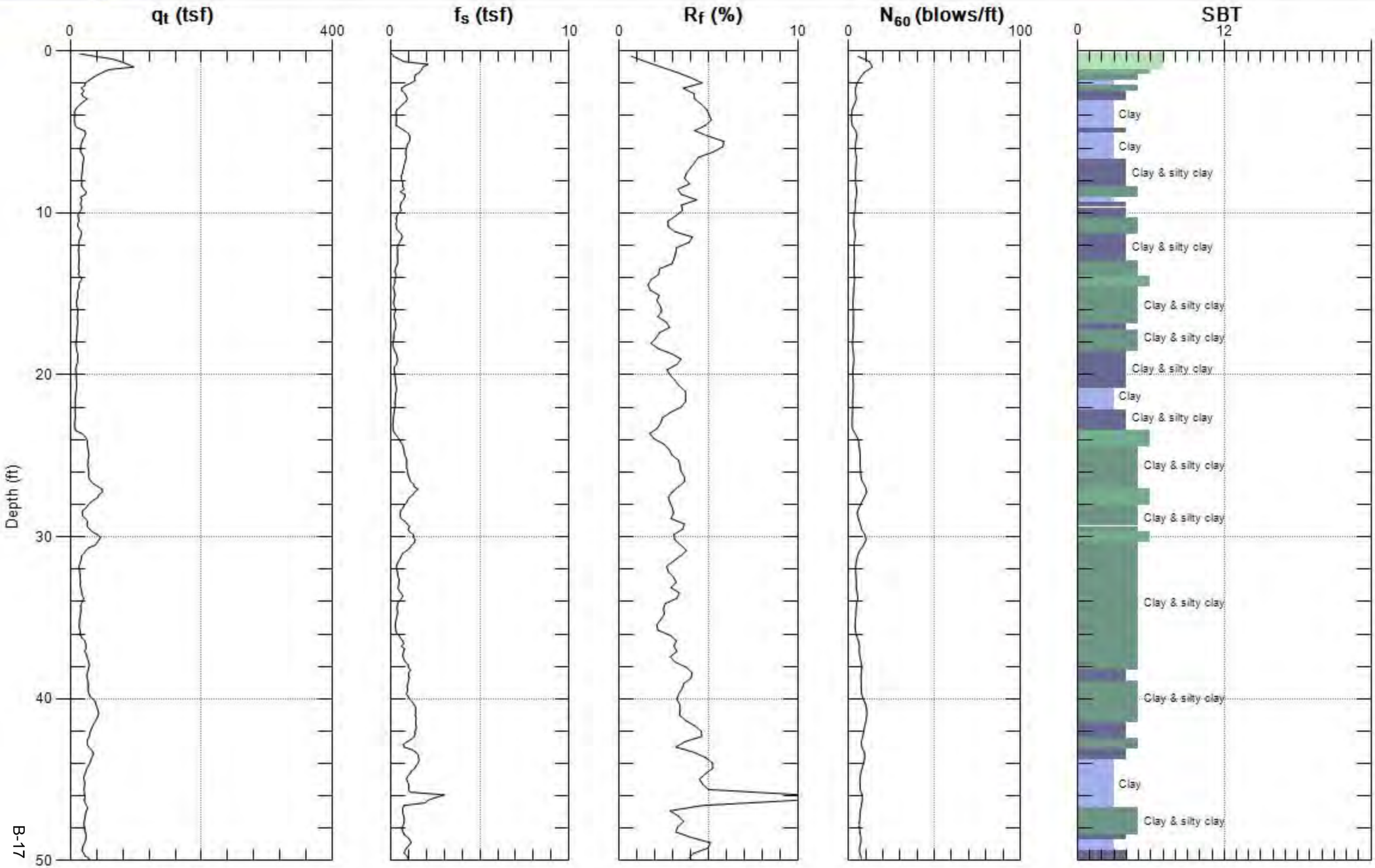
* CPT NUMBER USED BY BERLOGAR STEVENS AND ASSOCIATES

SBT: Soil Behavior Type (Robertson 1990)

BERLOGAR STEVENS

Site: TORIAN-CARGILL
Sounding: CPT-09 (C-9*)

Engineer: B.STEVENS
Date: 12/13/2011 07:44



Max. Depth: 50.197 (ft)
Avg. Interval: 0.328 (ft)

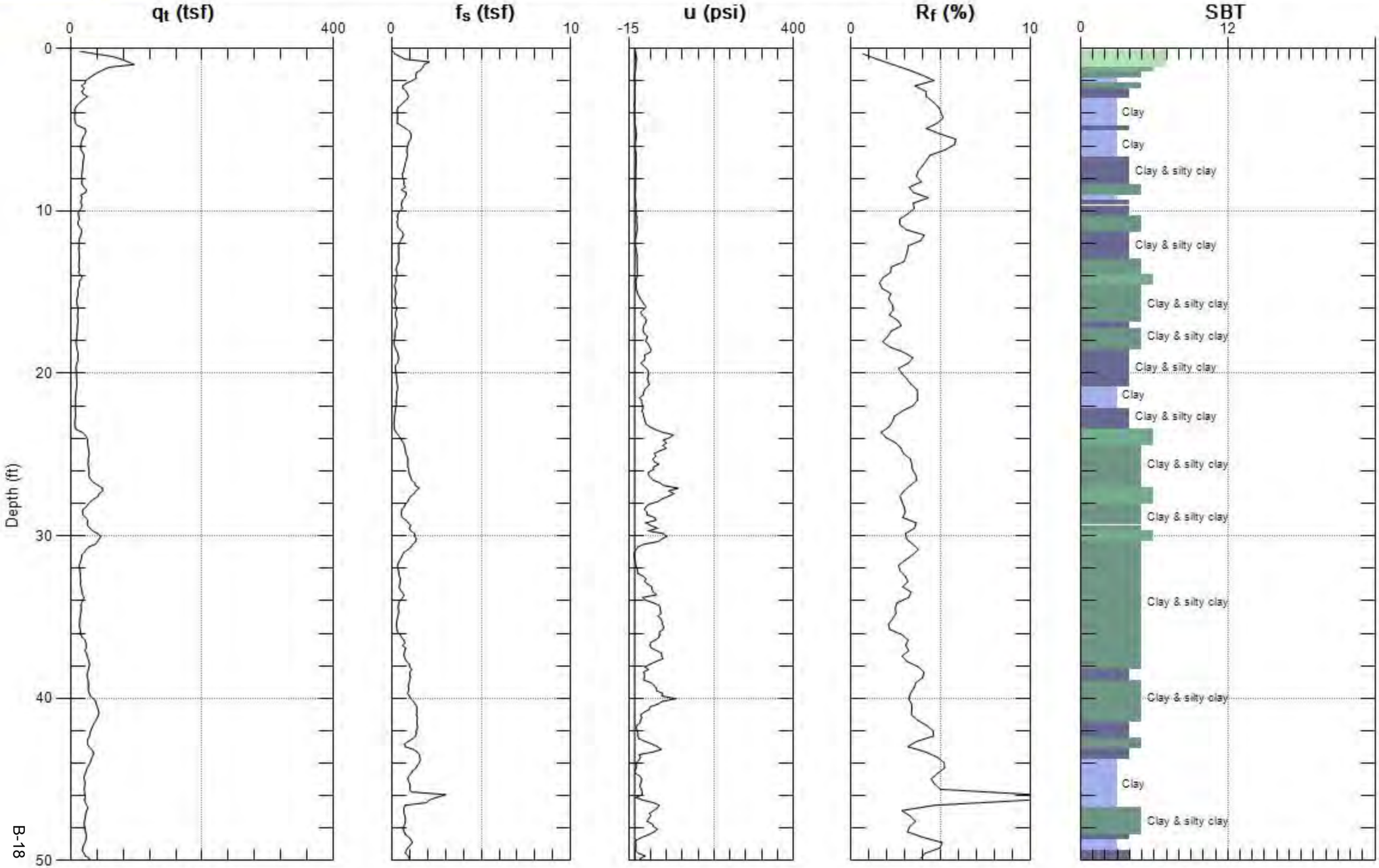
* CPT NUMBER USED BY BERLOGAR STEVENS AND ASSOCIATES

SBT: Soil Behavior Type (Robertson 1990)

BERLOGAR STEVENS

Site: TORIAN-CARGILL
Sounding: CPT-09(C-9*)

Engineer: B.STEVENS
Date: 12/13/2011 07:44



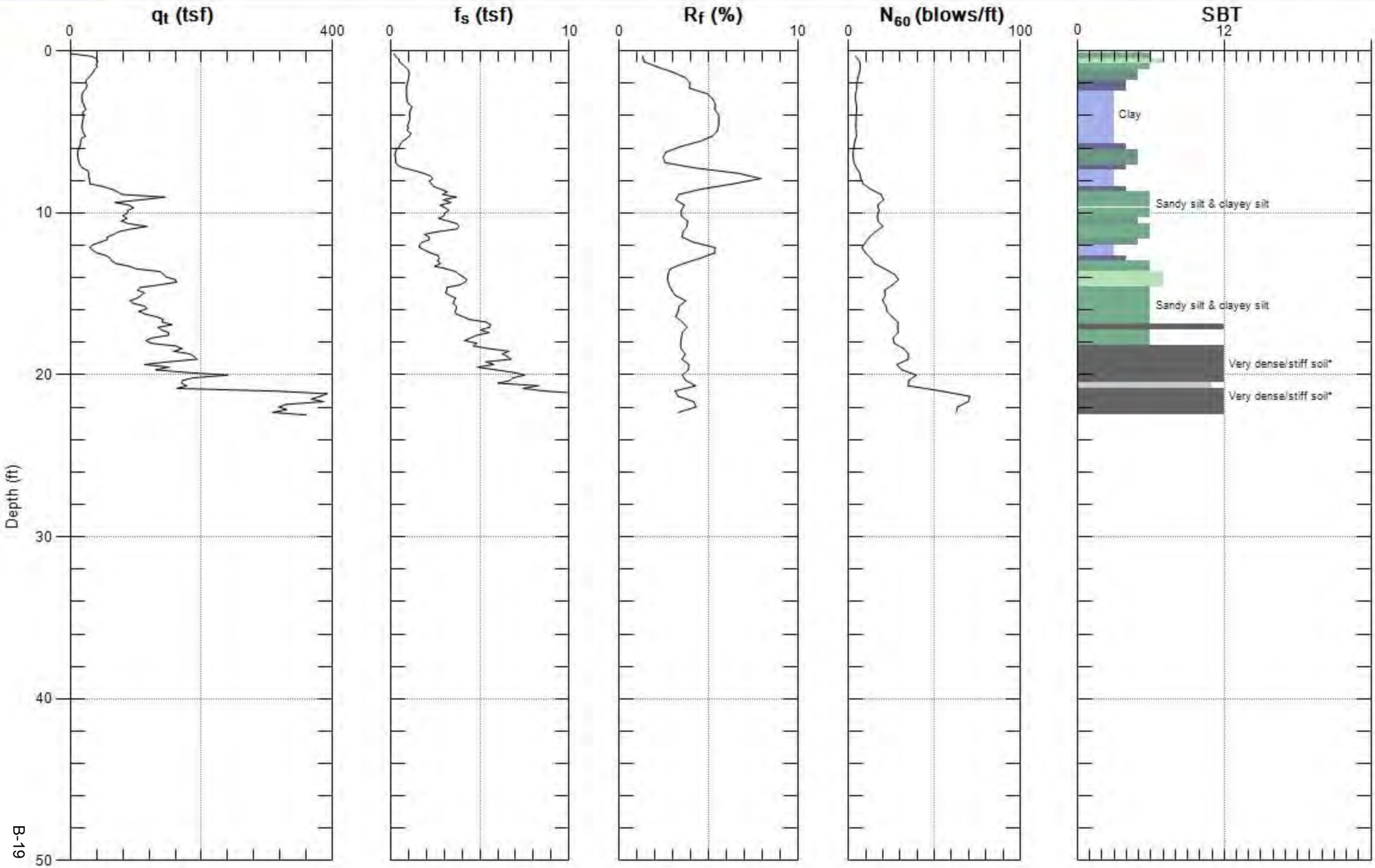
Max. Depth: 50.197 (ft)
Avg. Interval: 0.328 (ft)

* CPT NUMBER USED BY BERLOGAR STEVENS AND ASSOCIATES

SBT: Soil Behavior Type (Robertson 1990)

BERLOGAR STEVENS

Site: TORIAN-CARGILL
Sounding: CPT-10A (C-10A*)
Engineer: B.STEVENS
Date: 12/16/2011 08:21



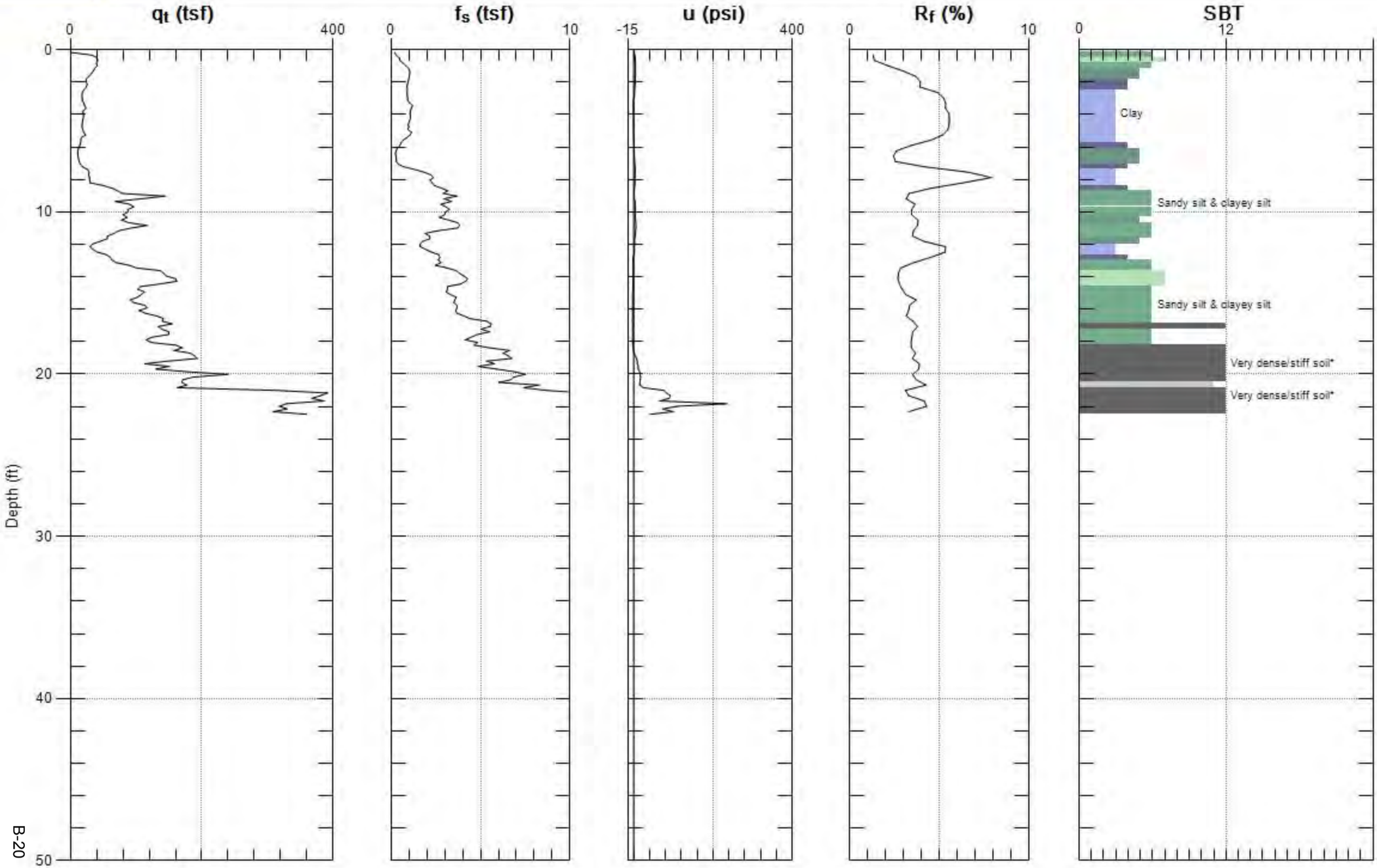
Max. Depth: 22.474 (ft)
Avg. Interval: 0.328 (ft)

* CPT NUMBER USED BY BERLOGAR STEVENS AND ASSOCIATES

SBT: Soil Behavior Type (Robertson 1990)

BERLOGAR STEVENS

Site: TORIAN-CARGILL
Sounding: CPT-10A (C-10A*)
Engineer: B.STEVENS
Date: 12/16/2011 08:21



Max. Depth: 22.474 (ft)
Avg. Interval: 0.328 (ft)

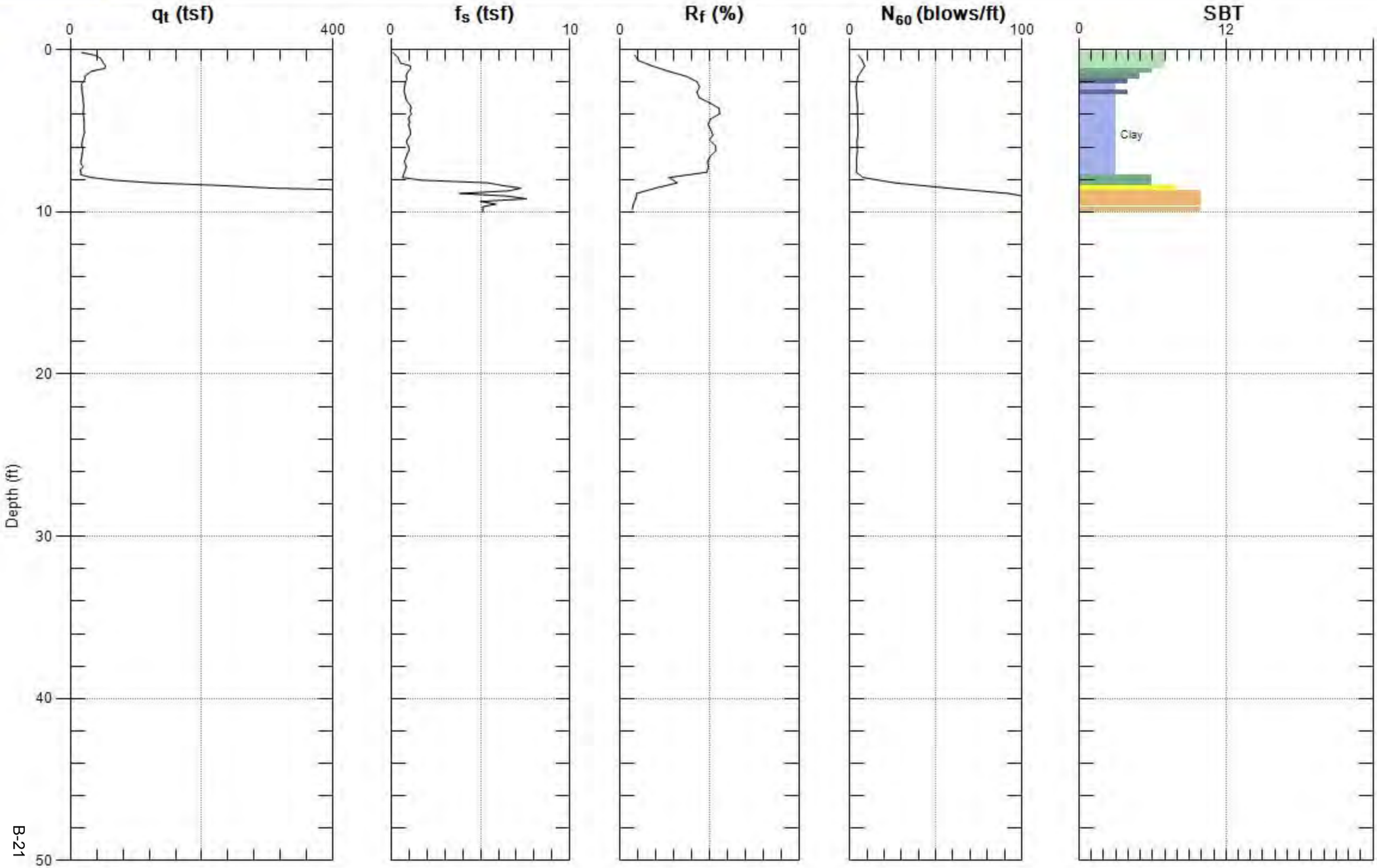
* CPT NUMBER USED BY BERLOGAR STEVENS AND ASSOCIATES

SBT: Soil Behavior Type (Robertson 1990)

BERLOGAR STEVENS

Site: TORIAN-CARGILL
Sounding: CPT-10(C-10*)

Engineer: B.STEVENS
Date: 12/16/2011 08:00



Max. Depth: 10.007 (ft)
Avg. Interval: 0.328 (ft)

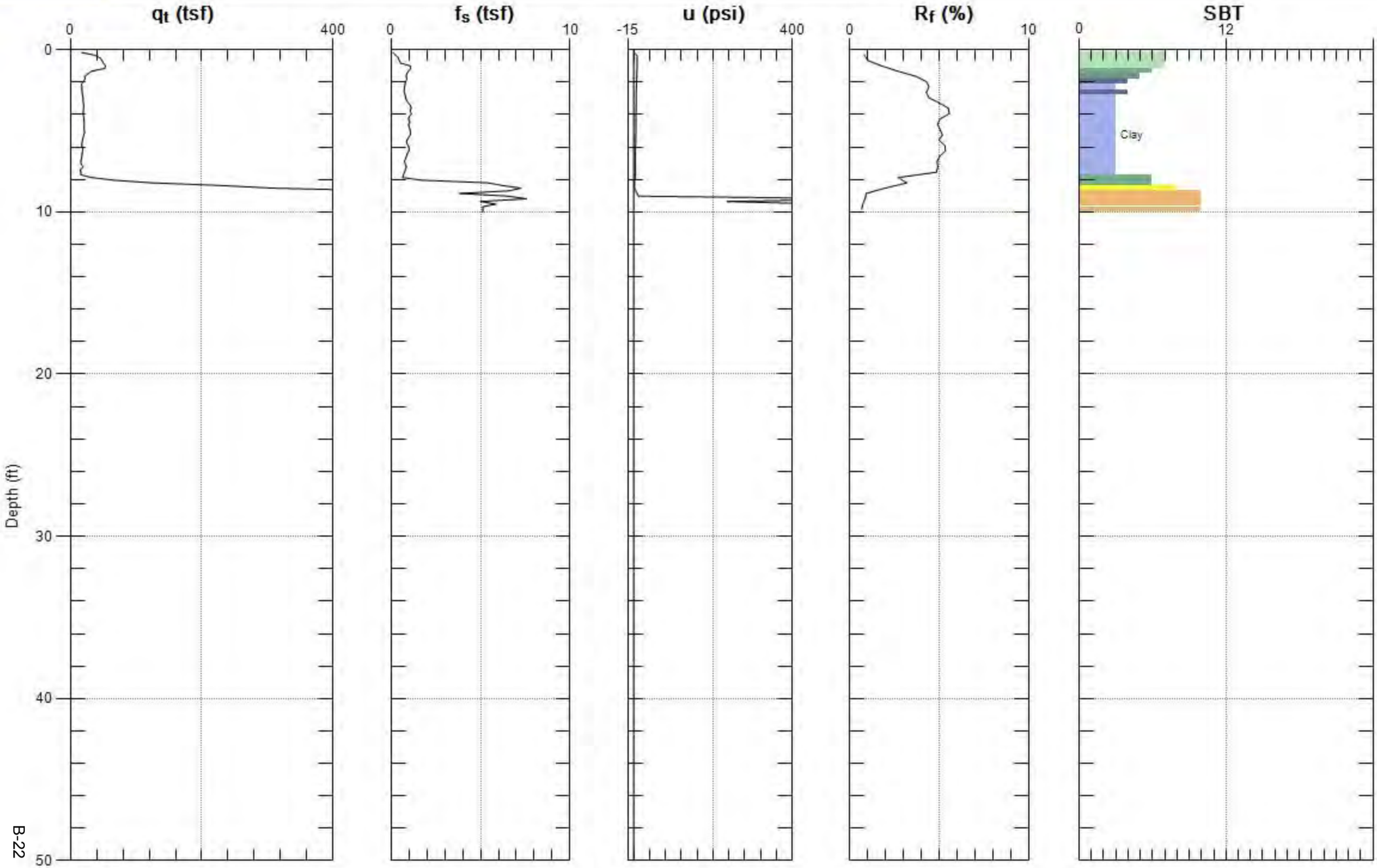
* CPT NUMBER USED BY BERLOGAR STEVENS AND ASSOCIATES

SBT: Soil Behavior Type (Robertson 1990)

BERLOGAR STEVENS

Site: TORIAN-CARGILL
Sounding: CPT-10(C-10*)

Engineer: B.STEVENS
Date: 12/16/2011 08:00



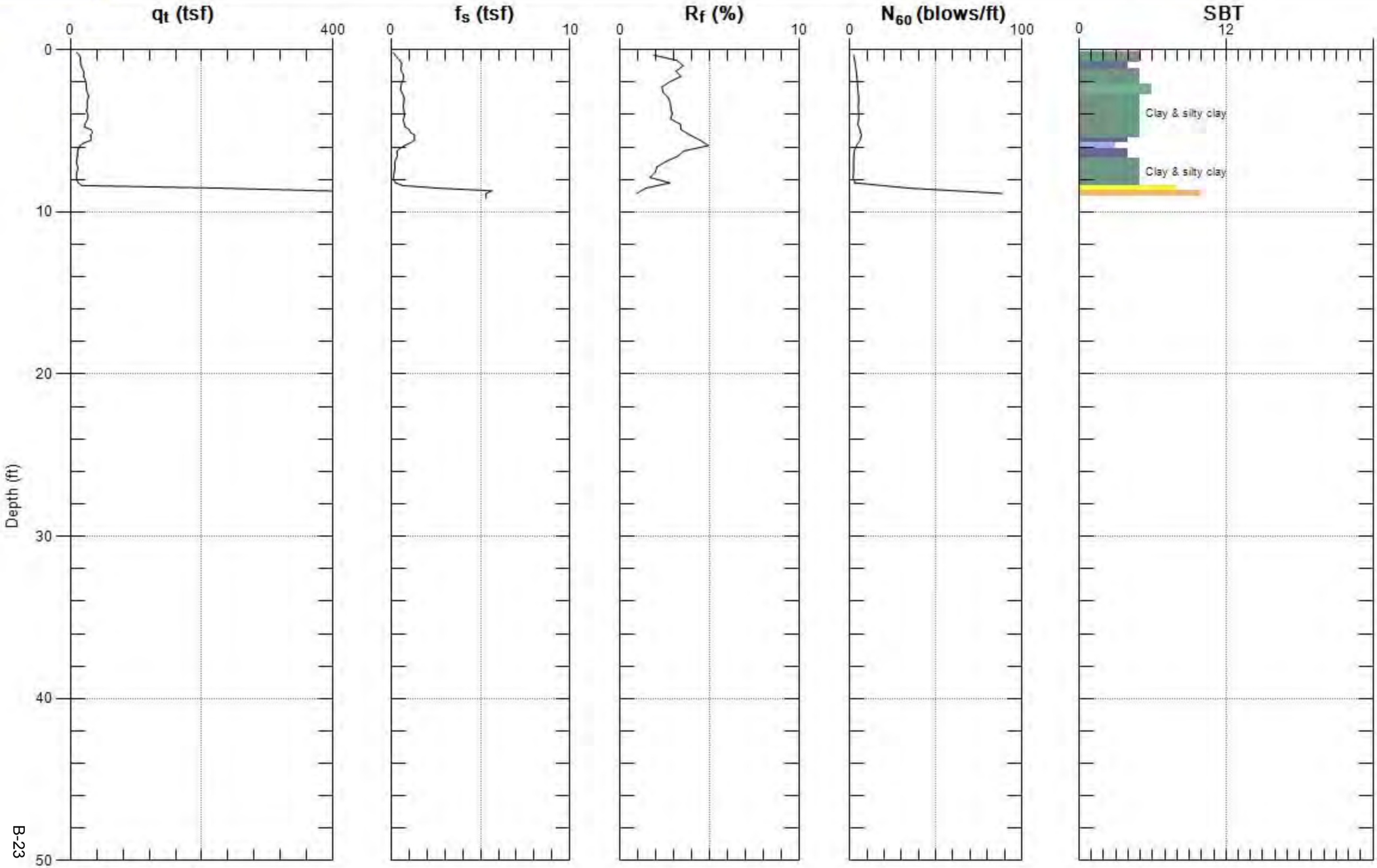
Max. Depth: 10.007 (ft)
Avg. Interval: 0.328 (ft)

* CPT NUMBER USED BY BERLOGAR STEVENS AND ASSOCIATES

SBT: Soil Behavior Type (Robertson 1990)

BERLOGAR STEVENS

Site: TORIAN-CARGILL
Sounding: CPT-11A(C-11A*)
Engineer: B.STEVENS
Date: 12/16/2011 09:53



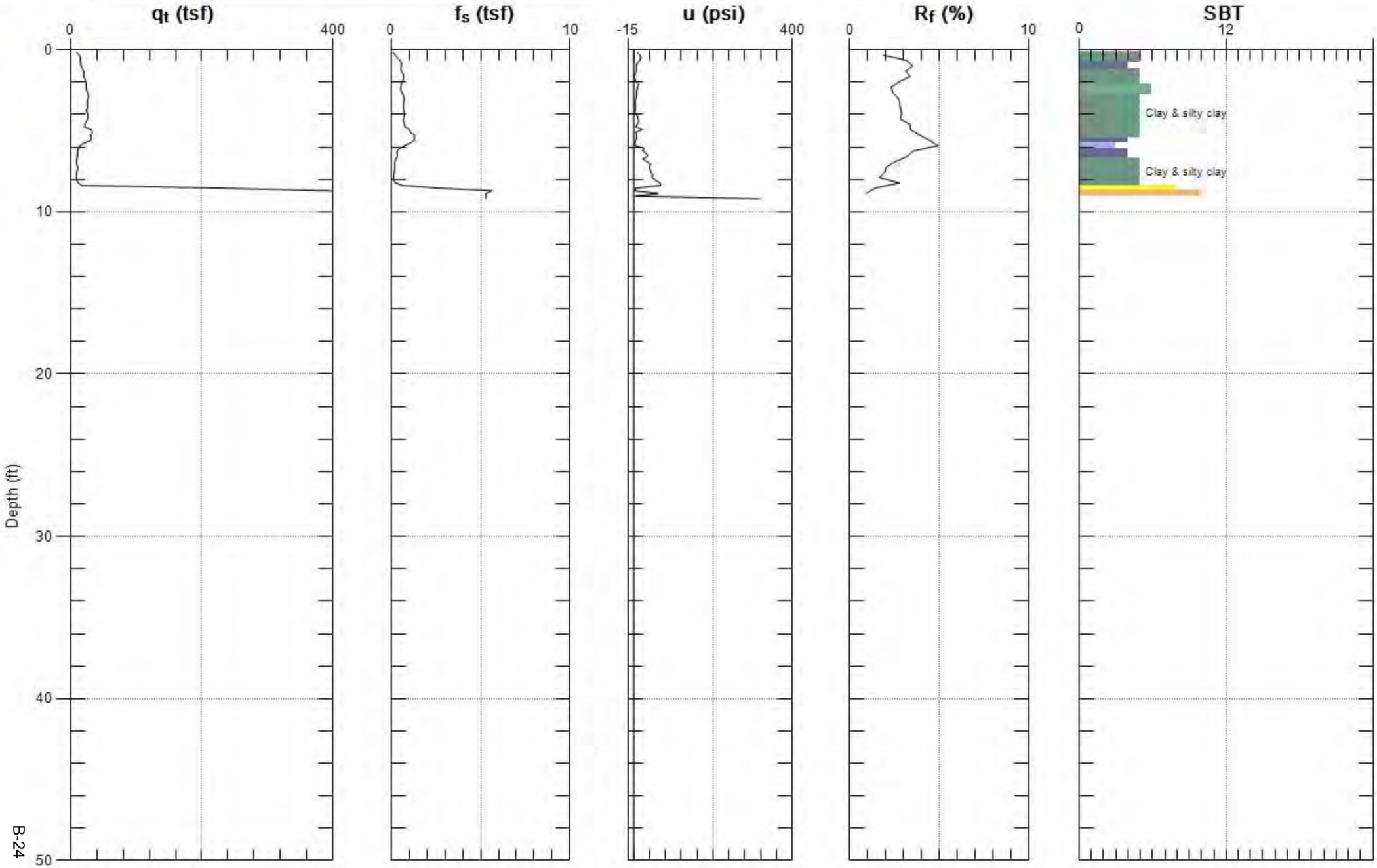
Max. Depth: 9.186 (ft)
Avg. Interval: 0.328 (ft)

* CPT NUMBER USED BY BERLOGAR STEVENS AND ASSOCIATES

SBT: Soil Behavior Type (Robertson 1990)

BERLOGAR STEVENS

Site: TORIAN-CARGILL
Sounding: CPT-11A (C-11A*)
Engineer: B.STEVENS
Date: 12/16/2011 09:53



Max. Depth: 9.186 (ft)
Avg. Interval: 0.328 (ft)

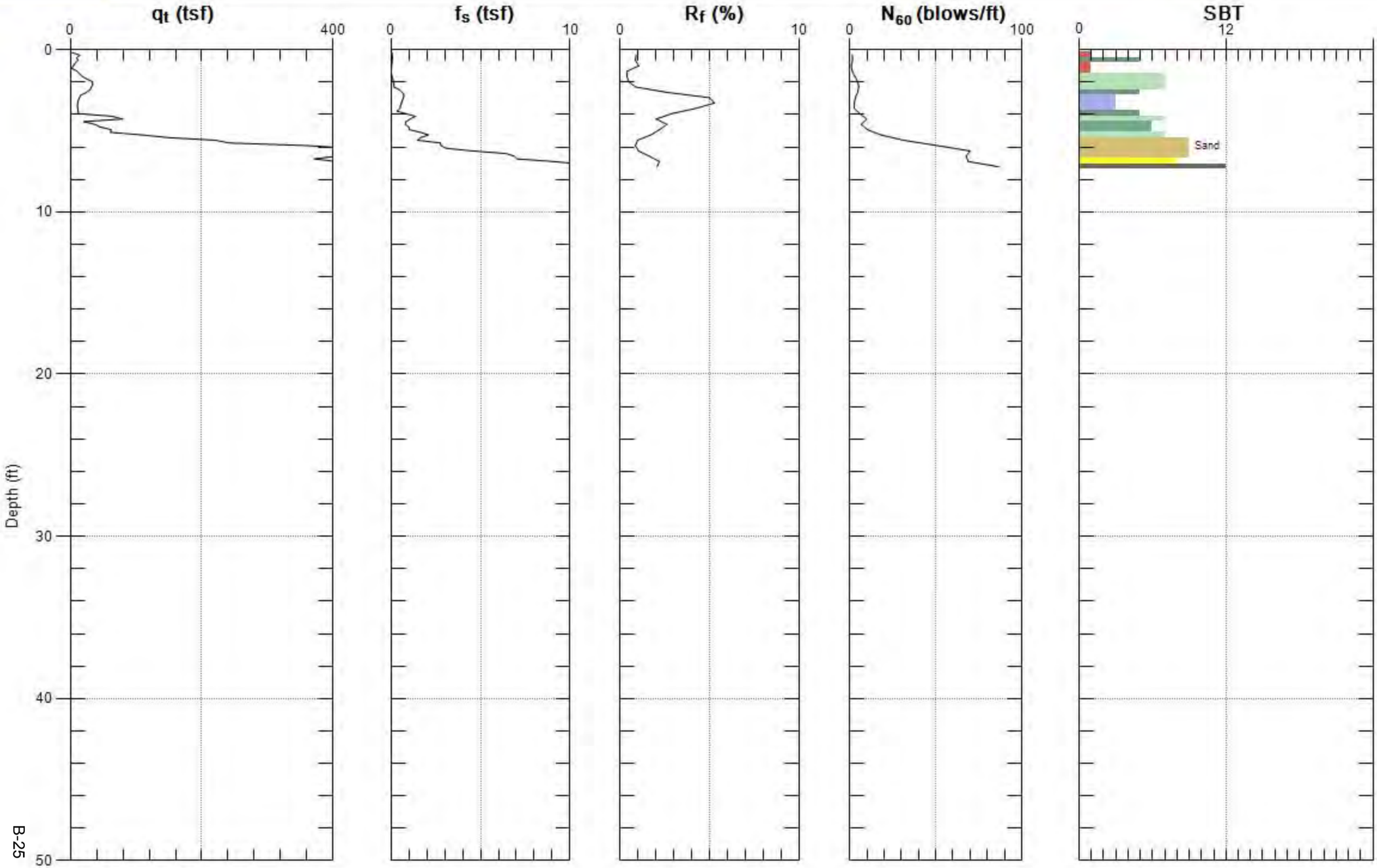
* CPT NUMBER USED BY BERLOGAR STEVENS AND ASSOCIATES

SBT: Soil Behavior Type (Robertson 1990)

BERLOGAR STEVENS

Site: TORIAN-CARGILL
Sounding: CPT-11(C-11*)

Engineer: B.STEVENS
Date: 12/16/2011 09:29



Max. Depth: 7.382 (ft)
Avg. Interval: 0.328 (ft)

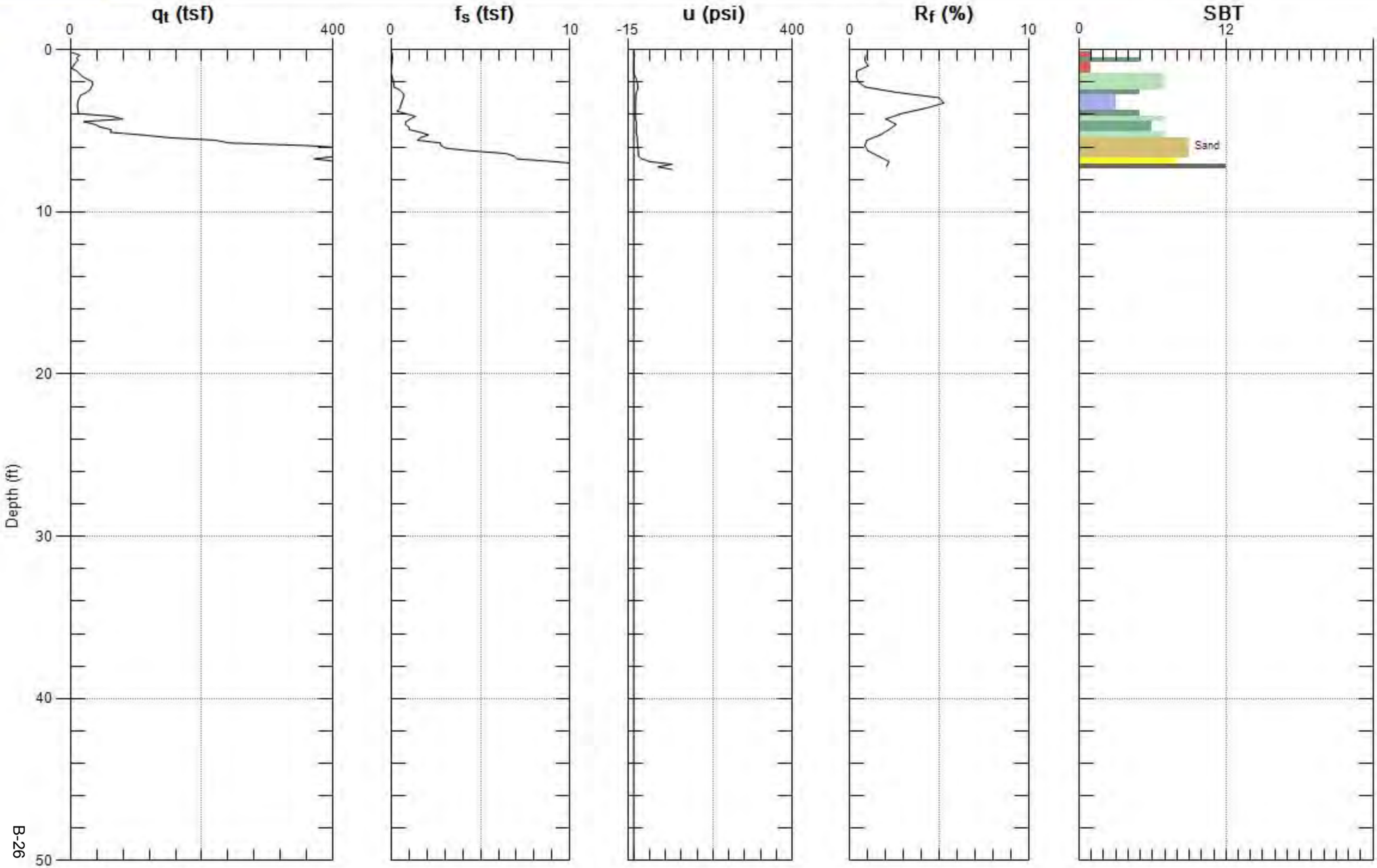
* CPT NUMBER USED BY BERLOGAR STEVENS AND ASSOCIATES

SBT: Soil Behavior Type (Robertson 1990)

BERLOGAR STEVENS

Site: TORIAN-CARGILL
Sounding: CPT-11(C-11*)

Engineer: B.STEVENS
Date: 12/16/2011 09:29



Max. Depth: 7.382 (ft)
Avg. Interval: 0.328 (ft)

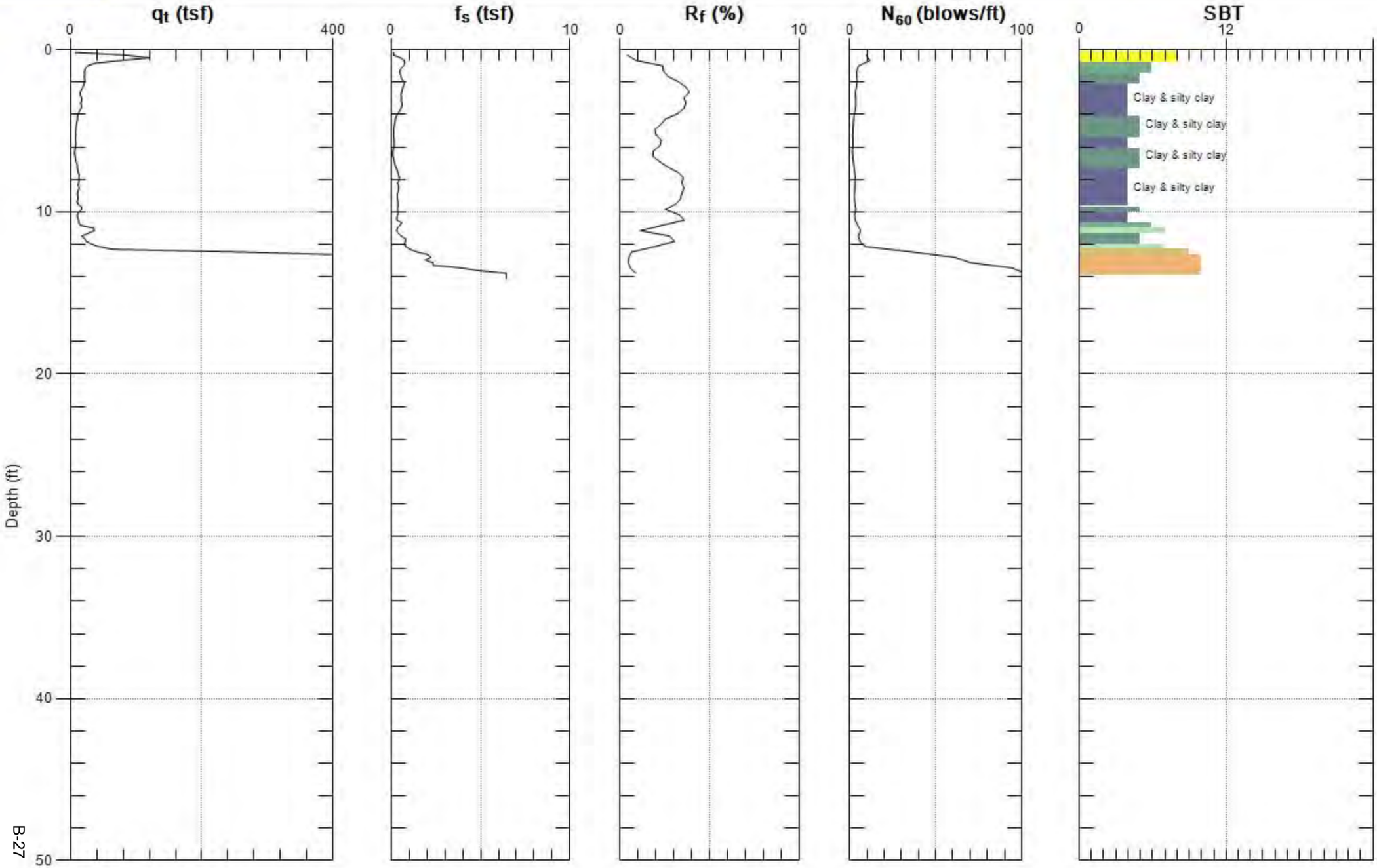
* CPT NUMBER USED BY BERLOGAR STEVENS AND ASSOCIATES

SBT: Soil Behavior Type (Robertson 1990)

BERLOGAR STEVENS

Site: TORIAN-CARGILL
Sounding: CPT-12 (C-12*)

Engineer: B.STEVENS
Date: 12/16/2011 10:51



Max. Depth: 14.108 (ft)
Avg. Interval: 0.328 (ft)

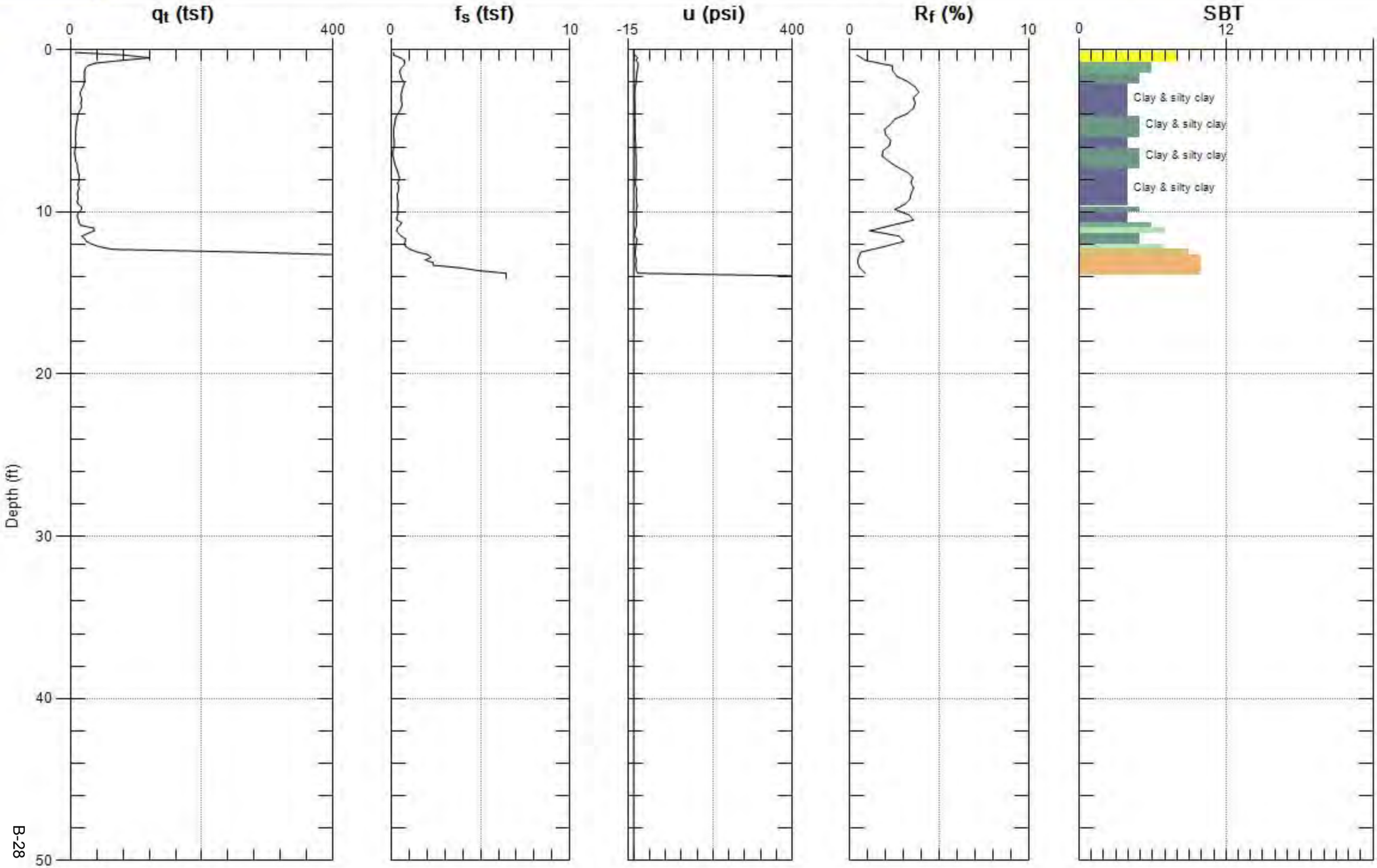
* CPT NUMBER USED BY BERLOGAR STEVENS AND ASSOCIATES

SBT: Soil Behavior Type (Robertson 1990)

BERLOGAR STEVENS

Site: TORIAN-CARGILL
Sounding: CPT-12(C-12*)

Engineer: B.STEVENS
Date: 12/16/2011 10:51



Max. Depth: 14.108 (ft)
Avg. Interval: 0.328 (ft)

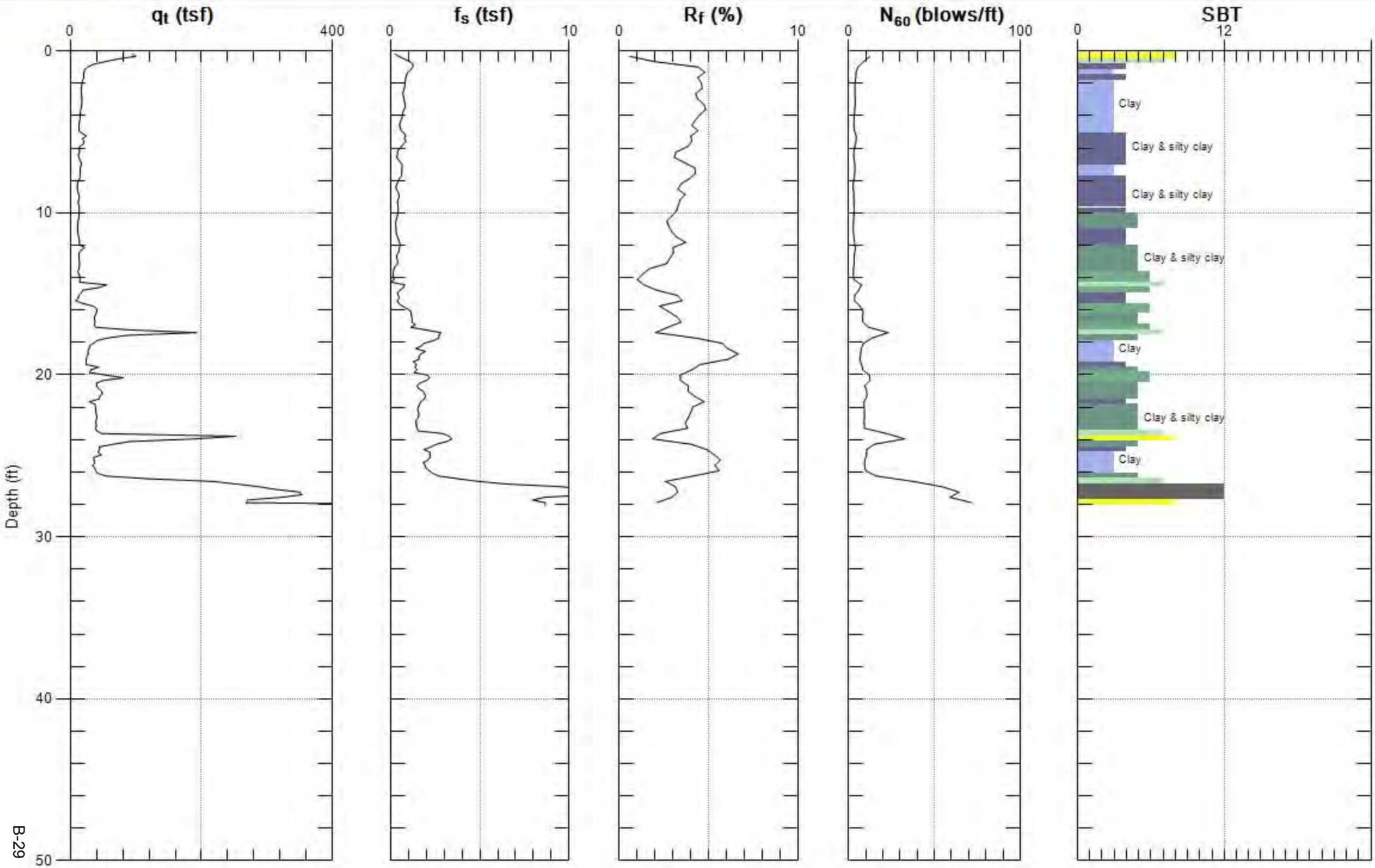
* CPT NUMBER USED BY BERLOGAR STEVENS AND ASSOCIATES

SBT: Soil Behavior Type (Robertson 1990)

BERLOGAR STEVENS

Site: TORIAN-CARGILL
Sounding: CPT-13(C-13*)

Engineer: B.STEVENS
Date: 12/16/2011 12:15



Max. Depth: 28.051 (ft)
Avg. Interval: 0.328 (ft)

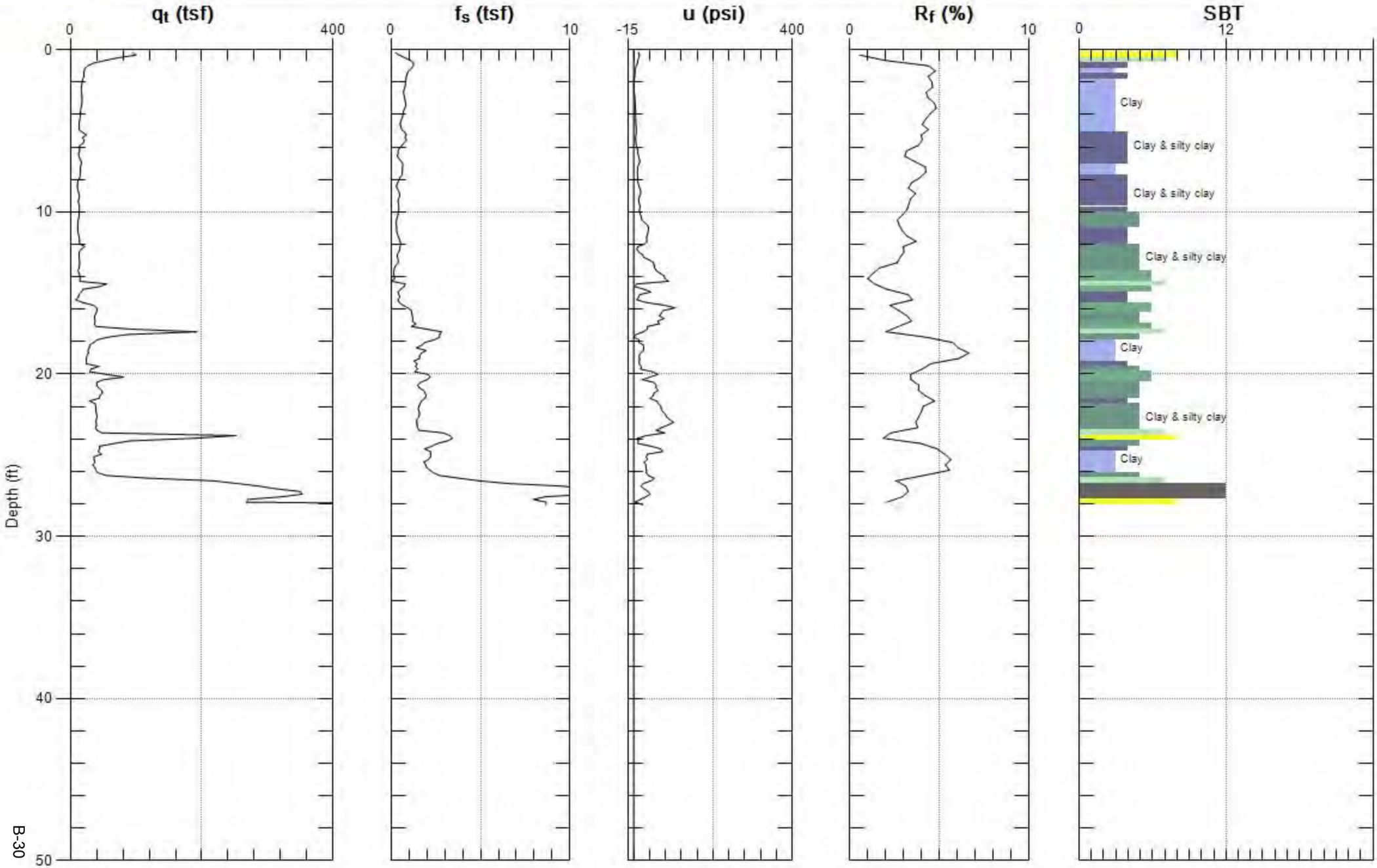
* CPT NUMBER USED BY BERLOGAR STEVENS AND ASSOCIATES

SBT: Soil Behavior Type (Robertson 1990)

BERLOGAR STEVENS

Site: TORIAN-CARGILL
Sounding: CPT-13(C-13*)

Engineer: B.STEVENS
Date: 12/16/2011 12:15



Max. Depth: 28.051 (ft)
Avg. Interval: 0.328 (ft)

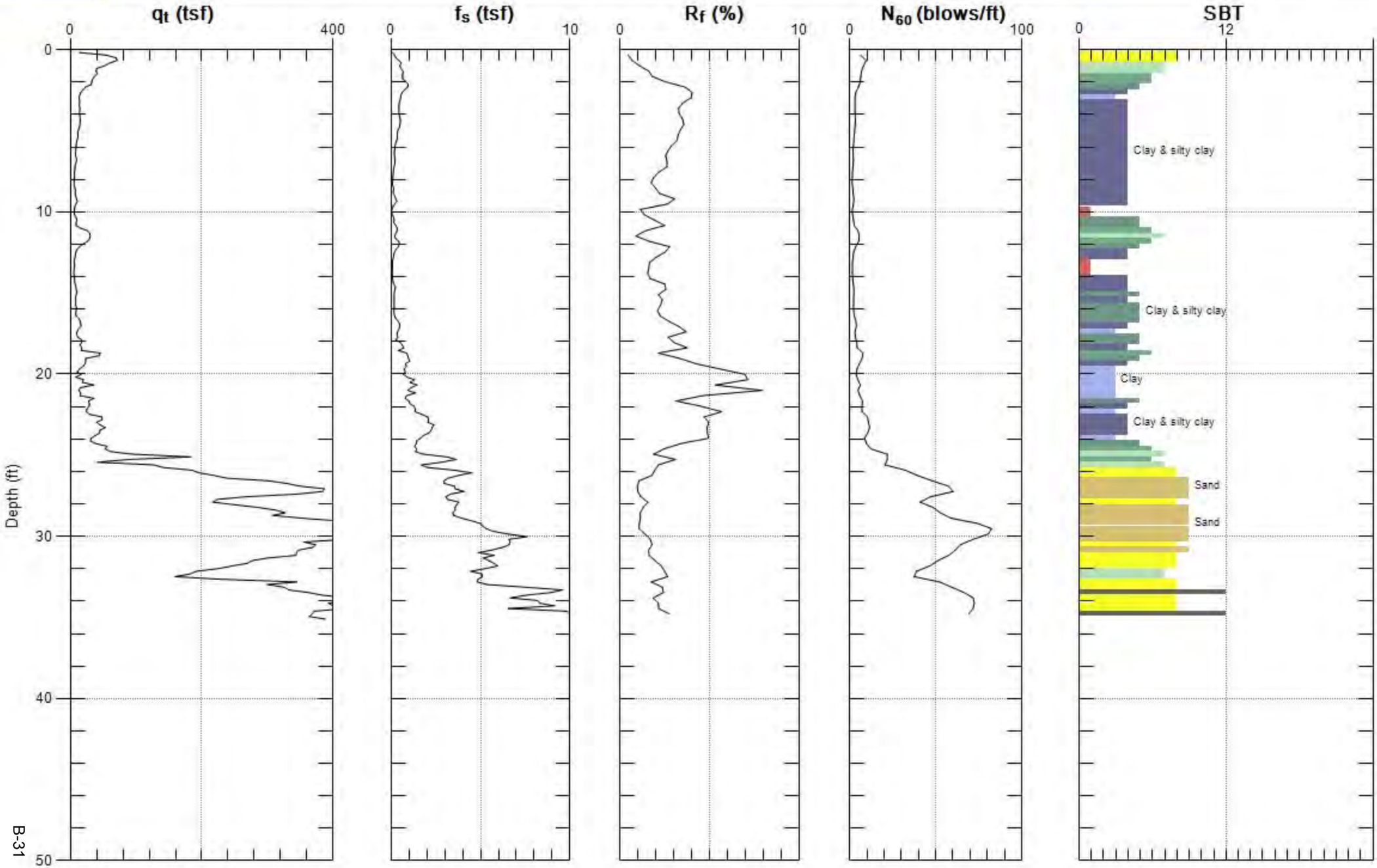
* CPT NUMBER USED BY BERLOGAR STEVENS AND ASSOCIATES

SBT: Soil Behavior Type (Robertson 1990)

BERLOGAR STEVENS

Site: TORIAN-CARGILL
Sounding: CPT-14 (C-14*)

Engineer: B.STEVENS
Date: 12/16/2011 01:21



Max. Depth: 35.105 (ft)
Avg. Interval: 0.328 (ft)

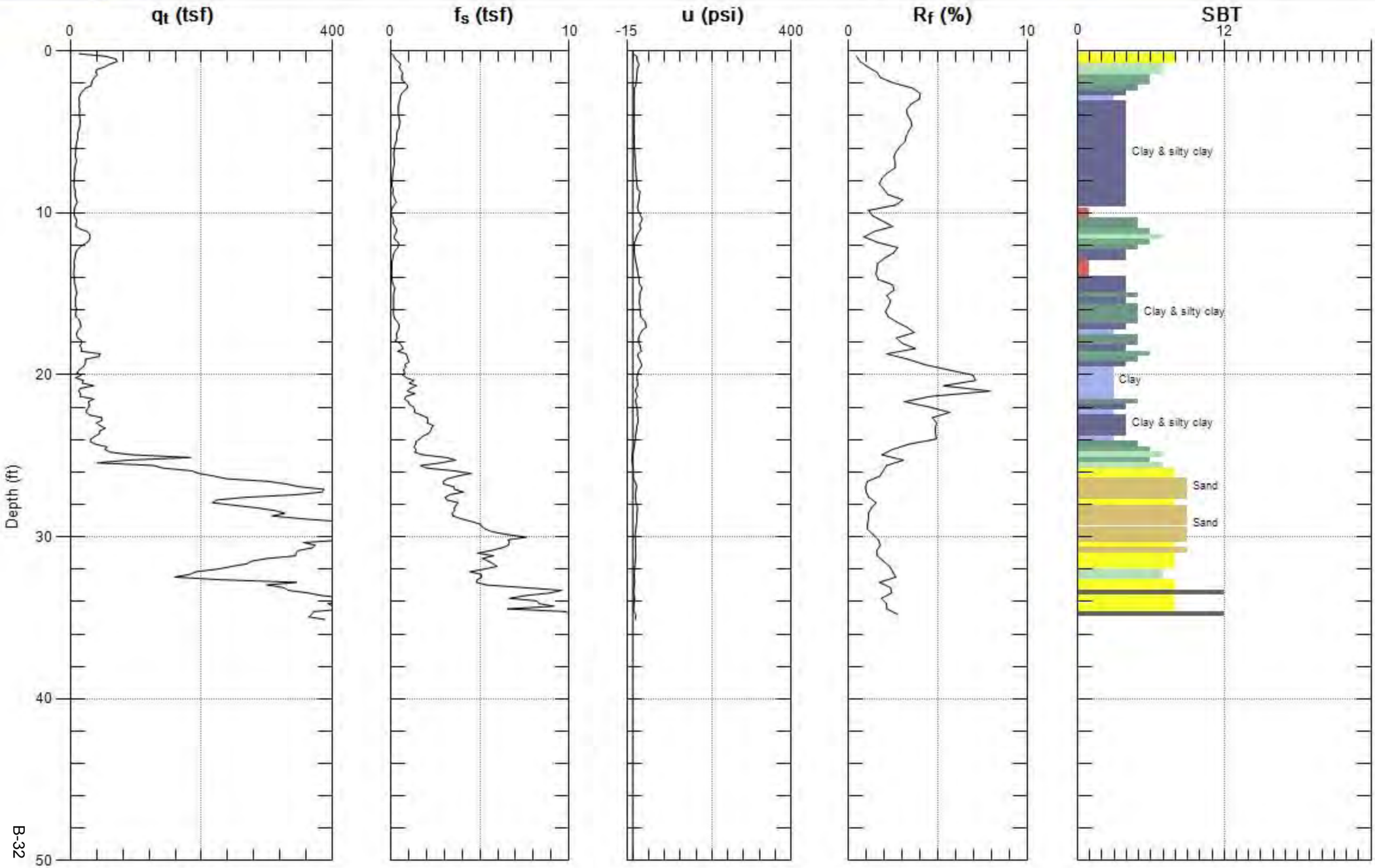
* CPT NUMBER USED BY BERLOGAR STEVENS AND ASSOCIATES

SBT: Soil Behavior Type (Robertson 1990)

BERLOGAR STEVENS

Site: TORIAN-CARGILL
Sounding: CPT-14(C-14*)

Engineer: B.STEVENS
Date: 12/16/2011 01:21



Max. Depth: 35.105 (ft)
Avg. Interval: 0.328 (ft)

* CPT NUMBER USED BY BERLOGAR STEVENS AND ASSOCIATES

SBT: Soil Behavior Type (Robertson 1990)

APPENDIX C

Test Pit Logs

TEST PIT LOGS – 9/27/07

Test Pit Number	Depth (feet)	Description
TP-1 Elev. 23 feet	0 – 2	Clayey Gravel, gray-brown, moist, medium dense, with sand, trace roots, concrete and brick fragments, well-graded sand and gravel (FILL).
	2 – 6	Silty Clay, dark gray-brown, moist, very stiff.
	6 – 7	SANDSTONE, fine-grained, reddish-brown, weathered, fractured, moderately strong to weak, some oxidation staining. Top of Sandstone at 17-feet elevation
		Total Depth 7 feet No free groundwater encountered
TP-2 Elev. 19 feet	0 – 1½	Silty Gravel, gray-brown, dry, loose, trace brick fragments, some magnesium concretions (FILL).
	1½ – 3	SANDSTONE, fine-grained, tan, weathered, slightly fractured, moderately strong, some oxidation staining. Top of Sandstone at 17-feet elevation.
		Total Depth 3 feet No free groundwater encountered
TP-3 Elev. 14 feet	0 – 8	Silty Clay, dark gray, moist, stiff, some medium fine sand, trace gravel and asphalt concrete fragments, trace rootlets, sod, wood fragments and light brown and black mottling (FILL).
	8 – 12	Silty Clay, olive-brown, moist, stiff, slightly porous, trace oxidation, staining. No bedrock above 2-feet elevation.
		Total Depth 12 feet No free groundwater encountered
TP-4 Elev. 11 feet	0 – 2	Clayey Gravel, tan, slightly moist to dry, dense, trace rootlets, wood fragments (FILL).
	2 – 10	Sandy Clay, brown to reddish brown, moist, stiff, trace gravel.
	10 – 11	CLAYSTONE, reddish-brown, highly weathered, weak, moist, some oxidation staining.
	11 – 12	SANDSTONE, fine-grained, tan, highly weathered, friable, moist with some oxidation staining.
		Total Depth 12 feet No free groundwater encountered

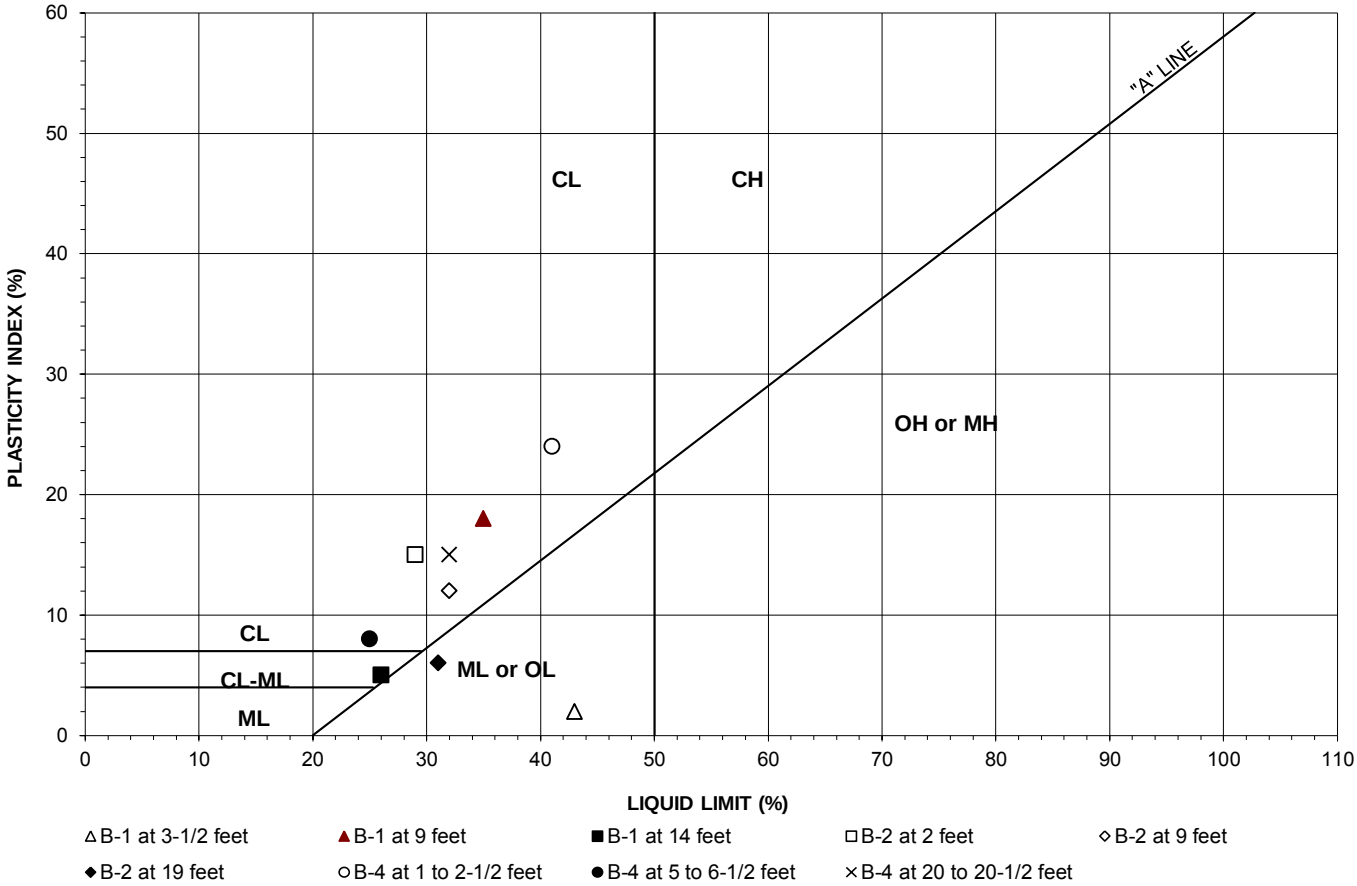
TEST PIT LOGS – 9/27/07

Test Pit Number	Depth (feet)	Description
TP-5 Elev. 12 feet	0 – 2	Silty Gravel, tan, moist to dry, some sand and magnesium concretions.
	2 – 6	Silty Clay, dark gray-brown, moist, stiff.
	6 – 7	SANDSTONE, fine-grained, reddish brown, highly weathered, highly fractured, friable to weak, some oxidation staining. Top of sandstone at 6-feet elevation.
		Total Depth 7 feet No free groundwater encountered
TP-6 Elev. 29 feet	0 – 2	Silty Gravel, gray-brown, slightly moist to dry, dense, fine to medium gravel, trace concrete fragments (FILL).
	2 – 12	Sandy Clay, dark gray-brown, moist, stiff, some gravel, trace concrete fragments, wood and plastic (FILL).
	12 – 14	SANDSTONE, fine-grained, reddish-brown, highly weathered, friable to weak, highly fractured, oxidation staining along fractures. Top of sandstone at 17-feet elevation.
TP-7 Elev. 9 feet	0 – 1	Sandy Clay, dark gray-brown, moist, medium stiff, trace magnesium concretions (FILL).
	1 – 4	Silty Clay, dark gray-brown, moist, stiff, trace fine sand.
	4 – 8	Clayey Silt, olive-brown, moist, medium stiff, trace oxidation staining, slightly porous.
	8 – 12	Clayey Sand, olive-brown, moist, medium dense, trace oxidation staining, fine sand.
	12 – 14	Sandy Clay, red-brown, very moist, stiff, fine-grained sand, trace oxidation staining. No bedrock above -5 feet elevation.
		Total Depth 14 feet Trace groundwater seepage at 9 feet

APPENDIX D

Laboratory Test Results

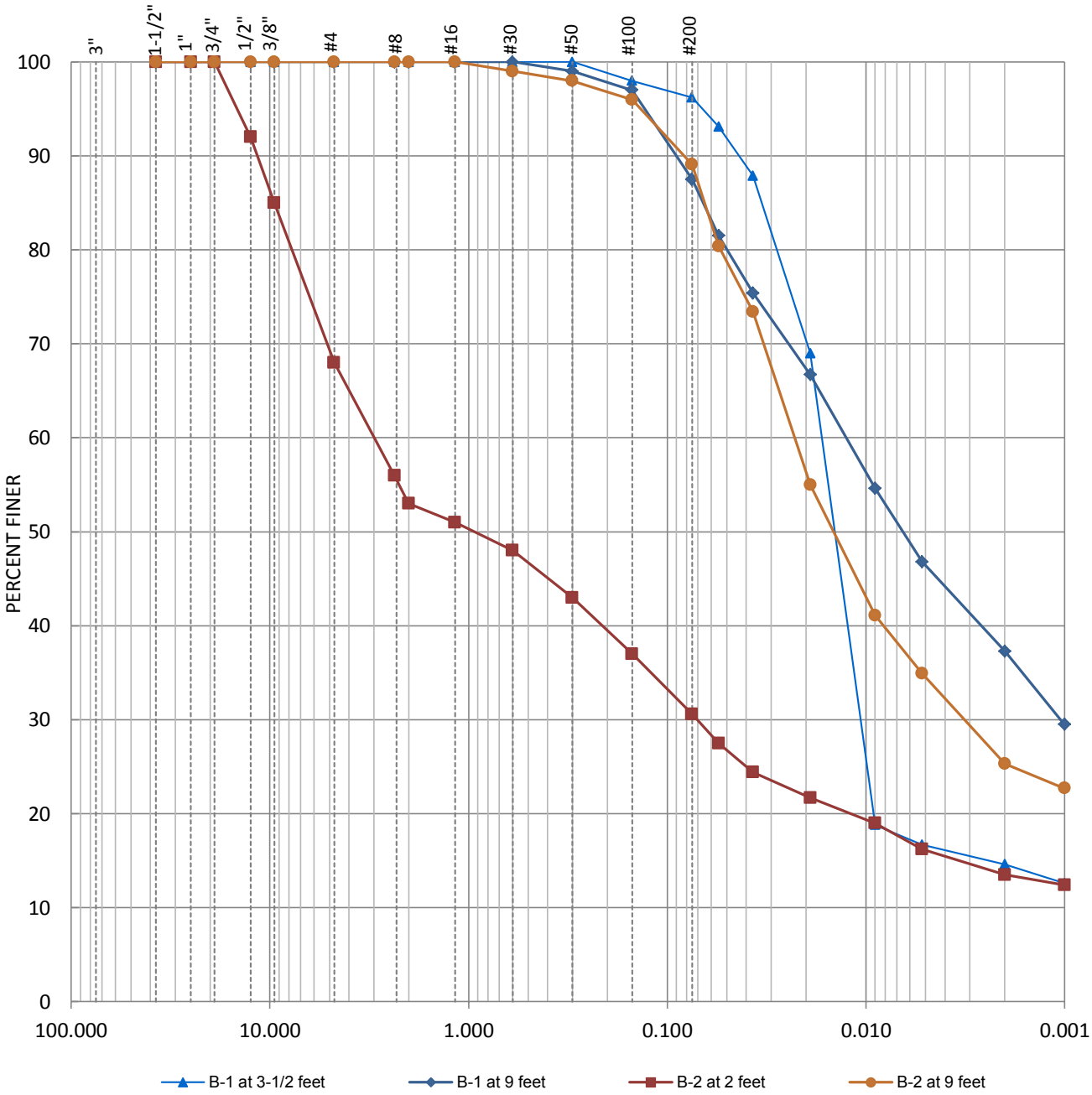
JOB NUMBER: 3286.102 DATE: 1-16-12 BY: CC

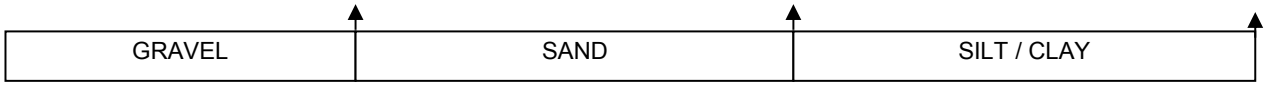


LOCATION	LIQUID LIMIT	PLASTICITY INDEX	USCS CLASSIFICATION
B-1 at 3-1/2 feet	43	2	**ML**
B-1 at 9 feet	35	18	**CL**
B-1 at 14 feet	26	5	**CL-ML**
B-2 at 2 feet	29	15	**CL**
B-2 at 9 feet	32	12	**CL**
B-2 at 19 feet	31	6	**ML**
B-4 at 1 to 2-1/2 feet	41	24	**CL**
B-4 at 5 to 6-1/2 feet	25	8	**CL**
B-4 at 20 to 20-1/2 feet	32	15	**C L**

ATTERBERG LIMITS TEST

JOB NUMBER: 3268.102 DATE: 1-16-12 BY: CC

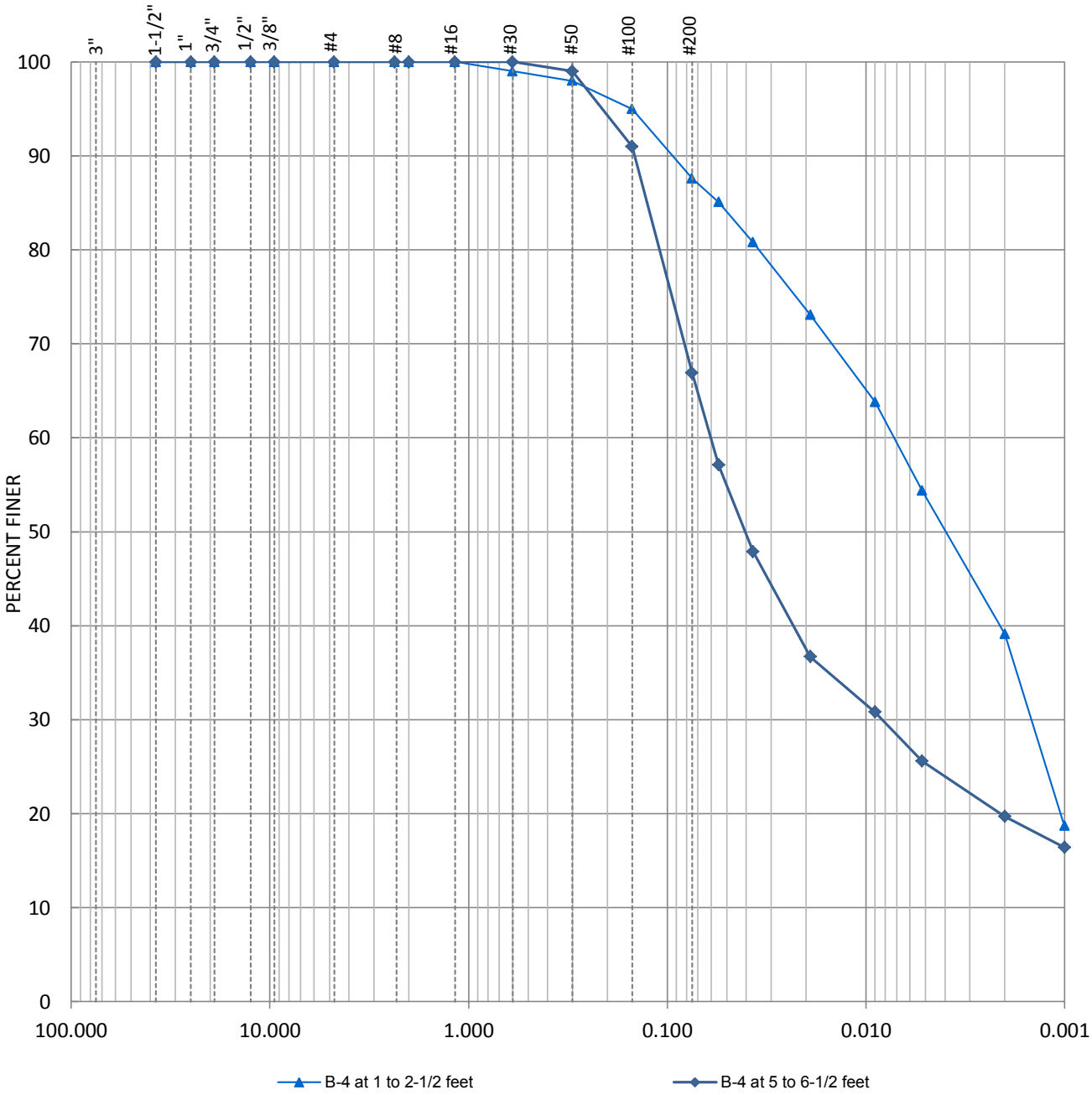


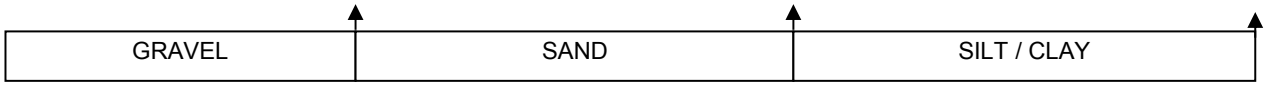


LOCATION	DESCRIPTION
B-1 at 3-1/2 feet	SILT, light gray-white
B-1 at 9 feet	SILTY CLAY, gray-brown
B-2 at 2 feet	CLAYEY SAND, gray
B-2 at 9 feet	SILTY CLAY with SAND, light gray-brown

GRADATION TEST DATA

JOB NUMBER: 3268.102 DATE: 1-24-12 BY: CC





LOCATION	DESCRIPTION
B-4 at 1 to 2-1/2 feet	SILTY CLAY, gray-brown
B-4 at 5 to 6-1/2 feet	SANDY CLAY, light yellow-brown

GRADATION TEST DATA

California State Certified Laboratory No. 2153

CERCO analytical
1100 Willow Pass Court, Suite A
Concord, CA 94520-1006
925 462 2771 Fax. 925 462 2775
www.cercoanalytical.com

9 January 2012

Job No.1112193
Cust. No.10598

Mr. Wilson Wong
Berlogar Stevens & Associates
5587 Sunol Blvd.
Pleasanton, CA 94566

Subject: Project No.: 3268.102
Project Name: Hollow Stem Auger Boring, Cargill Site
Corrosivity Analysis – ASTM Test Methods with Brief Evaluation

Dear Mr. Wong:

Pursuant to your request, CERCO Analytical has analyzed the soil sample submitted on December 27, 2011. Based on the analytical results, a brief corrosivity evaluation is enclosed for your consideration.

Based upon the conductivity measurements, the sample is classified as "severly corrosive". All buried iron, steel, cast iron, ductile iron, galvanized steel and dielectric coated steel or iron should be properly protected against corrosion depending upon the critical nature of the structure. All buried metallic pressure piping such as ductile iron firewater pipelines should be protected against corrosion.

The chloride ion concentration is 4,800 mg/kg. Because the chloride ion concentrations is greater than 300 mg/kg, it is determined to be sufficient to attack steel embedded in a concrete mortar coating.

The sulfate ion concentration is 1,000 mg/kg and is determined to be sufficient to damage reinforced concrete structures and cement mortar-coated steel at these locations. Therefore, concrete that comes into contact with this soil should use sulfate resistant cement such as Type II, in accordance with the Uniform building Code requirements.

The sulfide ion concentration is none detected.

The pH of the soil is 7.7 which does not present corrosion problems for buried iron, steel, mortar-coated steel and reinforced concrete structures.

The redox potential is 460-mV which is indicative of aerobic soil conditions.

This corrosivity evaluation is based on general corrosion engineering standards and is non-specific in nature. For specific design recommendations or consultation, please call *JDH Corrosion Consultants, Inc. at (925) 927-6630.*

We appreciate the opportunity of working with you on this project. If you have any questions, or if you require further information, please do not hesitate to contact us.

Very truly yours,
CERCO ANALYTICAL, INC.

Cheryl McMullen for

J. Darby Howard, Jr., P.E.
President

JDH/jdl
Enclosure

California State Certified Laboratory No. 2153

CERCO analytical
1100 Willow Pass Court, Suite A
Concord, CA 94520-1006
925 462 2771 Fax. 925 462 2775
www.cercoanalytical.com

Client: Berlogar Stevens & Associates
Client's Project No.: 3268.102
Client's Project Name: Howwlow Stem Auger Boring, Cargill Site
Date Sampled: 21-Dec-11
Date Received: 27-Dec-11
Matrix: Soil
Authorization: Signed Chain of Custody

Date of Report: 9-Jan-2012

Job/Sample No.	Sample I.D.	Redox (mV)	pH	Conductivity (umhos/cm)*	Resistivity (100% Saturation) (ohms-cm)	Sulfide (mg/kg)*	Chloride (mg/kg)*	Sulfate (mg/kg)*
1112193-001	B-3 @ 1.5-2'	460	7.7	28,000	-	N.D.	4,800	1,000

Method:	ASTM D1498	ASTM D4972	ASTM D1125M	ASTM G57	ASTM D4658M	ASTM D4327	ASTM D4327
Detection Limit:	-	-	10	-	50	150	15
Date Analyzed:	30-Dec-2011	30-Dec-2011	3-Jan-2012	-	6-Jan-2012	3-Jan-2012	30-Dec-2011

Cheryl McMillen
Laboratory Director

* Results Reported on "As Received" Basis
N.D. - None Detected

Quality Control Summary - All laboratory quality control parameters were found to be within established limits

Via E-mail Only

October 7, 2014
Job No. 3268.002

BERLOGAR
STEVENS &
ASSOCIATES

Mr. Glenn Brown
Dumbarton Area 2, LLC
500 La Gonda Way, Suite 102
Danville, California 94526

Subject: Geology, Geologic Hazards and CBC Update
Gateway Station West
Enterprise Drive
Newark, California

Dear Mr. Brown:

Berlogar Stevens & Associates (BSA) has been requested to provide a discussion on the regional and site geology, geologic hazards, and updated 2013 California Building Code seismic design parameters. We previously prepared a Design Level Geotechnical Investigation report for the site dated October 14, 2013. We discussed geologic and geotechnical impacts from liquefaction, undocumented fill, naturally occurring asbestos and shallow bedrock excavations in the 2013 report. Additional and updated geologic information is being provided herein as requested by the Environmental Impact Report consultants.

GEOLOGIC SETTING

REGIONAL GEOLOGY

The Gateway Station West site region lies in the Coast Range Geomorphic Province characterized by northwest trending mountain ranges and valleys. The San Francisco Bay area is underlain and bounded by thick sequences of Mesozoic and Cenozoic rocks. The San Francisco Bay is a tectonic trough locally bounded by the active San Andreas and Hayward faults. The East Bay Hills occur just east of the project site and the site is located on a gently, westward sloping alluvial plain that lies at the edge of San Francisco Bay.

Franciscan Complex rocks of Jurassic and Cretaceous age and Quaternary alluvium and sediments underlie the site region. The Franciscan Complex is composed of serpentinite, sandstone and claystone that are complexly interbedded and structurally deformed by faulting and folding. Cenozoic rocks overlie the Franciscan Complex in the East Bay Hills that are also complexly interbedded and deformed. Pleistocene to Quaternary age sediments deposited on alluvial fans and the edge of San Francisco Bay are composed of mixtures of gravel, sand, silt, clay and Bay Mud (Helley and LaJoie 1979). An area geologic map of the site is presented in Plate 1.

SITE GEOLOGY

BSA's 2013 on-site geotechnical investigation revealed the North Hill is composed of sandstone and claystone that is overlain by up to 12 feet of fill material. The South Hill is composed of naturally occurring asbestos bearing serpentinite with silty sand and silty clay around this hill.

Exploratory drilling revealed interbedded silty, sandy and clayey soil to depths of between 15 to 50 feet below the surface. Groundwater was observed in boreholes at depths of 5 to 9 feet below the surface.

2013 CBC SEISMIC DESIGN PARAMETERS

The project is at approximately 37.519 degrees North latitude and 122.054 degrees West longitude. The peak ground acceleration (PGA) according to the 2013 CBC is 0.52 g. The following are the 2013 California Building Code seismic design criteria using the USGS Seismic Design Maps program, Version 3.1.0, dated July 11, 2013.

California Building Code	
Mapped Spectral Acceleration for Short Periods, S_s	1.500 g
Mapped Spectral Acceleration for 1-Second Period, S_1	0.600 g
Site Class	D
Site Coefficient F_a (for Site Class D)	1.0
Site Coefficient F_v (for Site Class D)	1.5
Acceleration Parameter S_{MS} (adjusted for Site Class D)	1.500 g
Acceleration Parameter, S_{M1} (adjusted for Site Class D)	0.900 g
Acceleration Parameter, S_{DS}(adjusted for Site Class D)	1.00 g
Acceleration Parameter, S_{D1} (adjusted for Site Class D)	0.600 g

GEOLOGIC HAZARDS

REGIONAL SEISMICITY AND MAJOR FAULTS

The project site lies in an active and highly seismic region with numerous faults that have historically caused damaging earthquakes. The Regional Fault Map depicts major Bay Area faults and is attached as Plate 2. The faults generally trend northwest-southeast across the entire San Francisco Bay area. Table 1 lists the major active faults and their estimated earthquake magnitudes expected in future earthquakes. Recent damaging earthquakes in the region include the 1989 Loma Prieta and 2014 South Napa earthquakes. The Hayward fault is the nearest active fault and lies about 5½ miles northeast of the subject site. The site is not located within a California Alquist-Priolo earthquake fault zone.

The major site development risks created by earthquakes are surface rupture, ground shaking and liquefaction. The BSA site investigation reports that no faults are mapped crossing the site so the likelihood of surface rupture is very low. The site will very likely experience strong earthquake ground shaking.

Table 1. San Francisco Bay Area Major Faults Summary

Fault Name	Fault Length (Kilometers)	Estimated Earthquake Magnitude
San Andreas (North Coast South)	190	7.4
San Andreas (Peninsula)	85	7.1
San Andreas (Santa Cruz Mtn.)	62	7.0
Northern San Gregorio	110	7.2
Hayward (Southern)	53	6.7
Hayward (Northern)	35	6.4
Rogers Creek	62	7.0
Healdsburg-Rogers Creek	57	7.1
Southern Maacama	41	6.9
Calaveras (Northern)	45	6.8
Calaveras (Central)	59	6.2
Calaveras (Southern)	19	5.8
Calaveras (Northern) Amador Valley Segment	15	6.5
Calaveras (Northern) San Ramon Segment	13	6.4
Concord-Green Valley	53	7.1
Concord	17	6.2
Hunting Creek-Berryessa	60	7.2
Greenville	51	6.6
Ortigalita	66	7.2
West Napa	30	6.5
Monte Vista-Shannon thrust	45	6.7
Collayomi	29	6.5
Point Reyes	47	7.0
Zayante	58	7.0

SHALLOW GROUNDWATER

Shallow groundwater at the site may impact construction by requiring dewatering during installation of underground utilities. Additionally, the bottom of excavations may be soft and wet, and will require stabilization of the bottoms of excavations prior to placement of engineered fill. Soft and wet excavation bottoms can be mitigated with the use of geotextiles and imported aggregate, which should be specified by the geotechnical engineer for each specific condition. Since the elevations of the site will be raised by the placement of approximately 3 to 4 feet of fill, long term impacts from the shallow groundwater are not expected. A vapor retarder will be placed under structural concrete floor slabs to minimize moisture vapor transmission through the structural concrete floor slab.

EXPANSIVE SOILS

Shallow, native soils were found to have Plasticity Indices (PI) between 2 and 24, which are indicative of soils that range from low expansion potential to high expansion potential. Site elevations will be raised approximately 3 to 4 feet with select import fill with low expansion potential. Additional shallow soil samples should be obtained and tested for expansion potential before import material is brought to the site and after grading is completed.

SOIL CORROSIVITY

A sample of soil was found to be corrosive to steel and concrete in contact with the ground. The California Building Code provides guidelines protecting concrete and reinforcing bars when structures are in contact with the ground. Concrete mix designs and epoxy coated reinforcing steel can mitigate for corrosive soils. Concrete mix designs can also mitigate for high sulfate soils by specifying the type of cement to be utilized in the concrete, the minimum unconfined compressive strength, and the water to cementitious material ratio. Buried utility lines can be protected from the corrosive soils by utilizing plastic pipes, or providing a protective coating and/or cathodic protection for steel pipes. Additional soil samples will need to be obtained for corrosion testing after the site grades have been raised with import soil.

REFERENCES

Association of Bay Area Governments, Working Group on Northern California Earthquake Potential (1996), in On Shaky Ground, a Guide to Assessing Impacts of Future Earthquakes Using Shaking Hazard Maps for the San Francisco Bay Area, 1998.

Association of Bay Area Governments, Revised 2002 California Probabilistic Seismic Maps, June 2003, with Appendices A faults; B faults. Working Group on Northern California Earthquake Potential (1996) in ABAG 1998.

Berlogar Stevens Associates, October 14, 2013, Design Level Geotechnical Investigation, Cargill Hill Parcel, Hickory Street, Newark, California for Dumbarton Area 2 LLC, Job No. 3268.001.

Department of Conservation, California Geological Survey, 2003, Seismic Hazard Zone Report for the Newark 7.5 Minute Quadrangle, Alameda County, California: Seismic Hazard Zone Report 090.

Graymer, R. W., Jones, D. L. and Brabb, E. E., Preliminary geologic map emphasizing bedrock formations in Alameda County, California: a digital database: U. S. Geological Survey Open-file Report 96-252.

Graymer, R. W., Moring, B. C., Saucedo, G. J., Wentworth, C. M. M., Brabb, E. E. and Knudsen, K. L., 2006, Geologic Map of the San Francisco Bay Region: U. S. Geological Survey Scientific Investigations Map 2918.

Hart, E. W. and Bryant, W. A., "Fault-Rupture Hazard Zone in California," California Department of Conservation, Division of Mines and Geology, Special Publication 42, 1997.

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Jennings, C. W., and Bryant, W. A, 2010, Fault Activity Map of California: State of California, California Geological Survey, Scale 1:750,000.

Tianquin, C., Bryant, W. A., Rowshandel, B., Branum, D., and Wills, C. J., June 2003, The Revised 2002 California probabilistic Seismic Hazard Maps with Appendices A, B and C.

Witter, R. C. Et Al, 2006, Maps of Quaternary Deposits and Liquefaction Susceptibility in the Central San Francisco Bay Region, California: U. S. Geological Survey Open-File Report 06-1037, Sheet 2 of 2.

We trust this provides the necessary information at this time. If you have any questions, please contact the undersigned at (925) 484-0220.

Respectfully Submitted,

BERLOGAR STEVENS & ASSOCIATES

William R. Stevens
Principal Engineer
GE 2339

Chris Palmer
Senior Consulting Geologist
CEG 1262

CP/WRS/FB:jmo

Attachments: Plate 1 Area Geologic Map
Plate 2 – Regional Fault Map
Plate 3 – Liquefaction Susceptibility Map

Copies: Mr. Mark Butler
Mr. Doug Buzbee
Dr. Stephen Neudecker, drneudecker@gmail.com

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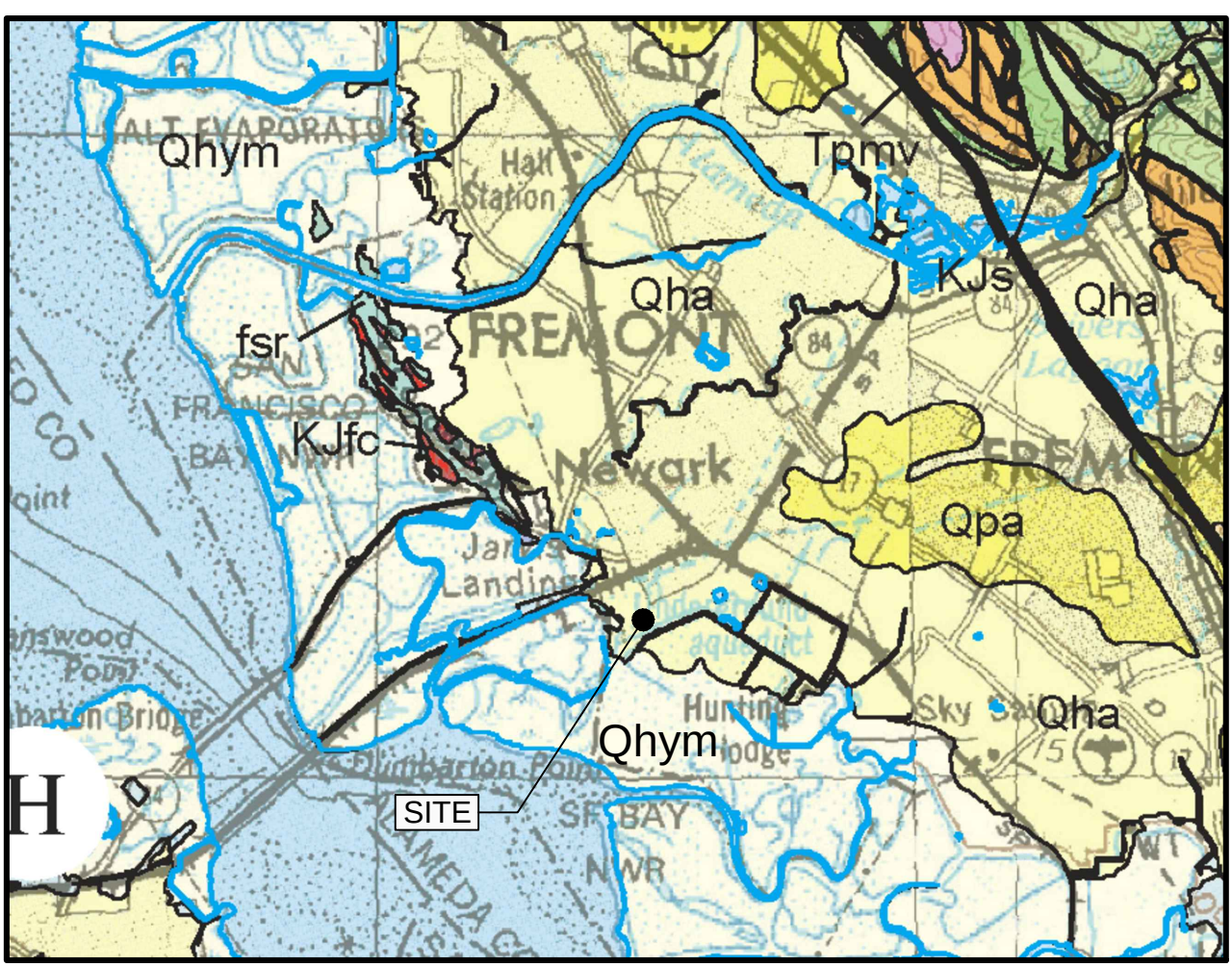

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1"= 10,000 FEET

E□PLANATION

Qhym	LATE HOLOCENE MUD DEPOSITS
Qha	LATE HOLOCENE ALLUVIUM
Qpa	PLEISTOCENE ALLUVIUM
KJfc	EARLY CRETACEOUS AND/OR LATE JURRASIC FRANCISCAN COMPLEX CHERT

A□EA GEOLOGIC MAP

GATEWAY STATION WEST

ENTERPRISE DRIVE AND HICKORY STREET

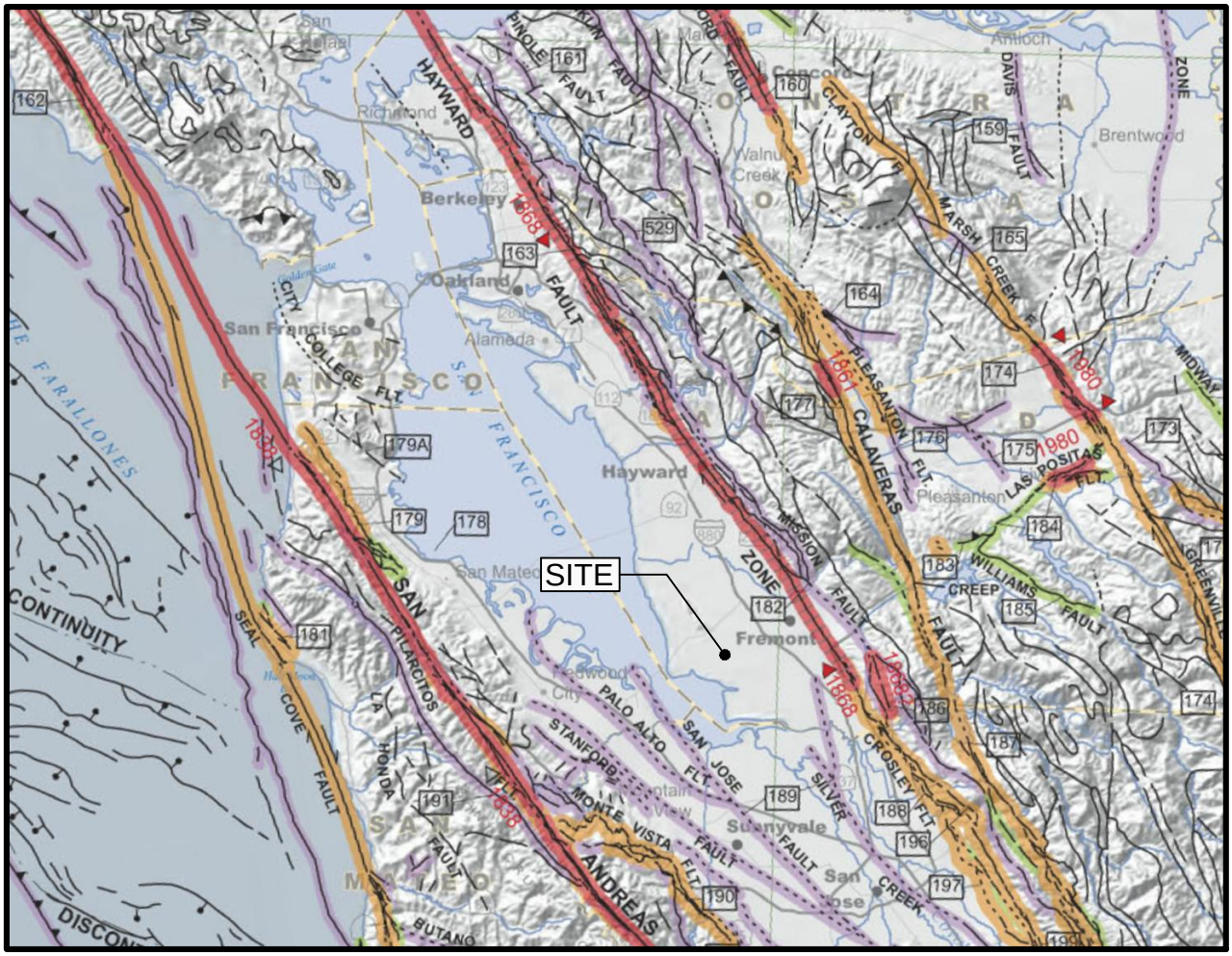
NEWARK, CALIFORNIA

FOR

DUMBARTON AREA 2, LLC

BASE: PORTION OF GEOLOGIC MAP OF THE SAN FRANCISCO BAY REGION:
U.S. GEOLOGICAL SURVEY, SCIENTIFIC INVESTIGATIONS MAP 2918

JOB NUMBER: 3268.002 DATE: 10-2-14 BY: CC



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1"= 10 MILES

E□PLANATION

Fault along which historic (last 200 years) displacement has occurred.

Holocene fault displacement (during past 11,700 years) without historic record.

Late Quaternary fault displacement (during past 700,000 years).

□EGIONAL FAULT MAP

GATEWAY STATION WEST

ENTERPRISE DRIVE AND HICKORY STREET

NEWARK, CALIFORNIA

FOR

DUMBARTON AREA 2, LLC

BASE: PORTION OF 2010 FAULT ACTIVITY MAP, PREPARED BY JENNINGS, C.W. AND BRYANT, W.A., STATE OF CALIFORNIA, CALIFORNIA GEOLOGICAL SURVEY

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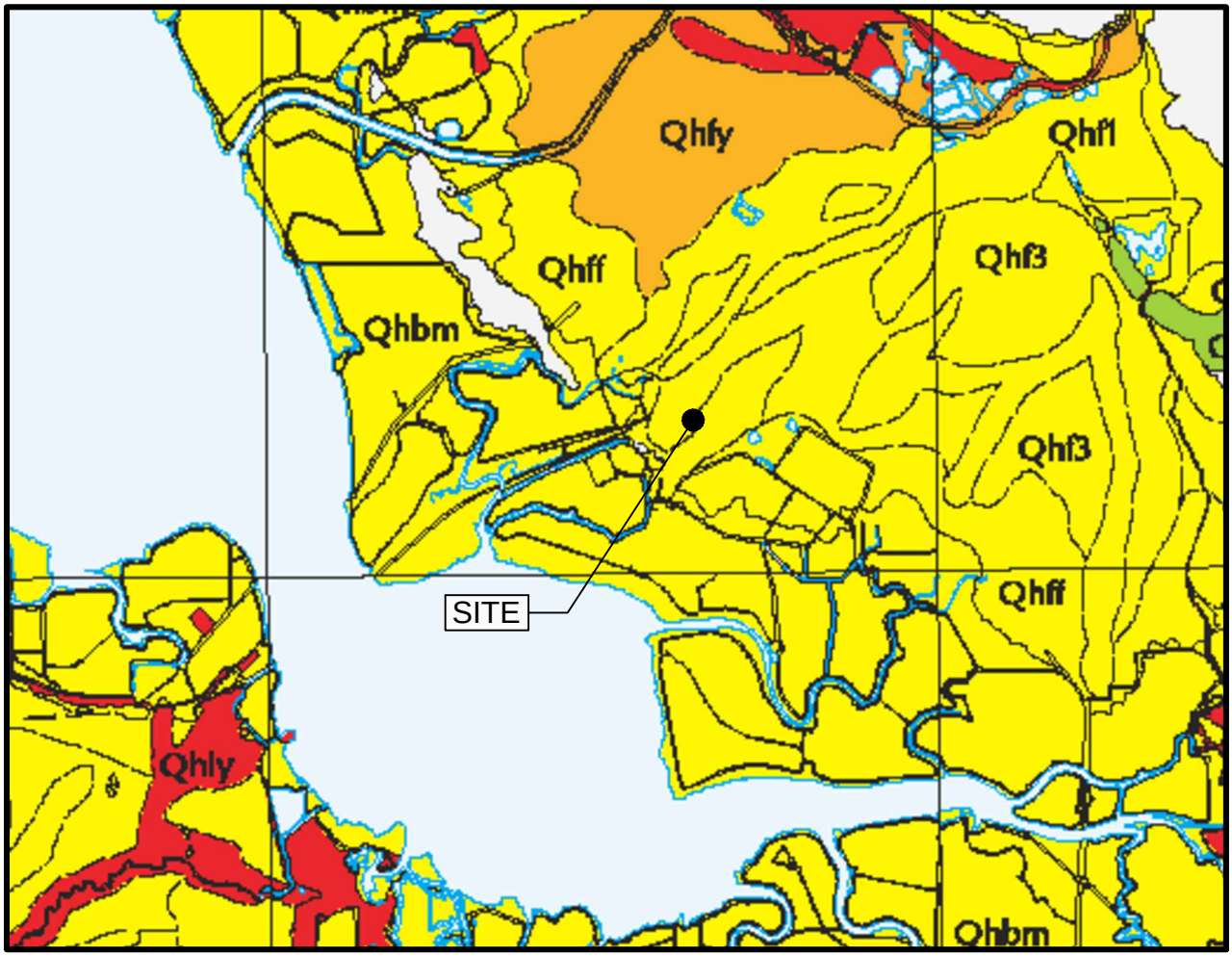

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1"= 10,000 FEET

	GEOLOGIC UNITS		LIQUEFACTION SUSCEPTIBILTY
Qhbm	HOLOCENE BAY MUD		VERY HIGH
Qhf	HOLOCENE ALLUVIAL FAN DEPOSITS		HIGH
Qhff	HOLOCENE ALLUVIAL FAN DEPOSITS, FINE GRAINED FACIES		MODERATE

LIQUEFACTION SUSCEPTIBILITY MAP

GATEWAY STATION WEST

ENTERPRISE DRIVE AND HICKORY STREET

NEWARK, CALIFORNIA

FOR

DUMBARTON AREA 2, LLC

BASE: PORTION OF MAPS OF QUATERNARY DEPOSITS AND LIQUIFICATION SUSCEPTIBILITY IN THE CENTRAL SAN FRANCISCO BAY REGION, CALIFORNIA: U. S. GEOLOGICAL SURVEY, PREPARED BY: WITTER, R. C. ET AL, 2006, OPEN-FILE REPORT 06-1037, SHEET 2 OF 2.

Via E-mail Only

October 7, 2014
Job No. 3268.002

BERLOGAR
STEVENS &
ASSOCIATES

Mr. Glenn Brown
Dumbarton Area 2, LLC
500 La Gonda Way, Suite 102
Danville, California 94526

Subject: Geology, Geologic Hazards and CBC Update
Gateway Station West
Enterprise Drive
Newark, California

Dear Mr. Brown:

Berlogar Stevens & Associates (BSA) has been requested to provide a discussion on the regional and site geology, geologic hazards, and updated 2013 California Building Code seismic design parameters. We previously prepared a Design Level Geotechnical Investigation report for the site dated October 14, 2013. We discussed geologic and geotechnical impacts from liquefaction, undocumented fill, naturally occurring asbestos and shallow bedrock excavations in the 2013 report. Additional and updated geologic information is being provided herein as requested by the Environmental Impact Report consultants.

GEOLOGIC SETTING

REGIONAL GEOLOGY

The Gateway Station West site region lies in the Coast Range Geomorphic Province characterized by northwest trending mountain ranges and valleys. The San Francisco Bay area is underlain and bounded by thick sequences of Mesozoic and Cenozoic rocks. The San Francisco Bay is a tectonic trough locally bounded by the active San Andreas and Hayward faults. The East Bay Hills occur just east of the project site and the site is located on a gently, westward sloping alluvial plain that lies at the edge of San Francisco Bay.

Franciscan Complex rocks of Jurassic and Cretaceous age and Quaternary alluvium and sediments underlie the site region. The Franciscan Complex is composed of serpentinite, sandstone and claystone that are complexly interbedded and structurally deformed by faulting and folding. Cenozoic rocks overlie the Franciscan Complex in the East Bay Hills that are also complexly interbedded and deformed. Pleistocene to Quaternary age sediments deposited on alluvial fans and the edge of San Francisco Bay are composed of mixtures of gravel, sand, silt, clay and Bay Mud (Helley and LaJoie 1979). An area geologic map of the site is presented in Plate 1.

SITE GEOLOGY

BSA's 2013 on-site geotechnical investigation revealed the North Hill is composed of sandstone and claystone that is overlain by up to 12 feet of fill material. The South Hill is composed of naturally occurring asbestos bearing serpentinite with silty sand and silty clay around this hill.

Exploratory drilling revealed interbedded silty, sandy and clayey soil to depths of between 15 to 50 feet below the surface. Groundwater was observed in boreholes at depths of 5 to 9 feet below the surface.

2013 CBC SEISMIC DESIGN PARAMETERS

The project is at approximately 37.519 degrees North latitude and 122.054 degrees West longitude. The peak ground acceleration (PGA) according to the 2013 CBC is 0.52 g. The following are the 2013 California Building Code seismic design criteria using the USGS Seismic Design Maps program, Version 3.1.0, dated July 11, 2013.

California Building Code	
Mapped Spectral Acceleration for Short Periods, S_s	1.500 g
Mapped Spectral Acceleration for 1-Second Period, S_1	0.600 g
Site Class	D
Site Coefficient F_a (for Site Class D)	1.0
Site Coefficient F_v (for Site Class D)	1.5
Acceleration Parameter S_{MS} (adjusted for Site Class D)	1.500 g
Acceleration Parameter, S_{M1} (adjusted for Site Class D)	0.900 g
Acceleration Parameter, S_{DS}(adjusted for Site Class D)	1.00 g
Acceleration Parameter, S_{D1} (adjusted for Site Class D)	0.600 g

GEOLOGIC HAZARDS

REGIONAL SEISMICITY AND MAJOR FAULTS

The project site lies in an active and highly seismic region with numerous faults that have historically caused damaging earthquakes. The Regional Fault Map depicts major Bay Area faults and is attached as Plate 2. The faults generally trend northwest-southeast across the entire San Francisco Bay area. Table 1 lists the major active faults and their estimated earthquake magnitudes expected in future earthquakes. Recent damaging earthquakes in the region include the 1989 Loma Prieta and 2014 South Napa earthquakes. The Hayward fault is the nearest active fault and lies about 5½ miles northeast of the subject site. The site is not located within a California Alquist-Priolo earthquake fault zone.

The major site development risks created by earthquakes are surface rupture, ground shaking and liquefaction. The BSA site investigation reports that no faults are mapped crossing the site so the likelihood of surface rupture is very low. The site will very likely experience strong earthquake ground shaking.

Table 1. San Francisco Bay Area Major Faults Summary

Fault Name	Fault Length (Kilometers)	Estimated Earthquake Magnitude
San Andreas (North Coast South)	190	7.4
San Andreas (Peninsula)	85	7.1
San Andreas (Santa Cruz Mtn.)	62	7.0
Northern San Gregorio	110	7.2
Hayward (Southern)	53	6.7
Hayward (Northern)	35	6.4
Rogers Creek	62	7.0
Healdsburg-Rogers Creek	57	7.1
Southern Maacama	41	6.9
Calaveras (Northern)	45	6.8
Calaveras (Central)	59	6.2
Calaveras (Southern)	19	5.8
Calaveras (Northern) Amador Valley Segment	15	6.5
Calaveras (Northern) San Ramon Segment	13	6.4
Concord-Green Valley	53	7.1
Concord	17	6.2
Hunting Creek-Berryessa	60	7.2
Greenville	51	6.6
Ortigalita	66	7.2
West Napa	30	6.5
Monte Vista-Shannon thrust	45	6.7
Collayomi	29	6.5
Point Reyes	47	7.0
Zayante	58	7.0

SHALLOW GROUNDWATER

Shallow groundwater at the site may impact construction by requiring dewatering during installation of underground utilities. Additionally, the bottom of excavations may be soft and wet, and will require stabilization of the bottoms of excavations prior to placement of engineered fill. Soft and wet excavation bottoms can be mitigated with the use of geotextiles and imported aggregate, which should be specified by the geotechnical engineer for each specific condition. Since the elevations of the site will be raised by the placement of approximately 3 to 4 feet of fill, long term impacts from the shallow groundwater are not expected. A vapor retarder will be placed under structural concrete floor slabs to minimize moisture vapor transmission through the structural concrete floor slab.

EXPANSIVE SOILS

Shallow, native soils were found to have Plasticity Indices (PI) between 2 and 24, which are indicative of soils that range from low expansion potential to high expansion potential. Site elevations will be raised approximately 3 to 4 feet with select import fill with low expansion potential. Additional shallow soil samples should be obtained and tested for expansion potential before import material is brought to the site and after grading is completed.

SOIL CORROSIVITY

A sample of soil was found to be corrosive to steel and concrete in contact with the ground. The California Building Code provides guidelines protecting concrete and reinforcing bars when structures are in contact with the ground. Concrete mix designs and epoxy coated reinforcing steel can mitigate for corrosive soils. Concrete mix designs can also mitigate for high sulfate soils by specifying the type of cement to be utilized in the concrete, the minimum unconfined compressive strength, and the water to cementitious material ratio. Buried utility lines can be protected from the corrosive soils by utilizing plastic pipes, or providing a protective coating and/or cathodic protection for steel pipes. Additional soil samples will need to be obtained for corrosion testing after the site grades have been raised with import soil.

REFERENCES

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Graymer, R. W., Moring, B. C., Saucedo, G. J., Wentworth, C. M. M., Brabb, E. E. and Knudsen, K. L., 2006, Geologic Map of the San Francisco Bay Region: U. S. Geological Survey Scientific Investigations Map 2918.

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We trust this provides the necessary information at this time. If you have any questions, please contact the undersigned at (925) 484-0220.

Respectfully Submitted,

BERLOGAR STEVENS & ASSOCIATES

William R. Stevens
Principal Engineer
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CP/WRS/FB:jmo

Attachments: Plate 1 Area Geologic Map
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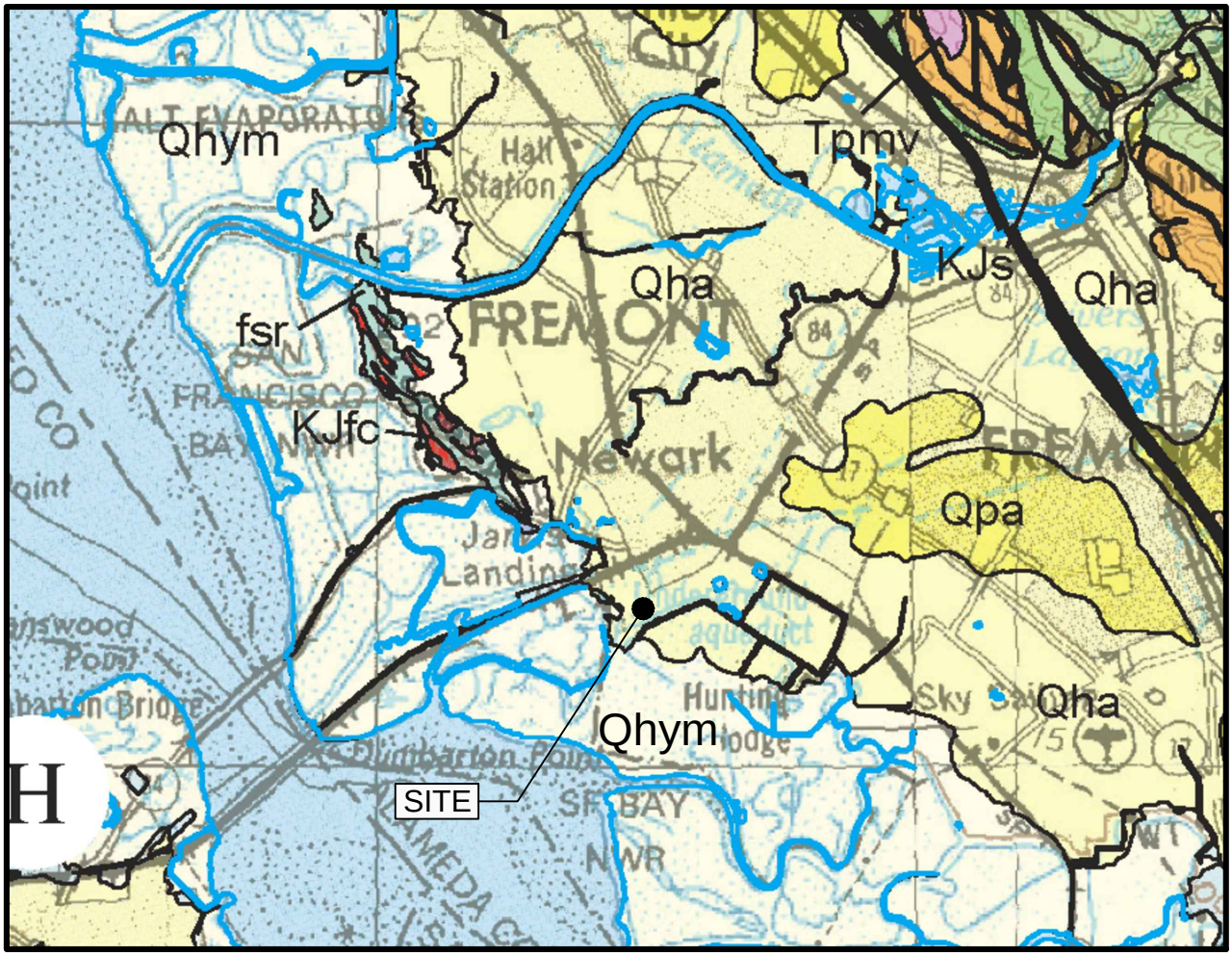

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1"= 10,000 FEET

EXPLANATION

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Qha	LATE HOLOCENE ALLUVIUM
Qpa	PLEISTOCENE ALLUVIUM
KJfc	EARLY CRETACEOUS AND/OR LATE JURRASIC FRANCISCAN COMPLEX CHERT

AREA GEOLOGIC MAP

GATEWAY STATION WEST

ENTERPRISE DRIVE AND HICKORY STREET

NEWARK, CALIFORNIA

FOR

DUMBARTON AREA 2, LLC

BASE: PORTION OF GEOLOGIC MAP OF THE SAN FRANCISCO BAY REGION:
U.S. GEOLOGICAL SURVEY, SCIENTIFIC INVESTIGATIONS MAP 2918

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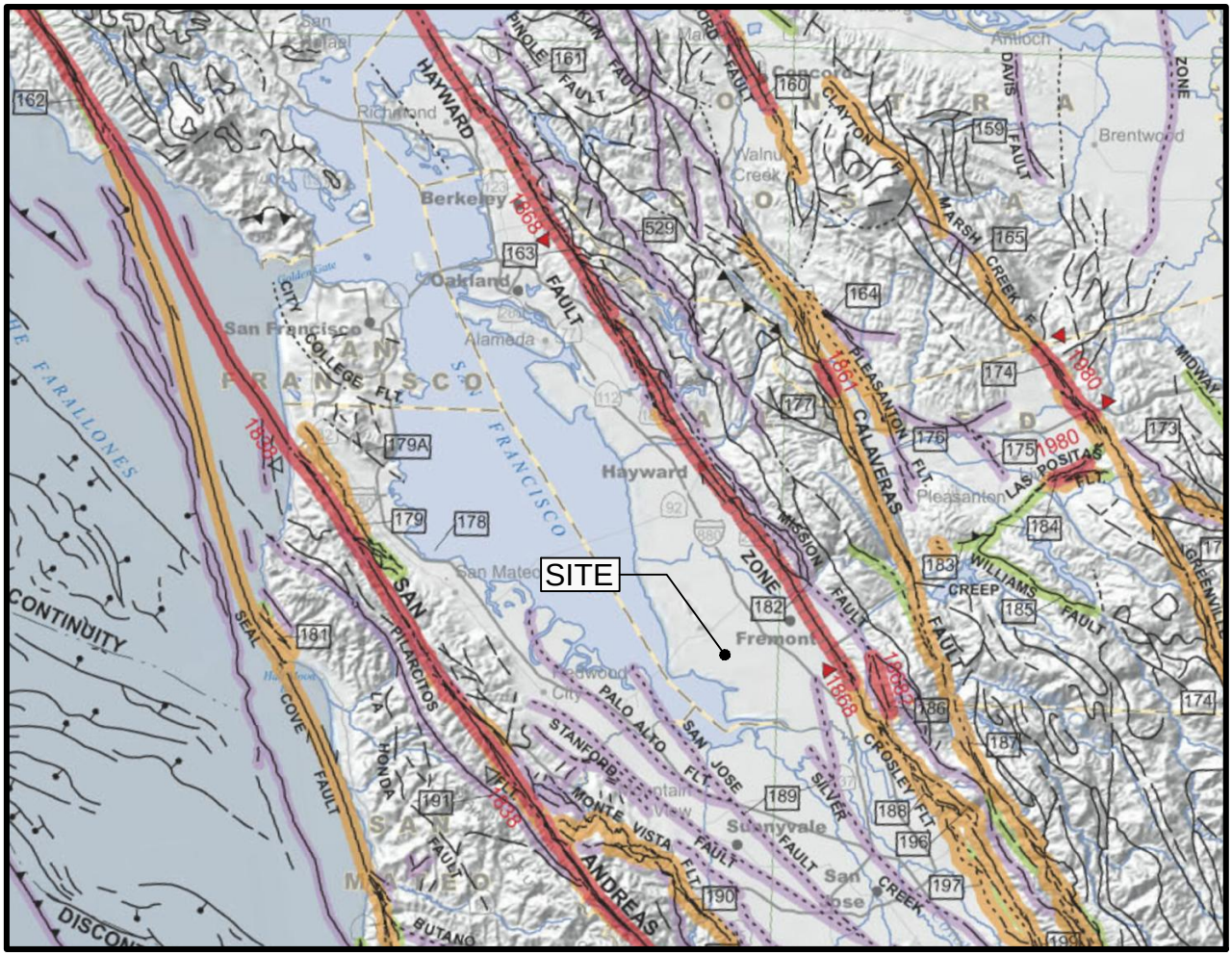

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1"= 10 MILES

EXPLANATION

Fault along which historic (last 200 years) displacement has occurred.

Holocene fault displacement (during past 11,700 years) without historic record.

Late Quaternary fault displacement (during past 700,000 years).

REGIONAL FAULT MAP

GATEWAY STATION WEST

ENTERPRISE DRIVE AND HICKORY STREET

NEWARK, CALIFORNIA

FOR

DUMBARTON AREA 2, LLC

BASE: PORTION OF 2010 FAULT ACTIVITY MAP, PREPARED BY JENNINGS, C.W. AND BRYANT, W.A., STATE OF CALIFORNIA, CALIFORNIA GEOLOGICAL SURVEY

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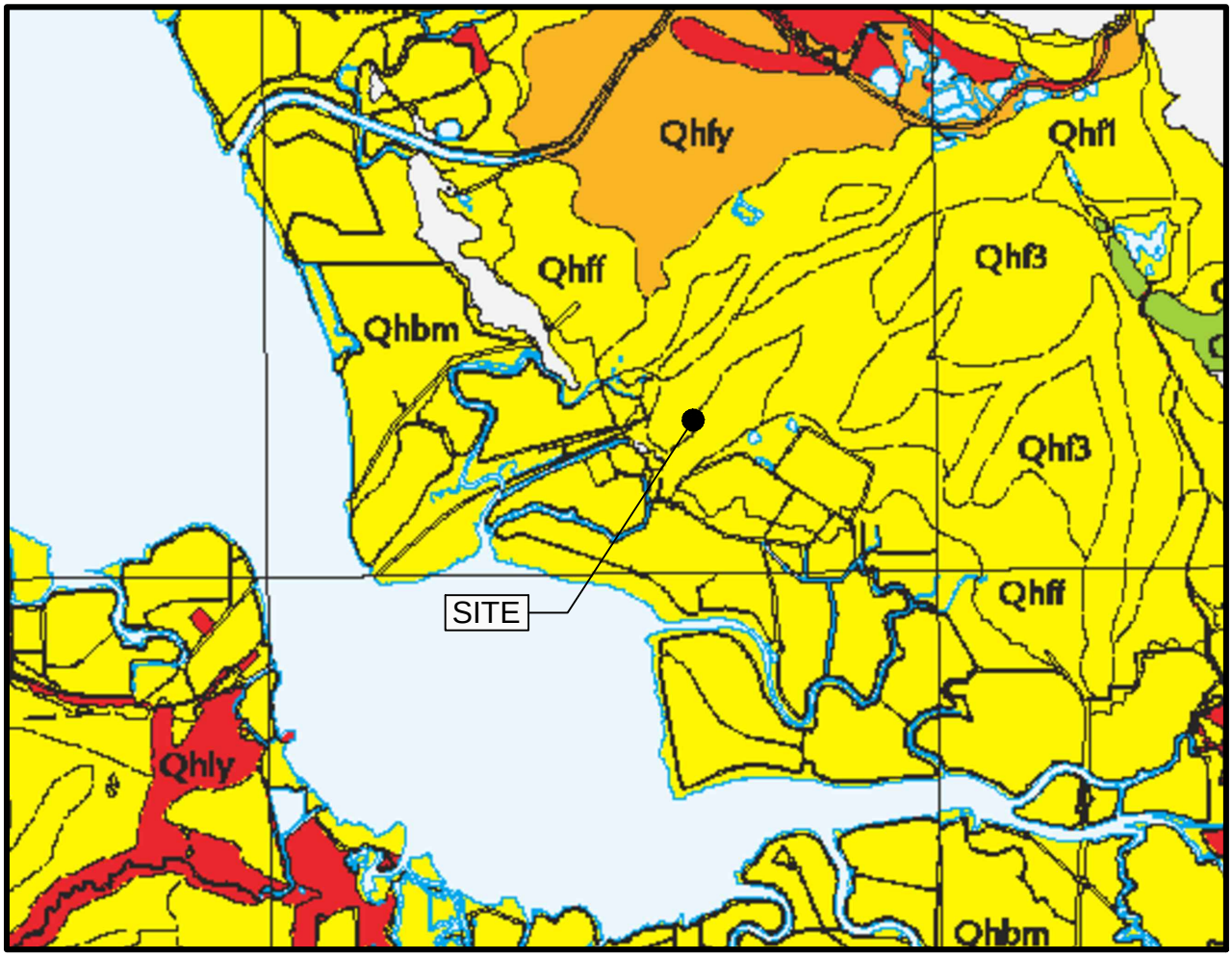

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1"= 10,000 FEET

	GEOLOGIC UNITS		LIQUEFACTION SUSCEPTIBILTY
Qhbm	HOLOCENE BAY MUD		VERY HIGH
Qhf	HOLOCENE ALLUVIAL FAN DEPOSITS		HIGH
Qhff	HOLOCENE ALLUVIAL FAN DEPOSITS, FINE GRAINED FACIES		MODERATE

LIQUEFACTION SUSCEPTIBILITY MAP

GATEWAY STATION WEST

ENTERPRISE DRIVE AND HICKORY STREET

NEWARK, CALIFORNIA

FOR

DUMBARTON AREA 2, LLC

BASE: PORTION OF MAPS OF QUATERNARY DEPOSITS AND LIQUIFICATION SUSCEPTIBILITY IN THE CENTRAL SAN FRANCISCO BAY REGION, CALIFORNIA: U. S. GEOLOGICAL SURVEY, PREPARED BY: WITTER, R. C. ET AL, 2006, OPEN-FILE REPORT 06-1037, SHEET 2 OF 2.

Appendix H

ASTM PHASE I AND PHASE II ENVIRONMENTAL SITE ASSESSMENTS

REPORT ON
ASTM PHASE I ENVIRONMENTAL SITE ASSESSMENT
CARGILL PROPERTY – 54.53-ACRE PARCEL
SOUTHWEST OF HICKORY STREET AND
ENTERPRISE DRIVE
NEWARK, CALIFORNIA

by

Haley & Aldrich, Inc.
Walnut Creek, California

for

Dumbarton Area 2, LLC
Newport Beach, CA

File No. 40451-000
January 2014

HALEY & ALDRICH

Haley & Aldrich, Inc.
2033 N. Main Street
Suite 309
Walnut Creek, CA 94596

Tel: 925.949.1012
Fax: 925.979.1456
HaleyAldrich.com

9 January 2014
File No. 40451-000

Dumbarton Area 2, LLC
3 San Joaquin Plaza, Suite 100
Newport Beach, California 92660

Attention: Mr. Glenn Brown

Subject: ASTM Phase I Environmental Site Assessment
Cargill Property – 54.53-Acre Parcel
Southwest of Hickory Street and Enterprise Drive
Newark, California

Dear Mr. Brown:

The enclosed report presents the results of a Phase I Environmental Site Assessment (Phase I ESA) conducted at the above-referenced property, located on approximately 54.53 acres southwest of the intersection of Hickory Street and Enterprise Drive in Newark, California (herein referred to as the "subject site"). This work was performed by Haley & Aldrich, Inc. (Haley & Aldrich), in accordance with our proposal to Dumbarton Area 2, LLC (DA2) dated 25 September 2013 ("Agreement") as authorized by DA2 on 27 September 2013. As indicated in our proposal, this Phase I ESA was conducted using practices consistent with the American Society of Testing and Materials (ASTM) E 1527-05 Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process (ASTM E 1527-05 Standard) as referenced in 40 Code of Federal Regulations (CFR) Part 312 (the All Appropriate Inquiries [AAI] Rule).

The objective of a Phase I ESA is to assess whether known or suspect "recognized environmental conditions" (RECs), historical RECs (HRECs), and *de minimis* conditions are associated with the subject site, as defined in the ASTM E 1527-05 Standard, by evaluating site history, existing observable conditions, current site use, and current and former uses of adjoining properties as well as potential releases at surrounding properties that may impact the subject site.

Our conclusions regarding the presence and potential impact of RECs on the subject site are intended to help the user evaluate the "business environmental risk" associated with the subject site, as defined in the ASTM E 1527-05 Standard and discussed in Section 1.1 of this report.

Thank you for the opportunity to perform these services for you. Please do not hesitate to contact us if you have any questions or comments.

Sincerely yours,
HALEY & ALDRICH, INC.

David Schlotterbeck, REA
Senior Environmental Scientist

James Schwartz, PG
Client Leader

Enclosures

REPORT ON
ASTM PHASE I ENVIRONMENTAL SITE ASSESSMENT
CARGILL PROPERTY – 54.53-ACRE PARCEL
SOUTHWEST OF HICKORY STREET AND ENTERPRISE DRIVE
NEWARK, CALIFORNIA

By

Haley & Aldrich, Inc.
Walnut Creek, California

The undersigned declare the following:

We declare that, to the best of my professional knowledge and belief, we meet the definition of Environmental Professional as defined in 40 CFR Part 312, §312.10.

We have the specific qualifications based on education, training, and experience to assess the nature, history, and setting of the subject site and "develop opinions and conclusions regarding conditions indicative of releases or threatened releases." We have developed and performed "all appropriate inquiries" (AAI) in conformance with the standards and practices set forth in 40 CFR Part 312.

David Schlotterbeck, REA
Senior Environmental Scientist

James Schwartz, PG
Client Leader

for

Dumbarton Area 2, LLC
Newport Beach, California

File No. 40451-000

HALEY & ALDRICH

EXECUTIVE SUMMARY

Haley & Aldrich, Inc. (Haley & Aldrich) has performed a Phase I Environmental Site Assessment (Phase I ESA) of the Cargill Property, an approximately 54.53-acre parcel located southwest of Hickory Street and Enterprise Drive in Newark, California (herein referred to as the "subject site") (Figure 1). The subject site consists of three parcels of land identified by the Alameda County Assessor's office as assessor parcel numbers (APN) 537-852-9, 537-852-10 and 537-852-11 and described as "salt ponds."

The objective of a Phase I ESA is to identify known and suspect recognized environmental conditions (RECs), historical RECs (HRECs), and *de minimis* conditions associated with the subject site, as defined in the American Society of Testing and Materials (ASTM) E 1527-05 Standard and in Section 1.1 of this report.

According to the City of Newark Planning Division, the subject site is currently zoned as "MT-1" for High Technology Park. The area in the vicinity of the subject site is generally characterized as vacant, previously developed industrial properties and is bordered to the north by the former FMC facility, to the east by the former Ashland Chemical Company and Torian facility, to the south by the Plummer Creek Wetlands Area and to the west by Cargill Bittern Ponds. The Ashland and Torian properties are both vacant aside from the remnants of former building foundations and the former FMC property has several structures remaining on the property.

Current uses of the subject site include the following: 1) The northwestern portion of the subject site is undeveloped and used as a storage area by R.J. Gordon Construction (access is provided by Cargill under a License Agreement) to store construction equipment and materials. 2) The northeastern portion of the subject site is undeveloped with four groundwater monitoring wells (W-25, B-26, B-27 and B-28). These groundwater monitoring wells are part of a groundwater monitoring network that originally consisted of 30 monitoring wells and are used to assess the impacts to groundwater offsite and hydrologically downgradient of the Ashland Chemical Company's property. Access to these groundwater monitoring wells is secured through an Access Agreement pursuant to the Regional Water Quality Control Board (RWQCB)'s Site Cleanup Requirements (SCR) Order No. 89-109, which allows Ashland Chemical Company access to the subject site for the purposes of collecting groundwater samples from the four groundwater monitoring wells. Currently, only groundwater monitoring wells B-26, B-27 and B-28 are required to be sampled under the revised SCR Order R2-2005-0038, which was adopted by the RWQCB on 14 September 2005. 3) Portions of the southeastern portion of the subject site are used by the Newark Police Department as a pistol firing range and the Witmer-Tyson Police Dog Training School and the Menlo Park Schutzhund Club that operate a K-9 training facility. 4) The southwestern portion of the subject site is undeveloped and is used by Cargill to access the Bittern Ponds on the adjoining properties to the west.

DATA GAPS

Due to the federal government shutdown, Haley & Aldrich has been unable to access the Pipeline Information Management Mapping Application (PIMMA) on the National Pipeline Mapping System's website (www.npms.phmsa.dot.gov). Due to information obtained through the review of previous investigations completed at the subject site, it is Haley & Aldrich's opinion that the lack of information related to the presence of gas and/or hazardous liquid transmission pipeline in the vicinity of the subject site is a non-significant data gap and does not represent a REC to the subject site. No additional data

gaps were identified during the performance of this Phase I ESA. Thus, it is our opinion that sufficient information was obtained to identify subject site conditions indicative of releases or threatened releases of hazardous substances and petroleum hydrocarbons.

Based on the results of this Phase I ESA, our findings are as follows:

KNOWN OR SUSPECT RECOGNIZED ENVIRONMENTAL CONDITIONS

The ASTM E 1527-05 Standard defines a REC as "the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, ground water, or surface water of the property." A material threat is defined by the ASTM E 1527-05 Standard as "a physically observable or obvious threat which is reasonably likely to lead to a release that, in the opinion of the environmental professional, is threatening and might result in impact to public health or the environment."

This Phase I ESA has revealed evidence of RECs in connection with the subject site.

REC #1: Former Magnesia Waste Pile

Description: A Former Magnesia Waste Pile is located on the northwestern portion of the subject site. Remediation work performed in 1991 focused on removal of waste materials classified as hazardous waste (i.e., containing contaminant concentrations that exceeded total threshold limit concentrations [TTLCs]). Additional non-hazardous waste material was removed in 1998 and 1999. During the prior remediation work, residential use of the subject site was not anticipated and it does not appear that residential use was considered when establishing site cleanup goals. However, analyses of verification soil samples collected following both removal actions generally did not detect copper, mercury or thallium (the primary contaminants) above current residential screening levels (California Human Health Screening Levels [CHHSLs], CalEPA 2005). The sampling results appear to suggest that the subject site is suitable for residential use. However, consideration should be given to obtaining regulatory agency concurrence. Additionally, some residual waste material that is generally white in color remains at the subject site, primarily on the northwestern portion of the property in the vicinity of the former Magnesia Waste Pile. The material reportedly is alkaline (high pH), which can cause irritation to human tissue. The State of California Department of Toxic Substances Control (DTSC) noted that some of the materials have a pH comparable to laundry soap.

REC #2: Impacted Groundwater

Description: Former investigations of groundwater at the subject site indicate that the regional plume of volatile organic compounds (VOCs), predominantly 1,2-dichloroethane (1,2-DCA), has encroached onto the northern portion of the subject site; these VOCs appear to be from off-site sources. Total petroleum hydrocarbons as gasoline, diesel and motor oil (TPHg, TPHd, TPHmo) and benzene also were detected in groundwater near the Former Magnesia Waste Pile location; the source of these compounds is not known. Based on the review of the Environmental Data Resources, Inc. (EDR) database report, there are multiple facilities located adjoining to and hydrologically upgradient of the subject site that are listed in environmental databases as having known releases that have impacted the groundwater. These facilities and the associated groundwater impacts have been, or are currently being investigated under the oversight of the lead regulatory agency, which in most cases is the RWQCB.

Areas overlying impacted groundwater are suitable for residential use provided vapor intrusion mitigation measures are included in development if determined to be necessary.

REC #3: Former Bittern Truck Loading Area

Description: The southwestern corner of the subject site was previously used as a bittern loading area up until late 2011 and early 2012. Historical observations of this portion of the subject site indicated spilled bittern on the gravel surface at the truck loading area. Bittern reportedly contains residual sodium chloride as well as various other salts, including magnesium sulfate, magnesium chloride, potassium chloride and magnesium bromide. It is reported by Cargill to be non-hazardous, but may result in elevated levels of salts in the soil or groundwater. Thus, bittern impacted soil may require special handling or disposal if this area is redeveloped. Additionally, oil reportedly was discharged to overflow ponds at the truck loading area. One lined overflow pond and one unlined overflow pond have historically been located on this portion of the subject site; however, evidence of the ponds and staining was not observed during the site reconnaissance completed for this Phase I ESA. It is our understanding redevelopment activities are not planned for this area, therefore this REC does not warrant any action at this time.

REC #4: Former Newark Sportsman's Club (NSC) Area

Description: During remedial activities in 2002 and 2003, identified lead and polycyclic aromatic hydrocarbons (PAH) impacted soil and clay pigeon debris exceeding the established cleanup criteria were removed from the NSC area. The cleanup goal for lead was set at the then current residential Preliminary Remediation Goal (PRG) (EPA Region 9, 2000) for lead of 400 milligrams per kilogram (mg/kg). The cleanup goal used for PAHs was a total PAH concentration of 10 mg/kg. CalEPA recently revised their screening level for lead; the revised residential CHHSL for lead is 80 mg/kg (CalEPA, 2009). The average lead level detected in verification soil samples does not exceed the current CHHSL of 80 mg/kg; however, lead concentrations in some of the individual samples are above this level. Additionally, some of the individual PAH concentrations detected in verification soil samples are above the current Environmental Screening Levels (ESLs) established by the RWQCB (2008). Due to the limited nature of identified impacts, this REC does not pose a significant concern with respect to residential redevelopment of the subject site.

REC #5: Pistol Range

Description: The City of Newark Police Department has used a portion of the subject site since 1975 as a pistol firing range. Lead and copper were detected in soil from the pistol range area at up to 11,000 mg/kg and 270 mg/kg, respectively. The lead concentrations exceed both the residential CHHSL (80 mg/kg) and the TTLC (1,000 mg/kg). Waste material with concentrations above the TTLC is classified as a hazardous waste. Due to the limited nature of identified impacts, this REC does not pose a significant concern with respect to residential redevelopment of the subject site.

REC #6: Naturally Occurring Asbestos (NOA)

Description: Serpentinite that contains NOA was identified within the southern area of exposed bedrock (near the pistol range). Analyses of samples collected from the southern hill area detected NOA at concentrations ranging from 0.25 to 6.25 percent. This REC does not pose a significant concern with respect to residential redevelopment of the subject site provided mitigation measures to prevent the release of asbestos fibers from this material are implemented during site development activities.

REC #7: E-1 Drainage Ditch

Description: The E-1 Ditch bisects the subject site from the north-central property line to the southwestern corner of the subject site. As described in section 3.1.1, historically, the E-1 Ditch began on adjacent FMC and was used by FMC for various discharges. Although current water quality in the E-1 Ditch is not likely to be impacted by historic discharges, sediment within the E-1 Ditch could contain residual contaminants. Due to the limited nature of potential impacts along the ditch alignment, this REC does not pose a significant concern with respect to residential redevelopment of the subject site.

REC #8: Evaporation Ponds and Detention Basin

Description: During the late 1930s through at least the 1960s, portions of the northwestern subject site, west of the E-1 Ditch appear to have been used as salt evaporation ponds. Additionally, what appears to be a detention basin is apparent on aerial photographs from the late 1930s through at least the late 1950s. This potential detention basin was located where the E-1 Ditch intersects with adjacent FMC property along the northern property line. Due to the limited nature of potential impacts in this area, this REC does not pose a significant concern with respect to residential redevelopment of the subject site.

REC #9: Historical Industrial Use

Description: Based on the long industrial history of the subject site, previously unidentified buried structures, debris or impacted soil may be encountered during site development activities; these materials may require special handling and disposal. To limit construction delays, consideration should be given to developing a Site Management Plan (SMP) to establish management practices for handling these materials/structures if encountered.

HISTORICAL RECs

The ASTM E 1527-05 Standard defines an HREC as an environmental condition "which in the past would have been considered a recognized environmental condition, but which may or may not be considered a recognized environmental condition currently."

This Phase I ESA has revealed no evidence of HRECs in connection with the subject site.

***DE MINIMIS* CONDITIONS**

The ASTM E 1527-05 Standard defines *de minimis* conditions as those conditions which "do not present a threat to human health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies." The ASTM E 1527-05 Standard notes that "conditions determined to be *de minimis* are not recognized environmental conditions."

This Phase I ESA has revealed evidence of a *de minimis* condition related to stained soil observed on the northwestern portion of the subject site in an area used by R.J. Gordon Construction to store construction equipment and materials. The stained soil appears to be the result of leaking motor oil or

hydraulic fluid from construction equipment. Due to the heavy nature of motor oil and hydraulic fluid, the impact to the soil caused by this release is likely surficial and is considered a *de minimis* condition.

CONCLUSIONS

In conclusion, although this site has nine RECs, due to the limited environmental risks associated with the known or potential impacts, these RECs do not pose a significant concern with respect to residential redevelopment of the subject site.

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1. INTRODUCTION

The enclosed report presents the results of a Phase I Environmental Site Assessment (Phase I ESA) conducted at the above-referenced property, located southwest of the intersection of Hickory Street and Enterprise Drive in Newark, California (herein referred to as the "subject site") (Figure 1). The subject site consists of approximately 54.53-acres of land bordered to the north by the former FMC facility, to the east by the former Ashland Chemical Company and Torian facility, to the south by the Plummer Creek Wetlands Area and to the west by Cargill Bittern Ponds, as shown on Figure 2.

This work was performed by Haley & Aldrich, Inc. (Haley & Aldrich), in accordance with our proposal to Dumbarton Area 2, LLC (DA2) dated 25 September 2013 ("Agreement") as authorized by DA2 on 27 September 2013 (Appendix A). As indicated in our proposal, this Phase I ESA was conducted using practices consistent with the American Society for Testing and Materials (ASTM) E 1527-05 Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process (ASTM E 1527-05 Standard) as referenced in 40 Code of Federal Regulations (CFR) Part 312 (the All Appropriate Inquiries [AAI] Rule).

1.1 Objective

The objective of a Phase I ESA is to assess whether known or suspect "recognized environmental conditions" (RECs), historical RECs (HRECs), and *de minimis* conditions are associated with the subject site, as defined in the ASTM E 1527-05 Standard, by evaluating site history, existing observable conditions, current site use, and current and former uses of adjoining properties as well as potential releases at surrounding properties that may impact the subject site. RECs are defined in the ASTM E 1527-05 Standard as "the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater, or surface water at the property. The term includes hazardous substances or petroleum products even under conditions in compliance with laws. The term is not intended to include *de minimis* conditions that generally do not present a threat to human health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies." A material threat is defined by the ASTM E 1527-05 Standard as "a physically observable or obvious threat which is reasonably likely to lead to a release that, in the opinion of the environmental professional, is threatening and might result in impact to public health or the environment."

Consistent with ASTM E 1527-05 Section 12.5 (Report Format), and for the purposes of this assessment, those RECs that have been identified as being present with respect to the subject site are referred to as Known Recognized Environmental Conditions (KRECs), and those RECs that have been identified as being likely present with respect to the subject site are referred to as Suspect Recognized Environmental Conditions (SRECs). The ASTM E 1527-05 Standard defines HRECs as environmental conditions "which in the past would have been considered a recognized environmental condition, but which may or may not be considered a recognized environmental condition currently."

Our conclusions are intended to help the user evaluate the "business environmental risk" associated with the subject site, defined in the ASTM E 1527-05 Standard as "a risk which can have a material environmental or environmentally-driven impact on the business associated with the current or planned use of a parcel of commercial real estate, not necessarily limited to those environmental issues required

to be investigated in this practice. Consideration of business environmental risk issues may involve addressing one or more non-scope considerations…"

The completion of this Phase I ESA is only one component of the process required to satisfy the AAI Rule. In addition, the user must adhere to a set of user responsibilities as defined by the ASTM E 1527-05 Standard and the AAI Rule. User responsibilities are discussed in Section 5.3 of this report. A user seeking protection from Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) liability as an innocent landowner, bona fide prospective purchaser, or contiguous property owner must complete all components of the AAI process in addition to meeting ongoing obligations. AAI components, CERCLA liability relief, and ongoing obligations are discussed in the AAI Rule and in Appendix XI of the ASTM E 1527-05 Standard.

1.2 Site Identification

The subject site is located in Alameda County and consists of three parcels of land totaling 54.53 acres. These parcels are identified by the Alameda County Assessor's office as assessor parcel number (APN) 537-852-9, 537-852-10 and 537-852-11. The Alameda County Assessor's office describes these parcels as "salt ponds."

1.3 Scope of Services

Haley & Aldrich performed the following scope of services to complete this Phase I ESA. These services were performed either by, or under the direct supervision of, an environmental professional as defined by the AAI Rule.

1. Conducted visual observations of site conditions, and of abutting property use, to evaluate the nature and type of activities that have been or are being conducted at and adjoining to the subject site, in terms of the potential for release or threat of release of hazardous substances or petroleum products.

2. Reviewed federal, state, tribal, and local environmental database information within the ASTM-specified distance from the subject site using a database service to access records. Used 7.5-minute topographic maps to evaluate the subject site's physical setting.

3. Reviewed state environmental files pertaining to the subject site and nearby sites with the potential to impact the subject site.

4. Reviewed previous reports prepared for the subject site.

5. Reviewed the following sources of historical use information: aerial photographs, topographic maps, and existing environmental documents.

6. Contacted state and local agencies regarding the subject site and surrounding properties and structures.

7. Interviewed the Key Site Manager.

8. Interpreted the information and data assembled as a result of the above work tasks, and formulated conclusions regarding the potential presence and impact of RECs, including HRECs.

1.4 Non-Scope Considerations

The ASTM E 1527-05 Standard includes the following list of "additional issues" that are non scope considerations outside of the scope of the ASTM Phase I ESA practice: asbestos-containing materials, radon, lead-based paint, lead in drinking water, wetlands, regulatory compliance, cultural and historic resources, industrial hygiene, health and safety, ecological resources, endangered species, indoor air quality, bio-agents, and mold. These items were not included in this Phase I ESA of the subject site.

A limited assessment of the presence of polychlorinated biphenyls (PCBs) is included in the ASTM work scope. Accordingly, our assessment of the presence of PCBs is limited to those potential sources specified in the ASTM E 1527-05 Standard as "electrical or hydraulic equipment known or likely to contain PCBs...to the extent visually and or physically observed or identified from the interview or records review."

1.5 Exceptions and Deviations

1.5.1 Deviations

Haley & Aldrich completed this Phase I ESA in substantial conformance with the ASTM E 1527-05 Standard. In our opinion, no additions were made to or deviations and deletions made from the ASTM work scope in completing this Phase I ESA.

1.5.2 Data Gaps

No data gaps were identified during the performance of this Phase I ESA. Thus, it is our opinion that sufficient information was obtained to identify subject site conditions indicative of releases or threatened releases of hazardous substances and petroleum hydrocarbons. Our opinion is limited by the conditions prevailing at the time our work is performed and the applicable regulatory requirements in effect.

1.5.3 Limitations

Our work for this project was performed in accordance with the standards and practices set forth in 40 CFR Part 312 and is consistent with the ASTM E 1527-05 Standard for Phase I Environmental Site Assessments. Several organizations other than ASTM, such as professional associations ASFE and AGWSE, have also developed guidelines or standards for environmental site assessments. The Phase I ESA presented in this report may vary from the specific guidelines or standards required by other organizations.

This Phase I ESA was prepared pursuant to an Agreement dated 27 September 2013 between DA2 (Client) and Haley & Aldrich, which Agreement is attached hereto and is made a part of this report. All uses of this report are subject to, and deemed accepting of, the conditions and restrictions contained in the Agreement. The observations and conclusions described in this report are based solely on the Scope of Services provided pursuant to the Agreement. Haley & Aldrich has not performed any additional observations, investigations, studies, or other testing

not specified in the Agreement. Haley & Aldrich shall not be liable for the existence of any condition the discovery of which would have required the performance of services not authorized under the Agreement.

This report is prepared for the exclusive use of the Client in connection with establishing current environmental conditions at the subject site. There are no intended beneficiaries other than the Client. Haley & Aldrich shall owe no duty whatsoever to any other person or entity on account of the Agreement or the report. Use of this report by any person or entity other than the Client for any purpose whatsoever is expressly forbidden unless such other person or entity obtains written authorization from the Client and from Haley & Aldrich. Use of this report by such other person or entity without the written authorization of the Client and Haley & Aldrich shall be at such other person's or entity's sole risk, and shall be without legal exposure or liability to Haley & Aldrich.

Use of this report by any person or entity, including by the Client, for a purpose other than establishing current environmental conditions at the subject site is expressly prohibited unless such person or entity obtains written authorization from Haley & Aldrich indicating that the report is adequate for such other use. Use of this report by any person or entity for such other purpose without written authorization by Haley & Aldrich shall be at such person's or entity's sole risk and shall be without legal exposure or liability to Haley & Aldrich.

This report reflects site conditions observed and described by records available to Haley & Aldrich as of the date of report preparation. The passage of time may result in significant changes in site conditions, technology, or economic conditions, which could alter the findings and/or recommendations of the report. Accordingly, the Client and any other party to whom the report is provided recognize and agree that Haley & Aldrich shall bear no liability for deviations from observed conditions or available records after the time of report preparation.

Use of this report by any person or entity in violation of the restrictions expressed in this report shall be deemed and accepted by the user as conclusive evidence that such use and the reliance placed on this report, or any portions thereof, is unreasonable, and that the user accepts full and exclusive responsibility and liability for any losses, damages, or other liability which may result.

2. SITE DESCRIPTION

2.1 Site Ownership and Location

2.1.1 Name of Site Owner

According to the Alameda County Assessor's office, the owner of the subject site is Leslie Salt (Cargill, Inc. [Cargill]).

2.1.2 Name of Site Operator

The majority of the subject site is currently vacant. However, the owner of the subject site, Cargill, has permitted R.J. Gordon Construction access to a portion of the subject site for the sole purpose of storing equipment and materials. According to Exhibit A, provided in the License Agreement (Appendix B), the area of the subject site used by R.J Gordon Construction is located on the northwestern portion of the subject site. Additionally, the Witmer-Tyson Police Dog Training School and the Menlo Park Schutzhund Club operate a dog training facility on the southeastern corner of the subject site, and the Newark Police Department operates a pistol firing range immediately to the north of the dog training facility.

2.1.3 Project Locus Map

The United States Geologic Survey (USGS) topographic map reviewed during this Phase I ESA for the subject site is the Newark, CA Quadrangle, dated 1997 (see Figure 1). The USGS topographic map was used as a source for subject site setting and historical use information. The subject site is located in Alameda County.

2.2 Site and Vicinity Description

Figure 2 is a Site Plan of the subject site and shows relevant features of the subject site and immediately adjoining properties, as described below.

- The subject site consists of three parcels identified by the Alameda County Assessor's office as APN 537-852-9, 537-852-10 and 537-852-11. A drainage ditch, identified as the E-1 Ditch, is located on APN 537-852-9 and 537-852-11. Four groundwater monitoring wells, associated with the ongoing groundwater investigation at Ashland Chemical Company adjoining to the east of the northern portion of the subject site, are located on the northeastern portion of APN 537-852-11. The Newark Police Department Pistol Range and the Witmer-Tyson Police Dog Training School are located on the southeastern portion of APN 537-852-11, and R.J. Gordon Construction uses the northwestern portion of APN 537-852-11 to store construction equipment.

- According to the City of Newark Planning Division, the subject site is currently zoned as "MT-1" for High Technology Park.

- The area in the vicinity of the subject site is generally characterized as vacant, previously developed industrial. Surrounding properties have historically been used as industrial, manufacturing, chemical processing and salt production facilities. Industrial chemical

operations were largely phased out by the 1990s, leaving the surrounding properties mostly vacant and underutilized; however, Cargill's salt production facilities remain active.

- The subject site is bordered to the north by the former FMC Chemical Company, to the east by the former Ashland Chemical Company and Torian properties, to the south by undeveloped wetlands (Plummer Creek Wetlands Area) and to the west by Cargill Bittern Ponds.

2.3 Physical Setting

Subsurface explorations were not performed for this Phase I ESA; therefore, subject site geology and hydrology is described on the basis of readily available public information, and/or based upon our experience and understanding of subsurface conditions in the subject area.

2.3.1 Topography

Topographically, the subject site is relatively flat with the majority of the subject site situated at elevations ranging from between 8 and 12 feet above sea level. Several natural rock outcroppings and areas of previous stockpiling on the northwestern and central portions of the subject site are located at elevations ranging from approximately 15 to 45 feet above sea level.

2.3.2 Geology

The subject site is located within the Alameda Creek Niles Cone Groundwater Basin, which is defined by the Department of Water Resources as a sub-basin of the larger Santa Clara Valley. Bedrock and unconsolidated sediments in the San Francisco Bay region are from Jurassic to Recent in age. The subject property lies in the Niles subarea of the Fremont Ground Water Area (California Department of Water Resources, 1975). The subject property also lies within the physiographic province known as the Niles Cone, which is an alluvial fan formed by Alameda Creek. The Niles subarea consists of a series of flat-lying gravel aquifers separated by extensive clay aquicludes. The gravel portion of the alluvium is thickest in the eastern portion of the Niles subarea and gradually thins out to the west. The subject property is likely underlain by unconsolidated sand, silt, and clay deposits, which in turn is underlain at depth by a sequence of alluvial sand, gravel, silt, and clay deposits as in most areas of the City of Newark. In addition, serpentinite outcrops have been identified on the southeastern portion of the subject site (see Section 3.1.4).

2.3.3 Hydrology

Based on the review of a semi-annual groundwater report prepared for the former Ashland Chemical Company on the adjoining property to the east, the Shallow Zone groundwater is first encountered at depths of approximately 3 to 12 feet bgs. The depth to water varies seasonally and quarterly monitoring records show that the lowest water levels are consistently recorded in early fall (October). The general Shallow Zone groundwater flow direction is toward the south and historically was influenced by the operation of an on-site groundwater pump and treat system. The local Shallow Zone hydraulic gradient is somewhat flat and is currently influenced by groundwater extraction systems operating on nearby properties. Groundwater flow in the Newark Aquifer varies from south to southwest, and is subject to groundwater extraction activities conducted on the FMC Corporation property located to the north (EHS, 2013). Four of the groundwater monitoring wells used in the investigation at the adjoining former Ashland

Chemical Company are located on the subject site. On 22 April 2013, the depth to first groundwater was recorded at these wells (W-25, B-26, B-27 and B-28) located on the northeastern portion of the subject site. The results indicated that depth to groundwater on the northeastern portion of the subject site ranged from 4.34 feet (B-28) and 5.97 feet (B-27) below the top of the well casing. The groundwater gradient for this monitoring event was determined to be towards the west-southwest (EHS, 2013).

According to the Environmental Data Resource (EDR) Database Report, the majority of the subject site is located within a 100-year flood zone. Additionally, EDR reports that there are no Public Water Supply Wells located within 1 mile of the subject site.

3. PREVIOUS REPORTS

3.1 Subject Site

Haley & Aldrich has reviewed existing environmental documents that have been prepared for the subject site. Because of the extensive history, a large volume of environmental documents pertaining to the subject site have been generated over the past 20 to 30 years. A detailed review of each document was not feasible within the time and budget constraints of this Phase I ESA. A portion of the existing documents, but not all, were obtained and reviewed during this study. Additionally, our review focused on reports that contained summaries of previous investigations and includes summaries provided in a recent Phase I ESA prepared by TRC and dated 30 August 2011. Copies of the documents reviewed for this Phase I ESA have been proved in a CD included as Appendix B.

The documents reviewed are related to investigations that have been completed for the Magnesia Waste Pile Area (northwestern portion of the subject site), E-1 Ditch (bisects the subject site from the north-central property line to the southwestern corner of the subject site), former Bittern Truck Loading Overflow Ponds (southwestern corner of the subject site); and the former Newark Sportsman's Club (NSC), naturally occurring asbestos and the City of Newark Police Department Pistol Range (southeastern portion of the subject site). Summaries of these investigations are provided below.

3.1.1 Magnesia Waste Pile Area

Site History (Magnesia Waste Pile Area)

The subject property was purchased from August and Agnes Schilling by the Arden Salt Company in 1926 (DHS, 1988). The Arden Salt Company leased the Site to Westvaco Chemicals in 1929. Leslie Salt Company merged with Arden Salt Company in 1936 and was subsequently acquired in 1979 by Cargill (the current owner of the subject site). FMC Corporation acquired Westvaco Chemicals in 1950 and the lease was extended in FMC Corporation's name until 1968 when the lease was terminated.

The primary industrial activities of Westvaco and FMC (located adjacent to the north of the subject site) included the production of magnesia oxide ("magnesia"), phosphoric acid, ethylene dibromide (EDB), gypsum, and various catalysts (HCI, 1990). Magnesia is used as a fluxing agent, as a feedstock for the chemical industry and other industrial uses. Gypsum is used primarily as the basis for plaster, and as an additive in fertilizer. Phosphoric acid is a common feedstock used by the fertilizer and chemical industries, while EDB is used as a soil fumigant, and is also a minor component of petroleum-based fuels (used as an octane enhancer). Manufacture of these materials used bittern from the adjacent salt-production operations as a primary raw material. Bittern is the concentrated brine which remains after salt has been removed from sea water concentrated in evaporation ponds.

Over the years, the subject site was used by Westvaco and subsequently FMC to discard waste products. Most materials discarded on the subject property reportedly were non-hazardous (HCI, 1990) as defined by Title 22 of the California Code of Regulations. The wastes consisted primarily of bulk quantities of off-grade or residual products resulting from manufacturing activities at the adjacent FMC facilities, and included magnesia (MgO) , gypsum ($CaSO_4$), dolomite ($CaMg(CO_3)_2$), lime (CaO) and limestone ($CaCO_3$). Other reported waste products

included four to eight drums of phosphorus-containing sludge, copper catalyst pellets used in synthetic rubber production, scrap lumber, kiln brick, general trash, and old concrete machinery foundations. The waste pile reportedly was 40 to 50 feet high, 300 to 400 feet wide at its base, and approximately 1,200 feet in length. The waste pile was located primarily to the west of the currently present on-site drainage ditch (E-1 Ditch) that extends to the south from the northerly adjacent FMC property.

In 1982, Parson's Ag Materials began excavating and removing dolomite for agricultural uses. Parson's removed approximately 5,000 tons of material per year over a period of several years (HCI, 1990).

Environmental Studies

During the 1980s, several studies of the subject site were conducted by the California Department of Health Services (DHS), EMCON Associates, Environmental Solutions, Inc. and S.S. Papadopulos and Associates. Based on these studies, the DHS issued a Remedial Action Order (RAO) to FMC and Leslie Salt dated July 19, 1988. The RAO required the preparation of a Remedial Investigation (RI) to further evaluate soil, groundwater, surface water and air in the vicinity of the magnesia waste pile and a Feasibility Study (FS) to assess various remedial alternatives.

The results of the RI demonstrated that the contaminants of primary concern within the pile were copper and mercury (HCI, 1990). Copper and mercury were considered to be hazardous because the concentrations of these chemicals in the magnesia exceed their respective Total Threshold Limit Concentrations (TTLCs) as defined by Title 22. Ethylene dibromide (EDB) was detected at concentrations of less than 0.020 milligrams per kilogram (mg/kg) in five samples out of 35 samples collected during the RI. Cyanide was also detected in the waste pile materials. The maximum concentration found was 11 mg/kg, detected in one sample. Cyanide was not detected in the majority of the soil/waste samples.

Analyses of samples taken in 1981 show several samples with a pH between 12.0 and 12.4 (DHS, 1988). Per Title 22 of the California Code of Regulations, an aqueous solution with pH greater than 12.5 is considered to be a hazardous substance. Although the detected pH levels are below the hazardous criteria, the RAO notes that they are close enough to 12.5 to be of concern.

Samples collected from trenches during the RI were screened in the field using an organic vapor meter; measurements reportedly varied between 0 and 140 parts per million (ppm). Based on the screening results, nine samples were selected for laboratory analysis to test for the possible presence of organic compounds. The samples were analyzed for volatile and semi-volatile organic compounds (VOCs and SVOCs), for pesticides, and for polychlorinated biphenyls (PCBs). Eleven semi-volatile organic compounds and 10 volatile organic compounds were detected. The results are reported in Table 8 of the HCI Remedial Action Plan (1990). HCI indicated that the detected concentrations were low (generally less than 1 ppm) and it was therefore concluded that VOCs and SVOCs did not present a vapor hazard at the Magnesia Waste Pile, and would not be considered during the evaluation of remedial alternatives.

The Magnesia Waste Pile reportedly contained approximately 65,000 cubic yards (CY) of general magnesia material, 9,600 CY of general construction debris (concrete, lumber, etc.),

approximately 600 CY of copper catalyst pellets and approximately 2,500 CY of mercury-contaminated magnesia material (HCI, 1990). During RI site overview activities, DHS sampled a small waste area to the east of the pile. Magnesia/soil material in this area contained thallium at concentrations that exceeded the TTLC for thallium. The volume of soil material that contained thallium concentrations in excess of the TTLC was estimated to be 50 CY. The copper and mercury contaminated wastes were reportedly restricted to distinct areas of the waste pile, generally on the west side of the pile.

Surface Water (E-1 Ditch)

To evaluate potential impacts to surface water, water within the on-site drainage ditch (E-1 Ditch) was sampled during a rain event in 1989 (HCI, 1990). The HCI report notes that FMC had a National Pollutant Discharge Elimination System (NPDES) permit that allowed effluent to be discharged to the E-1 Ditch. A discharge rate of 60 gallons per minute was indicated. Copper was detected at the FMC out-fall at a maximum concentration of 0.036 milligrams per liter (mg/l). After the E-1 Ditch water had passed the Magnesia Waste Pile, the concentration had declined to a maximum of 0.017 mg/l. HCI indicated that these data suggest that the Magnesia Waste Pile was not contributing significant amounts of copper to E-1 Ditch. Mercury, thallium and cyanide were not detected in any of the surface-water samples. The only organic compound detected was chloroform, at maximum concentrations of 0.0024 mg/l.

To obtain additional information regarding effluent discharges to E-1 Ditch, a Remedial Investigation Report (McLaren Hart, 1999) for the adjacent FMC property was reviewed. The E-1 Ditch is described as FMC's effluent (E-1) ditch. Prior to about 1972, the E-l Ditch began on FMC property at a pit used for disposal of filter cake. The filter cake reportedly contained dicalite (diatomaceous earth) and arsenic sulfide, generated during the production of food grade phosphoric acid. The pit, along with 700 to 800 feet of ditch on FMC property, was closed by excavation and off-site disposal in 1972, and the area was backfilled with clean fill and graded. The remaining portion of the ditch was used for discharge of effluent from a pond on FMC property (E-1 pond). The pond was clay lined and was operated from the mid-1970s to 1995 as part of the FMC plant's effluent management and treatment system under a NPDES permit. Effluent from the plant reportedly consisted of cooling tower blowdown, boiler blowdown, softener regeneration brines, and stormwater runoff, which were collected in the E-1 pond and adjusted for pH prior to discharge to the E-1 Ditch. The effluent pond was taken out of service and backfilled with clean fill in mid-1996. In 1987 and 1988, effluent from a groundwater treatment system at FMC also was discharged to the E-1 Ditch.

Groundwater

To assess the effects of the waste pile on groundwater quality, down gradient wells W-2 and W-19 were sampled in 1989. These wells appear to have been located on adjacent FMC property. The groundwater samples were analyzed for halogenated VOCs, copper, mercury and thallium (HCI, 1990). No mercury or thallium were detected. Copper was detected at up to 0.21 mg/l which is below the EPA Action Level of 1.3 mg/l for drinking water. The only VOC detected was 1,2 dichloroethane (DCA) at 0.0018 mg/l. HCI (1990) noted that DCA has been found in groundwater in the course of other on-going investigations in the site area, and that there is no evidence that it is associated with the Magnesia Waste Pile.

Remedial Actions

A general site cleanup was undertaken in 1985 and included the excavation and removal of about 450 CY of copper catalyst pellets, and the removal of visible trash and debris (HCI, 1990). The copper catalyst material was disposed at the IT Corporation Class I landfill in Benicia, California, and the general trash was disposed in a municipal landfill.

Thallium was among the contaminants of concern identified by the DHS; however, only one soil sample collected by DHS contained thallium in concentrations greater than 700 mg/kg (the TTLC). The elevated thallium concentrations in soil/waste were reportedly restricted to a small area east of the main pile. As an interim remedial measure, approximately 67,000 pounds of thallium contaminated soil was removed on April 26, 1990 (ITC, 1991) and disposed at an off-site landfill. Thallium was not detected in six verification soils that were collected from the base of the excavation.

The selected remedial alternative for the main waste pile included excavation and off-site disposal of all hazardous materials (i.e., materials with contaminant concentrations exceeding their respective TTLCs [2,500 mg/kg for copper and 20 mg/kg for mercury]). Identified alternatives for management of magnesia and other materials that were considered non-hazardous included off-site recycling and leaving the material on-site.

Remediation work was performed in 1991 and documented in a Final Remediation Report (ITC, 1991). Three types of waste material were encountered at the subject site: 1) Copper pellet contaminated magnesia; 2) Naphthalene contaminated magnesia; and 3) Waste oil contaminated magnesia. Approximately 5,620 tons of hazardous waste was transported by rail car to the USPCI Grassy Mountain facility in Utah and approximately 4,095 tons were transported to the Chemical Waste Management facility in Kettleman City, California (DTSC, 1992). The naphthalene and waste oil contaminated magnesia was encountered during excavation and was not previously identified in the RI. During remedial work, material suspected of being contaminated with mercury (based on prior sampling data) was placed into interim stockpiles for further sampling. Several 8-point composite samples were collected and analyzed. Mercury was detected at up to 1.3 mg/kg. Because the detected concentrations did not exceed the TTLC for mercury (20 mg/kg divided by the number of samples forming the composite), this material was left on-site (ITC, 1991).

Verification sampling was performed at the completion of contaminated material removal from each excavation (ITC, 1991). Samples of the magnesia material were obtained from the base and the sidewalls of the excavation, and were analyzed for copper, mercury, naphthalene or waste oil, depending on the location. A sampling density of about one sample per 135 square feet of excavated area was utilized. The highest detected copper concentration was 730 mg/kg. The mean copper concentrations for each excavated area ranged from 23 mg/kg to 170 mg/kg. Mercury was detected in verification soil samples at up to 2.2 mg/kg. The mean mercury concentrations ranged from 0.196 mg/kg to 0.511 mg/kg. Naphthalene and waste oil were not detected in verification samples.

Certification of Completion

In a 28 October 1991 letter, the California Department of Toxic Substances Control (DTSC) stated that the remedial actions have addressed the concerns expressed in the Remedial Action

Plan. A certification form attached to the DTSC letter indicates that *The Department has determined that all appropriate response actions have been completed, that all acceptable engineering practices were implemented and that no further removal/remedial action is necessary*.

The letter also requested that the final report be revised to remove references to "final closure" and indicated that *the actions taken did not achieve the standards as prescribed in 40 CFR 264.258, nor did they include the requirements of 40 CFR 264, Subpart G. Therefore, the Department cannot approve the "certification of site closure" or the "final closure report."*

In a subsequent Fact Sheet (DTSC, 1992), the DTSC states that alkaline (high pH) materials are still present on-site at levels that can cause irritation to human tissue, but are not classified as hazardous waste. It is noted that some of the materials have a pH comparable to laundry soap.

Removal of Remaining Non-Hazardous Magnesia

In 1996, the Alameda County Environmental Health Department, Hazardous Materials Division reportedly required further investigation of the remaining magnesia material at the subject site (URS, 2002). Cargill and FMC subsequently proposed to excavate and remove the material and conduct post-removal sampling. Approximately 120,000 CY (as reported by URS) of magnesia material reportedly was removed in 1998 and 1999. An annual progress report (FMC, 1999) indicates that 140,000 CY were removed. The material reportedly was reused at the Waste Management Inc. Altamont and Tri-City landfills as fill for construction of new cells and operation layers. After the material was removed, soil samples were collected from 20 locations. Depending upon the location, the samples were analyzed for copper, mercury and/or thallium. Copper and mercury were detected at up to 160 and 0.189 mg/kg, respectively. Thallium was not detected. Analyses for pH were additionally performed (apparently by an FMC laboratory) on 15 samples collected from an area known to contain gypsum located on the west side of the former waste pile, and on five samples from an area described as a residual magnesia area located outside the southeast portion of the former waste pile; pH levels ranging from 8.3 to 10.3 were reported (URS, 2002).

In a 15 July 2002 letter, the City of Newark Fire Department indicated that they reviewed the post-removal sampling data and that all closure activities for the magnesia pile have been completed as required.

3.1.2 Former Newark Sportsman's Club

Site History (Newark Sportsman's Club Area)

Between 1969 and 1995, the NSC leased approximately 18-acres of land on the southeastern portion of the subject site and used it as a recreational outdoor shooting range (Treadwell & Rollo, 2002). This use resulted in surficial and shallow soil deposition of lead shot, residual total lead, and clay pigeon debris containing elevated levels of polycyclic aromatic hydrocarbons (PAHs). In a 1994 cleanup order, the Regional Water Quality Control Board (RWQCB) noted that shooting ranges have existed at the subject site since before World War II.

The Witmer-Tyson Police Dog Training School and the Menlo Park Schutzhund Club (both dog training operations) currently use former NSC site area. Treadwell & Rollo (2002) also noted that approximately ½ to 1 foot of soil was imported from an adjacent area to the south and used to form a pad at the dog training facility; details regarding the soil source area were not provided.

Soil Quality Evaluation and Remediation Activities

The lateral and vertical distribution of lead and PAHs was established through several field investigations, involving the collection and analysis of 159 soil samples from 93 locations (Treadwell & Rollo, 2002). Lead concentrations reportedly decrease rapidly with depth, with very little contamination deeper than 0.5 foot below ground surface (bgs). PAHs reportedly were detected only in soil samples collected from clay pigeon debris stockpiles, and in one soil sample collected adjacent to a debris stockpile.

A Remedial Action Workplan (RAW) and associated cleanup criteria were approved by the RWQCB in letter dated 14 January 2002. The RAW selected cleanup criteria for total residual lead of 400 mg/kg, a lead shot count of 10 shot per square foot, and a total PAH concentration of 10 mg/kg.

During site characterization work, a sampling grid was established covering the former NSC shooting area. Of the 90 grid sampling locations, 23 grid areas had sample results exceeding the total lead cleanup criteria, and 9 additional areas had visible lead shot likely exceeding the visual cleanup criteria. Additionally, the four clay pigeon debris stockpiles exceeded the cleanup criteria for PAHs (Treadwell & Rollo, 2002).

Between July and October 2002, the identified lead and PAH impacted soil and debris exceeding the cleanup criteria were removed from the site and sent to appropriate landfills (Treadwell & Rollo, 2002). A total of 5,910 tons were removed. Confirmation samples were collected in the excavation areas and below former stockpile locations. Laboratory analyses of the confirmation samples showed that lead and PAH concentrations were below the cleanup criteria. Lead reportedly was detected at concentrations ranging from 6.6 to 270 mg/kg, with an average lead concentration of 67 mg/kg; twenty-six 4-point composite verification samples were analyzed for lead. Total PAHs were not detected above the cleanup goal of 10 mg/kg; five 4-point composite verification samples were analyzed for PAHs.

Additional Remedial Activities

Based on an a 12 December 2003 addendum letter prepared by Cargill and submitted to the RWQCB, approximately 483 tons of additional clay pigeon debris and soil were excavated in 2003 and disposed at off-site landfills. The additional material reportedly was identified during a site walk in November 2002 with the RWQCB. Analyses of final verification samples (consisting of two 3-point composites) reportedly did not detect PAHs.

Certification of Completion

In a 10 March 2004 letter, the RWQCB indicated that remedial actions at the former NSC area were completed pursuant to the RAW and that no additional remedial action is necessary.

3.1.3 Phase II Soil and Groundwater Investigation

In 2001, the subject site was being considered as a possible location of a planned Ohlone College Campus. In association with the proposed development, a Phase II Soil and Groundwater Investigation of the subject site were performed by Treadwell & Rollo (2001). The report describes work completed at the Magnesia Waste Pile and NSC site areas, which were summarized above in Section 3.1.1 and 3.1.2. Additionally, Treadwell & Rollo evaluated groundwater quality at the subject site and evaluated soil quality at an on-site pistol range; this work is summarized below.

Pistol Range Soil Quality Evaluation

The City of Newark has reportedly leased a portion of the subject property (located north of the NSC) since 1975, and continues to use the area as a pistol firing range for local police departments. The pistol range consists of an approximately 15 foot high soil berm located between two serpentenite rock outcrops. Eighteen soil samples were collected from the pistol range area and analyzed for total lead and/or copper (Treadwell & Rollo 2001). Lead was detected in soil within the berm at up to 11,000 mg/kg and up to 190 mg/kg in areas up- and down-range from the berm. Copper was detected at up to 270 mg/kg in soil from the berm and up to 44 mg/kg in other samples.

4-Parties Groundwater Plume

Treadwell & Rollo (2001) noted that several phases of soil and groundwater investigations and remediation have been completed by others at properties adjacent to the subject property. A regional groundwater contamination plume, which has affected the shallow aquifer at properties to the north and east, has been identified by the RWQCB. Four off-site facilities (Ashland Chemical [east], FMC Corporation [north], Romic Chemical [currently SHH] [east], and Jones-Hamilton [east]) have reportedly been named by the RWQCB as the responsible parties and are referred to as the "4-Parties." The shallow groundwater below these facilities, as well as below a portion of the subject property has been impacted with VOCs. The western edge of the 4-Parties plume extends below the northern portion of the subject property, where four on-site groundwater monitoring wells are present (W-25, B-26, B-27 and B-28). Based on sampling data from the on-site and nearby wells, concentrations of several VOCs (predominantly DCA and EDB) exceed drinking water maximum contaminant levels (MCLs). The results of the groundwater sampling for the four well located on the subject site, completed during the most recent semi-annual groundwater sampling event for the former Ashland Chemical Company (adjacent to the east), are summarized in Section 3.2.

Groundwater Sampling

To further evaluate on-site groundwater quality, Treadwell & Rollo (2001) collected grab groundwater samples from five additional locations across the subject site. The samples were analyzed for VOCs and total petroleum hydrocarbons as gasoline, diesel and motor oil (TPHg, TPHd and TPHmo). Groundwater at the subject site is reported to be present in two zones, shallow groundwater between depths of 2 and 20 feet, and within the deeper Newark Aquifer at depths between 50 and 70 feet.

VOCs including DCA, carbon tetrachloride and benzene were detected in the grab samples at up to 18, 6.2 and 2.4 micrograms per liter (ug/l), respectively. Treadwell & Rollo stated that the VOCs appeared likely to originate from an off-site source. TPHg, TPHd and TPHmo were detected at up to 63, 1,800 and 4,500 ug/l, respectively. The highest petroleum hydrocarbon levels were detected in a groundwater sample collected on the southwest side of the former magnesia waste pile. Treadwell & Rollo concluded that the TPH concentrations are not high enough to warrant further investigation.

3.1.4 Naturally Occurring Asbestos

In 2006 and 2007, Berlogar Geotechnical Consultants (Berlogar) performed a geotechnical study of the subject site and evaluate for the presence of naturally occurring asbestos (NOA). The reports describe the subject site as containing a partially buried ridgeline of Franciscan Assemblage bedrock trending northwest/southeast, with two exposed portions. The northwest portion (the location of the former magnesia waste pile) was determined by Berlogar to not contain NOA. Serpentinite, which can contain NOA, was identified within the southern area of exposed bedrock (near the pistol range). Analyses of samples collected from the southern hill area detected NOA at concentrations ranging from 0.25 to 6.25 percent.

3.1.5 Cargill Preliminary Environmental Evaluation

A Preliminary Environmental Evaluation (PEE) document was provided to TRC during a Phase I ESA completed for the subject site in 2011, which was described as an internal Cargill document that summarizes the environmental setting of the subject property. The PEE reportedly was prepared on behalf of Cargill by Teri Peterson of Bureau Veritas (a former Cargill Employee). The following is a brief summary of the information presented in the 27 October 2008 PEE. Much of the information presented in the PEE is consistent with that described above in Sections 3.1.1 through 3.1.4; to avoid repetition, only information not previously summarized is presented below.

At the time of the TRC investigation (2011) the uses of the subject site included 1) bittern truck loading, 2) leased area to Southern Alameda County Radio Controllers (subleased to dog training schools), 3) leased area to City of Newark for use as a pistol range, 4) a license agreement allowing contractors to store equipment on-site, and 5) stockpiling of soil by Cargill. *Note: At the time of Haley & Aldrich's site reconnaissance (8 October 2013), the bittern truck loading area consisted of a gravel area with no observed evidence of spilled bittern, aboveground storage tanks (ASTs) or lined overflow pond, as described below.*

<u>Bittern Truck Loading Overflow Ponds</u>

A bittern truck loading area on the southwest corner of the subject site is noted to be unpaved, surrounded by an earth berm, and sloped such that storm water and excess bittern drains to a lined overflow pond. Evidence of bittern spills to the dirt area is reportedly apparent. The bittern is noted to be non-hazardous, but may result in elevated levels of salts in the soil or groundwater. An empty out-of-service AST is noted to be present at the bittern truck loading area, which formerly contained sodium citrate.

The current lined overflow pond was historically not lined, and a second nearby unlined pond was historically present. In about 1987, a liner was installed within the current pond and the

other unlined pond was backfilled with soil. It is noted that the trucks used to haul bittern also may have been used to haul oil. There were reportedly several instances of trucks unloading residual oil into the overflow ponds prior to being loaded with bittern. At least once in 1987, Cargill required the trucking company to clean up free floating oil from the overflow pond. There has been no sampling in the area of the current or former overflow ponds.

Septic Tank

A septic tank is noted to be present on the north side of the dog training clubhouse.

Wetlands

An evaluation of wetlands is not within the scope of this Phase I ESA; however, the PEE notes that several wetlands assessments have been conducted for various portions of the subject property and wetlands may exist on other portions of subject property not included in the previous assessments.

Easements

Two easements reportedly exist on the subject property, one by Pacific Gas and Electric for high-tension power lines that bisect the subject site, and one by Union Sanitary District for sewer pipelines.

Storm Water Management

The subject site reportedly is covered by a State General Industrial Storm Water Discharge Permit due to residual magnesia material remaining on-site. Information from the State Water Resources Control Board website indicates that the General Industrial Permit requires the implementation of management measures that will achieve the performance standard of best available technology economically achievable (BAT) and best conventional pollutant control technology (BCT). The General Industrial Permit also requires the development of a Storm Water Pollution Prevention Plan (SWPPP) and a monitoring plan. Through the SWPPP, sources of pollutants are to be identified and the means to manage the sources to reduce storm water pollution are described. The General Industrial Permit requires that an annual report be submitted each July 1.

Cargill reportedly conducts sampling of storm water discharge from the subject site, and maintains a SWPPP and monitoring plan. From January 2002 through February 2008, the pH has reportedly averaged 8.5, total suspended solids (TSS) have averaged 137 mg/l, and specific conductance has averaged 26,830 micro-mhos per centimeter (umhos/cm). Iron has been detected at an average of 7.2 mg/l. The sampling results were compared by Cargill to EPA benchmark values. The benchmark for pH was exceeded in one sample, the benchmark for TSS was exceeded in five samples, the benchmark for iron was exceeded in four samples and the benchmark for specific conductance was exceeded in all samples. The PEE notes that elevated pH, TSS and specific conductance are consistent with small amounts of residual magnesia solids in the storm water. The benchmarks are not numeric storm water effluent limits, are not related to or necessarily protective of any specific receiving water, and exceedances of the benchmarks are not automatically considered permit violations. When sample results exceed one or more of

the benchmarks, the USEPA recommends dischargers reevaluate the effectiveness of their BMPs and develop, when appropriate, additional BMPs.

Imported Soil

Based on the PEE and discussions with Cargill representatives, soil has been imported to the subject site from multiple off-site sources. Some of the soil is subsequently used by Cargill on-site and at other Cargill properties during construction activities, such as levee maintenance. Prior to accepting soil at the subject site, Cargill requires that laboratory analyses be performed, which are reviewed by Cargill staff. Cargill provided a list of 45 properties from which soil has been imported, along with the laboratory analytical data for soil samples collected from the properties. The list included the import source property address/location and stated the current use of each property (i.e., the property use at the time the soil was exported). Based on hand written notes present on the records, the total volume of imported soil is approximately 110,000 CY; the volume imported from individual properties appears to range between 150 CY to 15,000 CY.

Based on review of this data by TRC and reported in their 2011 Phase I ESA, analyses for organochlorine pesticides, metals (17 CAM Metals), and gasoline, diesel and oil range petroleum hydrocarbons were typically performed. Many of the samples were additionally analyzed for VOCs, SVOCs, PCBs and asbestos. The number of samples analyzed from each source property was variable, but commonly ranged from one to four. Based on a cursory review of the data, the reported analyte concentrations were generally well below residential screening levels (ESLs [RWQCB 2008] and California Human Health Screening Levels (CHHSLs) [CalEPA 2005 and 2009]). One noted exception was a sample from an 8,000 CY import source (2855 Story Road, San Jose) in which oil and grease was detected at 1,400 mg/kg in one of the soil samples. The ESL for oil range hydrocarbons (RWQCB, 2008) is 370 mg/kg. Oil and grease was reported at 36.2 and 12.0 mg/kg in two other samples; no TPHg, TPHd, BTEX, organochlorine pesticides or PCBs were detected.

3.1.6 2011 TRC Phase I ESA

The most recent environmental document prepared for the subject site and reviewed by Haley & Aldrich is the Phase I ESA completed by TRC and dated 30 August 2011. At the time of TRC's investigation, uses of the subject site included: City of Newark pistol range, bittern truck loading, stockpiling of soil by Cargill, storage of construction equipment and material, and use by Southern Alameda Radio Controllers and dog training schools. TRC identified the following RECs at the subject site. TRC's suggested recommendations to address these RECs are provided in italics.

- Former Magnesia Waste Pile Area
  - *During the prior remediation work, residential use of the subject site was not anticipated and it does not appear that residential use was considered when establishing site cleanup goals. However, analyses of verification soil samples collected following both removal actions generally did not detect copper, mercury or thallium (the primary contaminants) above current residential screening levels (CHHSLs, CalEPA 2005). The sampling results appear to suggest that the subject site is suitable for residential use. However, prior to purchasing the site,*

consideration should be given to obtaining regulatory agency concurrence. Additionally, some residual waste material that is generally white in color remains at the subject site. The material reportedly is alkaline (high pH), which can cause irritation to human tissue. The DTSC noted that some of the materials have a pH comparable to laundry soap. The residual waste materials may not be suitable in a residential setting; thus, it was recommended that they be removed or otherwise managed on-site to limit exposure to residential occupants.

- Impacted Groundwater from Off-site Sources

  - *Because of the planned residential development of the subject site, it was recommended that soil vapor sampling be conducted in the vicinity of the former waste pile and areas overlying impacted ground water to evaluate the potential for vapor intrusion into occupied structures and potential health risks, if any. It was also recommended that the petroleum hydrocarbon and benzene sampling data be provided to the RWQCB and/or Alameda County Water District (ACWD) to evaluate if these agencies may require further actions associated with these contaminants.*

- Bittern Truck Loading Area

  - *It was recommended that soil and ground water quality in the vicinity of the truck loading area and overflow ponds be evaluated to assess the potential that bittern loading activities have impacted the subsurface.*

- Former NSC Area

  - *In a 10 March 2004 letter, the RWQCB indicated that remedial actions at the former NSC area were completed pursuant to the RAW and that no additional remedial action is necessary. It was recommend that the RWQCB be informed that the subject site is now being considered for residential development and that confirmation be obtained that no further remedial action is necessary.*

- Pistol Range

  - *Lead and copper were detected in soil from the pistol range area at up to 11,000 mg/kg and 270 mg/kg, respectively. The lead concentrations exceed both the residential CHHSL (80 mg/kg) and the TTLC (1,000 mg/kg). Waste material with concentrations above the TTLC is classified as a hazardous waste. It was recommended that a remedial action plan be developed for this area and that remediation be completed under regulatory agency oversight.*

- Naturally-Occurring Asbestos

  - *Analyses of samples collected from the southern hill area detected NOA at concentrations ranging from 0.25 to 6.25 percent. Mitigation measures to prevent the release of asbestos fibers from this material will be required during site development activities. Capping of the material below clean fill is often an approved mitigation measure. Air monitoring likely will be required if the NOA is*

disturbed. The Bay Area Air Quality Management District (BAAQMD) enforces the California Airborne Toxic Control Measure (ATCM) which regulates the NOA.

- E-1 Drainage Ditch

  - *Although current water quality in the E-1 Ditch is not likely to be impacted by historic discharges, sediment within the E-1 Ditch could contain residual contaminants. It was recommended that sediment quality in the E-1 Ditch be evaluated.*

- Evaporation Ponds and Detention Basin

  - *Because residual contaminant concentrations can accumulate in sediments within detention basins and evaporation ponds, it was recommended that general soil quality in these areas be evaluated.*

- Railroad Tracks and Roadways

  - *Abandoned railroad tracks were observed on the northwest portion of the subject site. Assorted chemicals were often historically used for dust suppression and weed control along rail lines. Consideration should be given to evaluating soil quality along the tracks. Also, the wooden rail ties typically contain toxic preservatives and should be removed and appropriately disposed prior to development. Cargill reported that waste oil may historically have been applied to on-site gravel roadways for dust control purposes. Soil quality along the roadways should be evaluated.* Note: Based on information provided by Mr. Pat Mapelli, the Real Property Manager with Cargill and the "Key Site Contact" for this Phase I ESA, the railroad tracks were located on the FMC property adjoining to the north and connected to a barge channel offsite. He also indicated that the dirt access roads on the subject site were sprayed with bittern as a dust suppressant and not waste oil.

- Site Management Plan

  - *Based on the long industrial history of the subject site, previously unidentified buried structures, debris or impacted soil may be encountered during site development activities; these materials may require special handling and disposal. To limit construction delays, it was recommended that a Site Management Plan (SMP) be developed to establish management practices for handling these materials/structures if encountered.*

3.2 Relevance of Ashland Chemical Company Reports to Subject Site

Haley & Aldrich was provided with a copy of Access Agreement (Appendix B), pursuant to RWQCB Site Cleanup Requirements (SCR) Order No. 89-109, which allows Ashland Chemical Company access to the subject site for the purposes of collecting groundwater samples from four groundwater monitoring wells located on the northeastern portion of the subject site. These groundwater monitoring wells (W-25, B-26, B-27 and B-28) are part of a groundwater monitoring network that originally

consisted of 30 monitoring wells and are used to assess the impacts to groundwater offsite and hydrologically downgradient of the Ashland Chemical Company's property. Currently, only groundwater monitoring wells B-26, B-27 and B-28 are required to be sampled under the revised SCR Order R2-2005-0038, which was adopted by the RWQCB on 14 September 2005. Monitoring wells B-26, B-27 and B-28 are located in the Shallow Zone groundwater, which is first encountered at depths ranging from approximately 3 to 12 feet bgs. To provide a summary of groundwater monitoring activities completed at the adjoining Ashland Chemical Company, Haley & Aldrich has reviewed the following documents and summarized information relevant to the subject site.

2011 Three-Year Status Report, Prepared for: Ashland Inc., Former Ashland Chemical Company, 8610 Enterprise Drive, Newark, California, prepared by EHS Support and dated 31 August 2011.

Based on the results from implementation of soil remedial excavation and groundwater attenuation monitoring, the following conclusions are summarized:

Soil Remediation Excavation Activities

- A total of approximately 22,700 CY of soil exceeding SCRs from within the former tank farm and warehouse areas at the subject site were mitigated by remedial excavation and offsite disposal or ex-situ soil vapor extraction (SVE) treatment. Residual chemicals of concern (COCs) in soil borings located within and at the perimeter of the 2005/2006 remedial excavation area are below SCRs, thus current property soil conditions meet the requirements of SCR Order No. R2-2005-0038.

- An estimated amount of approximately 13,301 pounds of total VOC mass was removed during the 2005/2006 excavation activities. Soil remedial excavation activities removed approximately 99% of the total VOC mass in Shallow Zone soil which exceeds the estimate of 96% referenced in SCR Order No. R2-2005-0038.

- Results of the Environmental Risk Assessment (ERA) indicate the presence of a moderate risk from COCs in soil and shallow groundwater and no apparent ecological or groundwater migration risk. Under the current industrial setting, no additional removal actions are required pursuant to SCR Order No. R2-2005-0038.

Attenuation Groundwater Monitoring Activities

- COCs exceed SCRs in Shallow Zone groundwater in wells located in the vicinity of the former tank farm at the subject site and in the upgradient direction. Only the COC 1,2-DCA exceeds the SCR in Newark Aquifer wells D-1 and D-3 at the subject site, which is associated with offsite conditions beneath the adjacent property at FMC.

- Groundwater data indicate that, since remedy implementation, Shallow Zone source area impacts above SCRs are limited to subject site groundwater as COCs have not exceeded SCRs in cross-gradient and downgradient Shallow Zone groundwater.

- Groundwater data at the subject site indicate that downward migration of COCs from the Shallow Zone is controlled because of a prominent upward hydraulic gradient from the Newark Aquifer that is also segregated by the 20 feet thick Newark Aquitard.

- Since implementation of the remedial activities, the estimated total VOC mass reduction in groundwater is 88%, or 802 pounds, which demonstrates that the program has been effective in reducing the VOC mass in Shallow Zone groundwater.

- On the basis of these results, there should be no imminent human health risk under current site conditions. Furthermore, although residual VOC concentrations in the former tank farm area still exceed SCRs, there is no risk to impacting the underlying Newark Aquifer because of a prominent upward groundwater gradient still exists beneath the subject site. Future property re-development, however, may require an RMP with institutional and/or engineering controls to eliminate potential exposure for human health risk concerns.

- Groundwater samples were collected at B-26, B-27 and B-28 on 26 April 2011. A groundwater sample was not collected at W-25. Groundwater samples were analyzed for VOCs by US EPA Method 8260B. VOCs were not detected above laboratory reporting limits in the groundwater samples collected from B-26, B-27 and B-28 with the following exceptions: Concentrations of 1,1-DCA (0.93 ug/l) and 1,2-DCA (1.0 ug/l) were detected in the groundwater sample collected from B-27.

2013 First Semi-Annual Monitoring Report (January through June 2013), Prepared for: Ashland Inc., Ashland Chemical Company, 8610 Enterprise Drive, Newark, California, prepared by EHS Support and dated 30 July 2013.

The report summarizes the results of groundwater monitoring and remediation activities for the 2013 first semi-annual (January through June) at the adjoining former Ashland Chemical Company facility. It also provides a statistical assessment of residual VOCs in groundwater and an outline of planned activities for the next semester. The report was prepared pursuant to the RWQCB SCR Order No. R2-2005-0038. Groundwater was purged and sampled from 22 Shallow Zone wells and 3 Newark Aquifer wells between 23 and 25 April 2013. The following summary of findings was developed based on the results of the first Semi-Annual 2013 reporting period:

- Benzene was the only aromatic VOC concentration detected above the SCR in Shallow Zone groundwater. These exceedances occurred in wells B-33, B-37 and B-38; wells located within the former tank farm area.

- Chlorinated compounds exceeding the SCRs included 1,2-DCA (B-13 and B-31), cis-1,2-DCE (B-33), and vinyl chloride (B-33, B-36, and B-37). A summary of the historical trends indicates that constituent concentrations in Shallow Zone groundwater have been decreasing over time.

- The highest concentrations of total chlorinated VOCs were detected in monitoring wells (B-33, B-36, and B-37) located in the former source area (the former tank farm and warehouse building). Groundwater samples collected from areas immediately down-gradient of this area only yielded trace to non-detect concentrations of chlorinated VOCs.

- Results of the statistical assessment indicate that: 1) there is a continuing likelihood of 1,2-DCA migration from offsite up-gradient sources in Shallow Zone groundwater, 2) additional degradation is required to reduce the concentrations of benzene, cis-1,2-DCE, and VC to concentrations below SCRs in the source area wells, and 3) there is no indication of lateral migration of dissolved COCs from the source area wells to the down-gradient and cross-gradient wells.

- Concentration trends in Shallow Zone groundwater for key historical COCs show that the upper concentration limit has decreased during and after the 2005 and 2006 remedial excavation events. The decay trends indicate that the dissolved COCs in Shallow Zone groundwater continue to decrease toward meeting SCRs. Key COCs including xylenes, toluene, PCE, and TCE have already decreased to concentrations below the SCRs.

- Groundwater samples were collected at B-26, B-27 and B-28 on 23 April 2013. A groundwater sample was not collected at W-25. Groundwater samples were analyzed for VOCs by US EPA Method 8260B. VOCs were not detected above laboratory reporting limits in the groundwater samples collected from B-26, B-27 and B-28. The following J-flag (trace concentrations) were detected in the groundwater sample collected from B-27: 1,1-DCA (0.49J ug/l) and 1,2-DCA (0.48J ug/l).

The following activities were planned at the subject site during the third and fourth quarters of 2013 (July through December 2013):

Closure Assessment

- Conduct a shallow soil and groundwater investigation in the former rail spur area along the southeast property boundary.

- Develop a Health Risk Assessment (HRA) Work Plan that includes a site conceptual model and a description of the methodologies that will be used to assess whether there are potential human health and ecological risks associated with future development of the Property.

0.33-Acre Lot Line Adjustment

- Submit results of a soil and groundwater investigation for the 0.33-acre property subject to a lot line adjustment.

- Update the Property deed restriction and finalize a SCR Amendment that incorporates the lot line adjustment.

Groundwater Monitoring

- Measure groundwater levels in October 2013 for the monitoring well-field specified in the Modified SMP per Order R2-2005-0038.

- Conduct semi-annual groundwater sampling in October 2013 for VOCs in 25 monitoring wells as specified in the Modified SMP per Order R2-2005-0038.

4. SITE HISTORY

4.1 Past Usage of the Subject Site

Haley & Aldrich assessed past usage of the subject site through a review of aerial photographs dated 1939, 1946, 1958, 1968, 1979, 1982, 1993, 1999, 2005, 2006, 2009, 2009 and 2012; and historical topographic maps dated 1899, 1915, 1947, 1948, 1959, 1968, 1973, 1980, 1993 and 1997. According to EDR, there is no Sanborn Fire Insurance Map coverage for the subject site. A search of city directories dated between 1920 and 2012 was performed by EDR. No listings for the subject site were identified.

In the reviewed 1939 and 1946 aerial photographs, areas of disturbed soil and white material are visible on the northwestern portion of the subject site. The white material is possibly associated with salt evaporation activities to the west of the subject site. A drainage ditch, identified as the E-1 Ditch (see Section 3.1.1), is visible crossing over the central portion of the subject site from near the northeastern corner to the southwestern corner of the property. A small, unidentifiable area of development or disturbed soil is visible as a rectangular-shaped area immediately west of the E-1 Ditch along the northern property line. This area may have been a detention basin associated with use of the E-1 Ditch. An unimproved access road leading to a small structure is visible on the southern half of the subject site. Areas of disturbed soil are also visible on the central and southeastern portions of the subject site. In the 1958 aerial photograph, an additional small structure is visible on the eastern side of the subject site, east of an area of disturbed soil in the southeastern section of the property. Portions of the subject site to the east of the E-1 Ditch appear to be used as salt evaporation ponds. In the 1968 through 1993 aerial photographs, several low-lying areas on the northwestern portion of the subject site appear to contain water and are either retention basins or salt evaporation ponds. An increase in light-colored or white material is visible on the northwestern portion of the subject site, west of the E-1 Ditch. Several structures are visible in two areas of development on the southeastern portion of the subject site near the eastern property line. This portion of the subject site has historically been associated with the NSC shooting range and dog training facility. A small body of water is visible on the southwestern corner of the subject site in the 1979 through 2010 aerial photographs. In the 1999 through 2012 aerial photographs, the northwestern portion of the subject site appears to show disturbed soil, possibly stockpiled material. In the 2005 through 2012 aerial photographs, an unimproved access road is visible leading from the northeastern corner of the subject site and circling around the stockpiled material on the northwestern portion of the subject site. With the exception of the areas of development previously described on the southeastern portion of the subject site, equipment stored on the northwestern portion of the subject site and the E-1 Ditch, the majority of the subject site appears to be undeveloped.

On the 1899 and 1915 topographic maps, there are no structures, tanks, or wells depicted on the subject site. On the 1947 topographic map, increasing elevation contours are depicted on the northwestern and southeastern portions of the subject site and a drainage channel (E-1 Ditch) is depicted traversing the subject site from near the northeastern to southwestern portions of the subject site. On the 1948 topographic map, a mining symbol is depicted on the northwestern portion of the subject site in the same area as the increasing elevation contours described on the 1947 topographic map. On the 1959 topographic map, water channels or dikes, likely outlining salt evaporation ponds, which are depicted to the south and west of the subject site, are depicted on the central portion of the subject site. Symbols depicting overhead utility lines are depicted traversing the subject site and a boundary showing the city limits of Newark and Fremont is depicted on the northwestern and southwestern portions of the subject

site. On the 1968 through 1997 topographic maps, only the symbols representing the overhead utility lines and natural rock outcroppings are depicted on the subject site.

Copies of the aerial photographs, topographic maps and city directory abstract are included in Appendix B.

4.2 Past Usage of Adjoining Properties

Haley & Aldrich assessed past usage of the adjoining properties through a review of aerial photographs dated 1939, 1946, 1958, 1968, 1979, 1982, 1993, 1999, 2005, 2006, 2009, 2009 and 2012; and historical topographic maps dated 1899, 1915, 1947, 1948, 1959, 1968, 1973, 1980, 1993 and 1997. According to EDR, there is no Sanborn Fire Insurance Map coverage for the adjoining properties.

In the reviewed 1939 and 1946 aerial photograph, the adjoining properties to the northeast, east and south appear to be predominately undeveloped. Salt evaporation ponds are visible to the west of the subject site and industrial development consisting of multiple structures and ASTs are visible on the adjoining property to the north. In the 1958 aerial photograph, additional areas of industrial development are visible to the northeast and east of the subject site. These adjoining areas of industrial development consist of multiple structures, ASTs, stockpiled material and railroad spurs. In the 1968 through 1993 aerial photographs, additional industrial development is visible on the adjoining properties to the north, northeast and east of the subject site. The adjoining properties to the south and southwest remain undeveloped and the adjoining property to the west continues to be used as salt evaporation ponds. Beginning in the 1999 aerial photograph and continuing through the 2006 aerial photograph, structures and ASTs associated with the adjoining industrial development to the north, northeast and east have been removed and/or demolished and it appears that industrial activities at these facilities have significantly diminished or ceased. In the 2009 through 2012 aerial photographs, four structures are visible on the adjoining property to the north, one structure is visible on the adjoining property to the northeast and several small structures with concrete foundations and paved areas from previous industrial development are visible to the east of the subject site. The adjoining properties to the south and southeast are undeveloped and the adjoining properties to the west and southwest are salt evaporation ponds.

On the 1899 and 1915 topographic maps, there appears to be no development depicted on the adjoining properties. Central Newark is depicted to the northeast, “Crystal Salt Works” is depicted to the south-southeast and Southern Pacific railroad tracks are depicted to the north and northwest of the subject site on the 1915 topographic map. On the 1947 topographic map, multiple structures and tanks labeled as “Chlorine Works” are depicted adjoining to the north and “Salt Evaporating Ponds” are depicted to the west and south of the subject site. On the 1959 topographic map a railroad spur and a single industrial structure is depicted to the east of the subject site. On the 1973 through 1980 topographic maps, additional structures are depicted on the industrial properties to the north and east of the subject site. The structures previously depicted on the adjoining property to the north are not shown on the 1993 and 1997 topographic maps. A large rectangular structure and a small structure are depicted adjoining to the east of the southern portion of the subject site. The Newark and Fremont city limits are depicted further to the west, beyond the salt evaporation ponds adjoining to the west of the subject site.

Copies of the aerial photographs and topographic maps are included in Appendix B.

5. ENVIRONMENTAL RECORDS REVIEW

5.1 Standard Environmental Records Review

Haley & Aldrich used the electronic database service EDR to complete the environmental records review. The database search was used to identify properties that may be listed in the referenced agency records, located within the ASTM-specified approximate minimum search distances as shown in the table below. Section 5.1.1 presents a description of each database searched.

Database Searched	Approximate Minimum Search Distance	Subject Site Listed?	Number of Facilities within Search Distance
NPL Sites	1 mile	No	0
Delisted NPL Sites	0.5 mile	No	0
CERCLIS Sites	0.5 mile	No	0
CERCLIS-NFRAP Sites	0.5 mile	No	**6**
Federal ERNS	Site only	No	0
RCRA non-CORRACTS TSD Facilities	0.5 mile	No	0
RCRA CORRACTS TSD Facilities	1 mile	No	**4**
RCRA Generators	Site & Adjoining	No	**3**
RCRA –Non Generators	Site & Adjoining	No	0
Federal Institutional Controls/Engineering Controls	Site Only	No	0
US Brownfield	0.5 mile	No	0
State and Tribal Equivalent NPL Sites (CA RESPONSE)	1 mile	**Yes**	**3**
State and Tribal Equivalent CERCLIS Sites ENVIROSTOR	1 mile	**Yes**	**9**
State and Tribal Registered Storage Tanks	Site & Adjoining	No	0
State FID Underground Storage Tank	Site & Adjoining	No	0
SWEEPS Underground Storage Tank	Site & Adjoining	No	0
Historical UST Registrations (HIST UST)	Site & Adjoining	No	**2**
Aboveground Storage Tank (AST)	Site & Adjoining	No	0
HAZNET	Site Only	No	0
State and Tribal Landfills and Solid Waste Disposal Sites (WMUDS/SWAT)	0.5 mile	No	**2**
State and Tribal Leaking Storage Tanks (LUST)	0.5 mile	No	**5**
State and Tribal Institutional Controls/Engineering Controls	Site Only	No	0
State and Tribal Voluntary Cleanup Sites	0.5 mile	No	0
State and Tribal Brownfield Sites	0.5 mile	No	0

Database Searched	Approximate Minimum Search Distance	Subject Site Listed?	Number of Facilities within Search Distance
State Spills, Leaks, Investigation and Cleanup (SLIC)	0.5 mile	No	**19**
Recycling Facilities in California (SWRCY)	0.25 mile	No	0
State CORTESE	0.5 mile	No	**4**
National Pollutant Discharge Elimination System (NPDES)	Site Only	No	0
State Dry Cleaner Facilities	0.25 mile	No	0
State California Hazardous Materials Incident Report System (CHMIRS)	Site Only	No	0
State No Further Action Determination (NFA)	0.25 mile	No	0
State – Unconfirmed Properties Referred to Another Agency (REF)	0.25 mile	No	0
State – School Property Evaluation Program (SCH)	0.25 mile	No	0
State – Properties Needing Further Evaluation (NFE)	0.25 mile	No	0
HIST CAL-SITES	1 mile	No	0
TOXIC PITS	1 mile	No	**1**
Consent	1 mile	No	0
HAZNET	Site only	No	0
EMI	Site Only	No	0
DEED	0.5 mile	No	**1**
Notify 65	1 mile	No	0

Haley & Aldrich also searched the Orphan Site List provided in the EDR report for the subject site and facilities adjoining the subject site. Orphan sites are those that, due to incorrect or incomplete addresses, could not be mapped. According to EDR Orphan list, the following reports were reviewed for the subject site: Cargill, Inc. Hill Parcel Area (CA NPDES, CA WDS), Leslie Salt Co. Magnesia Pile (CERC-NFRAP), Cargill Salt (CA HAZNET), Cargill, Inc. (FINDS), Leslie Salt (CA BOND EXP. PLAN), Cargill Inc./Leslie Salt (US MINES) and Cargill, Inc. (ICIS). These supplemental reports were reviewed and either identify the facility as a salt mine, an active NPDES facility or are related to investigations previously described in Section 3 of this report. The complete EDR report and the supplemental Orphan reports are provided in Appendix C.

5.1.1 Descriptions of Databases Searched

Numerous regulatory databases were searched during this Phase I ESA. Each database reviewed is described in the EDR report presented in Appendix C. Those databases required by the ASTM E 1527-05 Standard are identified below.

1. **NPL Sites:** The National Priorities List (NPL) is a list of contaminated sites that are considered the highest priority for cleanup by the U.S. Environmental Protection Agency (USEPA).

2. **Delisted NPL Sites:** The Delisted NPL is a list of formal NPL sites formerly considered the highest priority for cleanup by the USEPA that met the criteria of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) for deletion from the NPL because no further response was appropriate.

3. **CERCLIS Sites:** The Comprehensive Environmental Response, Compensation, and Liability Act Information System (CERCLIS) list identifies sites which are suspected to have contamination and require additional investigation to assess whether they should be considered for inclusion on the NPL.

4. **CERCLIS-NFRAP Sites:** CERCLIS-NFRAP status indicates that a site was once on the CERCLIS List but has No Further Response Actions Planned (NFRAP). Sites on the CERCLIS-NFRAP List were removed from the CERCLIS List in February 1995 because, after an initial investigation was performed, no contamination was found, contamination was removed quickly, or the contamination was not significant enough to warrant NPL status.

5. **Federal ERNS:** The Federal Emergency Response Notification System (ERNS) list tracks information on reported releases of oil and hazardous materials.

6. **FINDS:** This Facility Registry System points to other sources such as permit compliance, emissions tracking, and enforcement docket cases which are listed for the site.

7. **HAZNET:** This is a list of hazardous waste manifests kept by the California Environmental Protection Agency (Cal EPA).

8. **RCRA non-CORRACTS TSD facilities:** The Resource Conservation and Recovery Act (RCRA) non-CORRACTS TSD Facilities List tracks facilities which treat, store, or dispose of hazardous waste and are not associated with corrective action activity.

9. **RCRA CORRACTS TSD facilities:** The RCRA CORRACTS TSD Facilities list catalogues facilities that treat, store, or dispose of hazardous waste and have been associated with corrective action activity.

10. **RCRA Generators:** The RCRA Generator list is maintained by the USEPA to track facilities that generate hazardous waste.

11. **Federal Institutional Controls/Engineering Controls:** The Federal Institutional Control list and Engineering Control list are maintained by the USEPA. Some Institutional Control and Engineering Control information may not be made publicly available and therefore will not be included on this registry.

12. **State and Tribal Equivalent NPL/CERCLIS Sites:** The ASTM E 1527-05 Standard requires searching "State and Tribal Equivalent CERCLIS Sites." In California, the equivalent CERCLIS is the Cal-Sites database, which is maintained by the Department of Toxic Substance Control (DTSC).

13. **State and Tribal Registered Storage Tanks:** In California, local regulatory agencies (e.g., County health departments and fire departments) and the State Water Resources Control Board (SWRCB) maintain lists of aboveground and underground storage tanks registered with those agencies (e.g., County health departments). For tribal property, the USEPA Region 9 maintains a list of underground storage tanks on Indian land.

14. **State and Tribal Landfills and Solid Waste Disposal Sites:** In California, the SWRCB in coordination with the RWQCBs and the Integrated Waste Management Board (IWMB) maintain lists of regulated waste disposal sites.

15. **State and Tribal Leaking Storage Tanks:** In California, the SWRCB in coordination with the RWQCBs maintain lists of Leaking Storage Tanks (LUST/LAST). The LUST/LAST lists are a listing of release sites that have an underground or aboveground storage tank listed as the source. For tribal property, the USEPA Region 9 maintains a list of leaking USTs on Indian land.

16. **State and Tribal Institutional Controls/Engineering Controls:** The USEPA maintains lists of sites with Institutional controls or Engineering controls in place. In addition, DTSC maintains a list of environmental deed restrictions.

17. **State and Tribal Voluntary Cleanup Sites:** In California, the DTSC, RWQCBs, and local regulatory agencies (e.g., County health departments) maintain lists of Voluntary Cleanup sites.

18. **State and Tribal Brownfield Sites:** In California, the DTSC maintains a list of Brownfield sites which includes any property where a redevelopment or re-use may be compromised by the presence or presumed presence of hazardous materials or petroleum.

19. **Other State Hazardous Waste Sites and Releases:** In California, the Cal/EPA including DTSC, and the SWRCB including RWQCBs have created and/or maintain databases that identify hazardous waste sites and locations of hazardous substance releases/spills. These databases include:

    - **SLIC** – The Spills, Leaks, Investigation and Cleanup (SLIC) database maintained by the RWQCBs identifies sites that are being investigated and/or remediated for known releases other than those associated with leaking USTs.
    - **AST** – A list of registered aboveground storage tanks from the RWQCB.
    - **AWP** – The Annual Workplan Sites list, formerly the Bond Expenditure Plan (BEP) list, maintained by DTSC, identifies known hazardous substance sites targeted for cleanup.
    - **CA FID UST** – Facility Inventory database contains a historical listing of active and inactive underground storage tank locations from the State Water Resources Control Board. This has not been updated since 1998.
    - **CORTESE** – The CORTESE Hazardous Waste and Substances Sites list includes a list of public drinking water wells with detectable levels of

contamination, hazardous substance sites selected for remedial action, sites with known toxic material identified through the abandoned site assessment program, sites with USTs having a reportable release, and all solid waste disposal facilities from which there is known migration. The sites on this list were those included on the SWRCB Leaking Underground Storage Tank (LUST) list, the IWMB Solid Waste Information System (SWF/LF, also referred to as SWIS), and the DTSC Cal-Sites. The CORTESE listing is no longer updated.

- **ENVIROSTOR** – The DTSC database identifies sites that have known contamination or for which there may be reason to investigate further. It consists of NPL, state response, voluntary cleanup and school sites.

- **HIST UST** – Hazardous Substance Storage Container database is a historical listing of UST sites.

- **LUST** – Geotracker's Leaking Underground Fuel Tank Report. LUST records contain an inventory of reported leaking underground storage tank incidents. This list was last updated on 9/17/2013.

- **NOTIFY 65** - Notify 65 records contain facility notifications about any release that could impact drinking water and thereby expose the public to a potential health risk. The data comes from the SWRCB's Proposition 65 database.

- **CHMIRS** - The California Hazardous Material Incident Report System (CHMIRS), maintained by the Cal/EPA Office of Emergency Services, contains information on reported hazardous material incidents (accidental releases or spills).

- **HIST CAL_SITES** – Formerly known as ASPIS, this database contains both known and potential hazardous substance sites. It has been replaced by ENVIROSTOR.

- **TOXIC PITS** – Database identifies facilities suspected of containing hazardous substances where cleanup has not yet been completed. The data comes from the SWRCB.

- **DRY CLEANERS** – The source of this list is the DTSC.

- **NFA** - No Further Action Determination (NFA) sites are properties for which DTSC has made a clear determination that the property does not pose a problem to the environment or to public health.

- **REF** - Unconfirmed Properties Referred to Another Agency (REF) sites are properties where contamination has not been confirmed and which were determined as not requiring direct DTSC Site Mitigation Program action or oversight. Accordingly, these sites have been referred to another state or local regulatory agency.

- **SCH** - School Property Evaluation Program (SCH) sites are proposed and existing school sites that are being evaluated by DTSC for possible hazardous materials contamination. In some cases, these properties may be listed in the

Cal-Sites category depending on the level of threat to public health and safety or the environment they pose.

- **DEED** – database includes facilities with Deed/Land Use Restrictions The DTSC Site Mitigation and Brownfields Reuse Program list includes sites cleaned up under the program's oversight and generally does not include current or former hazardous waste facilities that required a hazardous waste permit.

- **NFE** - Properties Needing Further Evaluation (NFE) are properties that are suspected of being contaminated. These are unconfirmed contaminated properties that need to be assessed using the Preliminary Endangerment Assessment (PEA) process. PEA in Progress indicates properties where DTSC is currently conducting a PEA. PEA Required indicates properties where DTSC has determined a PEA is required, but it is not currently underway.

- **SWEEPS UST** – This underground storage tank listing was maintained only in the 1980s.

- **UST** – Active UST facilities list is gathered from local regulatory agencies. This list was last updated on 9/17/2013.

5.1.2 Detailed Description of Relevant Subject Site Listings

In addition to the databases previously identified in the Orphan Site List, the subject site is also listed in the CA RESPONSE, CA HIST Cal-Sites and CA ENVIROSTOR databases. A description of these listings is summarized below.

Leslie Salt/FMC Magnesia Waste (EDR Map ID G26), listed west of Enterprise Drive. These databases refer to the activities related to the removal and remediation of the Magnesia Waste Pile (see Section 3.1.1). According to the CA HIST Cal-Sites database, the lead agency for this investigation was the DTSC and as of 24 October 1991 the status is reported to be "certified as having been remediated satisfactorily under DTSC oversight." The database further indicates that material contaminated with copper, naphthalene and oily wastes were excavated and disposed of at the USPCI Class I Landfill in Clive, Utah. Although the Leslie Salt/FMC Magnesia Waste Pile was been satisfactorily remediated under DTSC oversight, the former Magnesia Waste Pile is considered a REC to the subject site.

5.1.3 Detailed Descriptions of Relevant Nearby Site Listings

As previously indicated, the database search identified a number of facilities on the database within the minimum search radii. However, it is Haley & Aldrich's opinion that based on the case status and/or hydrogeologic gradient of some of the facilities relative to the subject site, only those facilities adjacent to the subject site and/or up-gradient with respect to inferred groundwater flow (to the west-southwest), would have the potential to affect the subject site. Groundwater contamination is known to exist beneath the subject site. The impacted groundwater is a result of historical operations at surrounding industrial operations and is considered a REC to the subject site. Details on subsurface investigations completed at the subject site and adjoining properties, are provided in Section 3 of this report. Refer to the database report in Appendix C for complete listings and facility details.

Former Ashland Chemical Site, 8610 Enterprise Drive (Map ID B3): This address, located adjoining to the east of the subject site, is listed in the SLIC and ENVIROSTOR, databases. The ENVIROSTOR database indicates that this facility is under oversight by the RWQCB. The SLIC database indicates that as of 6 April 2009 the status of the subject site, with regards to the San Francisco Bay RWQCB (Region 2), is "Open-Verification Monitoring" with "Other Groundwater (uses other than drinking water) Affected." The SLIC database provides a site history that in summary indicates the following: "Ashland operated a shallow groundwater pump and treatment system from 1982 to 2005. 22,700 cubic yards of VOC impacted soil was excavated in 2005-2006 in the tank farm area and former warehouse area. In 2003 a deed restriction was filed and recorded with Alameda County. All buildings and structures have been razed and the property is presently vacant. It is likely to be developed in accordance with the City of Newark's AREA 2 Specific Plan."

Ashland Chemical Company, 8610 Enterprise Drive (Map ID C11): This address, located adjoining to the east of the subject site, is listed in multiple environmental databases including RCRA-TSD, CERC-NFRAP, CORRACTS and CA HIST UST. CERCLA and RCRA databases describe the Ashland Chemical facility as a "handler engaged in the treatment, storage, or disposal of hazardous waste." Reportable RCRA violations at the subject date back to the mid-1980s. Some of the violations resulted in civil judicial action for compliance and/or monetary penalty. Beginning in 1987, RCRA designated the subject site as a "high corrective action priority" facility. The HIST UST database indicates that the subject site historically had five USTs at the facility. These USTs were used for waste and three of the tanks were reportedly installed in 1981. The USTs ranged in capacity from 1,000 gallons to 11,300 gallons.

Previous operations at this facility have resulted in regulatory involvement with multiple local and state regulatory agencies and violations due to releases of hazardous materials and waste to the ground that have impacted the subsurface soil and groundwater. Impacted groundwater from this facility has migrated beneath the subject site and is considered a REC. Additional information related to previous and ongoing investigations at this facility is provided in Section 3.

FMC Corp Newark, 8787 Enterprise Drive (Map ID B5): This address, located adjoining to the north of the subject site, is listed in multiple environmental databases including RCRA-TSDF, CERC-NFRAP, CORRACTS, RCRA-LQG, CA SLIC, CA HIST UST and ENVIROSTOR. The CORRACTS database indicates that this facility is currently undergoing remediation and the migration of contaminated groundwater and current human exposures are under control. The SLIC database indicates that as of 10 June 2009 the status of this facility, with regards to the San Francisco Bay RWQCB (Region 2), is "Open-Remediation" with "Other Groundwater (uses other than drinking water) Affected."

Romic/Romic Environmental Technologies, Corp., 37445 Willow Street (Map ID E15/E17): This address is located approximately 650 feet east of the subject site, is listed in multiple environmental databases including RCRA-TSDF, CERC-NFRAP, CORRACTS, RCRA-SQG, CA SLIC and ENVIROSTOR. According to the RWQCB, this facility's status is listed as "Open – Remediation". This facility is formerly known as Foster Chemical Corporation that operated from 1975 to 1985 and has known release of solvents that have affected the subsurface soil and groundwater.

Jones-Hamilton, 8400 Enterprise Drive (Map ID D21/D24): This address located approximately 1,500 feet to the east-northeast of the subject site, is listed in multiple environmental databases and according to the RWQCB, this facility's status is listed as "Open – Site Assessment." According to a hazardous waste summary provided by RCRA, one of the wastes generated at this facility was 1-2 DCA.

Baron Blakeslee Facility, 8333 Enterprise Drive (Map ID E18): This facility is located approximately 1,500 feet northeast of the subject site and is listed in multiple environmental databases. According to the RWQCB, the groundwater (other than drinking water) has been impacted by TCA, PCE, toluene, TCE, vinyl chloride, and xylene. The status of this facility is listed as "Open – Remediation" is undergoing post-remedial.

Based on the review of the EDR database report, there are multiple facilities located adjoining to and hydrologically upgradient of the subject site that are listed in environmental databases as having known releases that have impacted the groundwater. These facilities and the associated groundwater impacts have been, or are currently being investigated under the oversight of the lead regulatory agency, which in most cases is the RWQCB. These listings are considered a REC to the subject site.

5.2 Additional Environmental Records Review

The subject site does not have a physical address; therefore, a request for records could not be submitted to state and local regulatory agencies. These regulatory agencies, along with agencies that provide information without a physical address, are listed below.

5.2.1 National Pipeline Mapping System

Due to the federal government shutdown, Haley & Aldrich has been unable to access the Pipeline Information Management Mapping Application (PIMMA) on the National Pipeline Mapping System's website (www.npms.phmsa.dot.gov). Due to information obtained through the review of previous investigations completed at the subject site, it is Haley & Aldrich's opinion that the lack of information related to the presence of gas and/or hazardous liquid transmission pipeline in the vicinity of the subject site is a non-significant data gap and this data gap does not represent a REC to the subject site.

5.2.2 State Water Resources Control Board

There is no physical address for the subject site; therefore, a request for records was not submitted to the RWQCB. Haley & Aldrich accessed the State Water Resources Control Board's GeoTracker website for records associated with the subject site on 9 October 2013. The GeoTracker database (http://geotracker.swrcb.ca.gov) has records related to the former Newark Sportsman Club located on the southeastern portion of the subject site. These records, which include a copy of the Newark Gun Club, Alameda County - Certification of Remediation Completion Report letter dated 10 March 2004, indicate that no additional remedial action is necessary for previous activities related to the gun club. Additional information related to this investigation is summarized in Section 3.1.2 of this report.

5.2.3 Department of Toxic Substances Control

There is no physical address for the subject site; therefore, a request for records was not submitted to the DTSC. Haley & Aldrich accessed the DTSC's Envirostor website for records associated with the subject site on 9 October 2013. The Envirostor database (http://www.envirostor.dtsc.ca.gov) has records related to Leslie Salt/FMC Magnesia Waste Pile located on the northwestern portion of the subject site. These records, which include a copy of the Certification of Completion: Remedial Action Plan letter dated 28 October 1991, indicate that the remedial actions, as detailed in the Remedial Action Workplan, have addressed all concerns in the Workplan and that the site has been adequately remediated. Additional information related to this investigation is summarized in Section 3.1.1 of this report. As indicated in the 28 October 1991 letter, the DTSC states that they cannot approve "certification of site closure" or the "final closure report." Haley & Aldrich attempted to contact the listed DTSC supervisor for this case, Ms. Denise Tsuji, on 9 October 2013 to obtain clarification on the status of this case. At the time this report was submitted, a response from the DTSC had not been received. If the information provided by the DTSC alters the findings and conclusions of this report, DA2 will be contacted.

5.2.4 Bay Area Air Quality Management District

There is no physical address for the subject site; therefore, a request for records was not submitted to the BAAQMD.

5.2.5 Alameda County Water District

There is no physical address for the subject site; therefore, a request for records was not submitted to the Alameda County Water District.

5.2.6 Alameda County Assessor's Office

Haley & Aldrich contacted the Alameda County Tax Assessor's Office on 4 October 2013. The subject site's APNs are 537-852-9, 537-852-10 and 537-852-11 and are currently owned by Leslie Salt (Cargill). It is Haley & Aldrich's understanding that Alameda County is in the process of combining these three parcels into a single 54.53-acre parcel. At the time this report was submitted, the Alameda County Assessor's office indicated that the subject site is still identified by the three APNs mentioned above. A copy of the APN map is included in Appendix C.

5.2.7 Alameda County Fire Department/Newark Fire Prevention Bureau

There is no physical address for the subject site; therefore, a request for records was not submitted to the Alameda County Fire Department or Newark Fire Prevention Bureau.

5.2.8 City of Newark Building & Safety/Planning Department

There is no physical address for the subject site; therefore, a request to review existing building records with the City of Newark was not submitted. On 9 October 2013, Haley & Aldrich visited the City of Newark Planning Division for zoning information on the subject site.

According to the City of Newark, the subject site is zoned "MT-1" for High Technology Park and there are no physical addresses assigned to these parcels.

5.3 User Responsibilities

Haley & Aldrich provided DA2 with a "User Responsibilities Questionnaire" to be completed by the user of the report (Appendix B). The questionnaire was completed by Mr. Peter Lezak, Dumbarton Area 2, LLC and the responses are embedded below. The AAI Rule requires that the user of the report consider the following:

- Are you aware of any environmental cleanup laws against the property that are filed or recorded under federal, tribal, state, or local laws?
  - *No*.

- Are you aware of any Activity and Use Limitations (AULs), such as engineering controls, land use restrictions, or institutional controls that are in place at the Site, or have been filed or recorded in a registry under federal, tribal, state, or local laws?
  - *No*.

- As the user of this Phase I ESA, do you have any specialized knowledge or experience related to the property or nearby properties? For example, are you involved in the same line of business as the current or former occupants of the property or an adjoining property so that you would have specialized knowledge of the chemicals and processes used by this type of business?
  - *No*.

- Does the purchase price being paid for this property reasonably reflect the market value of the property? If you conclude that there is a difference, have you considered whether the lower price is because contamination is known or believed to be present at the property?
  - *Yes*.

- Are you aware of commonly known or reasonably ascertainable information about the property that would help the environmental professional to identify conditions indicative of releases or threatened releases? For example, as user….
  - Do you know the past use of the property? *No*.
  - Do you know the specific chemicals that are present or once were present at the property? *No*.
  - Do you know of spills or other chemical releases that have taken place at the property? *No*.
  - Do you know of any environmental cleanups that have taken place at the property? *No*.

- As the user of this ESA, based on your knowledge and experience related to the property, are there any obvious indicators that point to the presence of contamination at the property?
  - *No*.

5.4 Environmental Liens

According to EDR's Environmental LienSearch™ Report, dated 11 October 2013, there are no environmental liens or AULs for the subject site. This research was completed by EDR using the APNs 537-852-9, 537-852-10 and 537-852-11 provided by Haley & Aldrich. The Environmental LienSearch™

Report provided additional information related to the Former Magnesia Pile located on the subject site (see section 3.1.1). This information is reported as follows:

Leslie Salt owned the site and leased it to FMC Corporation from 1928 to 1968. During this period FMC used the site for disposal of their process waste. These wastes included: off-grade magnesia, dolomite, general rubbish, phosphorous sludges, gypsum and excess catalysts which were used for the production of synthetic rubber. The waste materials were disposed onsite in large piles. The catalyst material contains approximately 1-2% copper (20,000 ppm) and mercury above the TTLC.

The DTSC has determined that all appropriate response actions have been completed, that all acceptable engineering practices were implemented and that no further removal/remedial action is necessary.

A copy of EDR's Environmental LienSearch™ Report is included in Appendix C.

5.5 License, Lease and Access Agreements

The following documents define current contractual relationships between the site owner and other parties that utilize portions of the subject site for various purposes.

- That certain License Agreement dated 5 December 2008 between the City of Newark and Cargill Inc., as amended from time to time;
- That certain Access Agreement dated 4 January 2008 by and between Cargill, Incorporated and its successors or assigns and Ashland, Inc., as amended by that certain First Amendment to Property Access Agreement dated 1 January 2013 and as may be further amended from time to time;
- That certain Lease Agreement dated 1 July 1995 by and between Cargill, Incorporated and Southern Alameda Radio Controllers, Incorporated, as amended by certain amendments through Amendment No. 17 to the Lease Agreement and as may be further amended from time to time; and
- That certain License Agreement dated 1 January 2010 between Cargill, Incorporated and R.J. Gordon Construction, as amended by certain amendments through Amendment No. 5 to the Lease Agreement and as may be further amended from time to time.

These documents are related to the pistol range, ongoing Ashland environmental investigations, radio-controlled vehicle club and storage of construction equipment/materials, respectively. See Sections 2 and 3 for additional information. Copies of all four documents, as provided to Haley & Aldrich, are included in Appendix B.

6. SITE RECONNAISSANCE AND KEY PERSONNEL INTERVIEWS

A site reconnaissance to observe site conditions was conducted by Mr. David Schlotterbeck of Haley & Aldrich, Inc. on 8 October 2013. Photographs taken during the site reconnaissance are included as Appendix D. At the time of the initial site reconnaissance, access to the subject site was unobstructed and with the with the exception of two locked storage containers located at the City of Newark Police Department's Pistol Range, Haley & Aldrich personnel had access to all areas of the subject site, including the property boundaries, and observed adjoining property conditions from the subject site boundaries and/or public thoroughfares. No weather-related conditions or other conditions that would limit our ability to observe the subject site or adjoining properties occurred during our site visit. Haley & Aldrich interviewed Mr. Pat Mapelli with Cargill. Mr. Mapelli is the Real Property Manager and has worked for Cargill for 24 years and has been identified as the "key contact" for this project. Additionally, Haley & Aldrich interviewed Mr. Dave Witmer, operator of the Witmer-Tyson Police Dog Training School and Commander Lawson with the City of Newark Police Department. During a telephone interview with Commander Lawson, conducted by Haley & Aldrich on 10 October 2013, Commander Lawson stated that the two locked storage containers located at the Pistol Range contain targets and cones used for training purposes. He indicated that there are no petroleum products or hazardous chemicals used or stored at the Pistol Range. Additional responses to interview questions provided by these individuals are included in the appropriate sections below.

ASTM E 1527-05 Standard Section 10.8 requires that, prior to the site visit**,** the current subject site owner or Key Site Manager and user, if different from the current owner or Key Site Manager, be asked if there are any helpful documents that can be made available for review. These consist of environmental site assessment reports, audits, permits, tank registrations, Material Safety Data Sheets, Community Right-to-Know plans, safety plans, hydrogeologic or geotechnical reports, or hazardous waste generator reports. Haley & Aldrich has reviewed multiple environmental documents, which are summarized on Section 3 of this report.

6.1 Subject Site Observations

6.1.1 Current Use of the Property

The former magnesia waste pile area on the northwestern portion of the subject site is currently being used by R.J. Gordon Construction to store construction equipment and materials. This equipment and material consisted of steel and wood beams, metal and PVC piping, cement mixing truck, forklift, scraper, crane and two trailers. The Newark Police Department utilizes a pistol firing range on the southeastern portion of the subject site and the Witmer-Tyson Police Dog Training School and the Menlo Park Schutzhund Club operate K-9 training on the southeastern corner of the subject site, just south of the pistol firing range. According to Mr. Mapelli, Cargill ceased stockpiling operations at the subject site when Cargill was under contract with DA2 in 2010. Additionally, Mr. Mapelli indicated that bittern truck loading operations were halted at the subject site in late 2011 and early 2012. He indicated that the facilities were removed from the southwestern corner of the property and relocated to their facility on Central Avenue. Once the facilities were removed, the area was graded and covered with all-weather gravel.

6.1.2 General Description of Structures

A single-story, wood-framed clubhouse is located at the Witmer-Tyson Police Dog Training School and Menlo Park Schutzhund Club on the southeastern corner of the facility; and a partially enclosed, multi-room, plywood training structure is located at the Newark Police Department pistol range.

6.1.3 Potable Water Supply and Sewage Disposal System or Septic Systems

According to Mr. Mapelli, potable water at the clubhouse is provided by the Alameda County Water District and a septic system is located on the north side of the clubhouse.

6.1.4 Use of Petroleum Products and Hazardous Materials

A one-gallon container of heavy duty motor oil was observed on the forklift being stored by R.J. Gordon Construction on the northwestern portion of the subject site. No staining was observed around the container of motor oil; however, moderate staining was observed on the bare soil beneath the engine of the forklift. An additional area of soil staining, apparently from leaking construction equipment, was observed in the area being used to store equipment by R.J. Gordon Construction on the northwestern portion of the subject site. The stained soil appears to be the result of leaking motor oil or hydraulic fluid from construction equipment. Due to the heavy nature of motor oil and hydraulic fluid, the impact to the soil caused by this release is likely surficial and is considered a *de minimis* condition.

Seven gasoline cans (five 5-gallon and two 2½ gallon) were observed in a storage container on the north side of the K-9 training clubhouse on the southeastern corner of the subject site. The gasoline appeared to be used to fuel landscaping equipment (e.g. lawnmowers) also observed in the storage container. No staining was observed in the storage container.

Mr. Mapelli stated that the contents of a locked storage container on the southwestern portion of the subject site, adjacent to the former Bittern Truck Loading Area, contains four cases of grease gun cartridges and two 1-gallon containers of WD-40, in addition to other equipment used by Cargill.

According to Mr. Mapelli, Cargill does not use, store or dispose of petroleum products at the subject site. Commander Lawson also indicated that petroleum products and/or hazardous materials are not used in their operations at pistol firing range.

6.1.5 Storage of Petroleum Products and Hazardous Materials (Storage Tanks, Drums)

See Section 6.1.4. No storage tanks containing petroleum products or hazardous materials were observed at the subject site. Four empty 55-gallon drums labeled “trash” were observed in the R.J Gordon Construction area on the northwestern portion of the subject site. No staining was observed on the ground surrounding the 55-gallon drums.

Eleven plastic 55-gallon drums were observed at the Newark Police Department pistol range. These drums had bullet holes in them and apparently have been used for target practice.

6.1.6 Disposal of Petroleum Products and Hazardous Materials

The disposal of petroleum products or hazardous materials was observed on the subject site. According to Mr. Mapelli, petroleum products and/or hazardous materials are not disposed of at the subject site and hazardous waste is not generated.

6.1.7 Storage Tanks

No storage tanks were observed at the subject site.

6.1.8 Odors

No unusual odors were noted during the site visit.

6.1.9 PCBs Associated with Electrical or Hydraulic Equipment

Three pole-mounted transformers (one utility pole) were observed along the northern property line on the northwestern corner of the subject site and two pole-mounted transformers (one each on two utility poles) were observed along the southern property line on the southwestern corner of the subject site. One of the pole-mounted transformers along the southern property line had a "No PCBs" sticker affixed to the side. No staining was observed on the transformers or on the ground surrounding the utility poles. Although transformer oil is not highly toxic of mobile in the environment, the oil may contain PCBs. If the transformers are to be removed or if leaks are observed, the oil should be tested for PCBs.

6.1.10 Unidentified Substance Containers

A broken five-gallon bucket containing dark-colored soil was observed in the R.J Gordon Construction equipment storage area. The stained soil appeared to be contained in the bottom of the five-gallon bucket and did not appear to be in contact with the ground. This soil should be removed from the subject site and appropriately disposed of.

6.1.11 Stains or Corrosion

Stained soil was observed on the bare soil at two locations on the northwestern portion of the subject site where R.J. Gordon Construction is currently storing equipment. See Section 6.1.4.

6.1.12 Floor Drains and Sumps

No floor drains and sumps were observed at the subject site.

6.1.13 Hydraulic Elevators

No hydraulic elevators were observed at the subject site.

6.1.14 Vehicle Maintenance Lifts

No vehicle maintenance lifts were observed at the subject site.

6.1.15 Emergency Generators and Sprinkler System Pumps

No emergency generators or sprinkler system pumps were observed at the subject site.

6.1.16 Catch Basins

Two geologic depressions were observed on the subject site. These features are located on the northwestern corner and south-central (east of E-1 Ditch and west of Serpentine rock outcropping) portion of the subject site. These "catch basins" were dry at the time of the site reconnaissance, but appear to capture water and/or stormwater runoff during rain events. The depression on the northwestern corner of the subject site appears to have been used as a salt evaporation and/or bittern storage pond at one time. According to Mr. Mapelli, all stormwater runoff that is captured at low points at the subject site, including in the E-1 Ditch are pumped into a brine ditch located on along the southwestern property line. Mr. Mapelli further indicated that the low point/geologic depression located on the northwestern corner of the property was a magnesium sulfate settling pond used by FMC until the 1960s and has not been used for any purposes by Cargill, including salt production.

6.1.17 Pits, Ponds, Lagoons, and Pools of Liquid

No pits, ponds or pools of liquid were observed at the subject site. However, there are two locations on the subject site where evidence of standing water was observed. See Section 6.1.16.

6.1.18 Stained Soil or Pavement

See Sections 6.1.4 and 6.1.11.

6.1.19 Stressed Vegetation

No stressed vegetation was observed during the site visit.

6.1.20 Solid Waste and Evidence of Waste Filling

No evidence of solid waste filling was observed or reported on subject site. A small trash receptacle was observed in the parking area of the Witmer-Tyson Police Dog Training School and Menlo Park Schutzhund Club. The trash receptacle was empty and no staining was observed on the ground surrounding the receptacle.

6.1.21 Wastewater and Stormwater Discharge

Wastewater is not generated at the subject site. Stormwater runoff follows the natural topography at the subject site. The E-1 Ditch is a likely drainage ditch for heavy stormwater runoff. Any water that ends up in the E-1 Ditch would flow towards the south and southwest towards the Plummer Creek Wetlands Area adjoining to the south of the subject site.

6.1.22 Monitoring, Water Supply, or Irrigation Wells

No water supply or irrigation wells were observed at the subject site. Four groundwater monitoring wells were observed on the subject site. These groundwater monitoring wells (W-25, B-26, B-27 and B-28) are part of a groundwater monitoring network that originally consisted of 30 monitoring wells and were used to assess the impacts to groundwater offsite and hydrologically downgradient of the Ashland Chemical Company's property. See Section 3.2 for additional information on these monitoring wells.

6.2 Adjoining Property Observations

The subject site is bordered to the north by the former FMC Chemical Company (8787 Enterprise Drive), to the east by the former Ashland Chemical Company (8610 Enterprise Drive) and Torian (37555 Willow Street) properties, to the south by undeveloped wetlands (Plummer Creek Wetlands Area) and to the west by Cargill Bittern Ponds.

7. FINDINGS AND CONCLUSIONS

Haley & Aldrich has performed a Phase I ESA of the subject site (Figure 1). The subject site consists of approximately 54.53-acres in Alameda County and consists of three parcels of land identified by the Alameda County Assessor's office as APN 537-852-9, 537-852-10 and 537-852-11. The Alameda County Assessor's office describes these parcels as "salt ponds."

The objective of a Phase I ESA is to identify known and suspect RECs, HRECs, and *de minimis* conditions associated with the subject site, as defined in the ASTM E 1527-05 Standard and in Section 1.1 of this report.

According to the City of Newark Planning Division, the subject site is currently zoned as "MT-1" for High Technology Park. The area in the vicinity of the subject site is generally characterized as vacant, previously developed industrial properties and is bordered to the north by the former FMC facility, balance of the Ashland property, to the east by the former Ashland Chemical Company and Torian facility, to the south by the Plummer Creek Wetlands Area and to the west by Cargill Bittern Ponds. The Ashland and Torian properties are both vacant aside from the remnants of former building foundations and the former FMC property has several structures remaining on the property.

Current uses of the subject site include the following: 1) The northwestern portion of the subject site is undeveloped and used as a storage area by R.J. Gordon Construction (access is provided by Cargill under License Agreement 2001.008:18) to store construction equipment and materials. 2) The northeastern portion of the subject site is undeveloped with four groundwater monitoring wells (W-25, B-26, B-27 and B-28). These groundwater monitoring wells are part of a groundwater monitoring network that originally consisted of 30 monitoring wells and are used to assess the impacts to groundwater offsite and hydrologically downgradient of the Ashland Chemical Company's property. Access to these groundwater monitoring wells is secured through an Access Agreement pursuant to RWQCB's SCR Order No. 89-109, which allows Ashland Chemical Company access to the subject site for the purposes of collecting groundwater samples from the four groundwater monitoring wells. Currently, only groundwater monitoring wells B-26, B-27 and B-28 are required to be sampled under the revised SCR Order R2-2005-0038, which was adopted by the RWQCB on 14 September 2005. 3) Portions of the southeastern portion of the subject site are used by the Newark Police Department as a pistol firing range and the Witmer-Tyson Police Dog Training School and the Menlo Park Schutzhund Club that operate a K-9 training facility. 4) The southwestern portion of the subject site is undeveloped and was previously used by Cargill to access the Bittern Ponds on the adjoining properties to the west.

DATA GAPS

Due to the federal government shutdown, Haley & Aldrich has been unable to access the PIMMA on the National Pipeline Mapping System's website (www.npms.phmsa.dot.gov). Due to information obtained through the review of previous investigations completed at the subject site, it is Haley & Aldrich's opinion that the lack of information related to the presence of gas and/or hazardous liquid transmission pipeline in the vicinity of the subject site is a non-significant data gap and does not represent a REC to the subject site. No additional data gaps were identified during the performance of this Phase I ESA. Thus, it is our opinion that sufficient information was obtained to identify subject site conditions indicative of releases or threatened releases of hazardous substances and petroleum hydrocarbons.

Based on the results of this Phase I ESA, our findings are as follows:

KNOWN OR SUSPECT RECOGNIZED ENVIRONMENTAL CONDITIONS

The ASTM E 1527-05 Standard defines a REC as "the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, ground water, or surface water of the property." A material threat is defined by the ASTM E 1527-05 Standard as "a physically observable or obvious threat which is reasonably likely to lead to a release that, in the opinion of the environmental professional, is threatening and might result in impact to public health or the environment."

This Phase I ESA has revealed evidence of RECs in connection with the subject site.

REC #1: Former Magnesia Waste Pile

Description: A Former Magnesia Waste Pile is located on the northwestern portion of the subject site. Remediation work performed in 1991 focused on removal of waste materials classified as hazardous waste (i.e., containing contaminant concentrations that exceeded total threshold limit concentrations [TTLCs]). Additional non-hazardous waste material was removed in 1998 and 1999. During the prior remediation work, residential use of the subject site was not anticipated and it does not appear that residential use was considered when establishing site cleanup goals. However, analyses of verification soil samples collected following both removal actions generally did not detect copper, mercury or thallium (the primary contaminants) above current residential screening levels (California Human Health Screening Levels [CHHSLs], CalEPA 2005). The sampling results appear to suggest that the subject site is suitable for residential use. However, consideration should be given to obtaining regulatory agency concurrence. Additionally, some residual waste material that is generally white in color remains at the subject site, primarily on the northwestern portion of the property in the vicinity of the former Magnesia Waste Pile. The material reportedly is alkaline (high pH), which can cause irritation to human tissue. The State of California Department of Toxic Substances Control (DTSC) noted that some of the materials have a pH comparable to laundry soap.

REC #2: Impacted Groundwater

Description: Former investigations of groundwater at the subject site indicate that the regional plume of volatile organic compounds (VOCs), predominantly 1,2-dichloroethane (1,2-DCA), has encroached onto the northern portion of the subject site; these VOCs appear to be from off-site sources. Total petroleum hydrocarbons as gasoline, diesel and motor oil (TPHg, TPHd, TPHmo) and benzene also were detected in groundwater near the Former Magnesia Waste Pile location; the source of these compounds is not known. Based on the review of the Environmental Data Resources, Inc. (EDR) database report, there are multiple facilities located adjoining to and hydrologically upgradient of the subject site that are listed in environmental databases as having known releases that have impacted the groundwater. These facilities and the associated groundwater impacts have been, or are currently being investigated under the oversight of the lead regulatory agency, which in most cases is the RWQCB. Areas overlying impacted groundwater are suitable for residential use provided vapor intrusion mitigation measures are included in development if determined to be necessary.

REC #3: Former Bittern Truck Loading Area

Description: The southwestern corner of the subject site was previously used as a bittern loading area up until late 2011 and early 2012. Historical observations of this portion of the subject site indicated spilled bittern on the gravel surface at the truck loading area. Bittern reportedly contains residual sodium chloride as well as various other salts, including magnesium sulfate, magnesium chloride, potassium chloride and magnesium bromide. It is reported by Cargill to be non-hazardous, but may result in elevated levels of salts in the soil or groundwater. Thus, bittern impacted soil may require special handling or disposal if this area is redeveloped. Additionally, oil reportedly was discharged to overflow ponds at the truck loading area. One lined overflow pond and one unlined overflow pond have historically been located on this portion of the subject site; however, evidence of the ponds and staining was not observed during the site reconnaissance completed for this Phase I ESA. It is our understanding redevelopment activities are not planned for this area, therefore this REC does not warrant any action at this time.

REC #4: Former Newark Sportsman's Club (NSC) Area

Description: During remedial activities in 2002 and 2003, identified lead and polycyclic aromatic hydrocarbons (PAH) impacted soil and clay pigeon debris exceeding the established cleanup criteria were removed from the NSC area. The cleanup goal for lead was set at the then current residential Preliminary Remediation Goal (PRG) (EPA Region 9, 2000) for lead of 400 milligram per kilogram (mg/kg). The cleanup goal used for PAHs was a total PAH concentration of 10 mg/kg. CalEPA recently revised their screening level for lead; the revised residential CHHSL for lead is 80 mg/kg (CalEPA, 2009). The average lead level detected in verification soil samples does not exceed the current CHHSL of 80 mg/kg; however, lead concentrations in some of the individual samples are above this level. Additionally, some of the individual PAH concentrations detected in verification soil samples are above the current Environmental Screening Levels (ESLs) established by the RWQCB (2008). Due to the limited nature of identified impacts, this REC does not pose a significant concern with respect to residential redevelopment of the subject site.

REC #5: Pistol Range

Description: The City of Newark Police Department has used a portion of the subject site since 1975 as a pistol firing range. Lead and copper were detected in soil from the pistol range area at up to 11,000 mg/kg and 270 mg/kg, respectively. The lead concentrations exceed both the residential CHHSL (80 mg/kg) and the TTLC (1,000 mg/kg). Waste material with concentrations above the TTLC is classified as a hazardous waste. Due to the limited nature of identified impacts, this REC does not pose a significant concern with respect to residential redevelopment of the subject site.

REC #6: Naturally Occurring Asbestos (NOA)

Description: Serpentinite that contains NOA was identified within the southern area of exposed bedrock (near the pistol range). Analyses of samples collected from the southern hill area detected NOA at concentrations ranging from 0.25 to 6.25 percent. This REC does not pose a significant concern with respect to residential redevelopment of the subject site provided mitigation measures to prevent the release of asbestos fibers from this material are implemented during site development activities.

REC #7: E-1 Drainage Ditch

Description: The E-1 Ditch bisects the subject site from the north-central property line to the southwestern corner of the subject site. As described in section 3.1.1, historically, the E-1 Ditch began on adjacent FMC and was used by FMC for various discharges. Although current water quality in the E-1 Ditch is not likely to be impacted by historic discharges, sediment within the E-1 Ditch could contain residual contaminants. Due to the limited nature of potential impacts along the ditch alignment, this REC does not pose a significant concern with respect to residential redevelopment of the subject site.

REC #8: Evaporation Ponds and Detention Basin

Description: During the late 1930s through at least the 1960s, portions of the northwestern subject site, west of the E-1 Ditch appear to have been used as salt evaporation ponds. Additionally, what appears to be a detention basin is apparent on aerial photographs from the late 1930s through at least the late 1950s. This potential detention basin was located where the E-1 Ditch intersects with adjacent FMC property along the northern property line. Due to the limited nature of potential impacts in this area, this REC does not pose a significant concern with respect to residential redevelopment of the subject site.

REC #9: Historical Industrial Use

Description: Based on the long industrial history of the subject site, previously unidentified buried structures, debris or impacted soil may be encountered during site development activities; these materials may require special handling and disposal. To limit construction delays, consideration should be given to developing a Site Management Plan (SMP) to establish management practices for handling these materials/structures if encountered.

HISTORICAL RECs

The ASTM E 1527-05 Standard defines an HREC as an environmental condition "which in the past would have been considered a recognized environmental condition, but which may or may not be considered a recognized environmental condition currently."

This Phase I ESA has revealed no evidence of HRECs in connection with the subject site.

***DE MINIMIS* CONDITIONS**

The ASTM E 1527-05 Standard defines *de minimis* conditions as those conditions which "do not present a threat to human health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies." The ASTM E 1527-05 Standard notes that "conditions determined to be *de minimis* are not recognized environmental conditions."

This Phase I ESA has revealed evidence of a *de minimis* condition related to stained soil observed on the northwestern portion of the subject site in an area used by R.J. Gordon Construction to store construction equipment and materials. The stained soil appears to be the result of leaking motor oil or hydraulic fluid from construction equipment. Due to the heavy nature of motor oil and hydraulic fluid, the impact to the soil caused by this release is likely surficial and is considered a *de minimis* condition.

CONCLUSIONS

In conclusion, although this site has nine RECs, due to the limited environmental risks associated with the known or potential impacts, these RECs do not pose a significant concern with respect to residential redevelopment of the subject site.

8. CREDENTIALS

This Phase I ESA report was prepared by David Schlotterbeck, who served as the Senior Environmental Scientist of this project. The report was completed under the direct supervision of James Schwartz, who served as the Officer-in-Charge and Client Leader of this project. Qualification information for the project personnel is provided below.

JAMES SCHWARTZ, PG
Senior Geologist

James Schwartz, P.G., has over 18 years of professional experience in the environmental consulting industry. His background covers a wide variety of areas, including planning and management of small- and large-scale investigations, project site remediation, Brownfields redevelopment, litigation support, corporate management, client development, marketing, and detailed data analysis using databases and geographic information systems. Mr. Schwartz's expertise also involves a number of specialized fields, including vapor intrusion, stable and radiogenic isotope hydrology, and sewer issues. He has worked closely with clients, regulators, attorneys, testifying experts, information technology specialists, modelers, field contractors and other environmental professionals.

DAVID SCHLOTTERBECK
Senior Environmental Scientist

Mr. Schlotterbeck has over 13 years of experience in preparing Phase I environmental site assessments, preliminary endangerment assessments, soil groundwater investigation work plans, remedial action work plans, and site closure reports. He has experience working with regulatory agencies to satisfy AAI due diligence requirements for Phase I ESAs throughout the United States. He has performed, as well as trained and managed personnel, in preparing Phase I and Phase II assessments for agricultural, industrial, manufacturing, automotive, retail, commercial and undeveloped properties. He has been responsible for managing and implementing soil and groundwater environmental investigations both to meet regulatory requirements and in support of litigation. His experience also includes management of underground storage tank removals, oversight for excavation and disposal of chemically impacted soils.

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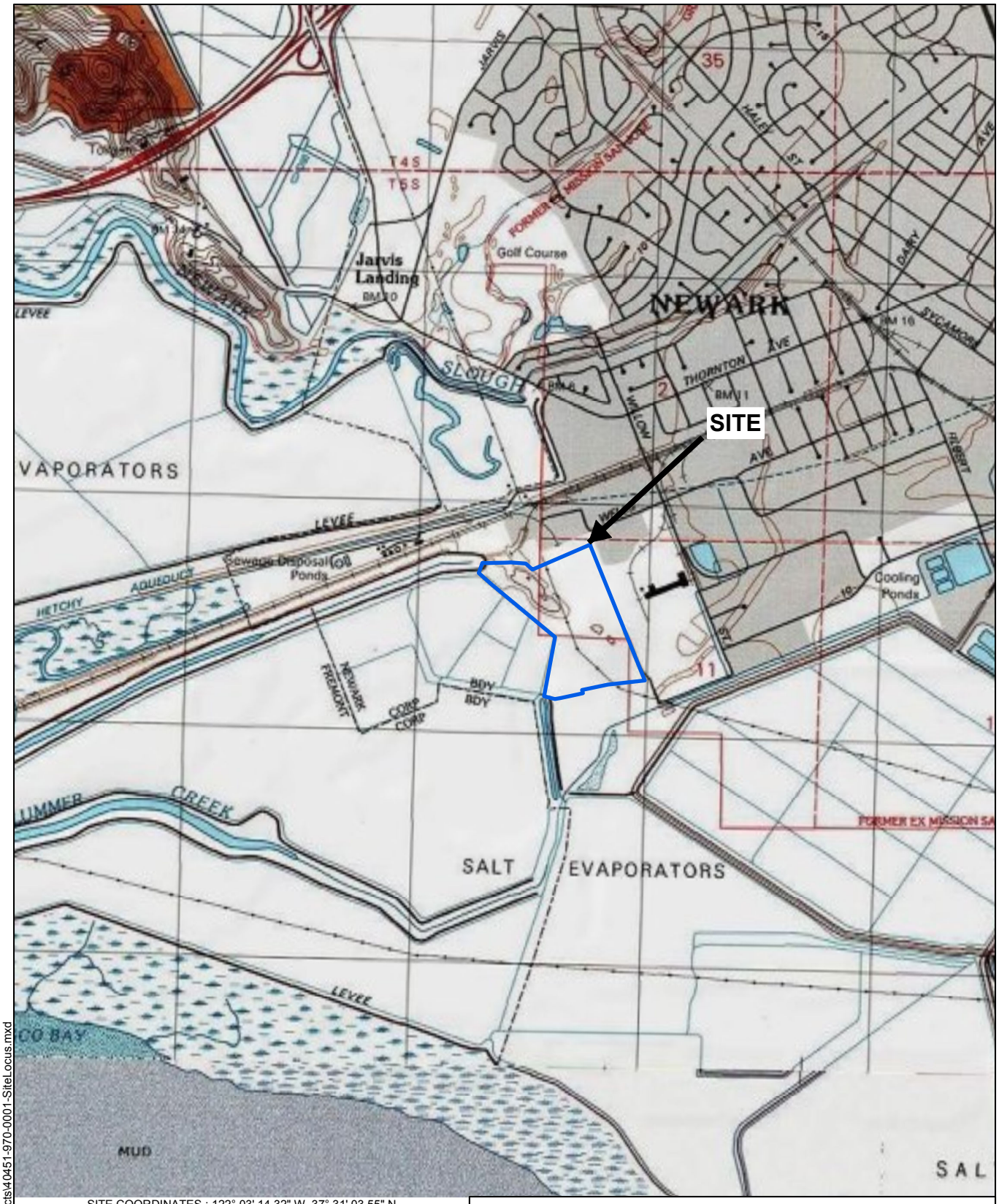
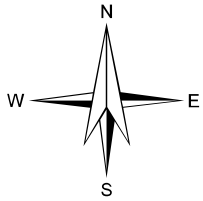
FIGURES



SITE COORDINATES : 122° 03' 14.32" W 37° 31' 03.55" N



HALEY & ALDRICH

CARGILL PROPERTY
54.53-ACRE PARCEL
SOUTHWEST OF HICKORY STREET AND ENTERPRISE DRIVE
NEWARK, CALIFORNIA

SITE LOCUS

SCALE: 1:24,000
OCTOBER 2013

FIGURE 1

G:\40451_Cargill\Global\GIS\MapProjects\40451-970-0001-SiteLocus.mxd

LEGEND

GROUNDWATER MONITORING WELL LOCATION

SITE BOUNDARY

NOTES:

1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.
2. SC = STORAGE CONTAINER
3. T = POLE-MOUNTED TRANSFORMER

N
W
E
S

0 300 600

SCALE IN FEET

HALEY & ALDRICH

CARGILL PROPERTY
54.53-ACRE PARCEL
SOUTHWEST OF HICKORY STREET AND ENTERPRISE DRIVE
NEWARK, CALIFORNIA

SITE PLAN

SCALE: AS SHOWN
OCTOBER 2013

FIGURE 2

G:\project_path\MXD file_name

APPENDIX A

Haley & Aldrich Proposal dated 25 September 2013

PROFESSIONAL SERVICES AGREEMENT

THIS PROFESSIONAL SERVICES AGREEMENT ("Agreement") is dated for reference purposes as of September 27, 2013, by and between DUMBARTON AREA 2, LLC, a Delaware limited liability company ("Owner"), and HALEY & ALDRICH, INC., a Massachusetts corporation ("Professional").

RECITALS

A. Owner is under contract for the purchase of that certain real property located in Newark, California and identified as APNs 537-852-09, -10 and -11, currently owned by Cargill Incorporated (the "Site"), which Site, if acquired by Owner, will be developed into a residential project (the "Project").

B. Owner desires to engage Professional to provide certain environmental consulting services with respect to the Site as more particularly set forth herein.

NOW, THEREFORE, Professional and Owner agree as follows:

1. BASIC AGREEMENTS.

1.1 Basic Services. In compliance with all of the terms and conditions of this Agreement, the Professional shall provide those services specified in the "Scope of Services" attached hereto as Exhibit "A", which services are referred to herein as the "Basic Services". Professional shall meet with Owner from time to time as requested by Owner to discuss the progress of the Basic Services rendered to date and to ensure that Owner is satisfied with the scope and quality of the Basic Services. Owner may have a representative present at any meeting of Professional concerning the Project.

1.2 Subconsultants. Professional may retain professional consultants subject to the prior written approval of Owner ("Subconsultants"). The retention of the Subconsultants shall not diminish or reduce the obligations and duties of Professional hereunder. Unless Owner specifically approves, in each instance, that the payment to any Subconsultant is a reimbursable expense pursuant to Section 2.4 below, Owner shall not have any liability for the cost and expenses of any Subconsultant, and Professional solely shall be liable for any payment due to such Subconsultants from the Fees (as defined below) paid by Owner to Professional. Professional shall work with and coordinate its Basic Services with other consultants retained by Owner in connection with the design of the Project as a Basic Service hereunder, but Professional shall not be responsible for the content of their work.

1.3 Supervisor and Employees. James Schwartz is a principal of the Professional and will supervise the Services (as hereinafter defined) provided under this Agreement and will represent Professional in all matters of coordination, decision and policy pertaining to Professional's professional services under this Agreement. Any replacement of said individual(s) shall be subject to Owner's prior written approval and Owner shall be permitted to terminate this Agreement, without penalty, in the event a satisfactory replacement is not immediately available. Owner, in its sole discretion, may direct Professional to remove an

employee or Subconsultant performing work hereunder. Professional shall replace said employee or Subconsultant with another qualified employee or Subconsultant acceptable to Owner.

1.4 Standard of Performance. As a material inducement to Owner to enter into this Agreement, Professional hereby represents Professional has all applicable licenses to perform the Basic Services and is experienced in performing work or services similar to the Basic Services and, in light of such experience, Professional hereby covenants that it shall follow the standard of care of a Competent Consultant (as defined below) in performing all services required hereunder. "Competent Consultant" shall mean that all of Professional's services provided under and related to this Agreement shall represent Professional's judgment as an environmental engineer whose competence and professionalism equals that of environmental engineers performing services similar in scope and complexity to those required of Professional hereunder, for large corporate, governmental and institutional clients in the area where and at the time that the Professional practices.

1.5 Notice by Professional. The Professional shall notify the Owner immediately in writing if the Professional is aware or becomes aware of any omissions or deficiencies in the data or information supplied to the Professional by the Owner or any of its employees, agents, consultants or contractors.

1.6 Compliance with Laws. Professional shall comply with all applicable federal, state and local laws, ordinances, regulations and orders in performing the services hereunder.

1.7 Additional Services. The Owner shall have the right at any time during the performance of the services, without invalidating this Agreement, to order extra work beyond that specified in the Scope of Services or make changes by altering, adding to or deducting from said work ("Additional Services"). No Additional Services may be undertaken unless authorized by Owner in advance and in writing, nor shall Professional be entitled to any payment for work or services performed without such written agreement. Additional Services shall be paid for by the Owner as provided in Section 2.2. All services performed in connection with this Agreement may be referred to herein as the "Services." All terms and conditions under this Agreement applicable to Basic Services shall be applicable to all Services except as otherwise agreed to in writing by Owner and Professional.

2. COMPENSATION. The Owner shall compensate the Professional for the services to be performed in accordance with the terms and conditions of this Agreement as follows:

2.1 Basic Services. For Basic Services, as described in the Scope of Services, Professional shall be paid as set forth in the "Schedule of Compensation" attached hereto as Exhibit "B" (the "Basic Services Fee"). Said compensation shall be inclusive of all benefits, compensation costs and expenses unless specifically set forth to the contrary in this Section 2 or in the Schedule of Compensation.

2.2 Additional Services. For Additional Services, as described in Section 1.7 hereof, compensation shall be paid as set forth in the Schedule of Compensation or as otherwise set forth in a written agreement between Owner and Professional for such Additional Services (the

"Additional Services Fee" and, together with the Basic Services Fee and any other amounts owed by Owner pursuant to this Agreement, the "Fees").

2.3 No Compensation for Deficiencies. Notwithstanding anything contained in this Agreement to the contrary, no compensation shall be paid to or claimed by the Professional for services, whether as Additional Services or Basic Services, required to correct deficiencies in any documents prepared by or on behalf of the Professional, or attributable to defaults, failures, errors or omissions of the Professional, or conflicts in the design documents attributable to the Professional, or changes requested by the Professional, unless previously approved by the Owner.

2.4 Reimbursable Expenses. The Owner shall, in addition to the amounts described in Sections 2.1 and 2.2, if applicable, reimburse the Professional on the basis of actual cost for those out-of-pocket expenses specifically set forth on the Schedule of Compensation. All other costs, expenses or charges, including, but not limited to, reproduction costs for drawings and specifications for the Professional's internal purposes and coordination between the Professionals, daily working and commuting travel expenses, and all compensation and benefits paid to Professional's employees, incurred by the Professional in connection with the services provided hereunder, shall be paid by the Professional without reimbursement from the Owner. Notwithstanding anything in the Schedule of Compensation to the contrary, Professional shall not be entitled to reimbursement for such reimbursable expenses unless Owner pre-approves such expenses in writing.

2.5 Fees, Taxes, and Assessments. Professional shall pay its own income taxes, federal, state or city, and self-employment taxes. Professional shall have the sole obligation to pay for any fees, assessments and taxes, plus applicable penalties and interest, which may be imposed by law and arise from or are necessary for the Professional's performance of the services required by this Agreement, and Professional shall indemnify, defend and hold harmless the Owner against any such fees, assessments, taxes or penalties or interest assessed, levied or imposed against Owner hereunder.

2.6 Payment. Payment of the compensation set forth herein shall be made to Professional as set forth on Exhibit "B" attached hereto. Professional shall render an invoice (together with all applicable lien releases and other supporting documentation reasonably requested by Owner) to Owner for all expenses incurred by Professional for which Professional seeks payment. Upon timely submission by Professional, Owner shall pay Professional for all payments due and payable within thirty (30) days thereafter. Should a bona fide dispute arise with respect to an invoice submitted by Professional, or to the extent reasonably necessary to protect the Owner from loss for which the Professional is responsible, Owner shall pay the undisputed amount within the time period set forth on the Schedule of Compensation, but shall withhold the disputed amount until the matter is resolved.

3. PROJECT SCHEDULE. The Professional shall commence its work hereunder within five (5) days of the receipt of an authorization to proceed from Owner and shall complete the work on or before the target dates set forth in the "Project Schedule" promulgated by Owner from time to time; provided, however, that no such work shall be commenced until Owner has approved the insurance required to be obtained by Professional pursuant to Section 4.1.

Professional will perform the Services with due and reasonable diligence and expediency consistent with the standard of care of a Competent Consultant.

4. INSURANCE AND INDEMNIFICATION.

4.1 Insurance. Prior to commencing any work hereunder, Professional shall, at its sole cost and expense, fully comply with the terms and requirements of this Section. Professional shall maintain in full force and effect during the entire term of this Agreement the following policies of insurance written by insurance companies satisfactory to Owner:

(a) Workers' Compensation and Employers' Insurance. Workers' Compensation Insurance in an amount required by the laws of the state in which the Site is located and Employer's Liability Insurance in an amount not less than ONE MILLION DOLLARS ($1,000,000.00) combined single limit for all damages arising from each accident or occupational disease.

(b) Commercial General Liability Insurance. Commercial General Liability Insurance covering bodily injury, property damage, personal injury and advertising injury written on a per-occurrence and not a claims-made basis in an amount not less than ONE MILLION DOLLARS ($1,000,000.00) combined single limit and TWO MILLION DOLLARS ($2,000,000.00) in the aggregate.

(c) Automobile Liability Insurance. A policy of comprehensive automobile liability insurance written on a per-occurrence basis in an amount not less than ONE MILLION DOLLARS ($1,000,000.00) combined single limit covering all owned, non-owned, leased and hired vehicles used in connection with the Work.

(d) Professional Errors and Omissions Insurance. A policy of professional errors and omissions insurance in an amount not less than ONE MILLION DOLLARS ($1,000,000.00) per claim and ONE MILLION DOLLARS ($1,000,000.00) in the aggregate. Said errors and omissions insurance shall remain in effect until the date of final completion of the services hereunder plus ten (10) years. If Owner so elects and agrees to pay for the cost thereof, and if available, Professional shall procure and maintain in effect an additional Professional Errors and Omissions Insurance Policy covering this Site, and this Site only, of the same kind and for the same duration set forth above.

(e) Contractor's Pollution Liability Insurance. A policy that that will pay those sums that the Professional becomes legally obligated to pay as damages for bodily injury or property damage resulting from the discharge, dispersal, release, seepage, migration or escape of pollutants, including solid, liquid, gaseous or thermal irritant or contaminant. The contractor's pollution liability insurance policy shall have a policy limit of not less than TWO MILLION DOLLARS ($2,000,000.00) per occurrence.

(f) Umbrella Liability Insurance. Unless waived by Owner, such insurance shall provide coverage with limits of not less than TWO MILLION DOLLARS ($2,000,000) per occurrence and TWO MILLION DOLLARS $2,000,000 in the aggregate, in excess of the coverages listed in 4.1(a), (b), and (c) above.

(g) Other Insurance. Such other policies of insurance, including, but not limited to, casualty insurance, business interruption insurance and fidelity insurance, as may be required in the Scope of Services.

(h) General Provisions. All of the foregoing policies of insurance (except for the professional errors and omissions insurance) shall be primary insurance and any insurance maintained by Owner shall be excess and non-contributing. All of the forgoing policies, including workers compensation (but excluding professional errors and omissions insurance), shall contain a blanket waiver of subrogation endorsement, waiving all rights against Owner and any other party against whom the Named Insured has waived its rights of subrogation by a written contract prior to the loss. All policies of insurance required to be obtained by Professional hereunder shall be issued by insurance companies authorized to do business in the state in which the Site is located and rated not less than A:VIII or better (A:V for professional liability cover) in Best's Insurance Guide. Prior to commencing any work hereunder, Professional shall deliver to Owner and Owner shall have approved (i) certificate(s) of insurance evidencing the coverages specified herein covering all operations and (ii) additional insured endorsement(s) for each such policy (other than the worker's compensation and professional errors and omissions insurer) on an ISO Form CG 20 10 (3/97 or 10/01) and accompanied by form CG 20 37 (07/04) or substantially similar forms (and not a ISO Form CG 20 09) covering Owner, its parent, subsidiary and affiliated entities, and the fee owner of the Site (if different than Owner) as additional insureds. All such certificates will have the words "endeavor to" struck out of the "Cancellation" provision thereof and shall also have deleted from such provision any language that excuses the insurer from failing to provide any notice; provided, however, Owner will accept certificates of such insurance without the foregoing deletions if Professional has, despite commercially reasonable efforts, been unable to have such language deleted. If requested by Owner, Professional shall provide to Owner duplicate originals of the commercial general liability and umbrella policies. Such policies shall not be cancelled, endorsed, altered, non-renewed, reissued to effect a change in coverage or allowed to expire without the insurer providing Owner thirty (30) days prior written notice. Professional shall require the same minimum insurance as listed above from all its Subconsultants, if any. All such policies shall provide for severability of interests and shall provide that any act or omission of any one (1) of the insureds or additional insureds that would void or otherwise reduce coverage shall not reduce or void any coverage as to any of the other insureds or additional insureds. No cross suits exclusion will apply. None of the foregoing policies shall have a deductible amount greater than $25,000.00 without the prior written approval of Owner.

4.2 Indemnification.

(a) Professional shall indemnify, protect, defend (except to the extent limited by Section 4.2(b) below), save and hold Owner and its parent, affiliated and subsidiary entities and their respective principals, agents, employees, partners, directors, officers and anyone else acting for or on behalf of any of them (all of said parties are herein collectively referred to as the "Indemnitee") harmless from and against all liability, damage, loss, claims, demands, actions and expenses of any nature whatsoever, including, but not limited to, reasonable attorney's fees (collectively, "Claims"), only to

the extent such Claims arise out of or are connected with, or are claimed to directly or indirectly arise out of or be connected with (except to the extent limited by Section 4.2(b) below): (i) the negligent act or omission of Professional, its officers, employees, invitees, licensees, independent contractors and agents (all of said parties are herein collectively referred to as the "Professional Parties"); (ii) the willful misconduct of any of the Professional Parties; (iii) the breach of any material provision of this Agreement by Professional; or (iv) the failure of any of the Professional Parties to comply with the laws, statutes, ordinances or regulations of any governmental or quasi-governmental authority in effect at the time any such services are rendered, except to the extent such loss or damage is attributable to the negligent acts or omissions or willful misconduct of such Indemnitee.

(b) Notwithstanding anything in Section 4.2(a) to the contrary, for Claims covered by Professional's policy of professional errors and omissions, or required to be maintained by Professional pursuant to this Agreement, (i) Professional's obligations pursuant to Section 4.2(a) above shall only apply to the extent the applicable Claim is "caused by" any of the events set forth in clauses (i) through (iv) in Section 4.2(a); (ii) Owner and Professional agree Professional has no obligation to provide an immediate defense of such Claims and (iii) Professional shall reimburse Indemnitee its share of defense costs only to the extent of Professional's actual indemnity obligation hereunder.

5. RIGHTS AND REMEDIES.

5.1 Default by Professional. In the event (i) Professional fails to expeditiously perform the services required to be performed hereby in a skilled and expeditious manner; or (ii) Professional, or any employee or agent of Professional, shall wrongfully file or record a lien against the Site or any property of Owner or any agent or employee of Owner; or (iii) any representation or certification made by Professional to Owner shall prove to be false or misleading on the date said representation or certification is made; or (iv) default shall be made in the observance or performance of any covenant, agreement or condition contained in this Agreement required to be kept, performed or observed by Professional; (v) Professional violates any laws, ordinances, rules, regulations or orders of any public authority in the performance of its duties hereunder; or (vi) Professional suffers bankruptcy; then, provided the event as described above is not cured within thirty (30) days after written notice from Owner to Professional, Owner may declare Professional to be in default hereunder. "Bankruptcy" shall be deemed to occur when Professional makes an assignment for the benefit of creditor, files a petition in bankruptcy court, voluntarily takes advantage of any bankruptcy or insolvency laws, or is adjudicated bankrupt or judicially insolvent, or if a petition or an answer is filed proposing the adjudication of such Professional as bankrupt. If Professional is in default under the provision of this Agreement pursuant to this Section, Owner may, in addition to any other right or remedy Owner may have, terminate the employment of Professional and take possession of all plans, specifications, drawings and other data theretofore prepared by Professional with respect to the services performed hereunder. Additionally, Owner may pursue any action available to it at law or in equity to obtain relief for actual damages suffered by reason of defaults, failures, or breaches of Professional hereunder.

5.2 Default by Owner. In the event Owner shall fail to perform its obligations pursuant to this Agreement after thirty (30) days' written notice from Professional to Owner, Professional may declare Owner to be in default hereunder and exercise any remedies available to it. Should Owner default in its obligations hereunder, Professional may terminate this Agreement. Upon such a termination, Professional may recover from Owner full payment for all work performed to the date of such termination and for all reimbursable amounts.

5.3 Termination by Owner Without Fault of Professional. Owner shall have the right to cancel and terminate this Agreement at any time whether or not a default exists hereunder, and Owner shall incur no penalty or liability to Professional or any other person by reason of such cancellation. If the cancellation is for no fault of Professional hereunder, Owner shall pay to Professional all sums due under this Agreement as a percent of work completed effective as of the date of termination, plus Owner approved out-of-pocket expenses actually incurred by Professional that are specifically set forth on the Schedule of Compensation. Upon receipt of notice of termination of the Agreement, Professional shall promptly take whatever reasonable steps are required to economically and efficiently transition any services remaining under the Agreement to Owner, as of such termination date, including but not limited to, delivery of all Work Product (as defined in Section 5.5) to Owner.

5.4 Transfers on Termination. In the event of termination of this Agreement, Professional and Owner shall forthwith return to the other all papers, materials and other properties of the other held by each for purposes of execution of this Agreement. In addition, each party will assist the other party in orderly termination of this Agreement and the transfer of all aspects hereof, tangible and intangible, as may be necessary for the orderly, non-disrupted business continuation of each party.

5.5 Work Product. All test data, survey results, models, renderings, drawings, plans and specifications prepared by the Professional in connection with the performance of services under this Agreement (collectively, "Work Product") are and shall remain the property of Professional, including all copyrights, rights of reproduction and other interests relating thereto, except as provided herein. Owner shall be entitled to retain copies, including reproducible copies, of the Work Product for information and reference in connection with Owner's use and development of the Project and for future phases of the Project. As to those Work Product subject or which will be subject to any form of intellectual property protection or other ownership, Professional hereby grants or causes or will cause to be granted to Owner a world-wide, paid up, nonexclusive license for the term of intellectual property protection or other ownership, for the Owner to use, reproduce and have reproduced, display and allow others to display and to publish and allow others, subject to the restrictions contained herein, to display and to publish, in any manner related to the Project or for future phases of the Project, such Work Product without further compensation to Professional or any third party and with the right to transfer such rights to a purchaser of the Site. If the Professional is in default under this Agreement and this Agreement is terminated by reason thereof, Owner shall be entitled to use the Work Product for completion of the Project by others without additional compensation. Submission or distribution of documents to meet official regulatory requirements or for similar purposes in connection with the Project is not be construed as publication in derogation of the Professional's reserved rights.

6. DISPUTE RESOLUTION.

6.1 Mediation. At Owner's sole election, any action, dispute, claim or controversy between the parties, whether sounding in contract, tort or otherwise, including all disputes arising out of or in connection with this Agreement and any related agreements or instruments and any transaction contemplated hereby ("Dispute" or "Disputes") shall be attempted to be settled in good faith by nonbinding mediation administered by the American Arbitration Association ("AAA") under its Construction Industry Mediation Rules before resorting to binding arbitration pursuant to Section 6.2 below. In the event of any inconsistency between such rules and these mediation provisions, these provisions shall supersede such rules. All statutes of limitations that would otherwise be applicable shall apply to any mediation proceeding under this Section. Except as otherwise provided, the mediator shall be selected in accordance with the Construction Industry Mediation Rules of the AAA. Any mediator selected under this Section shall be knowledgeable in the subject matter of the Dispute. Qualified retired judges with at least five (5) years mediation experience shall be selected through panels maintained by AAA, any court in which the Site is located or any private organization providing such services. The mediation shall be held within thirty (30) days of the date the demand for mediation is served on a party. The parties understand and agree that a representative from each side with full settlement authority will be present at the mediation conference. The mediation process is to be considered settlement negotiations for the purpose of all state and federal rules protecting disclosures made during such conferences from later discovery or use in evidence. The parties hereto agree that the provisions of California Evidence Code Section 1152 shall apply to any mediation conducted hereunder. All conduct, statements, promises, offers, view and opinions, oral or written, made during the mediation by any party or a party's agent, employee or attorney shall not be subject to discovery or admissible for any purpose, including impeachment, in any litigation, arbitration or other proceeding involving the parties. The mediator's fees and costs shall be divided equally among the parties.

6.2 Arbitration. If the Dispute cannot be resolved by mediation pursuant to Section 6.1 above, the Dispute shall be resolved by arbitration as set forth in this Section. Such disputes shall be resolved by binding arbitration in accordance with Title 9 of the U. S. Code and the Construction Industry Arbitration Rules of the AAA. In the event of any inconsistency between such rules and these arbitration provisions, these provisions shall supersede such rules. All statutes of limitation that would otherwise be applicable shall apply to any arbitration proceeding under this Section. In any arbitration proceeding subject to these provisions, the arbitrator is specifically empowered to decide (by documents only, or with a hearing, at the arbitrator's sole discretion) pre-hearing motions that are substantially similar to pre-hearing motions to dismiss and motions for summary adjudication. Judgment upon the award rendered may be entered in any court having jurisdiction. Except as otherwise provided, the arbitrator shall be selected in accordance with the Construction Industry Arbitration Rules of the AAA and shall not be the mediator previously appointed to hear the Dispute. Any arbitrator selected under this Section shall be knowledgeable in the subject matter of the Dispute. Qualified retired judges with at least five (5) years arbitration experience shall be selected through panels maintained by the AAA, any court in which the Site is located or any private organization providing such services. Initially, the fees and costs of the arbitrator shall be divided equally among the parties to the arbitration.

6.3 Survival; Applicability. The provisions of this Article shall survive any termination, amendment or expiration of this Agreement in which this section is contained, unless the parties otherwise expressly agree in writing. Should an action, Dispute, claim or controversy be brought against Owner and/or Professional by a third party who is not bound by a mediation or binding arbitration provision similar to the mediation and arbitration provisions contained herein, the terms of this Article shall not apply to such action, Dispute, claim or controversy.

6.4 Work During Disputes. Notwithstanding the fact that a Dispute, controversy, claim or question shall have arisen in the interpretation of any provision of this Agreement or the performance of the Services hereunder, Professional will not directly or indirectly stop or delay any of the Services.

7. MISCELLANEOUS.

7.1 Liens. Provided Owner has paid Professional the amounts owing hereunder when such sums are owed to Professional, should Professional or any subconsultant or employee of Professional make, record or file, or maintain any action on or respecting a claim of mechanic's or materialmen's lien, stop-notice, equitable lien, payment or performance bond or *lis pendens* (in each case, a "Lien"), Professional shall immediately and at its own expense procure, furnish and record appropriate statutory release bonds of bonding companies acceptable to Owner which will extinguish or expunge said claim, stop-notice or lis pendens. If Professional fails to do so within ten (10) days after receiving notice of the Lien, Owner will have the right to cause such lien to be removed and Professional shall indemnify, defend and hold harmless Owner against all liability, cost and expense incurred by Owner in causing such lien to be removed. Owner may retain out of any payment due Professional amounts sufficient to reimburse Owner for any such liability, cost and expense.

7.2 Professional Opinions. Professional shall, from time to time, provide opinions and statements to the Owner and to others as the Owner shall reasonably request provided that Professional determines that such opinions and statements are true and correct based upon the Services performed by Professional hereunder.

7.3 Personal Service Contract. This Agreement is entered into solely to provide for the design services set forth herein and to define the rights, obligations and liabilities of the parties hereto. This Agreement, and any document or agreement entered into in connection herewith, shall not be deemed to create any other relationship between Professional and Owner other than as expressly provided herein. Professional acknowledges that it is an independent contractor of Owner and not a partner or joint venturer of Owner or an employee or agent of Owner. Professional is free to pursue and accept other business opportunities so long as Professional's business ventures do not conflict with the provisions of this Agreement. Professional shall not at any time or in any manner represent that it or any of its agents or employees are agents or employees of Owner.

7.4 Prohibition on Assignment. The experience, knowledge, capability and reputation of Professional, its principals and employees were a substantial inducement for Owner to enter into this Agreement. Therefore, neither this Agreement nor any interest herein may be

transferred, assigned, conveyed, hypothecated or encumbered, voluntarily or by operation of law, by Professional, whether for the benefit of creditors or otherwise, without the prior written approval of Owner. Transfers restricted hereunder shall include the transfer to any person or group of persons acting in concert of more than twenty-five percent (25%) of the present ownership and/or control of Professional, taking all transfers into account on a cumulative basis. In the event of any such unapproved transfer, this Agreement shall be void. No approved transfer shall release Professional of any liability hereunder without the express consent of Owner. Owner may assign all of its right, title and interest in and to the Agreement or any portion thereof without the prior written consent of the Professional. Not by way of limitation of the foregoing, Professional acknowledges that Owner may assign all of its right, title and interest in and to this Agreement to any party including, without limitation, third party purchasers, its lender(s) and/or equity partner(s) for security purposes and agrees to execute consents to such assignment as may be required by such third party purchasers, lender(s) and/or equity partner(s). Upon any such assignment, Owner shall be relieved of any liabilities or obligations occurring under this Agreement from and after the date of such assignment.

7.5 Information. The Owner shall provide information regarding its requirements for the services to be provided by the Professional.

7.6 Owner's Approval. Whenever provision is made herein for the approval or consent of Owner, or that any matter be to Owner's satisfaction, unless specifically stated to the contrary, such approval or consent shall be made by Owner in its sole discretion and determination.

7.7 Notices. Any notice which either party may desire to give to the other party must be in writing and shall be effective (i) when personally delivered by the other party or messenger or courier thereof; (ii) three (3) business days after deposit in the United States mail, registered or certified; (iii) twenty-four (24) hours after deposit before the daily deadline time with a reputable overnight courier or service; or (iv) upon receipt of a telecopy or fax transmission, provided a hard copy of such transmission shall be thereafter delivered in one of the methods described in the foregoing (i) through (iii); in each case postage fully prepaid and addressed to the respective parties as set forth below or to such other address and to such other persons as the parties may hereafter designate by written notice to the other parties hereto:

To Owner:
Dumbarton Area 2, LLC
3 San Joaquin Plaza, Suite 100
Newport Beach, CA 92660
Attn: Evan Knapp and Caren Read
Facsimile: 949-720-3613

To Professional:
Haley & Aldrich, Inc.
2033 N. Main Street, Suite 309
Walnut Creek, CA 94596
Attn: James Schwartz
Facsimile: 925-979-1456

7.8 Books and Records. Professional shall keep complete and detailed books and records relating to reimbursable expenses, Additional Services and services performed on the basis of a fixed rate on the basis of generally recognized accounting principles, consistently applied. These books and records shall be retained by the Professional at its head office for a period of at least three (3) years after the date of completion of the performance of this Agreement. The Owner shall have the right at all reasonable times to audit the books and records. If such audit discloses that Professional has charged and received more than it was entitled hereunder, Professional shall immediately reimburse to Owner the excess amount received together with interest thereon at ten percent (10%) per annum from the date such excess amount was received until repayment thereof.

7.9 Confidentiality. Professional, for itself and its employees and personnel, acknowledges, confirms and agrees that all information learned in the course of their employment and all data furnished by the Owner, all plans, drawings, computer programs, specifications, and other documents relating to the Site, Owner's business and the terms of this Agreement are and shall remain of a confidential nature. Any publicity or press releases with respect to the Site or the services hereunder shall be under the sole discretion and control of the Owner. Professional shall not divulge to any unauthorized person any confidential information concerning observations, conversations, discussions, correspondence, personnel records, business records, proprietary records. All matters concerning the Owner and its business operations, including, but not limited to, the identity of persons with whom it conducts business such as customers, vendors, manufacturers and suppliers, its research and development, its projects and contemplated projects, its financial affairs, its pricing structure and strategies and its procedures and practices shall be considered confidential. Such information remains the property of the Owner. Moreover, Professional shall not employ confidential business information in performing services for Owner that it has obtained by virtue of its relationship with any other company. These restrictions shall not apply to (a) information that is in the public domain through no wrongful act or omission of any of the Professional Parties, (b) was in Professional's lawful possession prior to the date of this Agreement and had not been first obtained by Professional either directly or indirectly from Owner or (c) information that is required to be disclosed by law or court order provided, however, that Professional first provides written notice to Owner prior to making any such disclosure.

7.10 Conflict of Interest. Professional shall not have any business or financial interest outside the Owner which in any way conflicts with the interests of the Owner or places Professional in a position where it can use the association with the Owner for direct or indirect gain to the possible detriment or embarrassment of the Owner. A conflict of interest may arise in a wide variety of circumstances and may be direct or indirect. A conflict of interest arises whenever the Professional's outside interests might affect or might reasonably be thought by others to affect the Professional's judgment or conduct in matters which involve the Owner. Professional agrees not to engage in such activity. Professional assumes any and all liability should any allegation of conflict of interest arise from the conduct of Professional, and Professional agrees to indemnify the Owner for any allegation of conflict of interest arising from the conduct of Professional.

7.11 Waiver. No waiver of any default hereunder shall be construed as a waiver of any subsequent breach.

7.12 Successors and Assigns. Subject to the restrictions in Section 7.4 above, the Owner and the Professional each binds himself, his partners, successors, permitted assigns and legal representatives to the other party to this Agreement and to the partners, successors, assigns and legal representatives of such other party with respect to all covenants of this Agreement.

7.13 Governing Law. This Agreement shall be construed in accordance with the laws of the state in which the Site is located.

7.14 Full Agreement. Each party acknowledges its full understanding of this Agreement and that there are no verbal promises, undertakings or agreements in connection herewith and that this Agreement may be modified only by a written agreement signed by all parties hereto. All previous negotiations and agreements between the parties hereto, with respect to the transaction set forth herein, are merged in this instrument which fully and completely express the parties' rights and obligations, and the covenants herein shall be binding upon and inure to the benefit of the parties hereto and their respective heirs, legal representatives, successors and assigns.

7.15 Partial Invalidity; Counterparts. If any term or provision of this Agreement shall be found to be illegal, unenforceable or in violation of the laws, statutes, ordinances or regulations of any public authority having jurisdiction thereof by a court of competent jurisdiction, then, notwithstanding such term or provision, this Agreement shall be and remain in full force and effect and such term shall be deemed stricken; provided, however, this Agreement shall be interpreted, when possible, so as to reflect the intentions of the parties as indicated by any such stricken term or provision. This Agreement may be executed in multiple counterparts, each of which shall be deemed an original and all of which together shall constitute one instrument. In order to facilitate the transaction contemplated herein, electronically mailed or facsimile signatures may be used in place of original signatures on this Agreement. Each party intends to be bound by the signatures on the electronically mailed or facsimiled document, are aware that the other party will rely on such signatures, and hereby waive any defenses to the enforcement of the terms of this Agreement based on the form of signature.

7.16 Survival. The terms, provisions, indemnities, representations and certifications contained in this Agreement, or inferable therefrom, shall survive the termination of this Agreement and the payment of the remuneration hereinabove provided.

7.17 Attorneys' Fees. In any action between the parties hereto seeking enforcement of any of the terms and provisions of this Agreement or in connection with the performance of the services hereunder, the prevailing party in such action shall be entitled to have and to recover from the other party its actual attorneys' fees, expert witness fees, arbitrator's fees, statutory costs, court costs and other expenses in connection with such action or proceeding.

7.18 Authority. Each individual executing this Agreement represents and warrants that he or she is duly authorized to execute and deliver this Agreement on behalf of the party to this Agreement.

7.19 Exhibits. Exhibits "A" and "B" attached hereto, are incorporated herein by this reference for the sole purposes of setting forth the scope of the Basic Services, the terms of

payment for Basic Services and Additional Services and any schedule of performance of the Services. All other terms and conditions set forth in Exhibits "A" and "B" shall not be incorporated into this Agreement. In the event of any conflict or inconsistency between the terms and conditions of the body of this Agreement and the Exhibits attached hereto, the terms and conditions contained in the body of this Agreement shall prevail.

7.20 Waiver of Consequential Damages. Neither party, nor their parent, affiliated or subsidiary companies, nor the officers, directors, agents, employees or contractors of any of the foregoing, shall be liable to the other in any action or claim for incidental, indirect, special, collateral, consequential, exemplary or punitive damages arising out of or related to the Services or breach of this Agreement, whether the action in which recovery of damages is sought is based upon contract, tort (including, to the greatest extent permitted by law, the sole, concurrent or other negligence, whether active or passive, and strict liability of any protected individual or entity), statute or otherwise.

7.21 Limitation of Remedies. In recognition of the relative risks and benefits of the Project to both the Owner and the Professional, the risks have been allocated such that the Owner agrees, to the fullest extent permitted by law, to limit the liability of Professional in connection with this Agreement for any and all claims, losses, costs, damages of any nature whatsoever or expenses from any cause or causes, including attorneys' fees and costs and expert-witness fees and costs, so that the total aggregate liability of the Professional under this Agreement shall not exceed $1,000,000.

[signatures on following page]

IN WITNESS WHEREOF, the parties hereto have executed this Agreement as of the day and year first above written.

DUMBARTON AREA 2, LLC,
a Delaware limited liability company

By:_____
Name: C. Evan Knapp
Title: Authorized Signatory

"Owner"

HALEY & ALDRICH, INC.,
a Massachusetts corporation

By: Maryal E Gorczyca
Name: Maryal E Gorczyca
Title: Senior Vice President

"Professional"

EXHIBIT "A"

SCOPE OF SERVICES

[see attached proposal letter from Professional dated September 25, 2013, and Attachments A, B and C thereto, together consisting of 10 pages]

Haley & Aldrich, Inc.
2033 N. Main Street
Suite 309
Walnut Creek, CA 94596-7260

Tel 925.949.1012
Fax 925.979.1456
Haley-Aldrich.com

HALEY & ALDRICH

25 September 2013
File No. 40451-970

~~Integral Partners Funding, LLC~~ Dumbarton Area 2, LLC
3 San Joaquin Plaza, Suite 100
Newport Beach, California 92660

Attention: Glenn Brown, PE

Subject: Proposal for Phase I Environmental Site Assessment
Cargill Property
Newark, California

Dear Mr. Brown:

Haley & Aldrich, Inc. is pleased to submit this proposal to provide environmental consulting services. This proposal presents our scope of work to perform a Phase I environmental site assessment (Phase I assessment) at the subject site described below using methods consistent with the ASTM E 1527-05 Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process (ASTM E 1527-05 Standard) as referenced in 40 CFR Part 312 (the All Appropriate Inquiries [AAI] Rule.

The completion of these Phase I assessments are only one component of the process required to satisfy the AAI Rule. In addition, the user must adhere to a set of user responsibilities as defined by the ASTM E 1527-05 Standard and the AAI Rule. User responsibilities are discussed below. A user seeking protection from Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) liability as an innocent landowner, bona fide prospective purchaser, or contiguous property owner must complete all components of the AAI process in addition to meeting ongoing obligations. AAI components, CERCLA liability relief, and ongoing obligations are discussed in the AAI Rule and in Appendix XI of the ASTM E 1527-05 Standard.

PROJECT UNDERSTANDING AND BACKGROUND

It is our understanding that Integral Partners Funding, LLC (Integral) is considering acquisition of the subject site, and in connection with this proposed transaction, desires a Phase I assessment of the subject site consistent with the ASTM E 1527-05 Standard practices.

Haley & Aldrich understands the subject site consists of consists of a portion of three former parcels (Assessor's Parcel Numbers [APNs] 537-0852-009, 537-0852-010 and 537-0852-011). We understand that the parcel boundaries have been revised and a new parcel map is being recorded with the County; the subject property now consists of a single 54.53-acre parcel. The approximate property boundaries are shown on the attached figure.

PROJECT OBJECTIVES

The objective of a Phase I assessment is to identify known and suspect "recognized environmental conditions" (RECs), historical RECs (HRECs), and *de minimis* conditions associated with the subject site by evaluating site history, existing observable conditions, current site use, and current and former uses of adjoining properties as well as potential releases at surrounding properties that may impact the subject site. RECs are defined in the ASTM E 1527-05 Standard as "the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater, or surface water at the property. The term includes hazardous substances or petroleum products even under conditions in compliance with laws. The term is not intended to include *de minimis* conditions that generally do not present a threat to human health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies." A material threat is defined by the ASTM E 1527-05 Standard as "a physically observable or obvious threat which is reasonably likely to lead to a release that, in the opinion of the environmental professional, is threatening and might result in impact to public health or the environment."

Consistent with ASTM E 1527-05 Section 12.5 (Report Format), and for the purposes of this assessment, those RECs that have been identified as being present with respect to the subject site are referred to as Known Recognized Environmental Conditions (KRECs), and those RECs that have been identified as being likely present with respect to the subject site are referred to as Suspect Recognized Environmental Conditions (SRECs). The ASTM E 1527-05 Standard defines HRECs as environmental conditions "which in the past would have been considered a recognized environmental condition, but which may or may not be considered a recognized environmental condition currently."

The ASTM E 1527-05 Standard requires an environmental professional's opinion of the potential impacts of RECs, HRECs, and *de minimis* conditions identified on a site during a Phase I assessment. Our conclusions regarding the potential impact of RECs, HRECs, and *de minimis* on the subject site are intended to help the user evaluate the "business environmental risk" associated with the subject site, defined in the ASTM E 1527-05 Standard as "a risk which can have a material environmental or environmentally-driven impact on the business associated with the current or planned use of a parcel of commercial real estate, not necessarily limited to those environmental issues required to be investigated in this practice. Consideration of business environmental risk issues may involve addressing one or more non-scope considerations..." The non-scope considerations listed in the ASTM E 1527-05 Standard are discussed below in the Authorization section of this proposal.

The Phase I assessment work scope has been developed to be consistent with the ASTM E 1527-05 Standard, based on our current understanding of the subject site. The Phase I assessment consists of four components: Records Review, Site Reconnaissance, Interviews, and Report Preparation. The scope of work specific to this project is attached (Attachment A).

USER RESPONSIBILITIES

The AAI Rule requires that the user of the report consider the following:

- Whether the user has specialized knowledge about previous ownership or uses of the subject site that may be material to identifying RECs;
- Whether the user has determined that the subject site's Title contains environmental liens or other information related to the environmental condition of the property, including engineering and institutional controls and Activity and Use Limitations (AULs), as defined by ASTM;
- Whether the user is aware of commonly known or reasonably ascertainable information about the subject site including whether or not the presence of contamination is likely on the subject site and to what degree it can be detected; and
- Whether the user has prior knowledge that the price of the subject site has been reduced for environmentally related reasons.

We request that you provide this information to us for inclusion in our report. Though it is not required by the AAI Rule or the ASTM E 1527-05 Standard that this information be provided to Haley & Aldrich, failure on the part of the user to obtain such information for their own records, should it be reasonably ascertainable, may invalidate the user's compliance with the AAI Rule for CERCLA liability protection in the future.

ESTIMATED FEE

Services described in this proposal will be conducted on a time-and-expense basis in accordance with the Professional Services Agreement and Standard Fee Schedule. We estimate the cost of consulting services related to the Phase I work scope under work items No. 1 through 5 in the Detailed Scope of Services Attachment to be approximately [redacted]

SCHEDULE

We will provide a verbal report on the property conditions and any environmental issues of note by 8 October 2013. A draft copy of the Phase I assessment report will be provided for your review by 11 October 2013.

Please note, however, that responses to agency records requests may not be received within the time frame allotted for this project. At your discretion, we can either wait for the response to the requests prior to finalizing our report, or we can supplement the report with the responses if they are received and contain information that would alter our conclusions.

AUTHORIZATION

Our work scope for this project will be performed in accordance with the standards and practices set forth in 40 CFR Part 312, and consistent with the ASTM E 1527-05 Standard for Phase I Environmental Site Assessments. Several organizations other than ASTM, such as the Federal Home Loan Bank Board, the Resolution Trust Corporation, and Professional Associations, have also developed "guidelines" or "standards" for environmental site assessments. The scope of work for the Phase I assessment outlined in Attachment I may vary from the specific guidelines or standards required by other organizations. If this project requires conformance with a specific guideline or standard other

than ASTM, we will be pleased to review our proposal considering the specific requirements, and we will revise and resubmit this proposal, if necessary. Unless specifically referenced in this proposal, the work scope and report will not address other guidelines or standards.

No subsurface explorations or chemical analysis of environmental media (e.g., soils or groundwater) will be performed during this assessment. Therefore, our conclusions regarding the evidence of RECs will be based on observations of existing visible conditions, and on our interpretation of subject site history and site usage information. Further, our conclusions regarding the presence of hazardous substances and petroleum products may not be applicable to areas beneath existing structures, unless specific subsurface exploration, sampling, and/or analytical information is available and reviewed by us for such areas.

The ASTM E 1527-05 Standard includes the following list of "additional issues" that are non-scope considerations outside of the scope of the ASTM Phase I practice: asbestos-containing materials, radon, lead-based paint, lead in drinking water, wetlands, regulatory compliance, cultural and historic resources, industrial hygiene, health and safety, ecological resources, endangered species, indoor air quality, bio-agents, and mold. Assessment of these items is not included in our proposed work scope. A limited assessment of the presence of PCBs is included in the ASTM work scope. Accordingly, our assessment of the presence of PCBs is limited to those potential sources specified in the ASTM E 1527-05 Standard as "electrical or hydraulic equipment known or likely to contain PCBs, to the extent visually and or physically observed or identified from the interview or records review."

Our report will be prepared solely for the purposes stated in this proposal. Any opinions rendered pursuant to this Agreement are for the sole and exclusive use of Client, and are for the use of, or reliance upon, by any clients, lenders, and potential future purchasers, or any third parties subject to the terms and conditions of Haley & Aldrich's standard reliance letter, a template of which is attached hereto, which reliance letters shall be issued without charge. Any other use of this report without written authorization of Haley & Aldrich shall be at such other person's or entity's sole risk, and shall be without legal exposure or liability to Haley & Aldrich.

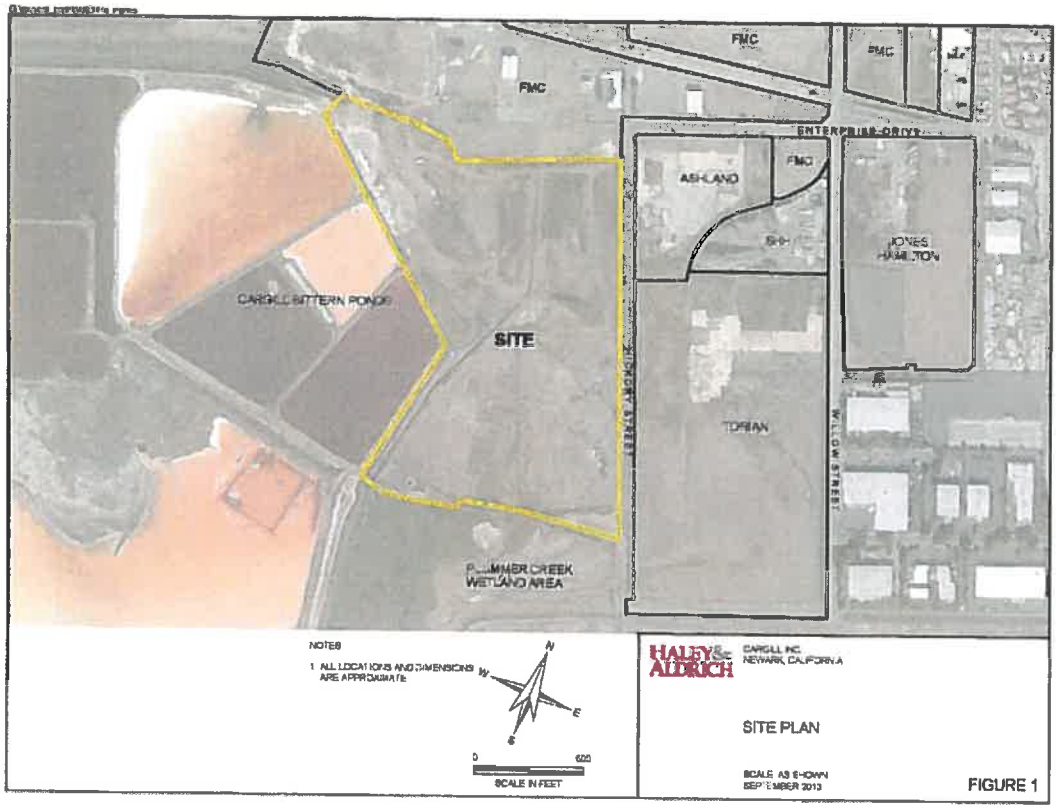
Thank you again for the opportunity to submit this proposal. We greatly enjoy working with you and look forward to assisting you with this project. Please do not hesitate to contact me at 408-204-8551 if you have any questions, comments or concerns.

Sincerely yours,
HALEY & ALDRICH, INC.

James P. Schwartz, P.G.
Client Leader

Attachments:
- Figure 1: Site Plan
- ASTM E 1527-05 Phase I Environmental Site Assessment, Detailed Scope of Services
- Standard Fee Schedule
- Reliance Letter Template

HALEY & ALDRICH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CARGILL INC
NEWARK, CALIFORNIA
SITE PLAN
SCALE AS SHOWN
SEPTEMBER 2013
FIGURE 1

ATTACHMENT A

ATTACHMENT A
24 September 2013
Cargill Property, Newark, California

ASTM E 1527-05
PHASE I ENVIRONMENTAL SITE ASSESSMENT
DETAILED SCOPE OF SERVICES

1. Records Review - Haley & Aldrich will assemble and review readily available information on site history and usage as it relates to the presence of hazardous substances and petroleum products that would constitute RECs on the subject site. The ASTM E 1527-05 Standard lists standard and additional records for review.

   We will review information from the mandatory databases within the ASTM-specified approximate minimum search distances. The mandatory databases include: NPL; Delisted NPL; CERCLIS; CERCLIS NFRAP; ERNS; RCRA non-CORRACTS TSD; RCRA CORRACTS TSD; RCRA Generators; Federal Institutional and Engineering Controls; State and Tribal Landfills and Solid Waste Disposal Sites; State and Tribal equivalent NPL and CERCLIS Sites; State and Tribal Registered Storage Tanks; State and Tribal Leaking Storage Tanks; State and Tribal Institutional and Engineering Controls; State and Tribal Voluntary Clean-up Sites; and State and Tribal Brownfields Sites. We intend to use an electronic database service to provide a report summarizing information from the required records, and will rely on the database service to conform to ASTM requirements for currency of the information. Should the database search report identify listed sites with the potential to impact the subject site, Haley & Aldrich may review the federal or state files pertaining to the listed sites, as reasonably ascertainable and practically reviewable. The budget presented below does not include costs for review of files at more than one agency's office.

   As required by ASTM, a current 7.5-minute USGS topographic map or equivalent will be used to evaluate the physical setting in the subject site area, and will be supplemented by discretionary review of readily available information concerning surface topography, surface water, soil, bedrock, and groundwater conditions on and in the vicinity of the subject site.

   To complete the ASTM records review, Haley & Aldrich may contact one or more of the following agencies concerning the subject site: Health Department, Fire Department, Water Department, Zoning Board, and Engineering Department. We will contact the agencies for information concerning records related to storage, use, or release of hazardous substances or petroleum products that may constitute RECs on the subject site, and will document our contacts in writing.

   ASTM requires that "obvious uses" of the subject site be identified from the present back to the first developed use or back to 1940, whichever is earlier. In order to complete that task, Haley & Aldrich will review one or more of the following ASTM-listed standard historical sources: aerial photographs, fire insurance maps, property tax files, recorded land title records, USGS topographic maps, local street directories, building department records, and zoning/land use records. Haley & Aldrich may also review ASTM-listed "other historical sources" including newspaper archives, internet sites, and local libraries and historical societies.

Haley & Aldrich will review reports previously prepared for the subject site, if provided.

Pursuant to the ASTM E 1527-05 Standard, records identified by ASTM as "Additional" or "Other" will be reviewed when, in Haley & Aldrich's judgment, they are (1) reasonably ascertainable; (2) sufficiently useful, accurate, and complete; and (3) generally obtained pursuant to local good commercial or customary practice.

2. Site Reconnaissance - Haley & Aldrich will visit the subject site and view interior and exterior conditions to assess the nature and type of activities that have been conducted with respect to the potential for RECs to be present. Haley & Aldrich will observe and document visible evidence of current and past usage of the subject site, particularly related to potential filling, previous structures, sewage disposal systems, hazardous substances, petroleum products, storage tanks, and evidence of spills or releases of hazardous substances or petroleum products. Conditions of adjoining properties will also be observed from the subject site boundaries and/or public thoroughfares.

   We understand that you will make all areas of the subject site accessible to our representative(s) for the site visit. For budgeting purposes, we have assumed that all areas of the subject site will be made accessible and that the site reconnaissance will be conducted in one site visit.

   Our observations and conclusions related to the site reconnaissance may be limited by prevailing weather conditions or other conditions at the time of our site visit. Our report will include a discussion of factors limiting our site reconnaissance, if applicable.

3. Interviews with Owners and Occupants - The ASTM E 1527-05 Standard requires that interviews be performed with a "key site manager" (the owner or occupant of the subject site) and with representatives of building occupants. In accordance with ASTM, an interview will be conducted with a representative of each occupant if the building has five or fewer occupants. If the building contains more than five occupants, an interview will be conducted with those major occupants, as defined by ASTM, and those occupants whose operations could indicate RECs in connection with the subject site. We request that the current owner(s) or representative(s) be notified of our visit and asked to participate in an interview regarding subject site usage and history. If the subject site is abandoned, ASTM requires interviews with one or more owners or occupants of neighboring or nearby properties. Further, as required by the ASTM E 1527-05 Standard, we ask that you assemble and make available to Haley & Aldrich copies of previous environmental investigation reports and audits of the property, and other information related to storage, use, or release of hazardous substances or petroleum products at the site, such as environmental permits, registrations for tanks, material safety data sheets, or waste disposal records.

4. Interview with State and/or Local Government Officials - Haley & Aldrich may interview one or more state and/or local government officials in conjunction with the state and local government records review with the intention to obtain information indicating RECs in connection with the subject site.

5. Evaluation and Report - Haley & Aldrich will interpret the information and data assembled from work scope items No. 1 through No. 4 above, and will formulate conclusions regarding evidence of RECs at the subject site and their potential impact on the subject site. We will prepare two copies of a report summarizing the results of our assessment and discussing our

conclusions regarding the potential presence and impact of RECs in connection with the subject site, based on the work scope described above.

The report will be prepared in accordance with the standards and practices set forth in 40 CFR Part 312 (the AAI Rule), and consistent with the ASTM E 1527-05 Standard. Documentation supporting the conclusions presented will be appended to the report. As required by ASTM, our final report will include declarations that the Phase I assessment was conducted consistent with the scope and limitations of the ASTM E 1527-05 Standard, and the persons who signed the report meet the definition of environmental professional. In addition, the Phase I assessment report will indicate whether RECs were or were not identified in connection with the subject site, and whether there were data gaps. If data gaps were identified, Haley & Aldrich will indicate whether they are considered significant (i.e., affect our ability to identify conditions indicative of RECs).

ATTACHMENT B

HALEY & ALDRICH

Haley & Aldrich, Inc.
Modified 28 October 2011
11-R5

Standard Fee Schedule

Fees for Services

Fees for services will be based on the time worked on the project by staff personnel plus reimbursable expenses. The fee will be computed as follows:

1. Labor related fees will be computed based on personnel billing rates in effect at the time the services are performed. Personnel billing rates for Additional Services only are subject to revision on, or about, 1 January and 1 July each year. The hourly rates are fully inclusive of fringe benefits, burden and fee. Current rates are as follows:

Classification	Hourly Rate($)
Office Support	75.00
Field/Lab Geol/Engr Tech (Gr. 1-3)	81.00
Field/Lab Geol/Engr Tech (Gr. 4-5)	88.00
Field/Lab Geol/Engr Tech (Gr. 6-8)	97.00
Graphics/GIS/Data Mgt	109.00
Senior Graphics/GIS/Data Mgt	120.00
Professional (Gr. 1)	96.00
Professional (Gr. 2)	101.00
Professional (Gr. 3)	114.00
Staff Professional (Gr. 4)	120.00
Staff Professional (Gr. 5)	138.00
Senior Professional (Gr. 6)	150.00
Senior Professional (Gr. 7)	164.00
Senior Professional (Gr. 8)	177.00
Vice President 1	202.00
Vice President 2	219.00
Senior Vice President	261.00

2. Overtime hours required by Owner will be charged at straight time rates. Fees for pretrial conferences, depositions and expert testimony will be billed at one and one-half (1.5) times the rates quoted above.

3. Direct non-salary expenses approved by Owner will be billed at our cost plus fifteen (15) percent or at H&A standard usage rates including:

   a) Transportation and subsistence expenses incurred for necessary travel, such as:

   (1) Use of personal or company vehicle at IRS allowed mileage rates;

   (2) Use of public carriers, airplanes, rental cars, trucks, boats, or other means of transportation;

   b) Telephone usage, including facsimile and cellular phone, local and long distance, and teleconferencing; in-house reproduction and printing costs for reports, drawings, and other project records (excluding those for internal use); mail, including standard postage and overnight document delivery; will be billed as a general communication fee at a rate of 1% of the labor charges.

   c) Shipping charges for water, soil and rock samples, field testing equipment, etc.

   d) Disposal costs for soil, rock, waste and/or water samples at $0.30 per ounce (fluid measure, sample container size). Rock core disposal will be at $20.00 per box.

   e) Expendable personal protective equipment required for work on the project site.

   f) Purchase of specialized equipment and rental of equipment from outside vendors.

   g) Other project-related expenses approved by Owner.

4. Subcontractors engaged to perform test borings or other field explorations, analytical chemical laboratory services, or other services required by the project will be billed at our cost plus fifteen (15) percent.

5. Specialized geotechnical, geophysical and environmental instrumentation, geotechnical laboratory tests and field supplies required by the project scope will be billed at H&A standard usage rates.

End of Standard Fee Schedule

ATTACHMENT C

On [date], Haley & Aldrich submitted the subject Report to [Client] for [summary of purpose] pursuant to a Professional Services Agreement between [Client] and Haley & Aldrich. Since the submittal of the Report, Haley & Aldrich has not been requested to verify the information, findings, and/or opinions set forth in the Report and/or other instruments of service prepared in connection therewith, nor to evaluate the necessity and/or advisability of any such verification.

The Services performed by Haley & Aldrich are subject to the terms and conditions expressed in the Report and Professional Services Agreement. [Relying Party] is hereby authorized to use and rely on the Report, subject to the terms, conditions and limitations referenced herein, and contingent on receipt by Haley & Aldrich of a signed copy of this letter, within 30 days, by an authorized representative of [Relying Party], signifying its acceptance of the foregoing.

EXHIBIT "B"

SCHEDULE OF COMPENSATION

1. Basic Services Fee. Owner shall pay Professional on a time-and-materials basis in an amount not to exceed SIX THOUSAND FIVE HUNDRED AND NO/100 DOLLARS ($6,500.00) as set forth in Exhibit "A" attached hereto.

a. The sums set forth in Exhibit "A" will be billed to Owner in accordance with the hourly rates set forth in the fee schedule included in Exhibit "A" attached hereto.

b. All flat rates referred to above and in Exhibit "A" shall be inclusive of all benefits, compensation costs and expenses unless specifically set forth to the contrary herein.

2. Additional Services Compensation. Except as otherwise agreed, compensation for Additional Services shall be on a time and materials basis based on the hourly rates included in Exhibit "A" attached hereto.

3. Reimbursable Expenses. Subject to Owner's prior written approval in each instance, Owner shall reimburse Professional for the actual cost of the out-of-pocket expenses incurred by Professional, as set forth in the fee schedule included in Exhibit "A" attached hereto.

4. Payment. Payments for Services and reimbursable expenses shall be made within thirty (30) days following presentation of Professional's statement of services rendered with sufficient supporting data acceptable to Owner.

APPENDIX B

Historical Research Documentation

STATE OF CALIFORNIA
HEALTH AND WELFARE AGENCY
DEPARTMENT OF HEALTH SERVICES
TOXIC SUBSTANCES CONTROL DIVISION

In the matter of:	)	Docket # HSA 88/89-004
Leslie Salt Property	)	REMEDIAL ACTION ORDER
A hazardous waste site	)	Health and Safety Code Sections 205, 206, and 25355.5

TO: FMC Corporation, a Pennsylvania Corporation; and Leslie Salt Company, a California Corporation.

I. INTRODUCTION

The California Department of Health Services ("Department") issues this Remedial Action Order to the above named Respondents pursuant to California Health and Safety Code, Sections 25355.5, 205, and 206. The Department has determined that releases or threatened releases of hazardous substances at the above named Site constitute a Public Nuisance as defined in Civil Code, Sections 3479 and 3480.

II. FINDINGS OF FACT

Location of the Site

1. The Hazardous Waste Site ("Site"), which is the subject of this Remedial Action Order, is the Leslie Salt Company (aka Magnesia Pile Site), a waste magnesia and dolomite pile, located on the Leslie Salt Property, at the west end of Enterprise Drive, in the city of Newark, Alameda County, California. It is in the NW quarter of T-5-S, R-2-W of the Newark Quadrangle, at longitude 122-3'-16" west and latitude

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STD 113 (REV 8-72)

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37-31'-11" north. The City of Newark-City of Fremont boundary runs approximately north-south through the center of the Site. The Site is bounded to the west by Leslie Salt Company's salt evaporation ponds and to the north by FMC Corporation's Newark operation and Design Building System's properties. Exhibit #1 is a general map of the area and Exhibit #2 is a map of the Site in relation to the local features.

History of the Leslie Salt Company Site

2. a) The parcel of land which the Site now occupies was purchased from August and Agnes Schilling by The Arden Salt Company in 1926.

b) The Arden Salt Company leased the Site to Westvaco Chemicals in 1929.

c) Leslie Salt Company merged with Arden Salt Company in 1936.

d) FMC Corporation acquired Westvaco Chemicals in 1950. The lease was extended in FMC Corporation's name until 1968 when the lease was terminated.

3. Exhibit #3 is an excerpt from a January 1988 workplan by Environmental Solutions, Inc., commissioned by Leslie Salt Company and FMC Corporation, describing historical disposal of wastes at the Site. The wastes mentioned in the workplan are as follows:

a) Westvaco Chemicals and **FMC Corporation** after it had acquired Westvaco Chemical manufactured Ethylene Dibromide (EDB) at their facility north of the Site. This operation produced wastes described as biomass sludges (natural organic matter from

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bitterns), Dolime (a mixture of magnesium oxide and calcium oxide), charcoal impregnated with phosphoric acids, and sulfuric sludges. Quantities of these wastes were disposed of at the Site between 1929 and 1968.

b) Westvaco Chemicals, and later FMC Corporation, manufactured magnesia and dolomitic lime at their facilities north of the Site between 1937 and 1968. Gypsum, off grade magnesia and lime products, and dolomite wastes were produced as a result of this operation. These wastes were dumped at the Site between 1937 and 1968.

c) Westvaco Chemical, and later FMC Corporation, manufactured Catalyst 1707 for the production of synthetic rubber from 1942 to 1944, 1956 to 1958, and 1969 to 1976 at their facilities north of the Site. Catalyst 1707 has a total copper content of 20,000 ppm and a soluble copper content of 7,000 ppm. During the Second World War, surplus drums of catalyst 1707 were disposed of at the Site.

d) FMC Corporation uses their facilities north of the Site for the manufacture of phosphoric acid and sodium phosphate from 1950 to the present. The manufacture of these products creates phosphorous sludges. Four to eight barrels of these sludges may have been disposed of at the Site.

e) Building debris and other trash were disposed on the Site by FMC Corporation and other unknown individuals. A January 1988 report by Environmental Solutions, Inc., stated that this trash was observed to contain insulation which may contain asbestos.

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f) Small quantities of other waste materials have been disposed of at the Site, most notably fuel oil spills (Bunker "C" Oils), empty paint cans, and bricks from a sodium hexametaphosphate furnace.

History of Investigation for Hazardous Waste Contamination at the Leslie Salt Company Site

4. a) FMC Corporation, Newark, is listed in the 1979 "Eckhardt Report" (by the Interstate and Foreign Commerce Committee of the U.S. House of Representatives), as being associated with the disposal of hazardous waste.

b) Based on this report, the Department began an investigation into the possibility of hazardous waste contamination at the Site. In March and April of 1981 the Department took samples from the top 6" of soil at the Site. One of these samples showed a pH in excess of 12.0, which at the time was the upper limit in defining a hazardous waste. Two samples collected on 3 March 1981 (HML #3181 and #3182) and one sample collected on 7 April 1981 (HML #3352) showed copper levels higher then the Total Threshold Limit Concentration (TTLC), and/or higher than the Soluble Threshold Limit Concentration (STLC) as prescribed in Section 66699(b) of Title 22, California Code of Regulations. The analytical results are as follows:

SAMPLE #	TOTAL COPPER (PPM)	SOLUBLE COPPER (PPM)
3181	10,920	6130
3182	52	50
3352	39	77

Note: For Cu; TTLC = 2500 ppm, STLC = 25ppm

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Copies of the certified laboratory reports of the chemical analysis from this sampling and a map showing the location of the soil samples is attached as Exhibit #4.

c) On June 25 1981, the Department took 11 additional soil samples up to a depth of 2'. Lab analysis on three of these samples (DBA 092, DBA 095, and DBA 097), taken from different parts of the Site, showed a pH value in excess of 12.0. Results of pH analysis from a certified lab on the 11 samples is also contained in Exhibit #4.

d) Due to the presence of material containing high pH or heavy metals at the Site, the Site was listed as a hazardous waste site with the State of California. A letter of 30 April 1982 from the Department directed Leslie Salt Company to submit a plan of correction for the removal of hazardous wastes from the Site. Exhibit #5 is a copy of this letter.

5. a) Leslie Salt Company contracted Emcon Associates, of San Jose, California, to conduct sampling at the Site during the summer of 1983. The results from this sampling was presented to the Department in an Emcon Associates report date January 1984. Emcon Associates analytical lab results from this sampling and a map showing sample locations is attached as Exhibit #6.

b) In 1985 Leslie Salt Company and FMC Corporation used the results from the previously mentioned Emcon Associates report to developed a two phase plan for the remediation and ultimate delisting of the Site. Phase I was for the removal of the known hazardous wastes at the Site. Phase II was for fully characterizing the Site to insure no hazardous materials remain,

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and the appropriate remediation if any hazardous wastes are encountered.

c) IT Corporation presented a workplan named "Plan for Removal and Disposal of Trash on the Leslie Salt Company Magnesia Pile, Newark, California" to Leslie Salt Company on 21 June 1985. Leslie Salt Company subsequently submitted it to the RWCQB for approval. The RWQCB approved the plan in a letter dated 30 June 1985. Soon thereafter, IT began clean-up by:

1) Removal of the copper catalysts and the surrounding soils and disposal at their Class I dump facilities in Benica, California.

2) Removal of the trash and debris to a local Class III landfill, Oakland Scavenger Company in Fremont, California, after it had been screened and determined to be free of hazardous substances.

d) A letter from Leslie Salt Company to the Department, dated 14 November 1985, stated that the known hazardous wastes had been removed from the Site. This letter stated that the next step towards remediation was to "sift through" the remaining material to determine if any hazardous substances remain on the Site. A copy of this letter is attached as Exhibit #7.

e) On 27 January 1988 Leslie Salt Company presented a work plan for remedial sampling of the Site, by Environmental Solutions, Inc., to the Department. The Department approved the plan in a letter to Leslie Salt Company dated 25 April 1988. To date, the sampling described has not been initiated on the Site.

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6. Complete sampling and characterization of the Site has not been done to date. As such, the quantities and distribution of hazardous materials remaining on this partially mitigated site are unknown. Large quantities of high pH material may still remain at the Site; four to eight drums of phosphorous sludges and some quantities of copper compounds also may still remain at the Site. EDB has been found in the soils on the FMC Corporation manufacturing facilities contiguous to the Site. The Department is concerned that the Site has not been sufficiently characterized to qualitatively state that there is no EDB present at the Site.

III. IDENTIFICATION OF RESPONSIBLE PARTIES

7. The property on which the Magnesia Pile Site is located was purchased by Arden Salt Company in 1926. Leslie Salt Company merged with Arden Salt Company in 1936, thus obtaining title to the property on which the Site sits, and have continuously owned the property since then.

8. Westvaco Chemical leased the Site from Arden Salt Company in 1929. Westvaco Chemical used the Site for the disposal of some of the wastes and by-produces from their various manufacturing processes. FMC Corporation acquired Westvaco Chemical in 1950. The lease was extended in the name of FMC Corporation until it expired in 1968. FMC Corporation also used the Site as a disposal site for some of their wastes from 1950 to 1968.

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IV. THREAT TO THE PUBLIC HEALTH AND THE ENVIRONMENT

Threat to the Environment

9. The San Francisco Bay, San Francisco Bay National Wildlife Preserve, and Coyote Hills Regional Park are all in close proximity to the Site. Aeolian migration of high pH dusts from the Site would have the most profound effect on the organisms which inhabit the wildlife areas. Slight changes in the pH of the water in the marsh areas could destroy the more sensitive organisms and therefore cut that link in the food chain.

Population at Risk

10. Approximately 500 people live and/or work within a one (10 mile radius of the Site. A grade school is located about a half mile away to the northeast. The area surrounding the site includes evaporation beds for the production of salt, various industrial facilities, and limited residential development. Design Building Systems manufactures modular homes on their property immediately adjacent to the north of the Site. Windborne dust from the Site may contaminate these homes and create residual problems for their future occupants.

Exposure Pathways

11. Hazardous substances have been detected in the soils at the Site. These hazardous substances may migrate off-site and expose humans and/or animals through four possible exposure pathways. These pathways are described as follows:

a) Direct Contact. Although there is a fence around the

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property on which the Site is located, there is still a possibility of direct contact with the people in the surrounding areas. The fenceline itself is the same one which surrounds the bittern ponds and in some places is more then a mile from the Site. The area is not patrolled during off hours and weekends. Given the wide variety of waterfowl in the area, the isolation of the Site, and that the magnesia pile itself has the highest topography in the area, there is a possibility that children, hunters, and/or wildlife enthusiasts may ignore the fence and thus gain access to the Site. Tracks from four-wheel drive vehicles and motorcycles have been observed on the Site. Not only do these activities create excess dusts, but accidents at the Site would lead to complications if hazardous soils are encountered. Contact with any of the hazardous soils at the Site by any of the groups of people mentioned above would lead to dermal and eye irritation and/or injury.

b) Ingestion. Children playing in soils have been known to ingest soils. If children gain access to the Site, there is a possibility that they may ingest contaminated or high pH soils.

c) Ambient Air. Release of hazardous substances from the Site to the air (via dust) may drift to the surrounding land and resources. Exposure to air contaminates could result if people breath the ambient air in and around the homes and workspaces where the contaminates are present. Accumulation of these dust in the homes, workspaces,

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playgrounds, or open areas around the Site may be a source of direct contact to the individuals who move in and about these areas.

d) Surface Water. Surface water run off from the Site is generally directed towards the bittern ponds to the south and west and to a marshy area to the east. A ditch draining the adjacent FMC Corporation property runs from the east of the Site and eventually to the San Francisco Bay. This ditch may be a conduit moving contamination from the Site to the Bay. The main recipients of any contaminates in the runoff water would be the waterfowl and aquatic life which inhabit the areas surrounding the Site.

V. DEFINITION OF TERMS

12. Hazardous Substance. A "Hazardous Substance" means any substance which is a hazard to the public health, public safety, or to the environment, as defined under Section 25316, of the California Health and Safety Code. A hazardous waste, extremely hazardous waste, and hazardous material are each included as hazardous substances under Health and Safety Code, Section 25316, and are further defined under Health and Safety Code, Section 25117, Chapter 30, Title 22, of the California Code of Regulations. Elements, compounds, and hazardous wastes appearing in Section 302.4, Title 40, Code of Federal Regulations, are also hazardous substances under Health and Safety Code Section 25316.

13. TTLC. "TTLC" or "Total Threshold Limit Concentration" means the concentration of a solubilized, extractable, and

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non-extractable bioaccumulative or persistent toxic substance which, if equaled or exceeded in a waste, renders the waste hazardous (Section 66206, Title 22, California Code of Regulations).

14. STLC. "STLC" or "Soluble Threshold Limit Concentration" means the concentration of a solubilized and extractable bioaccumulative or persistent toxic substance which, if equaled or exceeded in a waste or waste extract determined pursuant to Section 66700 (Title 22, California Code of Regulations), renders the waste hazardous (Section 66194, Title 22, California Code of Regulations).

VI. HEALTH RISKS OF HAZARDOUS SUBSTANCES FOUND IN THE SOILS AT OR NEAR THE SITE

15. Copper. Copper salts are irritants to the skin, eyes, and upper respiratory tract. Inhalation of copper dusts can cause hemolysis of red blood cells, injury to lung tissue, and gastric complications. Routes of entry are by inhalation, ingestion, and dermal contact. The U.S. EPA has listed copper and copper compounds as priority toxic pollutants. Copper compounds are listed as hazardous substance No. 221 in Section 66680, Title 22, California Code of Regulations. Materials contaminated above 25 ppm of soluble copper (STLC) or 2500 mg/kg total copper (TTLC) are hazardous wastes as listed in Section 66696, Title 22, California Code of Regulations. Total copper concentrations have been found at the Site as high as 20,000 mg/kg (8-23-83 surface sample #13, done by Emcon Associates). Soluble copper concentrations have been found at the Site as

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high as 7,000 ppm (8-23-83 surface sample #13, Emcon Associates).

11. **Phosphorous**. Phosphorous is extremely reactive when exposed to oxygen and oxidizers. Routes of exposure are by inhalation of fumes, ingestion, and skin or eye contact. Contact with skin and eyes will cause severe burns. Exposure to it's fumes causes irritation to the skin, eyes, and respiratory tract. Points of attack on the body include the respiratory system, liver, kidneys, jaw, teeth, bones, blood eyes, and skin. Phosphorous is listed as a hazardous material by the U.S. EPA in 40 CFR 261 and is designated as a flammable solid and poison. It is also listed as hazardous material No. 514 in Section 66680, Title 22, California Code of Regulations. A former employee of FMC Corporation has indicated that several drums of phosphorous sludges were buried at the Site (see Exhibit #3, page 2-9, para. 10).

12. **pH**. Materials with high pH values are corrosive. Contact with skin causes irritation, rashes, and caustic burns. Inhalation of high pH dust causes irritation to the upper respiratory tract and lung tissue. The introduction of high pH compounds to an aquatic ecosystem may result in an environment which is hostile to the organisms which inhabit it. An aqueous solution with pH greater than 12.5 is listed with the U.S. EPA, in 40 CFR 261.22(1), as a hazardous substance, and in Title 22, Section 66708(a)(1), California Code of Regulations. Analysis of samples taken on June 25 1981 show several samples with a pH between 12.0 and 12.4. Although these levels are below present

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criteria for hazardous materials, they are close enough to 12.5 to be of concern.

13. Ethylene Dibromide (EDB). Local contact to EDB solutions and vapors cause skin and eye irritation and can cause eye damage. Injestion, inhalation of the vapors, or absorption through the skin may cause systemic EDB poisoning. EDB poisoning will result in damage to the respiratory system, central nervous system, servere vomiting, and/or kidneys and liver. EDB has been listed as a known carcinogen by both the U.S. EPA and California Department of Health Services. It is listed as hazardous substance #328 under Section 66680, Title 22, California Code of Regulations. The U.S. EPA recommends concentrations of between 11 and 18 ppm in water for the preservation of aquatic life (both salt and fresh water). Concentrations of no more than 0.09 ppm present a public health hazard. No EDB has been detected at the Site, but previous sampling was not analyzed for the presence of EDB. EDB has been detected in the soils at the adjacent FMC Corporation's facilities to the north. The Department is concerned that given the long history of EDB production at the FMC Corporation facility, there may have been some inadvertent disposal of EDB contaminated material at the Site.

14. Each element, compound, or hazardous waste identified in paragraphs 16 through 18 above also appears in section 302.4, Title 40, Code of Federal Regulations.

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VII. CONCLUSIONS OF LAW

1. The substances, as described above and found on-site, are "hazardous substances" as defined by the California Health and Safety Code section 25316.

2. Respondents are responsible persons or parties as defined by the California Health and Safety Code, sections 25319, 25360, and 25385.1(g).

3. This Order complies with the requirements of the California Health and Safety Code, section 25355.5(a)(1).

4. The past, present, and potential future migration of hazardous substances from the Site into the soil and aquatic food chain constitutes an actual or threatened "release" as defined in the California Health and Safety Code, section 25320.

5. Conditions at the Site constitute a nuisance which is injurious to health and/or offensive to the senses. This nuisance is one which affect the entire neighborhood, a considerable number of people, and/or the inhabitants of the local watershed.

VIII. DETERMINATION

Based on the foregoing Findings of Fact and Conclusions of Law, the Department has determined that:

1. Respondents are responsible parties who are required to take the actions ordered below to protect the public health and safety, and the environment.

2. The remedial actions set forth in the Order are necessary to respond to releases or threatened releases of hazardous substances from the Site.

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3. The remedial actions set forth in this Order are necessary to enjoin and abate a nuisance dangerous to health. Respondents failure to perform these remedial actions shall result in the Department's commencing and maintaining all proper and necessary actions or proceedings to abate this public nuisance.

IX. ORDER

Based on the foregoing FINDINGS AND DETERMINATIONS IT IS HEREBY ORDERED THAT respondents conduct the following response activities in the manner specified herein and in accordance with a schedule specified by the Department as follows:

Remedial Investigation and Feasibility Study (RI/FS)

1. RI/FS Objectives. The objectives of the RI/FS are to:

a) Determine the nature and the full extent of hazardous substance contamination of air, soil, surface water, and groundwater at the Site and contamination from the Site, including off-site areas affected by the Site;

b) Identify all existing and potential migration pathways, including the direction, rate and dispersion of contaminant migration;

c) Determine the magnitude and probability of actual or potential harm to public health, safety or welfare or to the environment posed by the threatened or actual release of hazardous substances at or from the Site;

d) Identify and evaluate appropriate response measures to prevent or minimize future releases and mitigate any releases which have already occurred; and

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e) Collect and evaluate the information necessary to prepare a Remedial Action Plan (RAP) in accordance with the requirements of Section 25356.1, California Health and Safety Codes.

2. **RI/FS Workplan Implementation**. Leslie Salt Company and FMC Corporation shall implement the RI/FS Workplan as approved by the Department in accordance with the approved schedule.

3. Community Relations Plan. Within [30] days of the effective date of this order, Leslie Salt Company and FMC Corporation shall prepare and submit for Department review and approval a community relations plan which describes how, under the order, the public and adjoining community will be kept informed of activities conducted at the Site and how Leslie Salt Company and FMC Corporation will be responding to inquiries from concerned citizens.

Remedial Action Plan (RAP)

1. **Draft Remedial Action Plan**. No later than [30] days after the Departments approval of the Feasibility Study Report, Leslie Salt Company and FMC Corporation shall prepare and submit to the Department for review and approval a draft Remedial Action Plan which is based on the approved Remedial Investigation and Feasibility Study Reports. The draft RAP shall set forth in detail appropriate steps to remedy air, soil, surface water, and groundwater contamination at the Site and adjacent areas. The RAP shall be prepared in accordance with the standards and requirements set forth in Section 25356.1, California Health and Safety Codes. In addition the RAP shall

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contain a schedule for implementation of all proposed removal and remedial actions.

2. Implementation of Final Remedial Action Plan (RAP). Within [90] days after Department approval of the final RAP in accordance with California Health and Safety Code Section 25356.1, Respondents shall submit to the Department for review and approval a detailed Remedial Design and Implementation Plan (RD) containing technical and operational plans and engineering designs for implementation of the approved remedial or removal action alternative(s), and a schedule for implementation of the construction phase. The workplan shall also describe the nature and design of the construction equipment to be employed, a Site specific hazardous waste transportation plan (if necessary), the identity of any contractors, transporters, and other persons conducting the removal and remedial activities for the Site, post remedial sampling and monitoring procedures for air, soil, surface water and ground water, operation and maintenance procedures and schedules. The schedule submitted with the workplan shall provide that all approved removal or remedial actions excluding operation and maintenance shall be completed by April 1, 1989.

More specifically, the Respondents shall:

a) Submit for Departmental approval a description of the quality assurance and quality control measures to be taken.

b) Submit for Departmental approval all documents, data, and information used to develop and substantiate the proposed plans.

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c) Prepare and submit for Departmental approval a Site health and Safety plan for the protection of the workers and surrounding community.

d) Implement, under Departmental direction, the approved Community Relations Plan.

e) Take all other actions required to mitigate the hazards of the Site to the public health, or public safety, or to the environment.

g) Provide to the Department all necessary documentation to certify that the Remedial Action Plan have been implemented.

3. **Implementation of the Final RAP**. Upon Department approval of the RD Plan and schedule, Respondents shall implement the final RAP as approved in accordance with the approved Remedial Design and Implementation Plan and schedule.

4. **Operation and Maintenance**. Respondents shall be responsible for all operation and maintenance requirements in accordance with the final RAP and approval Remedial Design Workplan.

5. **Changes During Implementation of the Final RAP**. During the implementation of the final RAP and Remedial Design Workplan the Department may specify such additions, modifications and revisions to the Remedial Design Workplan as it deems necessary to protect public health and safety or the environment or to implement the RAP.

6. **Discontinuation of Remedial Technology**. Any remedial technology employed in implementation of the final RAP shall be left in place and operated by Respondent until and except to the

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extent that the Department authorizes Respondents in writing to discontinue, move or modify some or all of the remedial technology because Respondent has met the criteria specified in the final RAP for its discontinuance or because the modifications would better achieve the goals of the final RAP.

7. **Project Coordinator**. Within [15] days of the effective date of this Order, Respondents shall submit to the Department in writing the name, address, and telephone number of a Project Coordinator whose responsibilities will be to receive all notices, comments, approvals and other communications from the Department to Respondent.

8. **Project Engineer/Geologist**. The work performed pursuant to this Order shall be under the direction and supervision of a person who has expertise in hazardous substance site remediation and who is a (1) qualified Professional Engineer registered in California or (2) geologist registered in California or (3) Engineering Geologist certified in California. The name, address, and telephone number of the project engineer or geologist chosen by Respondents shall be submitted to the Department within [20] days of the effective date of this Order.

9. **Quarterly Summary Reports**. Within 90 days of the effective date of this Order and quarterly thereafter, Respondents shall submit a Quarterly Summary Report of its activities under the provisions of this Order. The report shall describe:

a) Specific actions taken by or on behalf of Respondents during the previous calendar year.

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b) Actions expected to be undertaken during the current calendar quarter.

c) All planned activities for the next quarter, any requirements under this Order that were not completed, and any problems or anticipated problems in complying with this Order.

d) All results of sample analyses, tests and other data generated or received by Respondents under this Order.

The Quarterly Summary Report shall be received by the Department by the 15th of the first month after each quarter ends.

10. **Quality Control/Quality Assurance**. All sampling and analysis conducted by Respondents under this Order shall be performed in accordance with quality control/quality assurance procedures submitted by Respondents and approved by the Department pursuant to this Order.

11. **Submittals**. All submittals and notifications from Respondents required by this Order shall be sent simultaneously to:

Dwight R. Hoenig, Chief
Attention: Project Officer, Magnesia Pile Site
North Coast California Section
Toxic Substances Control Division
Department of Health Services
2151 Berkeley Way, Annex 7
Berkelely, CA 94704

EPA, Region IX
Attention: Superfund Program Manager
215 Fremont Street
San Francisco, CA 94105

Roger James, Executive Officer
San Francisco Regional Water Quality Control Board
1111 Jackson Street
Oakland, CA 94607

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Rafat Shahid, Chief of Hazardous Materials
Alameda County Hazardous Waste Program
470 27th Street, Room #325
Oakland, CA 94612

All approvals and decisions of the Department made regarding such submittal and notifications shall be communicated to Respondents by the Section Chief or his designee in writing. No informal advice, guidance, suggestions, or comments by the Department regarding reports, plans, specifications, schedules, or any other writing submitted by Respondents shall be construed to relieve Respondents of its obligation to obtain such formal written approvals as may be required herein.

12. **Exhibits**. All exhibits attached hereto are incorporated herein by reference.

13. **Communications**. All approvals and decisions of the Department made regarding submittals and notifications will be communicated to Respondents in writing by a Section Chief, Toxic Substances Control Division, Department of Health Services or his/her designee. No informal advice, guidance, suggestions, or comments by the Department regarding reports, plans, specifications, schedules, or any other writings by Respondents shall be construed to relieve Respondents of the obligation to obtain such formal approvals as may be required.

14. **Department Review and Approval**. If the Department determines that any report, plan, schedule, or other document submitted for approval pursuant to this Order fails to comply with this Order or fails to protect the public health or safety or the environment, the Department may:

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a) Modify the document as deemed necessary and approve the document as modified, or

b) Return the document to Respondent with recommended changes and a date by which Respondents must submit to the Department a revised document incorporating the recommended changes, or

c) In cases where the document fails to comply with this Order, make a determination of noncompliance pursuant to Health and Safety Code Section 25355.5(a)(2).

15. **Compliance with Applicable Laws**. Respondents shall carry out this Order in compliance with all applicable local, state and Federal requirements, but not limited to, including requirements to obtain permits and to assure worker safety.

16. **Endangerment During Implementation**. In the event that the Department determines that any circumstances or activity (whether or not pursued in compliance with this Order) are creating an imminent or substantial endangerment to the health or safety of people on the Site or in the surrounding area or to the environment, the Department may order Respondents to stop further implementation of this Order for such period of time as needed to abate the endangerment. Any deadline in this Order directly affected by a Stop Work Order under this section shall be extended for the term of the Stop Work Order.

17. **Liability**. Nothing in this Order Shall constitute or be construed as a satisfaction or release from liability for any conditions or claims arising as a result of past, current, or future operations of Respondents. Nothing in this Order is

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intended or shall be construed to limit the rights of any of the parties with respect to claims arising out of or relating to the deposit or disposal at any other location of substances removed from the Site. Nothing in this Order is intended or shall be construed to limit or preclude the Department from taking any action authorized by law to protect public health or safety or the environment and recovering cost thereof. Notwithstanding compliance with the terms of action as are necessary to protect public health and the environment.

18. Site Access. Access to the Site and laboratories used for analyses of samples under this Order shall be provided at all reasonable times to employees, contractors, and consultants of the Department. Nothing in this paragraph is intended or shall be construed to limit in any way the right of entry or inspection that the Department or any other agency may otherwise be entitled. The Department and its authorized representatives shall have the authority to enter and move freely about all property at the Site at all reasonable items for purposes including, but not limited: inspection records, operating logs, sampling and analytic data, and contracts relating to the Site; reviewing the progress of Respondents in carrying out the terms of this Order; conducting such tests as the Department may deem necessary; and verifying the data to the Department by respondents.

19. Sampling, Data, and Document Availability. Respondents shall permit the Department and its authorized representatives to inspect and copy all sampling, testing,

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monitoring, or other data generated by Respondents or on Respondents behalf in any way pertaining to work undertaken pursuant to this Order. Respondents shall inform the Department at least [5] days in advance of all field sampling under this Order and shall allow the Department and its authorized representatives to take duplicates of any samples collected by Respondents pursuant to this Order. Respondents shall maintain a central repository of the data, reports, and other documents shall be preserved by Respondents for a minimum of six years after the conclusion of all activities under this Order. If the Department requests that some or all of these documents be preserved for a longer period of time, Respondents shall either comply with that request or deliver the documents to the Department, or permit the Department to copy the documents prior to destruction. Respondents shall notify the Department in writing at least six months prior to the destruction of any documents prepared pursuant to this Order.

20. Government Liabilities. The State of California shall not be liable for any injuries or damages to persons or property resulting from acts or omissions by Respondents, or related parties specified in paragraph 29 in carrying out activities pursuant to this Order, nor shall the State of California be held as party to any contract entered into by Respondents or its agents in carrying out activities pursuant to this Order.

21. Additional Enforcement Actions. By issuance of this Order, the Department does not waive the right to take any further enforcement actions.

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22. Incorporation of Plans and Reports. All plans, schedules, reports, specifications, and other documents that require Departmental approval and are submitted by Respondents pursuant to this Order are incorporated in this Order upon approval by the Department and shall be implemented by Respondents as approved. Any noncompliance with such documents shall be noncompliance with this Order.

23. Extension Requests. If Respondents are unable to perform any activity or submit any document within the time required under this Order, Respondents may, prior to expiration of the time, request an extension of the time in writing. The extension request shall include a justification for the delay. All such requests shall be in advance of the date on which the activity or document is due.

24. Extension Approvals. If the Department determines that good cause exists for an extension it will grant the request and specify in writing a new schedule. Respondents shall comply with the new schedule.

25. Cost Recovery. Respondents are liable for any costs of oversight by the Department of Respondents activities under this Order. In addition, failure or refusal of Respondents to comply with this Order may make Respondents liable for any government costs incurred, including those payable from the Hazardous Substances Account or the Hazardous Substance Cleanup Fund for any response action at the Site, as provided in Section 25360 of the Health and Safety Code and other applicable provisions of law. These costs include the Department's direct

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costs and administrative overhead costs. Cost Recovery may also be pursued by the Department under CERCLA (42 USC9601 et.seq).

26. **Severability**. The requirements of this Order are severable, and Respondents shall comply with each and every provision hereof notwithstanding the effectiveness of any other provision.

27. **Modifications**. The Department reserves the right to unilaterally modify this Order. Any modification to this Order shall be effective upon issuance and deemed incorporated in this Order.

28. **Time Periods**. Unless otherwise specified, time periods begin from the effective date of this Order and "days " means calendar days. The effective date of this Order is the date of issuance by the Department.

29. **Parties Bound**. This Order applies to and is binding upon Respondents, and its officers, directors, agents, employees, contractors, consultants, receivers, trustees, successors, and assignees, including but not limited to, individuals, partners, and subsidiary and parent corporations and upon any successor agency of the State of California that may have responsibility for and jurisdiction over the subject matter of this Order.

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VII. EFFECTIVE DATE

This Order is effective on the date noted below. All times for performances or response activities shall be calculated from the effective date.

It is so ordered this 19th day of July, 1988.

Dwight R. Hoenig
Section Chief
North Coast California Section
Toxic Substances Control Division

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EXHIBITS FOR THE LESLIE SALT COMPANY SITE

REMEDIAL ACTION ORDER

Exhibit #

1. Location map of the Magnesia Pile Site.
2. Site map of the Magnesia Pile Site in relation to the land features and properties immediatly adjacent.
3. Excepts from the January 1988 workplan by Environmental Solutions, Incorporated. The workplan gives a general discrition of historical dumping of hazardous wastes at the Site. Leslie Salt Company and FMC Corporation contracted Environmental Solutions, Incorporated.
4. Results from the March 3 1981, April 7 1981, and June 25 1981 sampling of the Site by the Department.
5. 30 April 1982 Order from the Department to Leslie Salt Company directing them to submit a Plan of Correction for the removal of all hazardous wastes from the Site.
6. Sampling locations and lab results of those samples from the January 1984 preliminary site investigatoion report from Emcon Associates. Leslie Salt Company hired Emcon Associates to write this report.
7. Letter from Leslie Salt Company to the Department, dated 18 November 1985, stating that all known hazardous wastes have been removed from the Site. Also contained in the letter is their intention to further characterize the Site to insure that there are no more hazardous wastes at the Site.

EXHIBIT #1

Map of Site Location

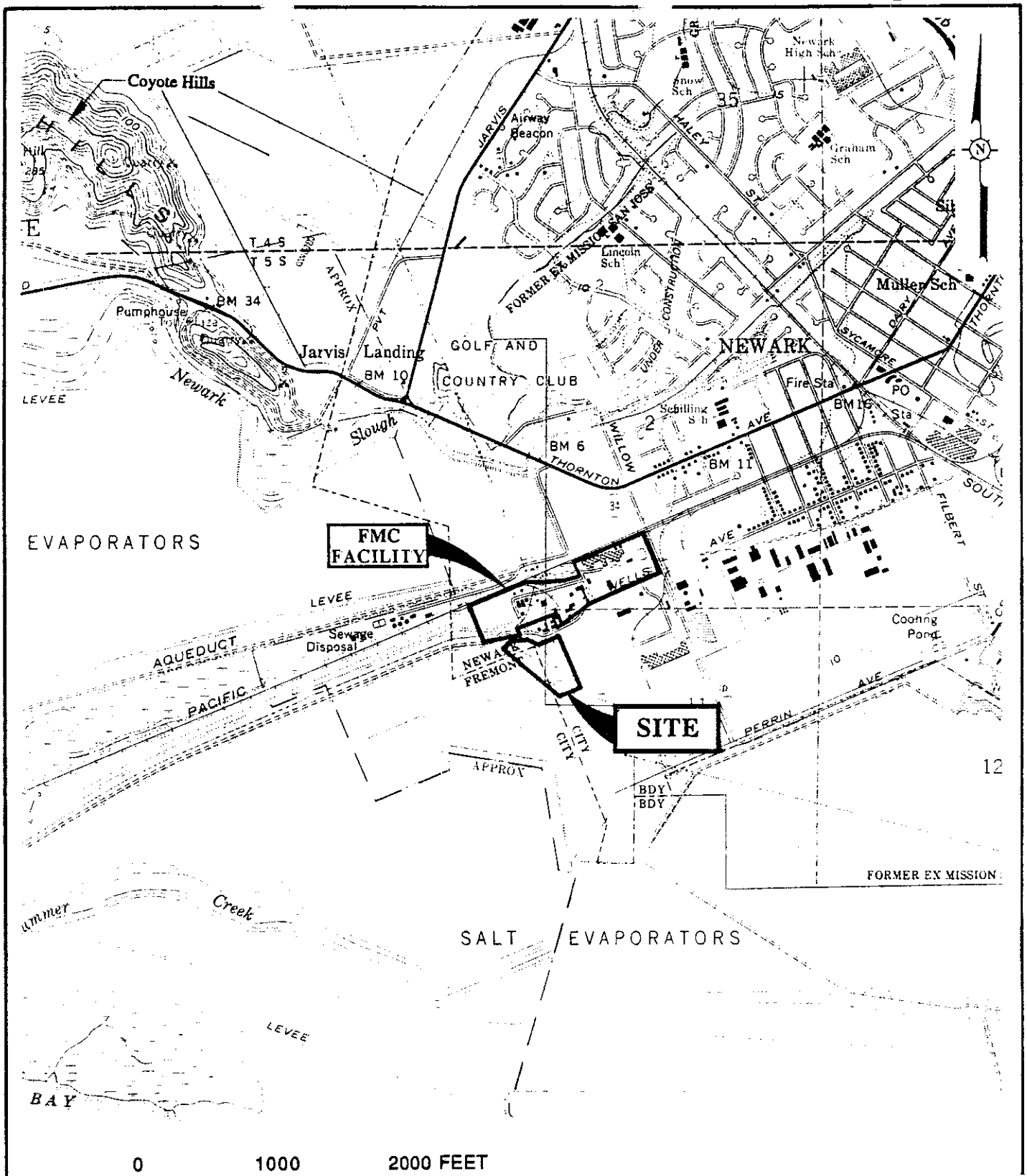


EXHIBIT #1

Map of Site Location

REFERENCE: 7.5 MINUTE U.S.G.S. TOPOGRAPHIC MAP OF NEWARK, CALIFORNIA QUADRANGLE DATED 1959, PHOTOREVISED 1980.

ENVIRONMENTAL SOLUTIONS, INC.

REVISED 12/10/87

EXHIBIT #2

Map of Area Immediatly Adjacent
to the
Magnesia Pile Site

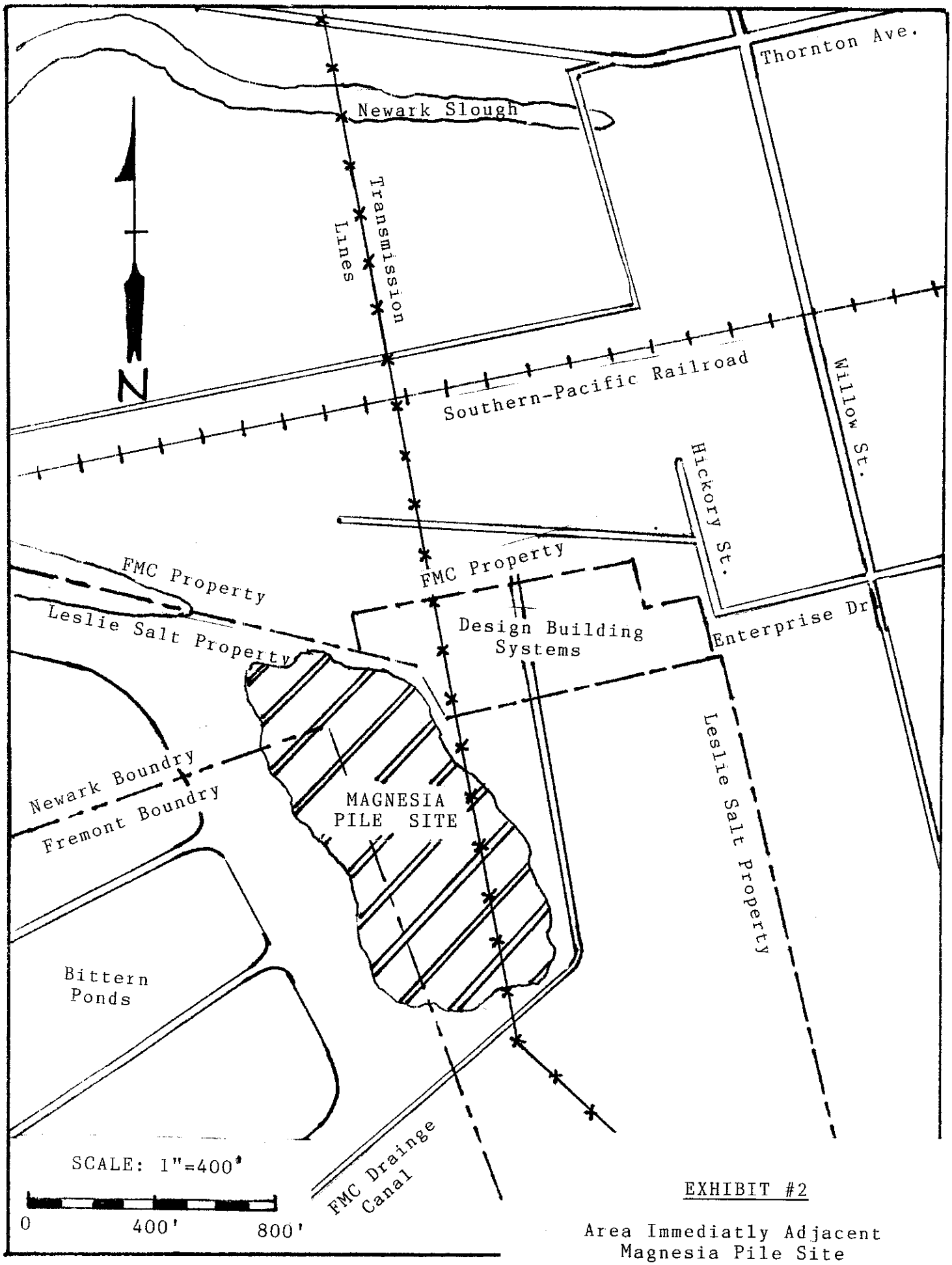
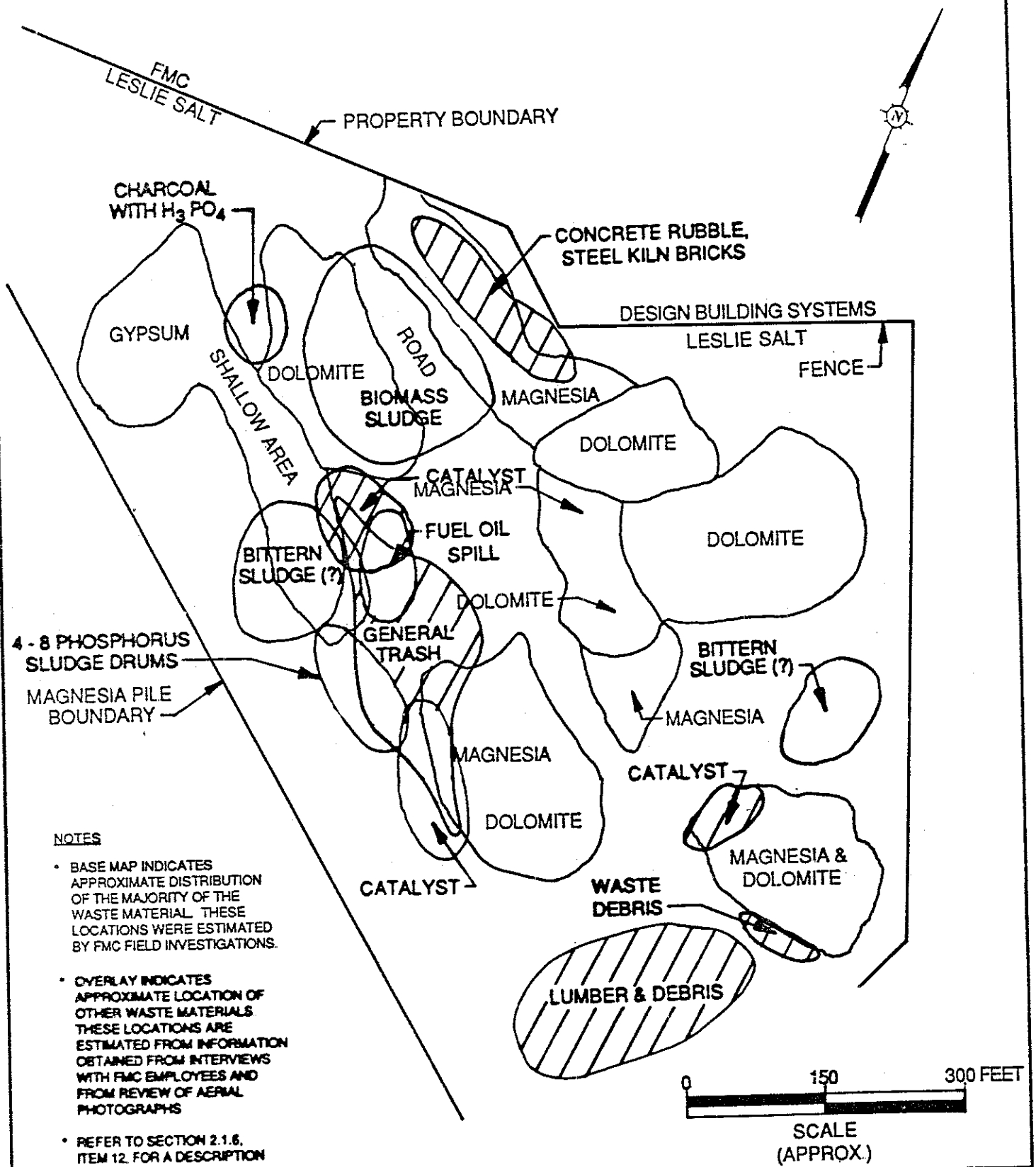


EXHIBIT #2

Area Immediatly Adjacent
Magnesia Pile Site

EXHIBIT #3

History of the Disposal
of
Hazardous Wastes at the Site



NOTES

- BASE MAP INDICATES APPROXIMATE DISTRIBUTION OF THE MAJORITY OF THE WASTE MATERIAL. THESE LOCATIONS WERE ESTIMATED BY FMC FIELD INVESTIGATIONS.
- OVERLAY INDICATES APPROXIMATE LOCATION OF OTHER WASTE MATERIALS. THESE LOCATIONS ARE ESTIMATED FROM INFORMATION OBTAINED FROM INTERVIEWS WITH FMC EMPLOYEES AND FROM REVIEW OF AERIAL PHOTOGRAPHS
- REFER TO SECTION 2.1.6, ITEM 12, FOR A DESCRIPTION OF BIOMASS.

MATERIALS REMOVED DURING THE SITE CLEANUP ACTIVITIES PERFORMED IN 1985.

EXHIBIT #3

HISTORY OF THE DISPOSAL OF HAZARDOUS WASTES AT THE SITE

FIGURE 2.3

APPROXIMATE LOCATIONS OF WASTE MATERIALS

MAGNESIA PILE SITE
NEWARK, CALIFORNIA

ENVIRONMENTAL SOLUTIONS, INC.

REVISED 12/10/87

TABLE 2.1

CHRONOLOGIC SUMMARY OF ADJACENT LAND USE BY FMC CORPORATION

YEARS	OPERATION	RAW MATERIALS	BY-PRODUCTS AND WASTES	PRODUCT
1929-1968	EDB Plant	Ethylene, Chlorine, Ethanol, Sulphuric Acid, Bromine, Raw Bittern	Dolime, Biomass Sludge,[1] Charcoal Impregnated with Phosphoric Acid, Sulfuric Sludge	Ethylene Dibromide
1937-1968	Magnesia Plant	Oyster Shells, Sea Water, Bitterns, Dolomite, Ferro Phos, Silica	Gypsum and Off Grade Magnesia Products and Off Grade Lime and Dolomite	Magnesia Periclase
1942-1944	Catalyst 1707 Plant	Ferric Sulphate, Copper Sulphate, 2665 Magnesia, Potassium Carbonate	Copper Sulphate, Dust, Scrubber Waste	Rubber Catalyst
1956-1958	Catalyst 1707 Plant	Same as above	Same as above	Rubber Catalyst
1969-1976	Petro-Tex Catalyst Plant	Ferric Sulphate, Copper Sulphate, Potassium Carbonate, Magnesia, Nickel Oxide, Chromium Oxide, Titanium Oxide, Iron Oxide, Barium Oxide, Copper Oxide, Zinc Chloride, Zinc Oxide	By-products were recycled	Rubber Catalyst
Early 1950s - Present	Phosphate Plant	Soda Ash, Elemental Phosphorus, Potassium Hydroxide, Sodium Hydroxide, Sodium Sulphate, Nitric Acid, Sodium Nitrate, Sodium Chlorate	Phosphorus Sludges, Arsenic Sulphide	Phosphoric Acid, Sodium and Potassium Phosphate, Sodium Tripoly-phosphate, Sodium Hexameta Phosphate

(1) Refer to Section 2.1.6, Item 12 for a description of biomass sludge.

2. Controlled burning of general paper trash occurred occasionally to reduce the quantity of trash material at the site. Burning of the paper debris ceased when air quality control regulations became effective.

3. In addition, small fires resulting in the ignition of charcoal impregnated with phosphoric acid are known to have occurred occasionally at isolated areas of the magnesia pile.

4. It should be noted that the site was periodically used by the general public as a disposal area for household refuse prior to the installation of the security fence.

2.1.6 CHRONOLOGY OF SITE DEVELOPMENT

1. The site property is owned by Leslie Salt Company and was originally leased to Westvaco in 1929. In 1950 Westvaco was acquired by FMC Corporation, and the lease was continued until 1969. In this report, reference to FMC operations, also includes Westvaco activities.

2. From 1929 through 1969, the site was used for disposal of waste material. Most of the waste placed on the site was generated at FMC Corporation's Magnesia Plant and included: (1) unrecoverable magnesia dolomite, and dolime (a mixture of magnesium oxide and calcium oxide), and (2) gypsum by-product. To a much lesser extent waste materials produced by other FMC Operations at their Newark facility were also disposed at the Magnesia Pile.

3. Throughout the period that FMC Corporation used the property adjacent to the Magnesia Pile, a variety of products were manufactured. Table 2.1 presents a chronologic summary of these operations including: (1) raw materials used, (2) by-products and wastes generated and (3) final products produced.

4. During the earlier years, FMC operations consisted primarily of extracting magnesia and bromine from salt water bittern. The bitterns were used as raw materials for many of their products (i.e., Magnesia and EDB). During World War II, FMC operations expanded to include the production of rubber catalysts. Catalyst production was reactivated in the late 1950s and again during the early 1970s. Presently, the Phosphate Plant is the only active operation at the FMC Newark facility. This plant has been operating since the early 1950s.

5. Interviews with FMC employees indicated that the majority of the waste material was disposed of at the site from the 1930s through 1968. The volume of material brought to the pile was greatly reduced in 1968 when the Magnesia Plant was closed. During the following years very small quantities of waste materials from the FMC operations were brought to the site and by the mid 1970s disposal activities had ceased.

6. FMC employees, who had knowledge of the disposal activities at the Magnesia Pile by physical involvement or personal observations, have indicated that the majority of the waste disposed of at the site included Magnesia Plant rejects, such as:

- magnesia
- "deadburn" - over calcined magnesia
- gypsum
- dolomite/dolime

Significantly smaller quantities of the following materials were also reported to be disposed of at the site:

- general trash (mostly paper waste)
- catalyst pellets (in fiber drums)
- kiln brick
- iron oxide
- biomass sludge (from bromine distillation)
- charcoal impregnated with phosphoric acid
- 4 to 8 drums (steel) of phosphorus sludge
- empty metal drums which contained anhydrite filler
- demolition rubbish (lumber, pallets, concrete, old machinery foundations, piping, galvanized roofing)
- anhydrite filler rejects (anhydrite/celite)
- residual sea shells
- bittern sludge
- residues from fuel oil spills (bunker C oil)
- empty 5-gallon paint cans
- brick from sodium hexameta phosphate furnace

7. Other by-products or wastes generated from FMC Operations are not known to be disposed of at the site. In particular, the arsenic sulfide, generated from the Phosphate Plant, was reported not to have been sent to the Magnesia Pile. The scrubber waste produced at the Catalyst Plant was generally recycled. In addition, EDB containing waste were reported not to have been sent to the Magnesia Pile.

8. A map of the site illustrating approximate locations of the different waste material is shown in Figure 2.3. The base map shows the approximate distribution of the bulk of the waste material as estimated by FMC. The overlay, indicating the approximate locations of other waste material, was prepared from information obtained during interviews. The cross-hatched areas indicate where trash was removed and properly disposed of during cleanup activities performed in 1985 (i.e., see Section 2.1.7 for more details).

9. Examination of old aerial photographs and topographic maps show that a relatively large area on the eastern side of the site was excavated about 1937. FMC employees indicated that the excavated area was filled in with mostly Magnesia Plant rejects (i.e., magnesia and dolomite). The western side of the pile received most of the miscellaneous waste materials.

10. A tractor operator who was responsible for disposing of waste material at the site indicated that four to eight drums of phosphorus sludge are buried adjacent to the western slope of the pile (Figure 2.3). In the late 1960s or early 1970s, these drums were buried in a hole excavated in the side and base of the Magnesia Pile. The excavation did not extend into native soil. These drums of phosphorus are the only ones that are expected to exist at the site.

11. There are two known locations and one possible area where surplus drums of catalyst pellets (i.e., catalyst 1707) were disposed of after World War II (Figure 2.3 and Table 2.1). Only a few weeks after their disposal, most of these drums were reclaimed for resale. The short period of time that the drums were present at the site suggests that they were not buried and were relatively accessible. The known remaining drums were removed in 1985 during site cleanup activities performed by IT Corporation (see Section 2.1.7 for more details).

12. Biomass sludge, originally from natural organic matter in the bitterns, was removed from the bottom of the bromine purification tower in the EDB plant and disposed of on the site at the approximate location shown in Figure 2.3. Since this material was in contact with liquid bromine it would be expected to contain bromine compounds. The amount of sludge disposed of is expected to be relatively small since the tower only required infrequent cleaning.

13. Sludge from the bottom of the FMC Magnesia Plant bittern holding ponds was also reported to have been disposed of at the site. Bitterns are the concentrated brine which remains after salt has been removed from sea water concentrated in solar ponds. Before pumping the bitterns to the Magnesia Plant, sulfate is removed by precipitating it as calcium sulfate. After sulfate removal, the bitterns are saturated with calcium sulfate (i.e., gypsum) which continues to deposit as a sludge on the bottom of the Magnesia Plant holding ponds. The ponds were desludged from time to time and the sludge was disposed of on the Magnesia Pile. The sludge is mainly gypsum and would not be expected to be hazardous.

14. Insulation materials disposed of with demolition rubble were observed at the site. These materials could contain asbestos.

15. The majority of the material disposed of at the site was nonhazardous solid waste. Solid materials were brought to the Magnesia Pile in bulk via a tractor truck and deposited. The top of the Magnesia Pile was frequently leveled using a tractor in order to make more area for additional waste material. The non-solid waste consisted primarily of gypsum and magnesia sludges. With the exception of the catalyst pellets and phosphorus sludge, most of the waste was not contained in drums.

16. Some records were maintained with respect to the waste materials deposited at the Magnesia Pile. However, due to the relatively long period of time which has passed since the site has been active, no records are presently available.

17. Chemical analysis of some of the waste materials were performed at the FMC laboratory to determine whether valuable material was being disposed of at the Magnesia Pile. Records of these analyses have not been maintained.

18. Some of the waste material disposed of at the site has been reported to have been excavated and removed from the site. During the early 1980s, Parsons Ag Minerals excavated and removed gypsum and dolomite from the low lying areas to the west of the Magnesia Pile, for resale as a soil amendment.

2.1.6.1 Topographic Changes

1. This section describes the chronological development of the Magnesia Pile site, based on interpretations of sequential aerial photographs and available topographic maps. In general, this information indicates that: (1) most of the waste material deposition occurred between the 1940s and 1960s, and consisted of reject material from the Magnesia Plant (i.e., dolomite, magnesia and gypsum), and (2) miscellaneous waste materials were primarily disposed of in the vicinity of the western and southern slopes of the pile.

2. A 1937 aerial photo indicates that the site consisted of an extension of the Coyote Hills (Figure 2.1). The ridge does not appear to have been significantly modified by disposal activities and is partially covered by vegetation.

EXHIBIT #4

March, April, and June 1981
Sampling Results
by
The Department of Health Services

Leslie Salt Magnesia Pile
Ft of Enterprise Drive
Newark, CA 94560

Contact: James Walton, Vice President
Leslie Salt Corp.
7220 Central Ave.
Newark, CA 94560
(415) 797-1820

HISTORY:

Site was initially identified through the Eckhardt Survey. The site was originally leased to West Vego. When West Vego was acquired by FMC Corp., the lease was continued until 1969. From 1929-1968 these companies disposed of magnesium chloride and gypsum, in addition to some drummed waste, on the existing serpentine ridge. Since 1968 the property has been surplus land for Leslie Salt and at present there are no plans for use or development.

SITE LOCATION:

See attached map.

ASP ACTION:

3/3/81 Site interview and inspection at Leslie Salt. Met with James Walton (Vice President) and Linda Marshall (Public Affairs). Three samples were collected: HML 3181, 3182, and 3183.

4/7/81 Follow up site visit by ASP staff. Four Samples were collected: HML 3351, 3352, 3353, and 3354.

6/25/81 On reccomendation of Howard Hatayama, 11 samples were collected to gather data for possible recycling: HML 3918-3928.

9/5/81 Bill Quan found a recycler who is interested in using the white material but is unable to use it at this time. Recycler would appreciate the State leaving the material available for future recycling.

10/22/81 Bill Quan ~~called~~ requested James Walton to contact Veale Tract Farms, 415-684-2193, about recycling the above white material

LAB RESULTS:

The lab results show that the white material, which constitutes 95% of the material in the pile, does not have heavy metal contamination, but does have a pH over 12. Rusted barrels of red pellets cover one area. The pellets contain soluble heavy metal concentrations in excess of the CAM limits for copper and zinc.

STATUS OF SITE:

Company Operational Status : Active
Disposal Site Status: Inactive
Superfund Notification: Notified (FMC Corporation)
RCRA Status: None
2370 Site Status: None

10/15/81 NG

EXHIBIT #4
March, April, and June 1981
Sampling Results
by
The Department of Health Services

To Be Completed By Supervisor

DESIGNATION CATEGORY

Complex ☐

Routine ☐

Minor ☐

DEPARTMENT OF HEALTH SE :S
HAZARDOUS MATERIALS
MANAGEMENT SECTION

ABANDONED SITE PROJECT
AUGUST 1981

SITE INFORMATION SUMMARY

Leslie Salt Company
End of Enterprise Drive
Newark, CA.

HISTORY:

From 1929 to 1968, West Vego, later acquired by FMC, leased the site from Leslie Salt. During that time magnesium chloride and gypsum were dumped on the serpentine ridge. There were also drummed wastes and catalysts disposed of at the site. Since 1968 the property has not been used.

DESCRIPTION OF PROBLEM:

During a site inspection by ASP staff, evidence of barreled waste was present and preliminary pH test samples appeared to be high.

SAMPLING AND RESULTS:

Soil samples taken at the site have shown significant heavy metal contamination and high pH.

CLEAN-UP AND MITIGATION MEASURES:

Preliminary clean-up measures call for further analysis to determine the composition of the soil, and the possibility of recycling of the material.

June 25, 1981 10-12am

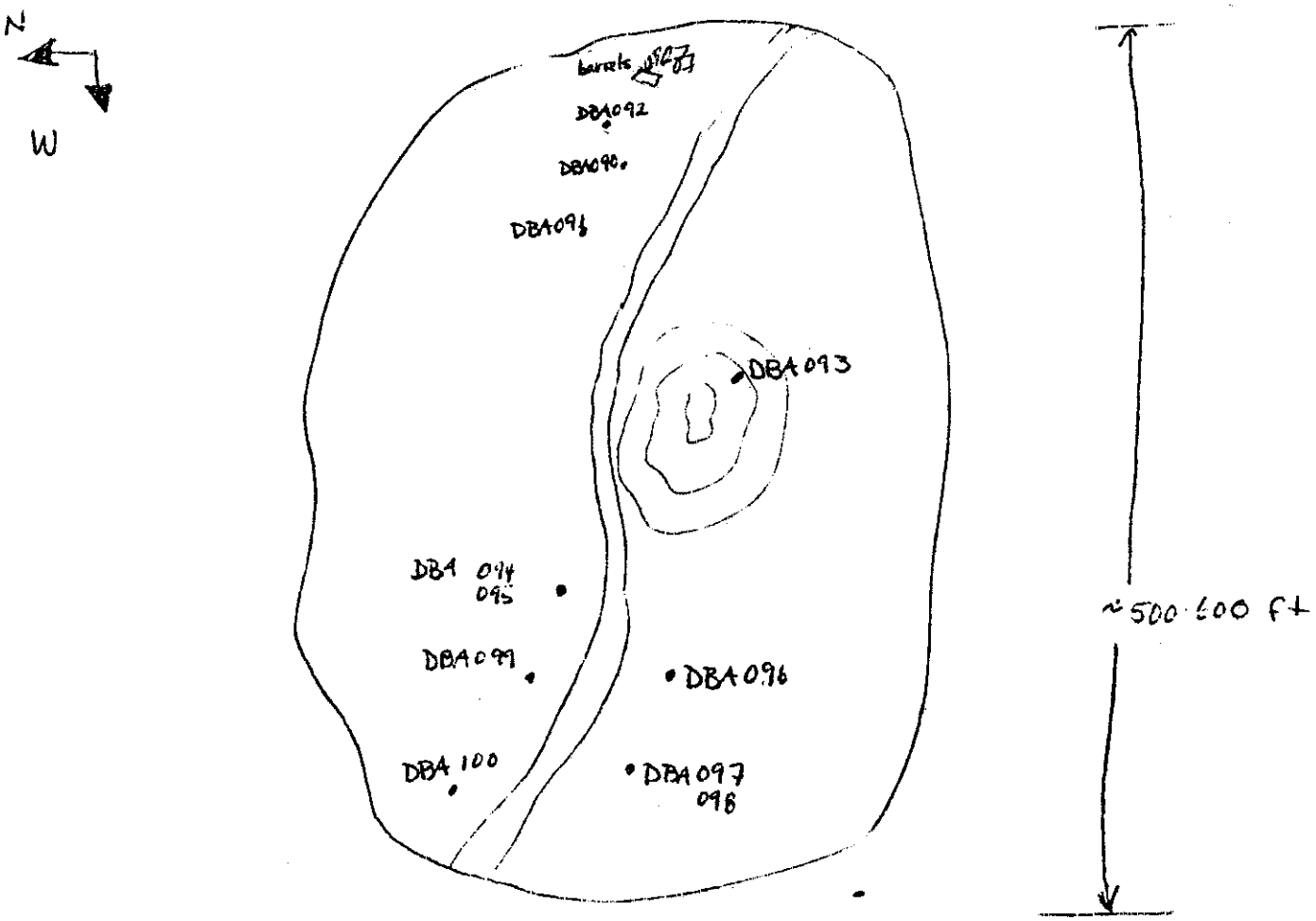
Sampling: Leslie Salt Magnesia Mountain

ASP staff: Dick Burgard, Nancy George, Jane Kerlinger

The ASP staff took 11 samples at the Leslie Salt Magnesia mountain. Samples were taken at regular intervals along the "road" traversing the magnesia pile. Sample depths ranged from surface to 2ft. and the pH ranged from 7 to 13.5. Generally, the magnesia pile is white to gray, but in some areas the soil can be brownish-red under the surface. Estimated height of pile; 60-70 ft. length--200 yds.

Field pH using paper + distilled water on surface.

1.	DBA 090	2 ft sample depth	pH 12	
2.	DBA 091	1 ft	pH 11	
3.	DBA 092	6-12"	pH 13 @ 6"	
4.	DBA 093	6-8"	pH 11	red-brown granular soil
5.	DBA 094	1 ft.	pH 11	white sample
6.	DBA 095	0-6"	pH 13	grey surface
7.	DBA 096	1 ft	pH 10 @ 1' pH 13 @ 1.5'	lt br/gray
8.	DBA 097	surface	pH 13	white surface
9.	DBA 098	6"		brown
10.	DBA 099	surface	pH 7 @ surface	
11.	DBA 100	0-8"		sandy-white



report by Jane Kerlinger

HML # 3351 to 3354

..AZ ..DOUS MATERIALS LABORATORY

LABORATORY REPORT

TO: Nancy George
(name of person requesting analysis)

DATE OF REPORT: 5/22/81

COLLECTOR'S SAMPLE #: NG-017 to NG-020

DATE COLLECTED: 4/7/81

LOCATION OF SAMPLING:

NAME Leslie Salt

TEL. NO.

ADDRESS Near Enterprise Dr., Newark CA
(number) (street) (city) (state) (zip)

ANALYTICAL PROCEDURES USED: HNO3 digest and 48-hour citrate buffer NET.
Analysis of all filtrates by X-Ray Florescence metal scan.
Error: ±10% unless indicated.

REFERENCES: HML Methods

ANALYSIS RESULTS

Metal analysis: PPM (core red / white / rest water) 48-hr NET citrate Buffer Extractions

HML #	3351	3352	3353	3354	3351	3352	3353	Blank
Insp. Spl #	NG-017B	NG-018	NG-019	NG-020				
Ag	—	—	—	—	—	—	—	—
As	—	—	—	—	—	—	—	—
Ba	—	—	—	—	—	—	—	—
Bi	—	—	—	—	—	—	—	—
Cd	—	—	—	—	—	—	—	—
Co	—	—	—	—	—	—	—	—
Cr	—	—	—	—	—	15±14	—	—
Cu	—	39±10	—	—	—	77±10	—	—
Fe	387	65900	250	—	—	—	—	—
Hg	—	—	—	—	—	—	—	—
Mn	22±16	—	—	—	—	—	—	—
Mo	—	—	—	—	—	—	—	—
Ni	26±8	—	—	—	8±6	—	—	0.5±0.4
Pb	—	82±16	—	—	—	—	—	—
Sb	—	—	—	—	—	—	—	—
Se	—	—	—	—	—	—	—	—
Sn	—	—	—	—	—	—	—	—
Sr	42±6	71±8	11±4	—	6±4	13±4	7±4	—
Tl	—	—	—	—	—	—	—	—
V	—	—	—	—	—	20±16	23±16	—
Zn	—	100	—	—	—	50±8	—	—
U	29±22	30±24	—	—	—	—	—	—
Br	—	7±4	14±4	170	11±4	9±4	7±4	0.5±0.2
Rb	—	8±4	—	14±6	—	—	—	—
Rh	—	—	—	—	15±12	—	—	—
Cs	—	—	—	—	43±34	—	—	—
La	—	—	—	—	64±56	—	—	—

Note: (—): below detection limit of instrument
(blank): not determined

Analyst: [signature] 5/22/81
signature date

Supervising Chemist: [signature] 5-27-81
signature date

HML # 3181 to 3183

HAZARDOUS MATERIALS LABORATORY

LABORATORY REPORT

TO: Nancy George
(name of person requesting analysis)

DATE OF REPORT: 3/26/81

COLLECTOR'S SAMPLE #: NG 015 to NG 017

DATE COLLECTED: 3/3/81

LOCATION OF SAMPLING:

NAME Leslie Salt Property

TEL. NO.

ADDRESS Newark, near Enterprise Dr. CA
(number) (street) (city) (state) (zip)

ANALYTICAL PROCEDURES USED: HNO_3 digest / 48 hour citrate buffer WET extraction
Analysis: X-Ray Fluorescence metal scan
Error: ±10% unless indicated.

REFERENCES: HML methods

ANALYSIS RESULTS

Metal analysis: PPM red pellet, yellow solids; 48-hr citrate buffer extractions

HML #	3181	3182	3183		3181	3182	3183	
Insp. Spl #	NG 015	NG016	NG 017		NG015	NG016	NG017	
Ag	—	—	—		—	—	—	
As	16±6	—	10±4		5±4	—	—	
Ba	—	—	—		60±48	86±48	68±48	
Bi	—	—	—		—	—	—	
Cd	—	—	—		—	—	—	
Co	—	—	—		—	—	—	
Cr	—	—	—		—	—	—	
Cu	10920	52±8	—		6130	50±8	8±6	
Fe	22984	76,000	532		1210	359	333	
Hg	—	—	—		—	—	—	
Mn	—	—	—		27±16	—	35±12	
Mo	—	—	—		—	—	—	
Ni	—	—	—		—	12±6	7±6	
Pb	—	78±14	—		—	—	—	
Sb	—	—	—		—	—	—	
Se	—	3±2	—		—	—	—	
Sn	—	—	—		—	—	—	
Sr	8±6	—	12±6		8±4	—	—	
Tl								
V	—	—	—		—	—	—	
Zn	1238	87±10	—		257	20±6	—	
Ti	—	—	—		—	—	—	
Ga	—	—	—		15±10	—	—	
Br	—	3±2	—		5±4	5±4	31±4	
Rb	—	8±4	—		—	—	—	
Y	—	—	—		—	—	—	
Zr	—	—	—		—	—	~~6±7~~	
In	—	—	—		~~21±16~~	—	~~[illegible]~~	

Note: (—): below detection limit of instrument
(blank): not determined

Supervising Chemist:

Analyst: [signature] 3/26/81
signature date

[signature] 3/26/81
signature date

HAZARDOUS MATERIALS LABORATORY

LABORATORY REPORT (Final Report)

TO: Dick Burgard
(name of person requesting analysis)

HML # 3918-28

COPY TO

COLLECTOR'S SAMPLE # DBA-090 → 100

DATE OF REPORT 081081

LOCATION OF SAMPLE COLLECTION:

DATE COLLECTED 080581 (mo day yr)

NAME Leslie Salt Magnesia Pile

ADDRESS Near Enterprise Dr., Newark
(number street city state zip)

ANALYTICAL PROCEDURES USED: pH of 50% dilution w/ Corning 125 pH meter. Ca + Mg by AAS of HNO_3 ~~digests.~~ digest of composite sample.

REFERENCE:

ANALYSIS RESULTS:

HML #	inspector's #	pH
3918	DBA 090	12.3
3919	" 091	9.2
3920	" 092	12.2
3921	" 093	12.3
3922	" 094	11.6
3923	" 095	12.2
3924	" 096	12.3
3925	" 097	12.4
3926	" 098	12.3
3927	" 099	9.3
3928	" 100	8.9

composite concentration (μg/g): Ca 2.38×10^5 μg/g
Mg 1.13×10^4 μg/g

ANALYSTS' SIGNATURES:

1. J.E. Raymond 8/10/81 (date)

2. (date)

SIGNATURE OF SUPERVISING CHEMIST

Tom Hill 8-10-81 (date)

INV

HAZARDOUS MATERIALS LABORATORY

HML # 3351 to 3354

LABORATORY REPORT

TO: Nancy George
(name of person requesting analysis)

DATE OF REPORT: 5/22/81

COLLECTOR'S SAMPLE #: NG-017 to NG-020

DATE COLLECTED: 4/7/81

LOCATION OF SAMPLING:

NAME Leslie Salt

TEL. NO.

ADDRESS Near Enterprise Rd., Newark
(number) (street) (city) (state) (zip)

ANALYTICAL PROCEDURES USED: pH detm. on Corning #125 pH meter w/ Corning combination electrode. All detns. made on 50% solutions (20 g sample + 20 ml H_2O) except NG-017 in which pH detmd. directly from 200 g aliquot of liquid sample.

REFERENCES:

ANALYSIS RESULTS

HML #	Insp #	pH
3351	NG-017	12.2
3352	NG-018	9.7
3353	NG-019	8.6
3354	NG-020	6.9

Analyst: [signature] 5/22/81
signature date

Supervising Chemist: [signature] 5-27-81
signature date

EXHIBIT #5

Letter from the Department Directing
Leslie Salt Company
to Remove all Hazardous Wastes
from the Site

EXHIBIT #5
Letter from the Department Directing
Leslie Salt Company
to Remove all Hazardous Wastes
from the Site

415/540-2043

April 30, 1982

CERTIFIED NO. P26 4223250

Mr. James Walton, Vice President
Leslie Salt Corp.
7220 Central Avenue
Newark, CA 94560

Dear Mr. Walton:

On March 3, 1981, April 7, 1981, and June 23, 1981 inspections were conducted and samples collected at property owned by Leslie Salt Corporation in Newark, CA., which was the site of the FMC Corporation Newark Magnesia Plant until 1968. This property was found to contain large (thousands of tons) piles of waste material sometimes referred to as the dolomite/magnesia piles. Field observations and historical information also indicate the presence of deteriorated drummed waste material believed to be spent catalyst.

Analysis of samples collected from this site reveals that the dolomite/magnesia piles in many locations have a pH greater than 12.0, and that the catalyst material contains concentrations of copper and zinc that exceed the levels for hazardous waste, as described in the California Assessment Manual for Hazardous Waste. Copies of these laboratory reports are enclosed.

Compounds having a pH greater than 12.0 are hazardous wastes within the meaning of Sections 66088 and 66032, California Administrative Code. Compounds containing copper or zinc are listed as hazardous wastes in Section 66680 C.A.C. Section 25201, California Health & Safety Code, and Section 66370 C.A.C. require that a hazardous waste storage or disposal facility obtain a Hazardous Waste Facility Permit from the Department of Health Services. Leslie Salt Corporation does not hold such a permit for the Newark site.

You are hereby directed to remove all hazardous waste from the Newark site.

You are also directed, pursuant to Section 66328(d) C.A.C. to submit a Plan of Correction to this office, within 30 days of the date of this letter, which describes the steps you will take to remove all hazardous waste from the Newark site.

We are aware that during the past several months you have been exploring the possibilities for recycling portions of the dolomite/magnesia piles, including discussions with William Quan of this agency. Mr. Quan has provided you with information concerning acceptable levels of heavy metals in any material to be recycled by use as a soil amendment. We would like to commend you for your interest in recycling this material, and would certainly

support your endeavors in this area, in so far as they are compatible with the requirements of the California Hazardous Waste Control Act. At this time, however, we must be assured that:

a) there exists a formal plan with specific milestones for the recycling of this material, consistent with the requirements of this Department;

b) the catalyst material and contaminated dolomite/magnesia will be removed to an authorized disposal site in a timely manner;

c) the dolomite/magnesia piles will be disposed of at an authorized disposal site if a suitable method of recycling cannot be found.

Please contact Dick Burgard of this office if you have any questions concerning this matter.

Sincerely,

John C. Blasco
Acting Regional Administrator
Hazardous Waste Management Branch

cc: Harold Singer
SFRWQCB

Kathleen Shimmin
U.S. EPA Region IX

Gerald Winn
Director of Env. Health
Alameda County Health Care
Services Agency

William Quan
HWMB

bcc: JCB
DB
Tom Bailey - c/u & Emergency Response Section, Sacto

JCB/rl

CONCURRENCES

Initials					
Date	4/29/82	4/30/82			

EXHIBIT #6

Sampling Locations and Results
from
the January 1984 Emcon Assoc. Report

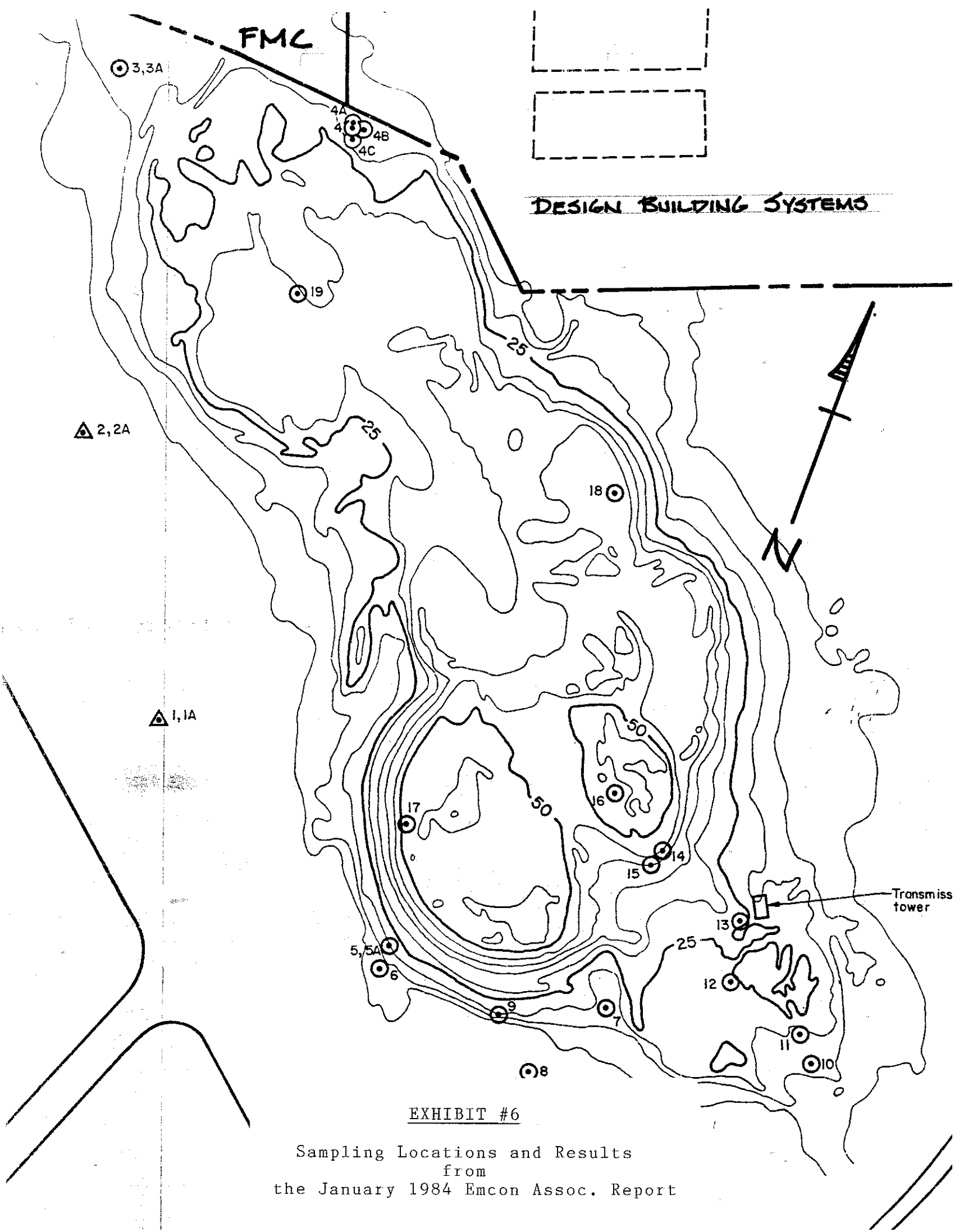


EXHIBIT #6

Sampling Locations and Results
from
the January 1984 Emcon Assoc. Report

magnesia pile. There are two contiguous "ponds" in this area. The sample was drawn from the west side of the southern pond. The pond was approximately 60 feet wide, 300 feet long and 1 to 2 feet deep at the time of collection.

2, 2A: Samples were collected from the northeast portion of the shallow area from the northern end of the smaller of the two ponds. The pond was approximately 40 feet wide, 150 feet long and 1 to 2 feet deep at the time of collection.

3, 3A: Samples were collected from a homogeneous vegetated area, northwest of the magnesia pile. The sample location was south of the property boundary near the railroad tracks.

4, 4A, 4B, 4C: Samples were collected from an area just north of the magnesia pile, near the junction of the old Leslie fence line and the new Design Building Systems' fence, approximately 400 to 450 feet east of the barge canal. Samples were taken near a conduit valve. Figure 1A identifies the sample locations in relation to the valve.

5, 5A: Samples were collected from the southwest slope of the magnesia pile. Area sampled was reddish/orange with a hard crusty surface. Material below the surface or material not previously exposed was white.

6: Sample was taken from an area adjacent to samples 5 and 5A. However, the sample was collected from a crushed barrel laying on the western slope of the magnesia pile. Material was a light reddish/white chunky powder that was easily crushed.

7: Sample was collected from the south end of the site, directly west of a mound of disposed wood rubble. Wood rubble was approximately 30 to 40 feet above the sample area. The sample was brownish or rust colored and was rock-like with a rough surface.

8: Sample was collected from the southern section of the site, between the two southern magnesia/dolomite piles, approximately 15 feet southwest of sample 7 location. Sample was drawn from a shallow area or old pond bed. Soil collected was light brown with a crusty layer of material on top.

9: Sample was collected from the southern slope of the magnesia pile, west of the road that climbs the pile, near sample 7 location. Material collected was white/gray, chunky powder.

10: Sample was taken from the south end of the site, on the east side of the road. Area had several rusted drums; sample was taken from the drum area. Material collected was white/gray with a hard crusty surface; seemed chalky after crushing.

11: Sample was taken from the south end of the site from the east side near sample 10 location. One sample was taken from an area where several rusted drums were deposited. Material was uniform, egg-shaped and white.

12: Sample was collected from the south portion of site, east of the road, slightly southeast of wood/pallet rubble near the steep section of the road. Sample was taken from a fairly homogeneous area which was primarily brownish/white with a crusty surface.

13: Sample was obtained from a flattend area west of the transmission tower. The area contained approximately 50 demolished drums which contained catalyst material. The pellets collected were cylindrical and a reddish/brown color.

14: Sample was obtained from the center of the site near the top of the pile on the east side of the access road. Material was collected near a demolished drum; the sample was very hard, broken in rectangular squares and a whitish-yellow color.

15: Sample was obtained near sample 14 near the top of the pile in a drum demolition area. Material collected was hard, rough surfaced and a brownish-yellow color. The side of the sloped area where the sample was taken was "stained" the same color.

16: Sample was obtained from the eastern side of the top of the pile. The area sample was a west-facing slope which was homogeneous. Material collected was whitish/gray, hard, with a rough surface that was not easily crushed.

17: Sample was obtained from the top western edge of the magnesia pile, directly west of sample 16. Material collected was gray/white, very hard with a rough surface, but was easily crushed.

18: Sample was collected from the northeastern portion of the site, directly above the Parsons' excavation. Material collected was white and easily crushed into a chalk-like substance.

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CERTIFIED ANALYTICAL REPORT

Report to:

Leslie Salt Company
Post Office Box 364
Newark, California 94560

Attention: Mr. John Pyles

Date Received August 23, 1983

Sample Number E83-0847 & 0848

Project Number 436-01.02

Location Leslie Salt Co., Magnesia Pile

SOIL

PARAMETER	#3 8/23/83	#4 8/23/83	#5 8/23/83	#6 8/23/83
Alkalinity, Total, ug/g	38,000.	110,000.	47,000.	100,000.
Alkalinity, Bicarbonate, ug/g	38,000.	98,000.	47,000.	230,000.
Alkalinity, Carbonate, ug/g	NA	14,000.	280.	170,000.
Aluminum, Total, ug/g	NR	NR	160.	40.
Arsenic, Total, ug/g	< 2.0	3.0	< 2.0	NR
Cadmium, Total, ug/g	NR	NR	NR	NR
Calcium, Total, ug/g	138,000.	90,000.	100,000.	4,800.
Chloride, ug/g	NR	NR	32,000.	25,000.
Copper, Total, ug/g	200.	27.	18.	20.
Iron, Total, ug/g	3,200.	5,200.	3,200.	21,000.
Lead, Total, ug/g	40.	220.	50.	6.0
Magnesium, Total, ug/g	60,000.	110,000.	90,000.	10,000.
Manganese, Total, ug/g	80.	200.	57.	100.
Nickel, Total, ug/g	64.	76.	56.	20.
Phosphate (P),Total, ug/g	420.	600.	440.	23,000.
Strontium, Total, ug/g	66.	52.	36.	< 2.
pH @ 50%, Dilution	8.0	9.6	9.2	10.2
Zinc, Total, ug/g	28.	50.	40.	8.0
Sulfate, ug/g	170,000.	42,000.	14,000.	24,000.

NR = Not Requested

NA = Not Applicable due to low pH

Revised T b Willett Date Nov 11, 1983

Reported by: T b Willett Date: Sept 16, 1983

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CERTIFIED ANALYTICAL REPORT

Report to:

Leslie Salt Company
Post Office Box 364
Newark, California 94560

Attention: Mr. John Pyles

Date Received August 23, 1983

Sample Number E83-0847 & 0848

Project Number 436-01.02

Location Leslie Salt Co., Magnesia Pile

SOIL

PARAMETER	#11 8/23/83	#12 8/23/83	#13 8/23/83	#14 8/23/83
Alkalinity, Total, ug/g	20,000.	38,000.	16,000.	14,000.
Alkalinity, Bicarbonate, ug/g	18,000.	38,000.	15,000.	11,000.
Alkalinity, Carbonate, ug/g	1,800.	440.	1,100.	2,900.
Aluminum, Total, ug/g	NR	NR	NR	NR
Arsenic, Total, ug/g	NR	NR	< 2.0	< 2.0
Cadmium, Total, ug/g	NR	NR	NR	NR
Calcium, Total, ug/g	6,600.	59,000.	4,000.	4,200.
Chloride. ug/g	NR	NR	NR	NR
Copper, Total, ug/g	3.6	11.	20,000.	9.0
Iron, Total, ug/g	400.	2,000.	92,000.	800.
Lead, Total, ug/g	6.0	30.	20.	10.
Magnesium, Total, ug/g	340,000.	90,000.	250,000.	340,000.
Manganese, Total, ug/g	200.	40.	120.	200.
Nickel, Total, ug/g	32.	64.	28.	16.
Phosphate (P),Total, ug/g	220.	NR	NR	NR
Strontium, Total, ug/g	6.0	58.	12.	8.0
pH @ 50%, Dilution	10.0	8.6	10.0	10.9
Zinc, Total, ug/g	4.0	44.	14.	8.0
Sulfate, ug/g	5,000.	6,200.	63,000.	NR

NR = Not Requested

NA = Not Applicable due to low pH

Revised T. B. Willett Date Nov 11, 1983

Reported by: T. B. Willett Date: Sept 16, 1983

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CERTIFIED ANALYTICAL REPORT

Report to:

Leslie Salt Company
Post Office Box 364
Newark, California 94560

Attention: Mr. John Pyles

Date Received August 23, 1983

Sample Number E83-0847 & 0848

Project Number 436-01.02

Location Leslie Salt Co., Magnesia Pile

SOIL

PARAMETER	#15 8/23/83	#16 8/23/83	#17 8/23/83	#18 8/23/83	#19 8/23/83
Alkalinity, Total, ug/g	21,000.	120,000.	59,000.	260,000.	300,000.
Alkalinity, Bicarbonate, ug/g	19,000.	110,000.	57,000.	180,000.	300,000.
Alkalinity, Carbonate, ug/g	1,600.	9,000.	2,200.	78,000.	3,600.
Aluminum, Total, ug/g	40.	NR	NR	NR	500.
Arsenic, Total, ug/g	NR	< 2.0	2.8	2.2	< 2.0
Cadmium, Total, ug/g	NR	NR	NR	NR	1.0
Calcium, Total, ug/g	12,000.	14,000.	51,000.	59,000.	62,000.
Chloride, ug/g	32,000.	NR	NR	NR	25,000.
Copper, Total, ug/g	< 1.0	14.	7.0	5.8	9.6
Iron, Total, ug/g	14,000.	5,200.	800.	800.	5,200.
Lead, Total, ug/g	46.	50.	18.	17.	200.
Magnesium, Total, ug/g	160,000.	160,000.	100,000.	110,000.	160,000.
Manganese, Total, ug/g	200.	200.	200.	54.	120.
Nickel, Total, ug/g	40.	40.	44.	28.	28.
Phosphate (P),Total, ug/g	NR	600.	100.	NR	310.
Strontium, Total, ug/g	12.	17.	52.	26.	20.
pH @ 50%, Dilution	10.2	9.3	9.6	12.1	8.8
Zinc, Total, ug/g	130.	64.	8.0	< 4.0	80.
Sulfate, ug/g	NR	700.	3,600.	NR	NR

NR = Not Requested

[illegible] = Not Applicable due to low pH

Revised T. B. Wilbert Date Nov 11, 1983

Reported by: T. B. Wilbert

APPENDIX D

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CERTIFIED ANALYTICAL REPORT

Report to:

Leslie Salt
Post Office Box 364
Newark, California 94560

Attention: Mr. John Pyles

Date Received August 23, 1983

Sample Number E83-0847 & 0848

Project Number 436-01.02

Location Leslie Salt Co., Magnesia Pile

SOIL

PARAMETER[1]	Sample #3[2] Buffer Solution pH=4	Sample #3[2] Deionized Water	Sample #13[2] Buffer Solution pH=4	Sample #13[2] Deionized Water
Cadmium, Soluble	< .5	< .5	1.0	< .5
Calcium, Soluble	4,900.	5,000.	1,800.	90.
Chromium, Soluble[3]	7.0	< 1.0	6.0	2.0
Copper, Soluble	10.	1.5	7,000.	< 1.0
Iron, Soluble	230.	< 5.0	1,000.	< 5.0
Lead, Soluble	3.0	< 2.0	4.0	< 2.0
Magnesium, Soluble	55,000.	700.	60,000.	1,600.
Manganese Soluble	32.	< .5	10.	< .5
Nickel, Soluble	10.	5.0	12.	< 5.0
Strontium, Soluble	5.0	< 5.0	< 5.0	< 5.0
Zinc, Soluble	8.0	5.0	8.6	< 5.0

1. All units are mg/kg wet mass basis.
2. 48 Hr. Calif. Waste Extraction Test, Calif. Assessment Manual For Hazardous Wastes, DOHS, Aug.,1979.
3. Total Chromium: Chromium III and Chromium VI.

Revised T. B. Willett Date Nov 11, 1983

Reported by: T. B. Willett Date: Oct 4, 1983

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CERTIFIED ANALYTICAL REPORT

Report to:

Leslie Salt
Post Office Box 364
Newark, California 94560

Attention: Mr. John Pyles

Date Received August 23, 1983

Sample Number E83-0847 & 0848

Project Number 436-01.02

Location (see page 1)

SOIL

PARAMETER[1]	Sample #15[2] Buffer Solution pH=4	Sample #15[2] Deionized Water	Sample #17[2] Buffer Solution pH=4	Sample #17[2] Deionized Water
Cadmium, Soluble	0.5	< .5	< .5	< .5
Calcium, Soluble	1,500.	80.	3,900.	70.
Chromium, Soluble	4.0	< 1.0	2.0	< 1.0
Copper, Soluble[3]	< 1.0	< 1.0	5.5	1.5
Iron, Soluble	80.	< 5.0	120.	< 5.0
Lead, Soluble	3.0	< 2.0	< 2.0	< 2.0
Magnesium, Soluble	49,000.	2,400.	21,000.	400.
Manganese Soluble	33.	< .5	31.	0.5
Nickel, Soluble	10.	< 5.0	5.0	< 5.0
Strontium, Soluble	< 5.0	< 5.0	< 5.0	< 5.0
Zinc, Soluble	< 5.0	< 5.0	< 5.0	< 5.0

1. All units are mg/kg wet mass basis.
2. 48 Hr. Calif. Waste Extraction Test, Calif. Assessment Manual For Hazardous Wastes, DOHS, Aug., 1979.
3. Total Chromium: Chromium III and Chromium VI.

Revised T. B. Willett Date Nov 11, 1983

Reported by: T. B. Willett Date: Oct 4, 1983

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...ndures: the liability of the corporation shall not exceed the amount paid for this report.

EXHIBIT #7

November 18, 1985 Letter
Leslie Salt Company to the Department
Indicating Responsibility for
Further Chariterization of the Site

Leslie Salt Co.
A CARGILL COMPANY

7200 CENTRAL AVENUE
NEWARK CA 94560 / (415) 797-1820

November 18, 1985

TOXIC SUBSTANCES
11-562
NOV 21 1985
CALIFORNIA DEPARTMENT OF HEALTH SERVICES
RECEIVED

Ms. Claudia Willen
Department of Health Services
2151 Berkeley Way
Annex 7
Berkeley, CA 94704

Dear Ms. Willen:

The last time we communicated, I had sent you a letter outlining Leslie Salt Co.'s intentions for cleanup of the magnesia waste pile. We have taken some action per that letter, and I would like to inform you of the results.

All known hazardous material has been removed. This was done by I.T. Corporation with the material going to their Class I dump facilities. The trash has also been removed by I.T. Corporation to a local Class III dump.

The next step in the process is to sift through the remaining material. We are working on a monitoring plan for the screening and are developing a screening plan. These plans will be sent to you as they are developed. As it is our goal to recycle the magnesia material, it is important that any hazardous material which may be buried be isolated and properly handled. We have not yet found a home for the magnesia material.

Please call me at 790-8160 if you have any questions.

Sincerely,

John Pyles
Solar Salt Production Manager

JP11/26:bep

EXHIBIT #7

November 18 1985 Letter
Leslie Salt Company to the Department
Indicating Responsibility for
Further Chariterization of the Site

Leslie Salt/FMC Magnesia Waste Pile Site

REMEDIAL ACTION PLAN

(submitted pursuant to California Health and Safety Code Section 25256.1)

October 1990

Submitted by:

Leslie Salt and FMC
Leslie Salt/FMC Magnesia Waste Pile
Newark, California

Prepared by:

Hydrologic Consultants, Inc.

HCI-524/T8

HCI HYDROLOGIC CONSULTANTS, INC.

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PROFESSIONAL CERTIFICATION

LESLIE SALT/FMC MAGNESIA WASTE PILE SITE REMEDIAL ACTION PLAN

Leslie Salt and FMC
Leslie Salt/FMC Magnesia Waste Pile

Newark, California

HCI-524

October 1990

This report has been prepared by the staff of Hydrologic Consultants, Inc., under the professional supervision of the Officer whose seal and signature appears hereon.

The findings, recommendations, specifications or professional opinions are presented, within the limits prescribed by the client, after being prepared in accordance with generally accepted professional engineering and geologic practice. There is no other warranty, either expressed or implied.

REGISTERED GEOLOGIST
ROBERT J. STERRETT, Ph.D.
No. 3953
REGISTERED GEOLOGIST
STATE OF CALIFORNIA

Robert J. Sterrett

Robert J. Sterrett, Ph.D., R.G.
Vice President

1.0 INTRODUCTION

This Remedial Action Plan (RAP) summarizes Remedial Investigation (RI), risk assessment, and Feasibility Study (FS) activities performed at and for the site of the Leslie Salt/FMC Magnesia Waste Pile in Newark, California. The RAP also describes the remedial alternative selected for the site and the schedule for its implementation.

The Leslie Salt/FMC Magnesia Waste Pile is currently entered on California's list of hazardous substance release sites. FMC and Leslie Salt have conducted site investigations at the request of the California Department of Health Services (DHS). FMC and Leslie Salt have also performed a site risk assessment and Feasibility Study. These activities are described in reports prepared for FMC and Leslie Salt (EMCON Associates, 1984; IT Corporation, 1985; S.S. Papadopulos and Associates, 1988; TERRA Inc., 1989; Hydrologic Consultants, Inc., 1990), all of which have been submitted to the DHS and are on file at the DHS regional office. This RAP summarizes these activities and describes the selected site remedial alternative for review and approval by the DHS and the general public.

1.1 PURPOSE OF REMEDIAL ACTION PLAN

The purpose of the RAP is to briefly summarize site data gathered during the Remedial Investigation (RI), risk assessment and Feasibility Study (FS) process, and to identify and describe the remedial actions proposed for the Leslie Salt/FMC Magnesia Waste Pile in Newark, California. This RAP has been prepared pursuant to the requirements established in the California Health and Safety Code (H&SC) Section 25356(a - d). H&SC, Section 25356.1 specifies that a RAP shall be prepared, approved by the Department of Health Services (DHS), and released to the public for review and comment prior to commencing final remedial action at the site. The

requirements specify that the RAP shall be based on Section 25356 (H&SC), Subpart F of the National Oil and Hazardous Substances Pollution Contingency Plan (40 CFR, Section 300.61 et seq.) and on the following factors:

1. Health and safety risks posed by the conditions at the site.

2. The effects of contamination on present, future, and probable beneficial uses of contaminated or threatened resources.

3. The effects of alternative remedial action measures on the reasonable availability of ground-water resources for present, future, and probable beneficial uses.

4. Site-specific characteristics, including the potential for off-site migration of hazardous substances, the surface or subsurface soils, and the site hydrogeological conditions, as well as preexisting background contamination levels.

H&SC Section 25356.1(d) further specifies that the RAP shall include a statement of reasons describing the basis for the remedial actions selected, and a non-binding preliminary allocation of financial responsibility.

The RAP approval process is the means by which the public is provided an opportunity to be involved in the remedial action decision-making process. This public involvement process is formally initiated when a draft RAP is issued for public comment. California law requires a 30-day public comment period during the draft Remedial Action Plan review process. DHS posts notices near the site and in a local newspaper to announce that the draft RAP is available for review. A mailing list is developed that includes owners of property adjacent to the site, state and local agencies, and other interested parties. A description of the proposed actions is sent to all people on this mailing list. Comments on the cleanup recommendations can be sent to the DHS Site Officer. At least one public meeting is also held during the public review

period to receive comments. DHS must consider these public comments when deciding on the final cleanup plan for the site. The community is notified again before the cleanup begins.

The public comment period for this particular project ran from the beginning of June 4, 1990 through the end of July 3, 1990. The public hearing was held on the evening of June 13, 1990 at 7:00 p.m. at the Newark City library. The DHS has prepared a summary of the public comments received during the public comment period and their responses to them. The responses to the public comments are contained in a separate document titled "Public Responsiveness Survey," and this document can be found with the site documents in the public repository at the Newark City library and in the DHS offices which are located in Berkeley, California.

The RAP also provides a mechanism for setting out specific remedial action objectives and a timetable for completion of the action. By adopting the final RAP, DHS is making a commitment to the public and to Leslie Salt/FMC that, if the remedial action plan is fully implemented and completed, the site will be certified as adequately remediated.

The RAP is not intended to be a comprehensive document that contains all the information concerning a site, nor does it contain specific engineering design details. Rather, the RAP is a summary of the logical decision-making process that was carried out to select (and reject) remedial action alternatives. This document describes in a general manner the potential remedial alternatives and the recommended selected alternative to interested regulatory agencies and the public. Where appropriate, the RAP makes reference to other reports in which site conditions and technical data are more fully described.

1.2 IDENTIFICATION OF SITE

This RAP applies to the Leslie Salt/FMC Magnesia Waste Pile site, located on property owned by Leslie Salt, east of San Francisco Bay in Alameda County, California (Figure 1). The pile is located within Newark, California (Figure 2). The general magnesia material of which the pile is composed, contains materials that are hazardous as defined by Title 22 of the California Health and Safety Code. These hazardous materials resulted from disposal activities that occurred from the 1940s until 1969. A more detailed description of site activities and history are provided in Section 3.1.

1.3 SCOPE OF REMEDIAL ACTION PLAN

1.3.1 Requirements of RAP

Section 25356.1 of H&SC requires that a remedial action plan must be developed in draft form, circulated for public and responsible party comment, and issued as a final document prior to the remediation of a site. The RAP is also intended to be presented to all appropriate government agencies and to the affected community for comment. The purpose of a RAP is to assemble and present the analyses of all existing data in order to identify, prepare a preliminary design of, and develop a comprehensive schedule for implementing a remedial action. Because a RAP is a public document, it must comply with all statutory, regulatory, and policy requirements.

The RAP contains a concise summary of the site background data, a description of the nature and extent of contamination, an endangerment assessment, an evaluation of each proposed alternative as described in the feasibility study, and a statement of reasons presenting the bases for the selected remedial action.

The following are documented in the present RAP:

- health and safety risks posed by conditions at the site;
- likely effects of contamination on present, future, and probable beneficial uses of threatened resources;
- the effects of alternative remedial action measures on the reasonable availability of ground-water resources for present, future, and probable beneficial uses;
- site-specific characteristics, including the potential for off-site migration of potentially-hazardous substances, surface and subsurface soil conditions, hydrogeologic conditions, and pre-existing background contamination levels; and
- the cost-effectiveness of alternative remedial action measures.

The present RAP also describes the selected remedial alternative in some detail, including:

- the proposed cleanup levels;
- engineering considerations, site layout, and implementation schedule;
- maintenance and monitoring requirements;
- off-site disposal requirements;
- health and safety plans;
- transportation requirements; and
- environmental and public health problems that may be encountered during implementation of the selected remedial action, together with methods and associated costs for mitigating potential problems.

1.3.2 Final RAP Approval Record

Appropriate comments by the public and responsible parties regarding the draft RAP will be reviewed and incorporated into the final plan. A Final RAP Approval Record stating that the proposed remedial action is consistent with the Hazardous Substances Cleanup Bond Act of 1984, the California State Superfund law, the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), and the National Contingency Plan will then be prepared by the State. The signature of the designated representative of the State will document approval of the selected remedial alternative, and will serve to finalize the RAP.

2.0 EXECUTIVE SUMMARY

2.1 COMPLIANCE WITH APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS

A primary requirement of a RAP is that the document must comply with applicable or relevant and appropriate statutory, regulatory, and policy requirements. While "applicable or relevant and appropriate requirements" (ARARs) are to be determined by the lead agency, a list was proposed and a discussion made in the FS, and has been accepted by DHS. This list is summarized in Table 1. An evaluation of how each remedial action alternative is consistent with the ARAR's is also presented in this table.

A Remedial Action Order was issued to FMC and Leslie Salt by DHS on July 22, 1988. The Order was issued pursuant to the applicable provisions of the California Health and Safety Code, Sections 25355.5, 205, and 206. Under the terms of the Order, DHS is the lead State agency assuming responsibility for oversight of site remediation. The State ARARs governing site investigations and remediation include the provisions of the Hazardous Waste Control Act (California Health and Safety Code, Sections 25100 - 25250.24), the Hazardous Substance Account Act (California Health and Safety Code, Sections 25300 - 25395), and the California Code of Regulations (Title 22, Chapter 30). These ARARs are concerned with the definition of hazardous material; the identification of responsible parties; the procedures to be followed in constructing and approving feasibility studies, remedial action plans, and community relations plans; and acceptable disposition of hazardous material. The provisions of the Porter-Cologne Water Quality Control Act (California Water Code, Sections 13000-13443) and regulations under that act (23 California Administrative Code, Sections 2050-2061), and the Safe Drinking Water and Toxics Enforcement Act (California Health and Safety Code, Sections

25249.5 - 25249.13) may constitute ARARs, especially with respect to activities conducted during the proposed remediation program.

In addition, possible ARARs include worker health and safety standards to be followed during remediation, and air standards (e.g., Part 6 of the Bay Area Air Quality Management District Regulations, dealing with particulates and visible emissions).

Because disposal of waste materials at the Magnesia Waste Pile was terminated prior to November 19, 1980, it is judged that the applicable Federal requirements are contained in the provisions of the Comprehensive Environmental Response, Compensation, and Liability Act, as amended (CERCLA and SARA, or "Superfund"; 42 USC, Sections 9601 et seq.). As with most other states, California has relied on the provisions of the Resource Conservation and Recovery Act (RCRA) for the definition of hazardous and nonhazardous materials; therefore, RCRA provisions are applicable insofar as they are used to classify the material at the site. The specific applicable provisions are contained in 40 CFR, Part 261.

However, because the California Hazardous Substance Account Act (California Health and Safety Code, Sections 25300 - 25395) is functionally parallel to CERCLA, and because DHS is the lead State agency assuming responsibility for oversight of site remediation under the terms of the Remedial Action Order issued on July 22, 1988, it is judged that the provisions of the California Health and Safety Code will take precedence during remedial activities at the site (California Health and Safety Code, Section 25159).

To the extent that California has not enacted regulations or has not been authorized under portions of the federal RCRA program, the following EPA regulations may be ARARs:

- 40 C.F.R. Part 260
- 40 C.F.R. Part 261 (Definitions)

- 40 C.F.R. Part 262 (Generator)
- 40 C.F.R. Part 264 (Permitted Facilities)
- 40 C.F.R. Part 268 (Land Disposal)
- 40 C.F.R. Part 271 (Permit Application)

In addition, EPA water and air regulations that may be ARARs include the following:

- 40 C.F.R. Sections 141.11 - 141.16 (maximum contaminant levels)
- 40 C.F.R. Sections 141.50 - 141.51 (maximum contaminant level goals)
- 40 C.F.R. Parts 122 and 125 (wastewater discharge)
- 40 C.F.R. Part 50 (National Ambient Air Quality Standards)
- 40 C.F.R. Part 61 (Emission Standards)

The following OSHA requirements may be ARARs with respect to remedial activities:

- 29 C.F.R. Part 1910 (General Industry Standards)
- 50 Fed. Reg. 45654 (Health & Safety Standards for Employees engaged in Hazardous Waste Operations)

Possible ARARs are presented in Table 1, together with an assessment of the degree of compliance with ARARs associated with each remedial alternative, including the selected alternative (Alternative A-6).

2.2 HISTORY OF THE MAGNESIA WASTE PILE

The Magnesia Waste Pile is a former waste disposal site that is located on property owned by the Leslie Salt, in the southwestern part of Newark, California (Figure 2). It is visible

as a pile of white material, 40 to 50 feet high, 300 to 400 feet wide at its base, and approximately 1,200 feet in length. Over a period of approximately 50 years, parts of the Leslie Salt's Newark property have been leased for the placement of byproducts from various types of manufacturing activities.

Over the years, the Magnesia Waste Pile site was used by FMC to discard waste products. Most materials discarded at the Magnesia Waste Pile by FMC were nonhazardous as defined by Title 22 of the California Code of/ Regulations. The wastes consisted primarily of bulk quantities of off-grade or residual products resulting from manufacturing activities at the adjacent FMC facilities, and included magnesia (MgO), gypsum ($CaSO_4$), dolomite ($CaMg(CO_3)_2$), lime (CaO) and limestone ($CaCO_3$). Other reported waste products included four to eight drums of phosphorus-containing sludge, copper catalyst pellets used in synthetic rubber production, pockets of scrap lumber, kiln brick, general trash, and old concrete machinery foundations.

A general site cleanup was undertaken in 1985 and included the excavation and removal of about 450 cubic yards of copper catalyst pellets, and the removal of visible trash and debris. The copper catalyst material was disposed at the IT Corporation Class I landfill in Benicia, California, and the general trash was disposed in a municipal landfill.

The DHS issued a unilateral Remedial Action Order (RAO) to FMC and Leslie Salt in July 1988 to undertake a Remedial Investigation (RI) of the Magnesia Waste Pile, and to issue a Feasibility Study (FS) presenting the results of the investigation and assessing various remedial alternatives. The purpose of the FS was to identify a preferred remedial alternative(s) for contamination that was determined to present a threat to human health and the environment. Additional chemical analyses of air, surface water, ground water and waste samples were also presented in this

document. The results of these analyses were used to characterize the waste pile, to assess the possible effects of wastes in the pile on the surrounding water and air, and were also used to provide proposed technical cleanup standards for the site. The FS was issued as a final document in January 1990, and has been accepted by DHS.

The results of the RI demonstrated that the contaminants of primary concern within the pile are copper and mercury. Copper and mercury are considered to be hazardous because the concentrations of these chemicals in the magnesia exceed the appropriate Total Threshold Limit Concentration (TTLC) as defined by Title 22. The Magnesia Waste Pile contains approximately 65,000 cubic yards (cy) of general magnesia material, 9,600 cy of general construction debris (concrete, lumber, etc.), approximately 600 cy of copper catalyst pellets and approximately 2,500 cy of mercury-contaminated magnesia material. During RI site overview activities, DHS sampled a small waste area to the east of the pile. Magnesia/soil material in this area contained thallium in concentrations that exceeded appropriate TTLC. The volume of soil material located east of the site that contains thallium concentrations in excess of the TTLC is estimated to be 50 cy. The copper- and mercury-contaminated wastes are restricted to distinct areas of the pile, generally on the west side of the pile.

2.3 SELECTED REMEDIAL ALTERNATIVE

Six remedial action alternatives were identified in the FS. Examination of these alternatives provides a review of the basic technologies that could be applied to reduce the concentrations of the hazardous constituents encountered within the Magnesia Waste Pile in its current state, and to address the concerns of the general public, DHS, FMC and Leslie Salt. The alternatives that were examined are:

- Alternative A-1 - No Action
- Alternative A-2 - Capping
- Alternative A-3 - Excavation and Off-site Landfill Disposal of All Materials
- Alternative A-4 - Excavation and On-site Treatment Using Soil Fixation With Off-site Disposal
- Alternative A-5 - Excavation and On-site Treatment Using Soil Washing
- Alternative A-6 - Excavation with Removal of Hazardous Materials from Site with Recycling

Alternative A-6 is the selected remedial alternative. Under this alternative, all hazardous materials will be removed from the site. Four different options for handling the general magnesia material were examined. The preferred option would involve the excavation of all the hazardous materials, segregation of the different hazardous materials and transportation to an off-site recycling facility or disposal at a Class I facility. The thallium-contaminated materials were removed under an Interim Removal Action, and they were disposed at a Class I hazardous waste facility.

Implementation of Alternative A-6 would present no long-term risks to human health or the environment in the vicinity of the Magnesia Waste Pile, because all the hazardous materials would be removed from the site, and none of the residual material would have levels of copper or mercury above the appropriate standards, i.e. the TTLC's. It is anticipated that hazardous materials would be delivered to an off-site end user, and wastes resulting from the recycling of this material would be incorporated into the waste stream of the end user, to be handled in an appropriate manner.

2.4 PRELIMINARY ALLOCATION OF FINANCIAL RESPONSIBILITY

The California Department of Health has identified the following potentially responsible parties: FMC, operator when hazardous waste was placed at the facility and a generator of hazardous waste found at this facility; and Leslie Salt, owner of the property where the facility is located. FMC and Leslie Salt have proposed to remediate this site and have allocated the cost between themselves. Accordingly, the purpose for developing non-binding allocations of financial responsibility -- facilitating responsible party efforts to organize for purposes of conducting and financing remedial activities -- has been achieved.

3.0 CHARACTERISTICS OF THE MAGNESIA WASTE PILE

3.1 SITE HISTORY

3.1.1 Location and Description

The Magnesia Waste Pile is a former waste disposal site that is located on property owned by Leslie Salt (Figure 1). The pile is located in the southwestern part of Newark, California. The site is located near San Francisco Bay (Figure 2); it is visible as a pile of white material, 40 to 50 feet high, 300 to 400 feet wide at its base, and approximately 1,200 feet long (Plate 1). Access to the pile is via Wells Avenue, through a series of gates, and across property owned by Leslie Salt; the entry gate to Leslie Salt property is approximately 2,000 feet southwest of the intersection of Wells Avenue and Willow Street in Newark, California (Figure 2). The land is not used at the present time; cattle are grazed to the south of the pile, while Leslie Salt operates solar evaporation ponds, located west of the pile, for the production of salt (Plate 1).

3.1.2 Nature of Business and Duration of Operation

The Magnesia Waste Pile site has never been used by Leslie Salt. However, over a period of approximately 50 years, parts of the Leslie Salt's Newark property have been leased for various types of manufacturing activities. The site was first leased to Westvaco Chemicals by Leslie Salt in 1929. In 1948 FMC Corporation re-negotiated the lease with Leslie Salt following FMC's acquisition of the Westvaco facility; FMC retained the lease until 1969. The primary industrial activities of Westvaco and FMC included the production of magnesia oxide ("magnesia"), phosphoric acid, ethylene dibromide (EDB), gypsum, and various catalysts (EMCON Associates, 1984). Magnesia is used as a fluxing agent, as a feedstock for the chemical industry and other industrial uses.

Gypsum is used primarily as the basis for plaster, and as an additive in fertilizer (it is a soil conditioner). Phosphoric acid is a common feedstock used by the fertilizer and chemical industries, while EDB is used as a soil fumigant, and is also a minor component of petroleum-based fuels (used as an octane-enhancer).

Manufacture of these materials used bittern (concentrated sea water) from the adjacent salt-production operations as a primary raw material. Magnesia was produced from 1937 - 1968; ethylene dibromide was produced from 1929 - 1968. During World War II, a catalyst used in the manufacture of synthetic rubber was produced. Catalyst production was reactivated twice, from 1956 - 1958, and 1969 - 1976. At the present time, FMC's phosphate plant, built in 1950, is the only active operation at the adjacent Newark Plant site (EMCON Associates, 1984).

During production periods, the Magnesia Waste Pile site was used by FMC to discard waste products. The primary wastes discarded at the site consist of unrecoverable magnesia and gypsum byproducts (EMCON Associates, 1984). Various other types of waste products, including catalytic pellets used in the production of synthetic rubber, have also been discarded at the site. Except for possible minor activities consisting of disposal of construction residue or general debris, disposal at the Magnesia Waste Pile site essentially ended in 1969. From that time until 1982, the site was not used by any of the associated manufacturers. In 1982, Parson's Ag Materials began excavating and removing dolomite for agricultural uses. Parson's removed approximately 5,000 tons of material per year over a period of several years. Removal of the waste dolomite was performed in response to a request by the California DHS (EMCON Associates, 1984).

3.1.3 Nature of Waste Materials

Most materials discarded at the Magnesia Waste Pile by FMC were nonhazardous as defined by Title 22 of the California Code of Regulations (Title 22). The wastes consisted primarily of bulk quantities of off-grade or residual products resulting from manufacturing activities at the adjacent FMC manufacturing facilities, and included magnesia (MgO), gypsum ($CaSO_4$), dolomite ($CaMg(CO_3)_2$), lime (CaO) and limestone ($CaCO_3$). Other reported waste products included four to eight drums of phosphorus-containing sludge, copper catalyst pellets used in synthetic rubber production, pockets of scrap lumber, kiln brick, general trash, and old concrete machinery foundations.

3.1.4 Chronology of Site Investigations and Remedial Activities

Because the site had been listed in the 1979 Waste Disposal Site Survey (Eckhardt report) by the Subcommittee on Oversight and Investigation, the California DHS visited the Magnesia Waste Pile three times in 1981 and collected waste material samples for chemical analysis. On the basis of the analytical results (i.e. high pH and copper contents), DHS identified the Magnesia Waste Pile as a hazardous waste site (Department of Health Services, 1981).

In 1983, EMCON Associates undertook a preliminary site investigation to assess the chemical and hydrogeological characteristics of the Magnesia Waste Pile (EMCON Associates, 1984). The EMCON Associates report concluded that except for copper catalyst material "the bulk of the material on the site does not constitute a hazard" and "the site does not pose a threat to human health or the environment through contamination of ground water and/or surface water resources" (EMCON Associates, 1984). That investigation was followed in 1985 by a general site cleanup that included the excavation and removal of about 450 cubic yards of copper

catalyst pellets, and the removal of visible trash and debris. The copper catalyst material was disposed at the IT Corporation Class I landfill in Benicia, California, and the general trash was disposed in a municipal landfill. At the same time, Leslie Salt fenced the site to prevent unauthorized access, and posted the site perimeter with signs indicating the presence of hazardous substances, in compliance with a DHS order.

In late 1987 and early 1988, Environmental Solutions, Inc., under contract to Leslie Salt and FMC Corporation, evaluated the site background data and prepared a detailed workplan. The workplan proposed a scope of work to characterize the chemical and physical properties of the Magnesia Waste Pile. The workplan was also intended to provide a basis for assessing remedial action options for the site. That workplan was submitted to DHS in January 1988 and was approved by them in April 1988.

S.S. Papadopulos and Associates, Inc. (SSP&A) was contracted by Leslie Salt and FMC Corporation in 1988 to perform the site characterization investigation as it had been presented in the detailed workplan. The field and laboratory procedures were documented and the results of the site characterization investigation were presented in a report dated November 1988 (S.S. Papadopulos and Associates, 1988). This work can be considered as a Remedial Investigation (RI) and has been referred to as a RI in several communications between Leslie Salt/FMC and DHS. The work involved the excavation of trenches (Figure 3) and the collection and analysis of waste samples. Field work was performed during parts of July and August 1988, and was completed in August 1988. The RI documenting this work was issued in November 1988 (SSP&A, 1988).

During the course of the field investigation, the DHS issued a unilateral Remedial Action Order (RAO) to FMC and Leslie Salt to undertake a Remedial Investigation (RI) of the Magnesia Waste Pile,

and to issue a Feasibility Study (FS) presenting the results of the investigation and assessing various remedial alternatives. The technical requirements of the RI, which are contained in the RAO, are different than those contained in the workplan approved by DHS in April 1988. The major differences are that the RI required in the RAO was to address the quality of ground water, surface water and air in the vicinity of the Magnesia Waste Pile, whereas the workplan approved by DHS in April 1988 focused strictly on the characterization of wastes and soils at the Magnesia Waste Pile. The additional issues that DHS requested to be addressed in the RAO were completed and the results and conclusions were reported in the FS, issued in January 1990 (Hydrologic Consultants, Inc., 1990).

In accordance with the provisions of the RAO, FMC and Leslie Salt were to undertake a FS for the Magnesia Waste Pile; they issued a contract to Hydrologic Consultants, Inc. (HCI) in April 1989 to perform the FS work. The purpose of the FS was to identify a preferred remedial alternative(s) for contamination that was determined to be hazardous. The results of supplemental chemical analyses of air, surface water, ground water and waste samples were also presented in this document. The results of these analyses were used to characterize the waste pile and to assess the possible effects of wastes in the pile on the surrounding water and air, and were also used in providing proposed technical cleanup standards for the site.

The remedial alternatives presented in the FS were developed by considering several treatment or disposal options. These alternatives were then evaluated against multiple criteria to assess effectiveness, implementability, cost, possible regulatory requirements, and end use of the property, for the purpose of identifying a preferred remedial action alternative.

3.1.5 Compilation of Previous Studies

Previous reports concerning the Magnesia Waste Pile site may be grouped into the general categories of site investigation studies, risk assessments, and RI/FS investigations. Site investigations have been directed towards the identification of possible conditions of environmental concern at the Magnesia Waste Pile; these studies have included:

- Preliminary Site Investigation for the Leslie Salt Company Magnesia Pile (EMCON Associates, 1984)
- Detailed Workplan, Magnesia Pile Site (Environmental Solutions, 1988)

Several risk assessments have been conducted to assess the potential health and environmental risks posed by constituents of concern in the Magnesia Waste pile. These studies have included:

- Health and Environmental Risk Assessment, FMC Corporation, Newark, California (IT Corporation, 1985)
- Supplement to Health and Environmental Risk Assessment, FMC Corporation, Newark, California (Arthur D. Little, Inc., 1986)
- Public Health/Environmental Assessment for Leslie Salt/FMC Magnesia Pile (TERRA, Inc., 1989)

RI/FS investigations have been conducted to assess the extent of contamination at the Magnesia Waste Pile site, in response to requests by DHS, and pursuant to the requirements of the Remedial Action Order issued by DHS. The results of these investigations are documented in the following:

- Remedial Investigation of the Magnesia Pile, Newark, California (S.S. Papadopulos and Associates, 1988)

- Supplemental Investigation and Feasibility Study, FMC/Leslie Salt Company Magnesia Waste Pile, Newark, California (Hydrologic Consultants, Inc., 1990)

In response to the Remedial Action Order, issued July 22, 1988, and pursuant to the provisions of the Hazardous Substance Account Act (California Health and Safety Code, Section 25358.7), FMC and Leslie Salt instituted a Community Relations Plan to ensure that a program of community involvement was developed to inform the public about the site, and to facilitate public participation in the decision-making process. The purpose of the community relations program is to involve the community and other interested persons in the remedial action process by (1) establishing procedures for the accurate and timely release of information to interested citizens and public officials, (2) encouraging two-way communication between the community and DHS, and (3) encouraging two-way communication between the community and FMC and Leslie Salt. The community relations plan is presented in the following document:

- Community Relations Plan, Leslie Salt/FMC Magnesia Waste Pile Site, Newark, California (Woodward-Clyde Consultants, 1989)

Community concerns and interests related to the Magnesia Waste Pile, including the general level of acceptability by the community of remedial activities, as they are understood at present by FMC and Leslie Salt, are described in the Community Relations Plan. This plan is a public document, developed on behalf of FMC and Leslie Salt, and issued as a report in March 1989. This document is available at repositories in the Newark area, including the Newark library and the Newark offices of FMC and Leslie Salt. In addition, a copy of the report has been made available to the local offices of DHS.

These references are presented formally in Section 11.0 of this RAP.

3.1.6 Interim Removal Measures

Thallium was among the contaminants of concern identified by the DHS in their comments to the Remedial Investigation (SSP&A, 1988). However, only one soil sample collected by DHS contained thallium in concentrations greater than 700 mg/kg (the TTLC). This sample was collected east of the pile (Figure 4). There was no known use of thallium by FMC or Leslie Salt, so it is not possible to correlate the presence of thallium with a specific use area or appearance of waste. However, based on the results of limited DHS sampling, it appears that elevated thallium concentrations in soil/waste are restricted to a small area east of the pile itself. Of the 35 waste pile samples analyzed during the RI, no sample contained thallium in concentrations greater than the TTLC. The results of analysis of samples collected during the RI indicate that the volume of thallium-contaminated materials is minor; thus, thallium-contaminated magnesia is not considered to be a problem within the pile. Therefore, thallium should not be a contaminant of concern in planning the overall remediation of the site. Because of the small volume of thallium-contaminated materials located east of the pile, it was decided by FMC to remove this material during an Interim Removal Action. The thallium wastes were removed from the site and disposed at a secure landfill.

3.2 SITE SETTING

3.2.1 Topography & Drainage

The Magnesia Waste Pile is situated on a linear serpentinite ridge adjacent to evaporation ponds along the southeastern part of the San Francisco Bay. The pile rises to an elevation of 50 feet above sea level and is approximately 400 feet in width and 1,200 feet in length; it is approximately 50 feet high (Plate 1). The surrounding land is flat with little topographic relief, and

consists primarily of undeveloped tracts and wetlands. A drainage ditch along the east side of the Magnesia Waste Pile discharges to Plummer Creek, a part of the San Francisco Bay National Wildlife Refuge, which occupies much of the bayfront land west and south of the pile. Plummer Creek, Newark Slough, and the surrounding wetlands are managed by the U.S. Fish and Wildlife Service.

3.2.2 Climatology

The temperate Mediterranean climate at the site is typical of the San Francisco Bay region. Temperatures are mild, and seldom exceed 90 degrees Fahrenheit in the summer; in the winter, which is the rainy season, temperatures seldom fall below freezing. The mean temperature for January, the coolest month, is about 49 degrees Fahrenheit, while the mean temperature in the warmest month (August) is 68 degrees Fahrenheit (National Oceanic and Atmospheric Administration, 1987).

Precipitation generally occurs from November through April, with only occasional rain showers occurring during the summer months. Average annual precipitation is about 14 inches (National Oceanic and Atmospheric Administration, 1987).

3.2.3 Location and Extent of Contamination

The contaminants of concern identified by the DHS in their comments to the Remedial Investigation (SSP&A, 1988) include: copper, EDB, thallium, mercury, and cyanide. The copper was a constituent of catalytic pellets used in the manufacture of synthetic rubber; EDB was produced by FMC at their adjacent facility. There was no known use of thallium by FMC or Leslie Salt; however, thallium is a constituent of rodenticide that may have been disposed at the Magnesia Waste Pile. The sources of mercury and cyanide are not known.

Ethylene dibromide (EDB) was detected at concentrations of less than 0.020 mg/kg in five samples out of 35 samples collected during the RI. Cyanide was also detected in the waste pile materials. The maximum concentration found was 11 mg/kg, detected in one sample. Cyanide was not detected in the majority of the soil/waste samples.

Because the risk assessment (Section 5.1) demonstrates that EDB and cyanide compounds, in their current concentrations, do not pose a significant risk to human health or the environment, these compounds were not considered for purposes of establishing baseline cleanup levels for the site. The remaining constituents of concern (thallium, copper, and mercury) are regulated under Title 22. If a concentration of one of these constituents in a solid waste exceeds a specified value under the regulations, the waste is classified as hazardous.

The constituents of concern in the vicinity of the Magnesia Waste Pile that were observed to exceed the appropriate concentration standards (here taken to be Total Threshold Limit Concentrations, or TTLCs) include thallium, copper, and mercury. Thirty-five of the soil/waste samples collected by SSP&A were analyzed for thallium; the concentrations in all samples were below the TTLC. A soil/waste sample collected by DHS on the east side of the Magnesia Waste Pile (Figure 4) contained thallium in concentrations of 998 mg/kg which is higher than the thallium TTLC of 700 mg/kg. However, as noted in Section 3.1.6, it appears that elevated thallium concentrations in soil/waste are restricted to a small isolated area east of the pile itself. The thallium-contaminated materials in this area will be removed during an Interim Remedial Action. Therefore, thallium-contaminated soil/waste was not considered in the evaluation of specific remedial alternatives.

Copper catalyst pellets are readily identified in the field; these pellets are classified as hazardous by the DHS because the concentration of copper in the pellets (Table 2) exceeds the TTLC for copper, which is 2,500 milligrams per kilogram (mg/kg) or parts per million (ppm). The distribution of the copper pellets in the pile is shown in Figure 5. In addition to the copper pellets, four of the soil/waste samples that were analyzed contained copper in concentrations that exceeded the copper TTLC.

The copper pellets, as well as the soil/waste samples that contained copper in concentrations exceeding the TTLC for copper are generally confined to the west side of the Magnesia Waste Pile (Figure 5).

Three soil/waste samples contained mercury in concentrations that exceeded the mercury TTLC value of 20 mg/kg (Table 3). Two of the samples were taken from the same trench located at the top of the Magnesia Waste Pile (Figure 6). The other sample was taken from a trench on the west side of the pile (Figure 6). The mercury does not appear to be associated with any one particular waste unit; however, it was assumed in the FS that the mercury was contained in the light gray waste material on the west side of the pile.

The findings of the field investigation will be presented in greater detail in Section 4.1.5 of this report, while the significance of concentrations of all the materials of concern will be addressed under the baseline public health assessment section (Section 5.1).

3.2.4 Current Use of the Property

The site is located in the bayside flatlands approximately 2,000 feet south of Thornton Avenue at the edge of Newark's residential area (Figure 2). The land is not used at the present time, nor was it ever used as an industrial site by any of the manufacturers in the area.

3.2.5 Description of Outlying Area and Surrounding Land Uses

The Magnesia Waste Pile site is located in a partially-industrialized area of Newark. Land east and north of the site is best characterized as light industrial. The site itself, as well as property to the east, west, and south, is owned by Leslie Salt. FMC Corporation owns the property immediately north of the site (Plate 1). Nearby industrial facilities are owned by Ashland Chemical Company and Mobility Industries. The City of Newark leases land to the southeast from Leslie Salt for a police shooting range, and another parcel to the southeast is leased from Leslie by the Newark Sportsmen's Club. The nearest residences are more than 2,000 feet from the site boundary.

The lands surrounding the site to the south and southeast are low-lying and sparsely vegetated with grasses. Several sloughs and creeks are encountered southeast, south, and west of the site, between the Magnesia Waste Pile and the bay. Evaporation ponds west of the site are used by Leslie Salt for the production of salt. Some of these ponds and a larger adjacent pond area are managed by the U.S. Fish and Wildlife Service, as part of the San Francisco Bay National Wildlife Refuge.

3.2.6 Demography

The demographics of Newark, California were characterized in a report prepared for FMC Corporation (IT Corporation, 1985). Estimates of the population at that time were based on the 1980 census. These estimates were revised in a later report (TERRA, Inc., 1989) to allow for a 10% increase in population over the past ten years. Using estimates from the IT report and allowing for population increase, approximately 28,000 persons are estimated to live within a 2-mile radius of the Magnesia Waste Pile (Table 4). Fewer than 600 persons are estimated to live within a 0.5-mile radius of the pile (TERRA Inc., 1989).

Essentially all residential areas are located to the northeast of the site.

3.2.7 Location and Distance to Potential Receptors

The young and the elderly are typically considered to be among the most sensitive persons in any population potentially exposed to hazardous chemicals. Although the numbers of children less than six years old and persons 65 years and older are not known, IT estimated that these two groups comprised 11 to 13 % and 3 to 4% of the total population, respectively. Under these assumptions, the cumulative population of children under six living within a 2-mile radius of the site was estimated to be 3,300 (Table 4). The estimated number of children under six living within a 0.5-mile radius of the site is estimated to be approximately 70 (TERRA, Inc., 1989). For persons 65 years and older, the cumulative number of people living within 0.5 miles or within 2 miles of the Magnesia Waste Pile is estimated to be 20 and 960, respectively (TERRA Inc., 1989).

Two schools are located within one mile of the Magnesia Waste Pile. Schilling School is located approximately 2/3 mile from the site. Lincoln School is located approximately one mile from the site (TERRA Inc., 1989).

A drainage ditch on the east site of the waste pile discharges to Plummer Creek, which flows through the wildlife refuge west of the pile. The ditch runs south from the FMC plant about 1/2 mile to the point at which it enters Plummer Creek. Just below the outfall of the drainage ditch, Plummer Creek enters the San Francisco Bay National Wildlife Refuge. During low tides the creek discharges into the bay; this discharge is about two miles south and west of the site.

3.2.8 Location of Nearest Water Well

The Magnesia Waste Pile site is underlain by several water-bearing zones. The two uppermost water-bearing zones are the "shallow zone" and the Newark aquifer (Section 4.2.1). The Alameda County Water District (ACWD) is currently engaged in the operation of a salt-water intrusion barrier (SWB), intended to limit the migration of sea water from San Francisco Bay into the Newark aquifer in the Fremont area. The barrier consists of a series of extraction wells, located in a line approximately 1,700 feet northeast of the site (California DWR, 1975); the Magnesia Waste Pile is located on the seaward side of this intrusion barrier. The nearest wells to the site are SWB wells T-11 and T-27 (IT Corporation, 1985). These wells are part of the SWB extraction system, and discharge directly to San Francisco Bay. No other downgradient wells that are completed in the Newark aquifer have been identified. The production wells nearest to the Magnesia Waste Pile are located from 0.5 to 1 mile east (upgradient) of the site boundary (IT Corporation, 1985). These wells (1N1, 1P1, 12B1, 12B4, 12B5, and 12B8) are part of the Water District system. These wells have been completed in deeper water-bearing zones (the

Centerville-Fremont and Lower aquifers), and support agricultural and industrial uses (IT Corporation, 1985).

Shallow ground water beneath the site is of poor quality and is considered to be unusable due to the natural brackish environment of the bayshore hydrologic system (EMCON Associates, 1984). There are no domestic wells within 1/4 mile of the site (Woodward-Clyde Consultants, 1989); no wells supporting any beneficial use are completed in the shallow zone downgradient of the site (IT Corporation, 1985).

4.0 SUMMARY OF FINDINGS OF THE REMEDIAL INVESTIGATION

In late 1987 and early 1988, Environmental Solutions, Inc., under contract to Leslie Salt and FMC Corporation, evaluated the site background data and prepared a detailed workplan. The workplan proposed a scope of work to characterize the chemical and physical properties of the Magnesia Waste Pile. The workplan was submitted to DHS in January 1988 and was approved by them in April 1988.

S.S. Papadopulos and Associates, Inc. (SSP&A) was contracted by Leslie Salt and FMC Corporation in 1988 to perform the site characterization investigation as it had been presented in the detailed workplan. The field and laboratory procedures were documented and the results of the site characterization investigation were presented in a report dated November 1988 (SSP&A, 1988). The work involved the excavation of trenches and the collection and analysis of waste samples. Excavation work was performed during parts of July and August 1988 by Safety Specialists, Inc. of San Jose, California under the supervision of SSP&A representatives. Soil/waste samples were analyzed by Central Coast Analytical Services (CCAS) of San Luis Obispo, California. CCAS is a laboratory capable of performing analyses on air, water and hazardous waste samples, and is certified by the DHS (Certification No. 131). The field work was completed in August 1988 and the RI was issued in November 1988 (SSP&A, 1988).

The objectives of the RI were to assess the physical and chemical characteristics of the materials in the Magnesia Waste Pile, and to assess the potential for off-site transport of hazardous materials that may have been discarded in the pile. Specific objectives of the physical characterization of the Magnesia Waste Pile were (1) to describe the physical characteristics of the materials within the pile, including their thickness, distribution, and extent; and (2) to estimate the type

and extent of debris mixed with the general pile material. Specific objectives of the chemical characterization of the Magnesia Waste Pile were (1) to assess whether hazardous substances had been discarded at the site; (2) to identify hazardous substances that might be present; and (3) to estimate the distribution and concentrations of hazardous substances that might be present on the site.

During the course of the investigation, a magnetic survey was conducted to investigate the possibility that steel drums might be buried within the pile; 51 trenches were excavated to grade (Figure 3) to evaluate the distribution and extent of various materials within the pile; and 511 samples of waste material and natural-grade material were collected for testing in the field and/or for subsequent chemical analysis in the laboratory. ("Grade" and "natural grade" are used to designate the original natural land surface, developed on bedrock or on naturally-developed soils overlying bedrock).

4.1 GEOLOGICAL INVESTIGATION

4.1.1 General Geology

The Magnesia Waste Pile site is underlain by clays (the "younger Bay Mud") that surround the southern end of the Coyote Hills to the north, and by a low bedrock ridge (Plate 1), consisting of highly fractured serpentinite belonging to the Franciscan formation of Cretaceous age (EMCON Associates, 1984). The younger Bay Mud ranges from soft to stiff consistency and is generally poorly consolidated. The underlying older Bay Mud tends to be stiff, and is better consolidated. The younger Bay Mud clays are intercalated with thin lenses of silt to fine-grained sand.

The younger and older Bay Muds overlie a thick sequence of alluvial-fan and floodplain sediments that were deposited by streams originating in the highlands bordering San Francisco Bay. Logs of SWB Wells T-11 and T-27, located about 1,700 feet northeast of the site, confirm the general sequence of clays with interbedded sands and gravels (Arthur D. Little, Inc., 1986).

4.1.2 Surface and Subsurface Soil Conditions

The surficial material at the Magnesia Waste Pile site consists primarily of byproduct materials from the adjacent magnesia manufacturing facility (EMCON Associates, 1984). The majority of the waste material is magnesia, dolomite, gypsum, lime, and limestone. For the most part, wastes were deposited directly on the bedrock surface; thickness of waste materials exposed during trenching varied from less than one foot to 47 feet (SSP&A, 1988). An isopach map (Figure 7), showing thickness of waste material, was constructed using information collected during trenching. The volume of material was estimated using a planimeter; the total volume of waste material is estimated to be approximately 78,000 cy.

The waste materials in the Magnesia Waste Pile can be grouped into four principal units: general matrix material (primarily calcium and magnesium carbonates and oxides), visually anomalous material, copper catalyst pellets, and debris. The general matrix material was the most prevalent unit in the pile, comprising approximately 87% of the volume of the pile. This material forms a surface crust, one to two inches thick, that is well indurated and rough, and fractures into angular platy blocks. The hard surface tends to seal the pile and reduce dust.

The texture and consistency of the general matrix material varies from that of a loose, poorly-plastic clay to a poorly-indurated "rock". The material ranges in color from white, through

bluish- or greenish-white, to various shades of gray. Individual "depositional units" within the matrix are uniform in color, texture, and consistency, and tend to be massive and somewhat moist.

Visually anomalous material was distinguished from the general matrix material on the basis of appearance (generally color or texture); such material was present in 28 trenches. This material was distributed primarily in the central areas of the pile (Figure 8). Visually anomalous material occurred in thin layers and small pods; these lenses were too small and too discontinuous for the volume of this material to be estimated.

Copper catalyst pellets were readily identified in the field; about 200 cy were scattered on the surface and about 400 cy were located during trench excavation. Because the copper catalyst pellets are defined to be hazardous, their location and distribution will be presented in greater detail in Section 4.1.4.

A considerable amount of debris was encountered during the field work for the RI. Debris was present in almost all of the trenches. Much of the debris consisted of construction material such as lumber, bricks, concrete blocks, wire, screens, and metal. Tires, crushed metal drums, newspaper, plastic sheeting, PVC tubing, lab bottles, and backfill dirt were also encountered. Lumber was the most common type of debris found. Brick material was found on the west side and to a lesser extent on the top of the pile. Concrete foundations were present in trenches 1A, 2, 12, 27, and 31 (Figure 9). General trash materials such as bags, tires, PVC piping, scrap metal, bottles, and newspaper were found primarily on the west side of the pile and to a lesser extent at the top of the pile. The general distribution of debris, by type, is shown in Figure 9.

Debris was most prevalent on the west side and top of the Magnesia Waste Pile; however, it is scattered throughout the pile. The distribution of debris at five-foot-depth slices through the Magnesia Waste Pile is shown in Figure 10.

Specific details regarding the sampling locations, sampling protocols and analytical methods are presented in the RI report (SSP&A, 1988) to which the reader is referred if further questions concerning the sampling or analyses arise.

4.1.3 Off-site Soil Sampling

The RI field sampling included a survey to evaluate the pH of material surrounding the Magnesia Waste Pile (SSP&A, 1988). Five soil samples were collected from areas that receive precipitation runoff from the pile, and five samples were collected from locations downwind of the pile. Measurements of pH in these samples were in the normal range (greater than 8.0 and less than or equal to 9.5). These results indicated that significant levels of high-pH materials are not being transported by wind or surface runoff from the Magnesia Waste Pile to adjacent areas.

4.1.4 Contamination Assessment

Certain chemical properties or indicator parameters (specifically field pH and copper concentrations, and HNU readings) of the Magnesia Waste Pile were assessed during the RI by analyzing, in the field, over 500 soil and/or waste samples, which were collected from trenches distributed throughout the site (Figure 3). In addition, 63 individual samples were analyzed in a certified analytical laboratory. The analyses indicated that high-pH (11 to 11.7) solid waste materials were present within the Magnesia Waste Pile; however, most of these materials are restricted to the areas on top of the Magnesia Waste Pile. In all cases the pH of the material, when measured using EPA Method 9045, was less than 12.5.

Thus, the general matrix material is not classified as hazardous under Title 22 of the California Code of Regulations because it does not meet the criteria for corrosiveness. The alleged phosphorous drums were not located after a detailed magnetic and excavation program. It was concluded by SSP&A that the drums had decomposed to the point of no longer being magnetic, or were not buried in the reported area.

Three soil/waste samples out of 35 samples contained mercury in concentrations that exceeded the mercury TTLC value of 20 mg/kg (Table 3). Two of the samples were collected from the same trench located at the top of the Magnesia Waste Pile. The other sample was taken from a trench located on the west side of the pile (Figure 6).

A dry, yellow-gray granular material was encountered in Trench 27. This material was similar in color and physical characteristics to material encountered in Trench 26, which contained mercury in concentrations in excess of the mercury TTLC (20 mg/kg). DHS suggested that the yellow-gray material encountered in Trench 27 might also show an elevated mercury concentration and requested that samples from this trench be analyzed for mercury. Samples 27-5NW-5 and 27-26NW-10 were analyzed for mercury and the reported concentrations were 0.32 mg/kg and 16 mg/kg respectively. Both of these concentrations are less than the mercury TTLC of 20 mg/kg.

Elevated concentrations of mercury are not specifically associated with one particular waste unit. In Trench 26 the mercury appears to be associated with a dry, light gray material (Figure 11). This same material appears to extend to Trench 24 (Figure 12), while in Trench 31 the mercury appears to be associated with a black tarry material (Figure 13). For cost estimating purposes, it has been assumed that the mercury is predominantly associated with the light gray material found in Trenches 24 and 26. Using Figures 11 and 12 it is estimated that

there are approximately 2500 cy of the mercury-contaminated magnesia. The black tarry material in Trench 31 appears to be very limited in extent, and the volume of mercury-contaminated magnesia in this trench is included within the 2500 cy estimate.

Thirty-five of the soil/waste samples collected by SSP&A were analyzed for thallium; all concentrations were below the TTLC for thallium. However, a soil/waste sample collected by DHS on the east side of the Magnesia Waste Pile contained thallium in concentrations of 998 mg/kg, which is higher than the TTLC for thallium of 700 mg/kg. Figure 4, derived from a sketch map provided by the DHS, shows the location of the soil sample that contained the elevated thallium concentration. The results of analyses of samples collected during the RI indicated that the volume of thallium-contaminated materials was minor; thus, thallium-contaminated magnesia was not considered to be a problem within the pile. The thallium-contaminated wastes were therefore removed under an Interim Remedial Action.

Ethylene dibromide (EDB) was detected at concentrations of less than 0.020 mg/kg (the TTLC for ethylene dibromide) in five samples (Table 3) collected from four trenches (Figure 6). A total of 35 samples were analyzed for EDB. Cyanide was also detected in the waste pile materials. The maximum concentration of cyanide detected was 11 mg/kg, in one sample collected from Trench 7 (Table 3 and Figure 6). Cyanide was nondetectable in the majority of the soil/waste samples. Again, a total of 35 samples were analyzed.

The DHS, in comments to the RI (DHS comments January 19, 1989), requested that certain archived waste samples be analyzed for various constituents. DHS stated that sample 7-50W-15 (Trench 7; Figure 6), contained charcoal-like round pebbles, and that another sample of similar appearance, taken from this same trench, had a cyanide concentration of 11 mg/kg. The DHS was concerned that this charcoal-like material might be the source of cyanide.

Sample 7-50W-15 was analyzed for total cyanide and no cyanide was detected.

Copper catalyst pellets were identified at several locations in the field (Figure 5). The pellets are classified as hazardous by the DHS because their copper concentrations (Table 2) exceed the TTLC for copper. It was estimated by SSP&A (1988) that approximately 600 cy of pellets are present within the Magnesia Waste Pile. In addition to the copper pellets, four of the soil/waste samples contained copper in concentrations that exceeded the copper TTLC, which is 2,500 mg/kg or parts per million (ppm). The copper pellets, as well as the soil/waste samples that exceeded the TTLC copper concentrations are generally confined to the west side of the Magnesia Waste Pile.

About 200 cy of pellets were scattered near the surface and 400 cy were buried. The buried pellets are present in layers that vary in thickness from less than one foot to four feet. In trenches C, D, and DD (Figure 5), the copper pellets were scattered near the surface, while in trenches 1A, 2, 2A, 3, 3A, 5, 6, 7, 9, 10, 14, 15, and 30 they formed a layer near or directly above natural grade. One thick, continuous layer of copper pellets was found directly above the natural grade in the area of trenches 1, 2, and 3 (Figure 5). Additional trenches (1A, 2A, and 3A) were excavated between the main trenches in order to outline the extent of the deposit. Trench 1A contained a five-foot-long layer of pellets in the matrix material at a depth of five feet. An oxidized copper material was present on the eastern edge of the pellets in trenches 1A, 2, and 2A. Trenches 5, 6, and 7 also contained a continuous layer of copper pellets above natural grade, as did trenches 9, 10, 14, and 15. Trenches 1A, 7, and 10 also contained layers of copper pellets within the general matrix material. In trench 7, pellets formed two small layers in matrix material, each less than a foot thick, at a depth of about 10 feet. Trench 10 contained a two-foot thick layer of copper pellets at a depth of three feet.

Waste samples collected from Trench 8 contained elevated concentrations of copper, even though there were no obvious copper pellets in the trench. In their comments to the RI, DHS suggested that the copper could be leaching from deposits of copper catalyst pellets. A California W.E.T. analysis was performed on Samples 8-38NW-10 and 8-54NW-5. The soluble copper concentrations were 39 milligrams per liter (mg/l, equivalent to ppm) and 18 mg/l respectively. The analysis for sample 8-38NW-10 does exceed the Soluble Threshold Limit Concentration (STLC) of 25 mg/l, established by the State of California.

A field test on sample 30-OE-15 collected from Trench 30 indicated a copper concentration greater than 500 mg/kg. When this sample was analyzed in the laboratory, the copper concentration detected was 740 mg/kg. DHS expressed concern that copper might be leaching from copper pellets uncovered in Trench 5, and requested that a W.E.T. test be performed. Sample 30-OE-15 was analyzed using the W.E.T. procedure and the soluble copper concentration was 36 mg/l, which is above the STLC.

Trench E is near the location where EMCON (1984) reported a soluble copper concentration of 740 mg/l in a sample of standing water. DHS was concerned that the sources of this copper were wastes located in Trench E. Samples E-30N-S, E-60N-S and E-60N-0.5 were analyzed for total copper and soluble copper. The total copper concentrations were 7 mg/kg, 11 mg/kg and 8 mg/kg respectively, while the soluble copper concentrations on a composite of these three samples was 0.16 mg/l. These concentrations are below the TTLC and STLC concentrations.

The locations, estimated quantities, and regulatory standards for the various contaminants in the Magnesia Waste Pile are presented in Table 5. Because the risk assessment (Section 5.1) demonstrates that EDB and cyanide compounds, in their current concentrations, do not pose a significant risk to human health or

the environment, these compounds were not considered for purposes of establishing baseline cleanup levels for the site. The thallium-contaminated magnesia/soil that was located in a restricted area east of the pile, has been removed and disposed under an Interim Removal Action. Site remediation efforts described in this RAP will be directed towards copper and mercury. The appropriate regulatory standard to be used in assessing the compliance of final remediation will be the Total Threshold Limit Concentration (TTLC) values for copper and mercury.

The maximum concentrations of copper and mercury detected during the RI were 31,000 mg/kg and 78 mg/kg, respectively (Table 3). The mean concentrations of copper and mercury within the pile, calculated using the existing RI data, are 1204 mg/kg and 4.6 mg/kg, respectively. The results of the public health and risk assessment (Section 5.0) demonstrate that the mean concentrations of metals in the waste that would pose a significant risk to public health and the environment are 122,600 mg/kg of copper and 590 mg/kg of mercury. Removing the materials that contain these metals in concentrations that exceed the TTLC criteria will provide a meaningful health-based factor of safety.

4.2 HYDROGEOLOGICAL INVESTIGATIONS

The Magnesia Waste Pile site is located within the South Bay Ground-Water Basin, in the southern part of the Niles Subarea of the Fremont Ground-Water Area (DWR, 1967). The Niles Subarea consists primarily of alluvial sediments of the Niles Cone, which extends to the south and west beneath the bay plain and San Francisco Bay. The Newark aquifer, the shallowest of the Niles Subarea water-producing zones, underlies most of the ground-water subarea. The Newark aquifer is recharged in an area to the northeast of the site, near the base of the Diablo Range, where the thick clay sequence characteristic of the bay plain at the site is

absent, and where the permeable section of the Newark aquifer is in hydraulic continuity with surface waters.

The Centerville-Fremont aquifer and the Lower aquifer are productive saturated zones below the Newark aquifer. These zones are separated from the Newark aquifer by the Irvington aquitard, a thick clay unit that restricts hydraulic communication between the upper and lower saturated zones (IT Corporation, 1985).

In the vicinity of the Magnesia Waste Pile, the thick Bay Mud deposits that overlie the Newark aquifer act as a confining unit to retard the vertical movement of water. This results in a vertically-upward hydraulic gradient beneath the site; artesian flow is commonly encountered in wells that penetrate the Newark aquifer in the bay plain (EMCON Associates, 1984).

The quality of ground water in the vicinity of the site varies widely depending on the source of recharge. In the early 1900s, the elevated hydraulic potential of water in the Newark aquifer beneath the bay plain caused artesian discharge of fresh water to the bay and adjacent tidelands (EMCON Associates, 1984). Extensive use of ground water for irrigation had lowered water levels by the 1920s, however, and saline water originating in the bay had begun to intrude the Newark aquifer (DWR, 1960). As ground-water levels continued to decline as a result of pumping, ground-water quality continued to decrease. As a result of continued sea-water intrusion into the Newark aquifer, this zone has been abandoned as a source of water in an area extending at least four miles east and northeast of the Magnesia Waste Pile (IT Corporation, 1985). Wells that penetrate the Newark aquifer are not used for agricultural or domestic purposes within this area.

At the present time the Alameda County Water District is conducting a restoration program (Salt-water Intrusion Barrier Project; SWB) designed to return parts of the Newark aquifer to

beneficial uses (DWR, 1975). The restoration program includes the installation and operation of a system of extraction wells that are intended to create a flow barrier to restrict the intrusion of sea water. Fresh water is being simultaneously injected landward of the barrier. Ultimately, ground water that is landward (north and east) of the barrier will be restored to a usable condition.

Wells that are part of the SWB intrusion barrier are located approximately 1,700 feet northeast of the Magnesia Waste Pile site (Figure 14). The site is thus located on the seaward side of the intrusion barrier; water in the Newark aquifer beneath the Magnesia Waste Pile therefore will probably remain saline and unusable.

4.2.1 Ground-Water Depth and Direction of Flow

The results of exploratory drilling on adjacent property indicate that the Newark aquifer occurs at depths of about 45 to 60 feet below land surface in the vicinity of the Magnesia Waste Pile (EMCON Associates, 1984); however, the Newark aquifer beneath the site is only about 10 to 15 feet thick (Plate 1). Limited quantities of water occur in thin sand stringers within the Bay Mud below the site. Ground water in this shallow saturated zone is two to three feet below land surface; however, this water is of poor quality and is considered to be unusable due to the generally brackish nature of the shallow zone (EMCON Associates, 1984).

Flow directions in the Newark aquifer are generally west towards the bay from recharge areas located several miles east of the Magnesia Waste Pile (EMCON Associates, 1984). The shallow ground water beneath the site tends to flow in a northerly or northwesterly direction (IT Corporation, 1985).

Under the terms of an agreement with the California Regional Water Quality Control Board, FMC Corporation is currently monitoring a series of ground-water wells on FMC property for a

variety of water-quality parameters. A potentiometric-surface map constructed using monitoring data from these wells confirms the general flow directions in the shallow saturated zone (Figure 15). One of the wells routinely sampled by FMC is well W-19, which is located downgradient of the Magnesia Waste Pile (Figure 15), and is screened in the shallow water-bearing zone. As shown in Figure 15, the ground-water elevation for the shallow water-bearing zone (as measured in well W-19 in January 1989) was approximately nine feet above mean sea level. This is the highest ground-water elevation measured at the facility; well W-19 is thus upgradient of the western part of the FMC facility. The topographic height of the Magnesia Waste Pile may be the reason that water elevations measured in this well are higher. Under many hydrogeologic flow regimes, topographically-higher areas (e.g. hills) are ground-water recharge areas (Toth, 1963) and ground water would generally flow radially outward from the hill. As shown on Figure 15, the Magnesia Waste Pile is south of well W-19, and ground water would be expected to flow from the Magnesia Waste Pile towards W-19.

4.2.2 Surface Water Conditions and Beneficial Uses

A surface-water drainage ditch runs along the east side of the Magnesia Waste Pile (Plate 1); water from this ditch is discharged to Plummer Creek. Concern was expressed by the U.S. Fish & Wildlife Service that contaminants might be transported from the pile via overland flow and eventually discharge into Plummer Creek. Plummer Creek is part of the San Francisco Bay National Wildlife Refuge; discharge into the refuge is the only known beneficial use of the creek. Thus there was concern that contaminants originating in the pile could have adverse effects on the Plummer Creek ecosystem.

On March 8, 1989, six water samples were collected by FMC personnel at three separate locations within the ditch (Figure 16) during a rain event. These sample locations were judged to be

representative of upstream and downstream locations relative to the pile. Samples A-1 and A-2 were taken at the FMC NPDES effluent discharge point (upstream of pile) ; B-1 and B-2 were collected due south of the Magnesia Waste Pile (downstream of pile); and C-1 and C-2 were collected approximately one-quarter mile south of Point B (downstream of pile). The flow in the ditch at the time the samples were collected was primarily due to FMC's permitted discharge, which was approximately 60 gallons per minute at FMC's outfall (Point A). During the sampling, 0.27 inches of rain fell and this rainfall contributed to the flow in the ditch; however, discharge measurements were not made at Points B and C. The purpose of sampling during a rain event was to assess whether contaminants from the pile were being transported via overland flow to the ditch under the most probable of conditions. A DHS representative was present on-site during the sampling and took duplicate samples.

The ditch-water analyses for the samples collected by FMC are presented in Table 6. Copper was detected at the FMC out-fall (Point A on Figure 16) at a maximum concentration of 0.036 mg/l. At Point B, after the ditch water had passed the Magnesia Waste Pile, the concentration had declined to a maximum of 0.017 mg/l. At Point C, downstream of B, the copper concentration was unchanged at 0.017 mg/l. These data suggest that the Magnesia Waste Pile is not contributing significant amounts of copper to the drainage ditch. Mercury, thallium and cyanide were not detected in any of the surface-water samples. The field measurements of pH also show a decline from Point A to Point C: the pH measured at Point A was 8.3, and at Point C it was 8.0.

The surface-water samples were also analyzed for halogenated volatile organic compounds using EPA Method 8010. The only organic compound detected was chloroform, at maximum concentrations of 0.0024 mg/l at point A and 0.00055 mg/l at point B. Chloroform was

not detected at point C. Ethylene dibromide (EDB) was not detected in any of the samples.

The results of chemical analyses of the surface-water samples suggest that the Magnesia Waste Pile is not affecting either the water quality in the ditch or the ecosystem of Plummer Creek.

4.2.3 Subsurface Water Conditions and Beneficial Uses

Approximately 45 to 60 feet of relatively impermeable Bay Mud separates the shallow saturated zone beneath the Magnesia Waste Pile from the Newark aquifer (EMCON Associates, 1984). The hydraulic gradient is vertically-upward from the Newark aquifer into the shallow saturated zone. At the present time the Newark aquifer in the vicinity of the site is brackish (EMCON Associates, 1984); the site and areas downgradient of the site are located on the seaward side of the SWB pumping barrier and will remain saline. There are no anticipated beneficial uses of the Newark aquifer, and it is unlikely that the Magnesia Waste Pile will affect this saturated zone in any way.

The potential contaminants of concern have been present within the Magnesia Waste Pile for a number of years (e.g. the copper has been in the pile for almost 40 years). Thus, it is reasonable to expect that the pile would act as a steady source of a stream of potential contaminants rather than yielding a short-term release such as would be produced by a spill. Under the conditions of a continual release, it would be expected that a water sample collected downgradient of the pile should exhibit contamination if the contaminants within the pile were adversely affecting ground-water quality. It was concluded that well W-19 could be used to assess the effects of the pile on ground-water quality because this well is downgradient of the pile. A water sample was collected from this well on January 11, 1989 by McIntosh

Sampling Services of San Jose, California, and was delivered to Sequoia Analytical Laboratories in Redwood City, California, a state-registered laboratory. The water sample was analyzed for halogenated volatile organic compounds using EPA Method 8010. The primary purpose of the analysis was to detect EDB. No EDB or other organic compounds were detected. The water sample was also analyzed for copper, mercury and thallium by EPA 7000 Series methods. Copper was detected at a concentration of 0.21 mg/l which is below the EPA Secondary Drinking Water Criterion of 1 mg/l. The concentrations of mercury and thallium were below their respective detection limits of 0.001 mg/l and 0.5 mg/l. The pH of the sample was 7.6 which is only slightly alkaline (pH 7 is neutral). The specific conductance of 4300 micromhos/cm suggests that the shallow ground water is brackish (due to its proximity to San Francisco Bay) and thus is not a source of potable drinking water.

In response to California DHS comments dated July 25, 1989, a sample of ground water was obtained from monitoring well MW-2 on August 18, 1989. This sample was analyzed for thallium, copper, mercury, chlorides, and halogenated hydrocarbons. Analyses were performed by Sequoia Analytical Laboratory. The results of analyses are presented in Table 7. The chloride levels found in MW-2 confirm the brackish nature of the shallow saturated zone beneath the site. The regulatory standards for other constituents are California Applied Action Levels (AAL) or Maximum Contaminant Levels (MCL). The AAL for copper is the value for saltwater aquatic species. 1,2 dichloroethane (1,2 DCA) was the only volatile organic hydrocarbon detected; the regulatory standard for 1,2 DCA is the California MCL. The concentrations of all reported constituents except 1,2 DCA are below regulatory standards or the detection limit.

1,2 DCA is a parameter that has been found in ground water in the course of other on-going investigations in the area, and is being addressed through those efforts. There is no evidence that it is associated with the Magnesia Waste Pile in any way.

4.2.4 Contamination Assessment

Sampling of surface water in the drainage ditch which is adjacent to the Magnesia Waste Pile has demonstrated that the pile is not affecting surface waters (Section 4.2.2).

Because ground-water hydraulic gradients are generally upward and because of the low permeability of the overlying Bay Mud and because of the position of the site in the flow system, the Magnesia Waste Pile will not affect water quality in the Newark aquifer.

On the basis of chemical data for shallow ground waters, it can be concluded that the Magnesia Waste Pile is not adversely affecting ground-water quality in the shallow saturated zone. This conclusion is based on the assumption that the potential contaminants within the pile represent a possible continually-functioning source, and that samples collected from downgradient wells will detect the presence of contamination. This assumption should be valid given the length of time that the contaminants have been in the pile, and the estimated ground-water velocity (calculated to be between 50 and 100 feet per year). The pile is approximately 300 feet upgradient of the sampled wells; thus, unretarded ground-water flow is calculated to reach the wells in three to six years. For the purposes of the calculation, the hydraulic conductivity was assumed to be 10^{-3} centimeters per second (cm/s), a reasonable value for the natural geologic materials adjacent to the pile (Freeze & Cherry, 1979). The hydraulic gradient is calculated from Figure 15 to be approximately 0.015

ft/ft, and the effective porosity was assumed to be 0.15, a reasonable value for a clayey sand.

Because neither the ground water nor the surface water in the vicinity of the pile has been adversely affected by contaminants within the pile, DHS action levels and U.S. EPA maximum contaminant levels (MCLs) are not appropriate standards for remediation of the pile. Action levels and MCLs are applicable to remediation of ground-water and surface-water resources, if these resources become contaminated; however, these standards cannot serve as the basis for cleanup of the Magnesia Waste Pile under the current status because ground and surface water do not appear to be affected by the pile.

4.3 AIR INVESTIGATION

4.3.1 Description of Ambient Air Quality and Sampling Procedures

An issue raised in the RAO as well as in the community relations interviews (WCC, 1989) centered on the potential for transport of contaminants by wind to off-site receptors. While air monitoring was not required by DHS, it was decided that a limited scope of air monitoring would be undertaken to address concerns regarding this potential mechanism for off-site transport of contaminants.

MED-TOX Associates, Inc. (MED-TOX) of Pleasant Hill, California, was contracted to conduct ambient air monitoring at the Magnesia Waste Pile. The scope of MED-TOX's work included the collection of air samples and analysis for specified potential ambient air contaminants. The constituents of concern identified by the DHS in their comments to the RI included: alkaline dust, copper, cyanide, EDB, mercury and thallium.

Air samples were collected on April 13 and 14, 1989. Air sampling locations were selected based on the anticipated prevailing wind direction. Three sample locations were used on each day of sampling, one upwind and two downwind of the Magnesia Waste Pile. The sample locations were positioned at the perimeter of the Magnesia Waste Pile (Figure 17). The locations were chosen to be as close as possible to the pile to minimize or eliminate possible off-site influences. Samples were collected approximately four to five feet from the pile surface.

Wind directions were assessed by MED-TOX personnel by observing the wind directions approximately every two hours during each day's eight-hour sampling period. On April 13, 1989, the winds were calm or slightly from the south; however, by late morning and into the early afternoon, the wind direction shifted to the northwest direction and winds were gusty. This shift in wind direction reversed the status of the upwind sampler, which then became a downwind sampler (and vice-versa). On April 14, 1989, the winds were generally from the northwest. The weather conditions on both days were dry and were judged to be normal for this time of year.

Measurements of wind speed and direction were obtained for both days from the Fremont Meteorologic Station and Hayward Air Traffic Control. The Hayward station is approximately ten miles north of the site, and the Fremont station is approximately four miles east-southeast from the site.

All air samples were analyzed by MED-TOX, an AIHA accredited laboratory in Pleasant Hill, California. Specific sampling procedures and laboratory data are contained in the MED-TOX report (MED-TOX Associates Inc., 1989).

4.3.2 Contamination Assessment

The analyses of the air samples showed non-detectable concentrations for the specific parameters of concern. The data collected during this investigation indicate that there is no off-site wind transport of the materials of concern.

Based on the information obtained, it has been concluded that contaminants of concern within the pile, under its current conditions, do not pose a threat to possible off-site receptors through wind transport.

4.3.3 Subsurface Vapors

Samples collected from trenches during the RI were screened in the field using an HNu meter (SSP&A, 1988). The field HNu measurements varied over a wide range (0 to 140 ppm). The samples that registered elevated HNu readings were selected for laboratory analysis.

Nine samples were selected for laboratory analysis to test for the possible presence of organic compounds. Five samples were analyzed on the basis of anomalous field-testing results (trenches 14, 23, and 26); one sample was tested because it had an unusual color (trench 26); one sample had an odd appearance (19/26-S); and one sample had a slight odor (trench 30). One sample was collected for analysis as a background sample (trench 13).

The samples were analyzed for volatile and semi-volatile organic compounds, for pesticides, and for PCBs. Eleven semi-volatile organic compounds and 10 volatile organic compounds were detected (Table 8). The concentrations of the compounds in the solid material are generally less than one (1) ppm. Because of the low concentrations, it was therefore concluded that volatile and semi-volatile organic compounds did not present a vapor hazard at

the Magnesia Waste Pile, and would not be considered during the evaluation of remedial alternatives.

4.4 BIOLOGICAL INVESTIGATION

4.4.1 Description of Habitats and Species

The nearshore areas and wetlands of San Francisco Bay in the vicinity of the Magnesia Waste Pile are part of the San Francisco Bay National Wildlife Refuge. While the Magnesia Waste Pile itself is barren and devoid of species, there are a number of areas of interest around the site (Arthur D. Little, Inc., 1986). These include the drainage ditch just east of the Magnesia Waste Pile, Plummer Creek, the salt evaporation ponds, and the surrounding mud flats and salt marshes, including the Newark Slough (Figure 2). The industrial drainage ditch runs south from the FMC facility about 1/2 mile to its junction with Plummer Creek. At this point, the ditch is 10 feet in width; it is vegetated with tules, and is bordered to the west by salt evaporation ponds. Plummer Creek (a slough) begins near the Leslie Salt's pond about one mile northeast of the ditch discharge point. Just below the outfall of the drainage ditch, Plummer Creek enters the San Francisco Bay National Wildlife Refuge, runs about two miles south and west between evaporation ponds, and finally discharges into the bay. The point at which Plummer Creek enters San Francisco Bay is also the mouth of Newark Slough; the open waters of the bay at that point are bordered by tidal mud flats and salt marsh.

The salt ponds provide habitat for wildlife. Algae in the ponds provide food for brine shrimp, which are in turn eaten by numerous resident and migratory waterfowl, such as black-necked stilts and Bonaparte's gulls. Birds also feed on such insects of the salt ponds as water boatmen, mosquitoes, and flies. Other birds use the salt ponds and their surrounding levees as temporary

resting places. In addition, Caspian terns, Forster's terns, and least terns nest on salt-pond dikes.

The surrounding mud flats and salt marshes in the San Francisco Bay National Wildlife Refuge contain an abundant variety of plant and animal life. The mud flats provide habitat for diatoms, sea lettuce, and other algae as well as numerous invertebrates, shrimp, clams, mussels, snails and worms. Plants of the salt marsh include cordgrass, pickleweed, salt grass, and alkali heath in the lower levels and several members of the saltbush family, together with other plants, in the higher marshes. Tules, cat-tails, and alkali bulrush grow in brackish standing water. Animals of the salt marsh include many invertebrates, small mammals and birds, in addition to the fish of the bay that swim in with the tide as it flows over the mud flats and the salt marsh.

Among the birds that live in the salt marsh is the clapper rail, an endangered species. The salt marsh harvest mouse, also an endangered species, is found only in salt marshes in the Bay area. Other endangered species that frequent the tidelands of the Bay area include the brown pelican, the least tern, and the peregrine falcon. Table 9 lists the species of plants and animals found in the San Francisco Bay area.

4.4.2 Assessment of Potential Exposure

The potential exposure of wildlife and plant species to hazards due to the Magnesia Waste Pile depends on the concentrations of constituents of concern in water in the drainage ditch which discharges to Plummer Creek and the contact with or consumption of this water by wildlife.

The results of the hydrogeological investigation (Section 4.2) demonstrate that the Magnesia Waste Pile is not affecting surface waters, nor does the Magnesia Waste Pile adversely affect

ground-water quality in the shallow saturated zone (the ground water that is potentially accessible to flora and fauna in the bay flats). The potential risk to wildlife and plant species in the vicinity of the site is therefore judged to be very low. This conclusion is confirmed by the results of an earlier risk assessment (Arthur D. Little, Inc., 1986).

5.0 RISK ASSESSMENT

As described in the Superfund Public Health Evaluation Manual (EPA, 1986) an exposure pathway consists of four necessary elements:

- a source and mechanism of chemical release to the environment;
- an environmental transport medium for the released chemical;
- a point of potential human contact with the contaminated medium; and
- a human exposure route at the point of exposure.

An exposure pathway is considered to be complete when all four elements are present, and is incomplete when elements are missing. Exposure estimates can only be calculated for complete pathways.

The Magnesia Waste Pile is the source under consideration that could be considered to release the chemicals of concern in the area. However, sampling of ground water, surface water, and air undertaken during the RI has demonstrated that the potential for transport of chemicals by these mechanisms is negligible.

The baseline public health and environmental assessment (referred to as the risk assessment) was undertaken by TERRA, Inc. (TERRA) of Little Rock, Arkansas. TERRA specializes in environmental toxicology as well as providing health-based risk assessments. The purpose of their work was to estimate the risks posed to humans and the environment by the Magnesia Waste Pile under current conditions. The following paragraphs are paraphrased from their report (TERRA, Inc., 1989).

Exposure scenarios were developed to assess the magnitude of chemical exposure for persons likely to have considerable contact with the chemicals in the pile. FMC and Leslie Salt workers, contractors working on the pile, or state regulatory agency personnel providing regulatory overview are various population groups that might be exposed to constituents of concern in the pile. FMC, Leslie Salt and California Department of Health Services' personnel have observed unauthorized personnel on the property; thus, trespassers are an additional human population that could be exposed to the pile. During the Community Relations interviews (WCC, 1989) conducted with nearby residents, concern was expressed that children might trespass on the property and play on the pile. Although access to the pile is restricted by a barbed-wire fence, the exposure assessment outlined here assumes that the barrier can be overcome or circumvented by a child trespasser. In addition, potential health effects that might occur during remediation of the pile were evaluated through an adult worker scenario. The exposure scenarios considered in this study are called the "trespassing child scenario" and the "adult worker scenario" and were chosen to represent conservative, but realistic, exposure scenarios. The assumptions used to assess potential child and adult exposures to the chemicals in the pile under the two scenarios are described below. A "conservative assumption", in the context of this exposure assessment, means that the exposed child or the worker will have contact with the pile more times per year and for longer lengths of time per visit than would normally be expected. Such assumptions provide overestimates of exposure and risk. In other words, there is a strong probability that the actual exposures and risks will be significantly less than those predicted in the exposure scenarios examined.

The thallium-contaminated materials located east of the pile were not considered in the present risk assessment because these materials have been removed from the site under an Interim Removal Action.

5.1 EXPOSURE SCENARIOS

5.1.1 Child Trespasser Scenario

Children six years of age and older tend to be the most likely group of persons to play on and around the Magnesia Waste Pile. Although younger children are also typically of concern in residential exposure scenarios, the pile is probably inaccessible to children under the age of six due to its remote location and distance from the nearest neighborhood (approximately 0.5 miles). This scenario assumes that several situations will occur which tend to maximize the exposure that a child may experience. It is assumed that the child could enter the property through a break in the fence. It is assumed that a child would begin to visit the pile at age 6 and continue through age 16 (10 years), and would visit 40 times per year. Further, it is assumed that the child visits and drives over the pile with a motorcycle or all-terrain vehicle (ATV). Such activity would tend to produce considerable dust and increase the amount of inhalation, dermal, and ingestion exposure.

Although physiological parameters such as body weight and surface area change considerably during childhood, physiological parameters for a 10 year-old child are assumed to represent the trespassing child and are therefore more conservative. Such an assumption avoids the complexity associated with calculating exposures for each year of activity without compromising the representative quality of the exposure assessment. The total intakes of each substance based on mean and maximum concentrations in the pile are summarized in Table 10.

5.1.2 Adult Worker Scenario

The only adults assumed to be directly exposed to the contents of the Magnesia Waste Pile are those associated with the

site investigation and any future remediation or use of the pile material. Occupational Safety and Health Administration (OSHA) requirements are likely to prevent toxicologically significant exposure to the chemicals present in the Magnesia Waste Pile for these personnel.

The calculated total intakes for each chemical compound of concern are presented in Table 11. The documentation for the calculation of these intakes is presented in TERRA's report (TERRA, Inc., 1989).

5.1.3 Calculation of Daily Exposure to Pile Material and Associated Risks for Trespassing Child Scenario

Potential exposures to the pile material were calculated for three different routes of exposure. These routes are:

- incidental ingestion of pile material;
- dermal exposure to pile material; and
- inhalation exposure to pile material.

The average daily intakes of copper, cyanide, EDB, mercury, and thallium for a trespassing child were calculated using the mean and maximum concentrations for each compound of concern within the pile. Assumptions associated with these calculations are provided by TERRA (TERRA, Inc., 1989). From these calculated daily intakes, a comparison can be made to Reference Doses (RfDs) to evaluate potential non-carcinogenic health risks that may be associated with exposure to the chemicals of concern.

The non-carcinogenic risks associated with hypothetical exposures to the mean and maximum concentrations of the chemicals of concern (specifically copper, cyanide, and mercury) were evaluated for the child trespasser scenario. Reference Doses (RfDs) verified by the U.S. EPA were used to assess the non-

5.1.4 Calculation of Daily Exposure to Pile Material and Associated Risks for Adult Worker Scenario

The average daily intakes of the chemicals of concern were calculated for the adult worker (Table 11). Owing to more frequent contact with the pile material, average daily intakes for the adult worker are somewhat higher than those calculated for the trespassing child. For the mean average daily intake, total intakes ranged from 3.63×10^{-4} mg/kg/day for copper to 1.06×10^{-8} mg/kg/-day for EDB. The adult intake of cyanide and EDB were less than the calculated intakes for the child; this reflects the tendency of children to ingest more soil than adults.

The non-carcinogenic risks associated with the compounds of concern were calculated for the adult worker. The methodology used is identical to that used for the child trespasser. Average daily intakes for the adult worker were compared to RfDs, and no total intake/RfD ratio for any individual compound was greater than one (Table 11). When calculated using the maximum concentrations of the compounds, copper had the highest total intake/RfD ratio of 2.53×10^{-1}. The sum of the maximum total intake/RfD ratios for all compounds was 4.52×10^{-1}. Since no value of total intake/RfD was greater than one, no adverse non-carcinogenic effects would be expected from the compounds within the pile.

The lifetime cancer risks associated with EDB exposure were also calculated for the adult worker, and are slightly higher than those calculated for the trespassing child because the adult worker is exposed to the wastes more times than the child. The calculated risks for the average EDB concentration is 6.4×10^{-8} and for the maximum concentration it is 1.2×10^{-7}. These risks, however, are still less than or within the 10^{-4} to 10^{-7} risk range which is considered to be acceptable by the EPA.

5.2 DERMATOTOXICITY ASSOCIATED WITH HIGH PH MATERIAL

Calcium oxide is the primary contributor to the relatively high pH of the Magnesia Waste Pile material. Analysis of samples collected from the pile in 1981 indicated that the calcium oxide content of the general matrix material ranged from less than 10% to 57%. The pH of the pile samples appears to vary with calcium oxide content. Calcium oxide (also known as lime, burnt lime, and quicklime) is a primary component of mortar and plaster. Chemical skin burns in cement workers have been attributed to the irritant properties of calcium oxide.

Except on relative terms, there is little information available that correlates skin injury with pH. It seems reasonable, however, to assume that higher concentrations of calcium oxide would have greater potential to cause skin irritation. The toxicity of pile material and dusts containing calcium oxide is dependent on the amount of moisture available to react with the oxide, on the amount of time the skin is in contact with the dust, and on the condition of the skin. For example, calcium oxide dusts wetted by perspiration may potentially irritate the skin. Thus, unprotected persons having considerable contact with the pile material during hot weather may be at risk for developing skin irritation.

5.3 ASSESSMENT OF POTENTIAL RISKS TO THE ENVIRONMENT

The four necessary elements of the exposure pathway must be present, and the exposure pathway must be complete, before potential risks to the accessible environment can be calculated. An exposure assessment for the environment was not undertaken because the analytical data from the supplemental surface water, groundwater and air samples collected during this project suggest that the pile is not adversely affecting the environment through any of these transport mechanisms. Also, as described in Sections 4.2 and

4.4, the data suggest that the pile is not adversely affecting the wildlife refuge. This conclusion has been supported in two other studies (IT Corporation, 1985; Arthur D. Little, Inc., 1986). The only constituent of possible concern is the copper that was detected in the ditch water samples.

FMC does not use copper in any of their processes. The source of the copper appears to be the municipal water purchased by FMC. Analyses of municipal water by the City of San Francisco, indicated that copper concentrations in the municipal system can be as high as 0.015 mg/l (Table 12). The increase in copper concentration observed in the ditch may be a result of evaporative losses within the FMC operations.

6.0 EFFECTS OF CONTAMINATION ON PRESENT, FUTURE, AND PROBABLE USES OF BENEFICIAL RESOURCES

6.1 PRESENT USES OF THE LAND AND WATER

The results of the RI and risk assessment suggest that contaminants within the Magnesia Waste Pile have no effect on the land outside of the immediate bounds of the pile. Because the pile has been used in the past solely for the purpose of waste disposal, and a portion is leased to the Newark Police Department for a shooting range, the contaminants within the pile are not affecting the present use of the pile.

A surface-water drainage ditch runs along the east side of the Magnesia Waste Pile. Water from this ditch is discharged to Plummer Creek, and eventually into wetlands at the National Wildlife Refuge. The results of analyses performed during surface-water sampling (Section 4.2.3) suggest that the Magnesia Waste Pile is not affecting either the water quality in the ditch or the ecosystem of Plummer Creek.

Neither the shallow saturated zone nor the Newark aquifer in the vicinity of the Magnesia Waste Pile is considered to be a drinking-water resource (Section 4.2.3); the water from both zones is so brackish as to be unusable for most consumptive purposes. Furthermore, the results of chemical analyses performed during the ground-water assessment indicate that it is unlikely that the Magnesia Waste Pile is affecting water quality in either the shallow saturated zone or the Newark aquifer. Therefore, the contamination within the Magnesia Waste Pile has no apparent effect on the present beneficial uses of ground water in the vicinity of the site.

6.2 FUTURE POTENTIAL USES OF THE LAND AND WATER

While no specific investigation of future development plans was undertaken for this RAP, the current expansive industrial real estate trends indicate that a form of industrial use is likely to occur to the east and south of the site. Additional development is anticipated on nearby parcels. One parcel consists of the south half of the area bounded by Hickory Street, Willow Street, Central Avenue, and Enterprise Drive. Industrial development of warehouses is underway on this parcel.

The results of the RI and risk assessment suggest that contaminants now within the Magnesia Waste Pile will have no effect on the land outside of the immediate bounds of the pile, nor does the pile affect ground water or surface water (Section 4.2.3). There is, in any case, no anticipated human exposure to ground water or surface water at the proposed developments. Additionally, because of salt-water intrusion coupled with the long-term effects of the SWB project (Section 4.2) it is anticipated that the Newark aquifer in the vicinity of the site will not be used as a ground-water resource.

Since there is only low potential for exposure resulting from future industrial development of land or water in the vicinity of the Magnesia Waste Pile, it is judged that future effects to human health or the environment resulting from contaminants within the pile are minimal. Both FMC and Leslie Salt are committed to the removal of hazardous materials from the site in the proposed remedial action; thus, there will be no impacts to the potential future uses of the land and water resources.

6.3 PROBABLE BENEFICIAL USES OF LAND AND WATER

Probable beneficial uses for the land in the immediate vicinity of the Magnesia Waste Pile include both open space and

industrial development. The Magnesia Waste Pile site, unused at the present time, represents one of the larger undeveloped parcels in the Newark area; therefore, future development consistent with the City of Newark's general plan is likely.

No long-term effects to the environment associated with the general magnesia material are anticipated if the property is developed. Previous geotechnical work (Tejima-Atkinson, 1986), has demonstrated that soil strengths increase with increasing percentage of magnesia. Hence, the addition of magnesia from the pile to the native soil of the site would improve the engineering characteristics of the soils. This can be regarded as a benefit for possible future development. On the other hand, if grading activities occur and the pile material were to be widely distributed, the ultimate fate of the constituents of concern (copper and mercury) cannot be predicted with any accuracy. It is possible that the alkaline environment of the pile has reduced the mobility of these constituents.

The results of the RI and risk assessment suggest that contaminants now within the Magnesia Waste Pile do not affect ground water or surface water (Section 4.2.3). Additionally, because of salt-water intrusion coupled with the long-term effects of the SWB project (Section 4.2) it is anticipated that the Newark aquifer in the vicinity of the site will not be used as a groundwater resource for at least the duration of the SWB project. The timeframe for the SWB project is not known, but is anticipated to be at least 30 years.

7.0 SUMMARY OF REMEDIAL ACTION FEASIBILITY STUDY

7.1 DISCUSSION OF ALTERNATIVE REMEDIAL ACTIONS

The purpose of this section is to describe the remedial objectives, and to identify the potential remedial technologies that were considered for remediation of the Magnesia Waste Pile. Remedial objectives are site-specific goals for remediating the soil/waste, that are based on the protection of human health and the environment. Remedial technologies capable of achieving these goals are first screened on the basis of their applicability to the site. The remedial technologies are then assembled into a variety of remedial alternatives. An alternative may combine several technologies.

In general, remedial alternatives are designed to achieve one or more of the following objectives, depending on site-specific circumstances:

1. Eliminate the hazardous substances from the site.
2. Reduce the hazardous substances at the site to acceptable levels.
3. Prevent exposure to the hazardous substances.

The specific remedial objectives related to the Magnesia Waste Pile soil/waste materials are as follows:

- Prevent ingestion, inhalation, or dermal contact with the waste materials. The compounds of primary concern based on DHS regulations are copper and mercury, in concentrations that exceed the appropriate TTLC.
- Provide for long-term effectiveness and permanence in reducing risk to human health and the environment.
- Allow for the environmentally sound use of the property.

- Select remedial alternatives that can be implemented in an acceptable manner.
- Select the most cost-effective remedial alternative.

The first step in selecting remedial alternatives is to identify potential technologies that may have application to the site. These technologies are then described in general terms with respect to their general applicability, effectiveness and technical viability. Based on this information, a screening of the identified technologies can be completed to select the most promising technologies for further evaluation and incorporation into remedial alternatives; these alternatives are then evaluated against criteria that assess cost and effectiveness. The evaluation of remedial alternatives that were identified for the Magnesia Waste Pile are presented in this section.

Two major factors must be addressed during the development of remedial alternatives:

- estimating the areas and volumes of materials to which the remedial actions will be applied; and
- determining which technologies or combinations of technologies could be applicable and effective.

Location and Volume of Waste Materials

The waste materials in the Magnesia Waste Pile can be divided into five main units: general magnesia material; copper catalyst pellets and general magnesia material which contains elevated copper concentrations; mercury-contaminated magnesia; thallium-contaminated soil; and debris. The total volume of waste material is estimated to be approximately 78,000 cy.

Constituents that were observed in concentrations that exceeded the appropriate TTLC standards include thallium, copper and mercury. The thallium-contaminated materials located in an isolated area east of the pile were removed under an Interim Removal Action; therefore, those materials will not be considered further in this RAP.

The copper catalyst pellets were found only on the west side of the Magnesia Waste Pile (Figure 5). The volume of copper pellets present in the pile was estimated to be approximately 600 cy (Table 5). About 200 cy were scattered near the surface and 400 cy were buried. For the purpose of cost estimation, it was assumed that 1,200 cy of pellets and general matrix material which has a total copper concentration exceeding the TTLC will be remediated.

The mercury is not specifically associated with one particular waste unit. For cost estimating purposes, it was assumed that the mercury is predominantly associated with the light gray material found in Trenches 24 and 26, and that there are approximately 2,500 cy of the mercury-contaminated magnesia. The black tarry material within Trench 31 appears to be very limited in extent, and the volume of mercury-contaminated magnesia in this trench is included within the 2,500 cy estimate.

A considerable amount of debris was encountered during the RI. Debris was most prevalent on the west side and top of the Magnesia Waste Pile; however, it is scattered throughout the pile. The volume of debris was estimated to be approximately 9,600 cy, and was included in the 78,000 cy volume estimate of general waste material.

Description of Remedial Technologies

Waste remediation technologies can generally be classified into the categories of removal and disposal, containment, or treatment.

Removal and Land Disposal

Excavation and off-site disposal of the waste materials would totally eliminate the hazardous material from the site. This procedure is easy to implement, requires no specialized equipment, and is a proven remediation technology. To implement this technology, the copper pellets and the general matrix material that contains copper or mercury in concentrations exceeding the TTLC for these constituents would be excavated, loaded directly into trucks, and shipped to a landfill certified to accept Class I waste. It is anticipated that the copper pellets and copper- or mercury-contaminated magnesia material would be shipped to the Chemical Waste Management's Kettleman Hills facility near Coalinga, California or other approved hazardous waste disposal facilities.

The debris and general matrix material can be treated as non-hazardous wastes because the only constituents that would classify them as hazardous are the copper pellets and general matrix material that contains copper or mercury in concentrations greater than the TTLC; these could be segregated. The general matrix and debris could be disposed in a municipal landfill. This technology is widely used and will be considered as a possible remedial alternative. The removal technology does not conform with the guidance of California's Health and Safety Code, which recommends the use of innovative remediation technologies; however, off-site disposal, as an alternative, may in some cases be the only technology available.

Capping or Containment

The concept of capping a site entails the containment of wastes and the minimization of the potential for off-site transport. No materials would be removed from the site but the contaminants would merely be contained. While air, surface-water and ground-water data do not indicate that the hazardous materials within the pile are affecting the area surrounding the site, a cap would further reduce the possibility that copper, mercury or alkaline dust could be carried or leached from the pile. As a secondary benefit, a cap would prevent trespassers from coming in contact with the materials in the pile.

The existing pile would first be regraded; then clean soils added to the sides of the piles so that a stable slope could be achieved; and then a low permeability cap would be installed. The cap would consist of two feet of compacted low-permeability soil and 12 inches of topsoil that would be seeded with native grasses to minimize erosion. This remediation technology is not encouraged by California's Health and Safety Code. Capping or containment does not treat or reduce the waste, but rather isolates the material from human contact and minimizes leaching. For situations in which the mobility of the contaminants is low (e.g. the Magnesia Waste Pile contaminants), the containment/capping technology may be appropriate.

Treatment

Several potential treatment technologies are available. These include:

- Soil Washing

- Chemical Fixation
- Recycling and/or Re-use

Soil washing is a general term, applied to a variety of techniques developed for extracting metals or organic chemicals from solid materials. The concept of soil washing has only recently been applied to extracting hazardous materials from soil or solid wastes. The chemical process generally involves the mobilization of metal constituents from solid materials, using a solvent. Potential solvents include acids, chelating agents and surfactants. The available processes for applying the solvent solutions range from spraying piles of material with spray showers (in-situ leaching), to washing the materials in mobile reactors or vats. Because the Magnesia Waste Pile consists primarily of fine-grained materials, in-situ soil leaching is probably not viable because the solvent solution cannot readily pass through the materials. A vat washing process is more feasible.

The solution used to dissolve the metals would have to be treated to remove the metal constituents. The collected metal cake would then be dewatered and the liquid recycled: spent acids are neutralized; spent chelants are destroyed; and the treated residual water is discharged to a publicly owned treatment works (POTW), a sanitary sewer. The sewered water generally contains elevated levels of dissolved solids and may require additional pre-treatment prior to discharge to the POTW.

Because soil washing is an innovative technology, limited data exist from which to estimate treatment effectiveness or costs. Effectiveness and costs can be assessed using bench treatability tests and pilot scale testing. However, it can be stated that soil washing, if it is applicable, would remove the hazardous constituents from the solid magnesia matrix and ultimately from the site. Because the technology was developed for removing metals

from ores, it has direct applicability to the metals found within the pile; further analysis of this technology as a remedial action alternative is warranted.

Chemical fixation refers to treatment methods that bind waste components into a stable matrix. The objective of chemical fixation is to reduce the solubility, toxicity or mobility of hazardous constituents within the waste matrix.

Fixation involves the excavation of soils, mixing the soil material with the binding or setting agents, and replacement of treated soil into the excavated area or off-site disposal of the wastes in a municipal landfill. The equipment utilized is often conventional cement-mixing machinery. The fixation agents in common use include Portland cement, fly ash, kiln dust, liquid silicates, thermoplastic agents, and organic polymer agents; magnesia oxide and lime are principal components of some soil fixatives. In many respects, the pile material itself could act as a fixative agent for copper and mercury, in that these metals are not as mobile in the alkaline environment of the pile as they would be in an acidic environment.

None of these chemical systems removes the contaminants; they simply serve to reduce the mobility of specific constituents. Additional treatment and laboratory tests on leachable contaminants would need to be performed to assess the effectiveness of this alternative. However, because the technology is capable of immobilizing metals, further consideration will be given to soil fixation during the evaluation of remedial alternatives.

Recycling or re-use involves the removal of the copper pellets and copper- and mercury-contaminated matrix material, and transporting to a facility that could recycle or otherwise use these materials. The copper pellets contain, at a minimum, 62% magnesium oxide (Table 2) which is an effective neutralizing agent.

The use of the copper pellets and associated copper- and mercury-contaminated matrix material as a substitute for lime as a neutralizing agent is currently being investigated. The copper and mercury could be recovered from the neutralized solutions and re-used. Samples of these materials have been submitted to recycling vendors and based upon their analysis, it appears that recycling is feasible.

The general non-hazardous matrix material, because of its elevated pH, may be used as a soil amendment to treat acidic soils, or to neutralize acidic waste streams in industrial applications. In addition, the magnesia material could be used in waste solidification processes at a hazardous waste facility. The concept of recycling is encouraged under California's Health and Safety Code, and additional investigation of recycling as a remedial alternative is warranted.

The general matrix material could also be used as fill on-site. Previous geotechnical work, performed under contract to Leslie Salt (Tejima-Atkinson, 1986), showed that soil strengths increase with increasing percentage of magnesia. Hence, the addition of magnesia to the native soil of the site would improve the soil strength. The technology of re-using the magnesia material on-site in combination with other technologies is also worth further consideration as a remedial alternative.

The potential applications of these technologies as they may be a part of a remedial action alternative will be explored in following sections.

7.1.1 Alternative A-1 - No Action

This alternative assumes that no action will be taken to treat or remove any of the materials within the pile. The analysis of data collected during the RI has demonstrated that the pile, in

its current state, has no effect on the environment surrounding the site. Thus, there may be no health- or environmental-based reason to remediate the site. This alternative does not reduce the toxicity, mobility or volume of the wastes.

Hazardous wastes, as defined by Title 22 of the California Code of Regulations, would remain on site if this alternative were selected. Monitoring of the site would probably be required so that possible adverse effects to air, surface water and ground water could be detected. It is assumed that a number of ground-water wells, air monitoring stations and surface-water sampling points would have to be installed and monitored on a quarterly basis for at least 30 years. The monitoring would be in accordance with appropriate DHS and California Regional Water Quality Control Board requirements. Despite the probable requirement for monitoring, no beneficial uses of ground water would be affected by Alternative A-1, because ground water in the shallow saturated zone and in the Newark aquifer is expected to remain brackish and unusable.

The alternative is easy to implement because only fencing and monitoring would be necessary. The perimeter fence would have to be maintained, and site access would have to be minimized. The costs for this option, covering 30 years of monitoring, are estimated to be $1,132,000.

An issue that is not addressed in the cost estimate is that the No-Action Alternative would probably preclude other future uses of the land. Deed restrictions on future uses of the land would probably be required. The opportunity costs, arising from economic opportunities that are forgone because of these deed restrictions, cannot be estimated at this time.

This remedial alternative is rejected on the basis of present and future costs and the probable limitations on future uses of the land.

7.1.2 Alternative A-2 - Capping

This alternative would involve regrading the existing materials and placing fill so that the grade of the resulting slope is brought to a slope of four to one (horizontal to vertical). Once this is completed, a two-foot-thick layer of compacted silty clay material would be placed on the fill, and would be topped with a one-foot-thick topsoil cover. The topsoil would be seeded with native grasses to minimize erosion of the soils.

This alternative could be easily implemented because only standard construction technology and equipment would be involved. It is anticipated that implementation would require approximately four months, at an estimated cost of $8,500,000. This cost appears excessive, primarily because of the costs associated with the transportation of fill from an off-site location. Because it is difficult in advance to estimate maintenance costs, the long-term costs for maintenance have not been included.

The cap would eliminate the potential for off-site transport of waste materials by wind and would also reduce the amount of precipitation that infiltrates the site. This remedial action would also prevent the general public from coming in contact with the high pH material as well as materials defined by Title 22 as being hazardous. The cap would have to be maintained over time in order to maintain its effectiveness. No beneficial uses of ground water would be affected by Alternative A-2, because ground water in the shallow saturated zone and in the Newark aquifer is expected to remain brackish and unusable.

This remedial alternative does not meet the goals of the California Health and Safety Code, which discourages isolating rather than treating the contaminants to permanently reduce the potential risks associated with possible future exposure. In addition, capping the site might restrict future uses of the property, and deed restrictions may be required.

Because of the anticipated high cost, the possibility of deed restrictions, and the fact that the contaminants are not removed, this alternative will not be considered further.

7.1.3 Alternative A-3 - Excavation and Off-Site Landfill Disposal of All Materials

This alternative would involve the excavation and removal of all of the Magnesia Waste Pile materials from the site. Materials that contain copper and mercury in concentrations that exceed the TTLC will be disposed at a Class I landfill. The general magnesia material and debris are not hazardous, and would they be disposed at a municipal (Class III) landfill.

The exposure to dust created during the excavation and hauling of hazardous materials poses a potential risk to the public during implementation of this alternative. However, dust generated during excavation could be controlled using conventional dust-abatement procedures, such as application of water or other agents. In addition, all trucks used in hauling would be covered to minimize wind erosion of the materials being transported. Such efforts would decrease risks to the site workers and the general public. It is expected that the ambient air quality criteria for air-borne particulates will not be exceeded on-site during the excavation and hauling. Therefore, it is likely that no significant increased health risk to the general public will occur during excavation and hauling.

Alternative A-3 involves the use of standard construction technology such as excavators, dozers and trucks; there are no new or untried technologies associated with this alternative. The total capital requirement for excavation and off-site disposal is estimated to be $3,000,000. It is anticipated that implementation would require approximately four months; because all the materials would be removed from the site, there are no long-term maintenance or monitoring costs associated with this alternative.

Because all of the materials would be removed from the site under this alternative, there should be no associated long-term risks to human health or the environment in the vicinity of the site. No beneficial uses of ground water would be affected by Alternative A-3, because ground water in the shallow saturated zone and in the Newark aquifer is expected to remain brackish and unusable.

There should be no restriction on possible beneficial uses of the land once the materials have been removed from the site. However, off-site disposal does not conform with the intent of the Federal Superfund program, or California's Health and Safety Code, which discourage off-site disposal in lieu of recycling, re-use or treatment. Possible recycling or contaminant destruction, where appropriate, are generally preferred by regulatory agencies.

While off-site disposal is certainly technically possible, it is not recommended because of its high cost, and because there are other possible innovative technologies that could probably be used. Alternative A-3 will not be considered further because it is not cost effective, nor does it conform to present regulations which encourage the use of alternatives that treat the wastes.

7.1.4 Alternative A-4 - Excavation and On-Site Treatment Using Soil Fixation with Off-Site Disposal

This alternative involves excavation of the copper pellets and contaminated magnesia that contains copper and mercury in concentrations that exceed the TTLC, followed by interim storage and chemical fixation of the hazardous materials.

The excavation process would proceed as described under Alternative A-3. The general debris would be segregated, transported by covered truck to a local landfill or other Class III facility, and disposed. The pellets and metals-contaminated magnesia would be excavated and mixed with the fixative agent. The fixated waste would then be transported off-site, and could be disposed in a municipal landfill because the material would not be leachable. It is uncertain at this time whether local landfills would accept the fixated wastes because the process does not remove the copper or mercury but instead immobilizes the contaminants.

Excavation of the contaminated waste materials would be performed using conventional construction equipment. The chemical fixation process has been used for other contaminated soils and wastes in the State of California; the equipment is readily available and is relatively easy to operate and maintain. This would facilitate on-site treatment. Minimal emissions would be released, thus only ambient air monitoring and fugitive dust controls would be required during remediation. The fixated soil would be tested for chemical stability to ensure that the contaminants would not leach.

Once bench-scale tests had been completed, approximately four months would be required for remediation. The total cost of Alternative A-4 is estimated to be $1,340,000; there are no long-term operation or maintenance costs associated with this alternative. The high treatment cost is primarily due to the fixed costs

associated with mobilizing large equipment to treat a small quantity of waste material.

Alternative A-4 does meet regulatory goals (e.g. Title 22) in that the mobility of the hazardous constituents would be reduced. In addition, the hazardous materials would be removed from the site, so that there should be no associated long-term risks to human health or the environment in the vicinity of the site, nor should there be restrictions on possible beneficial uses of the land. No beneficial uses of ground water would be affected by Alternative A-4, because ground water in the shallow saturated zone and in the Newark aquifer is expected to remain brackish and unusable.

While soil fixation is a proven technology, its effectiveness and technical viability at the Magnesia Waste Pile are uncertain, and would have to be proven through bench-scale tests. Additionally, the costs associated with soil fixation are much higher than costs associated with other technologies. For these reasons, Alternative A-4 will not be considered further.

7.1.5 Alternative A-5 - Excavation and On-Site Treatment Using Soil Washing

This alternative involves excavating the copper pellets and the contaminated magnesia that contains copper and mercury in concentrations that exceed the TTLC, utilizing standard excavation technology and equipment as described under Alternative A-3. Debris would be segregated, loaded into trucks, and transported to a municipal landfill or other Class III facility. The copper- and mercury-contaminated waste material would be mixed with acid in vats after it had been thoroughly sieved and ground to a uniform size. The acid would serve to mobilize the copper and mercury. The waste slurry exiting the last vessel after acid rinsing would be settled in a thickener vessel and then dewatered through a

filter. Liquid from the thickener, and filtrate liquids containing the leached metals, would be further processed to extract the metals. Treated water would be recycled, primarily as mix water in the waste slurry tank. Excess process water would be neutralized or otherwise treated and discharged to the sanitary sewer system. The waste materials would be treated to reduce the concentrations of remaining copper and mercury to a value lower than the TTLC. The treated waste material would be mixed with the general magnesia, while the filter cake would be sold to a copper smelter for use in the production of copper; the mercury would be given away or sold.

This alternative could be implemented in a relatively short period of time (estimated to be six months); hence, operation and maintenance costs are not considered. The total estimated cost for this remedial alternative is $1,500,000. The major cost item associated with this remedial alternative is estimated to be the mobilization of the equipment; because of the low volume of wastes, the fixed costs are large for the amount of material treated. In addition, the cost for acid is high because the waste material has such a high initial pH (estimated to be 11.5). Excessive amounts of acid would be needed to neutralize the alkaline magnesia material and to mobilize the metals.

Alternative A-5 would remove the hazardous materials from the property, and residual materials would meet appropriate standards for the site (TTLCs). Consequently, there should be no associated long-term risks to human health or the environment in the vicinity of the site, nor should there be restrictions on possible beneficial uses of the land. No beneficial uses of ground water would be affected by Alternative A-4, because ground water in the shallow saturated zone and in the Newark aquifer is expected to remain brackish and unusable. Also, this alternative should be acceptable to state agencies because it would permanently remove

the wastes from the site, and would be undertaken in such a manner that off-site disposal would not be an issue.

However, this remedial alternative has not undergone bench or pilot scale testing; thus, its technical viability, associated costs, and applicability to the Magnesia Waste Pile site are uncertain. In addition, the estimated costs associated with soil fixation are much higher than costs associated with other technologies. For these reasons, Alternative A-5 will not be considered further.

7.1.6 Alternative A-6 - Excavation, with Removal of Hazardous Materials from Site with Recycling

This alternative involves the removal of all hazardous materials from the site. These materials would be transported to an off-site user or recycler if possible, or would be disposed at a Class I landfill if these options are not available. Because all hazardous materials would be removed from the site, there are no long-term maintenance or monitoring costs associated with this alternative. This alternative is different from Alternative A-3 in that the goal is to recycle the hazardous materials (copper and mercury). The remaining non-hazardous materials can be handled in one of four ways which will be described in this section.

Under Alternative A-6, residual materials would meet appropriate standards for the site (TTLC). Consequently, there should be no associated long-term risks to human health or the environment in the vicinity of the site, nor should there be restrictions on possible beneficial uses of the land. No beneficial uses of ground water would be affected by this alternative because ground water in the shallow saturated zone and in the Newark aquifer is expected to remain brackish and unusable. Recycling or re-use of waste material is in accordance with the directives of both federal and State agencies. The amendments to

the Federal Superfund legislation and California's Health and Safety Code prefer alternatives that reduce the volume, toxicity or hazardous nature of the waste.

Once the hazardous materials have been removed from the site, the site would no longer be considered hazardous. The remaining "clean" magnesia and debris could then be handled in several ways. Four options are discussed as variations of the excavation, off-site recycling alternative.

7.1.6.1 Option A-6A - Off-Site Recycling of Hazardous Materials and General Magnesia, with Disposal of Debris

This variation of the recycling remedial option of Alternative A-6 involves the excavation of all waste materials, segregation of the different types of material, and transportation to an off-site recycling facility for the hazardous materials and general magnesia with disposal of the debris at a municipal landfill or Class III facility. This option is different than Alternative A-3 in that only the debris would be disposed at a landfill.

Excavation, segregation, and transport of the matrix material, copper pellets, and general debris can be readily accomplished using standard technology. The copper and mercury wastes are generally located in discrete areas of the pile. These areas would be selectively excavated, and the copper pellets and copper-contaminated magnesia could be removed and separated on visual observation and sampling for laboratory analysis. It is anticipated that a zone of magnesia around the pellets would also be removed during excavation to ensure that all hazardous constituents are removed. Sampling and subsequent chemical analyses of the remaining adjacent general matrix material would be performed after excavation is complete to verify that hazardous concentrations of copper- or mercury-contaminated materials do not remain.

Once the copper- and mercury-contaminated materials had been segregated and removed from the pile, they would be shipped to an off-site recycler or other end-user. Potential uses for this material include incorporation into the production stream of a copper smelter, or use as flux control or acid neutralizing agent. As a secondary benefit, copper could be recovered from the waste. The mercury is present in such small quantities that it would not be economical to recover. Residual material would be handled in the smelter's waste stream. Samples of the materials have been submitted to potential recyclers for evaluation, and based upon their analysis, it appears that recycling is feasible.

The general magnesia material would be screened on-site to remove the debris and then possibly dried to reduce shipping weight and to further calcine the material. The prime possible uses for the material are:

- Soil amendment for sandy soils
- Stack-gas absorption of sulfur dioxide in power-plant scrubber systems
- Production of mortar and stucco
- Neutralizing agent for acidic wastes
- Fixing agent for the solidification of wastes at a landfill

The general debris, consisting of lumber, scrap metal and so forth, would be separated from the copper pellets and the magnesia material. Because the debris is not hazardous, it would be disposed at a municipal landfill or other Class III facility. It would not be practical to recycle the debris because of its extreme heterogeneity.

Dust abatement practices would be observed during excavation, to suppress fugitive dusts and minimize the exposure of the general public and site workers to potential contaminants. The

trucks used in transportation would be covered so that debris is not spilled and material is not lost during transit.

It is difficult to estimate the costs of recycling until a user(s) of the materials is (are) identified. For purposes of preliminary screening of alternatives, it is assumed that the hazardous materials will be provided to a end-user at no cost. Approximately four months would be required for implementation of this option. The total cost for this option is estimated to be $680,000; because of the relatively short timeframe, no operational or maintenance costs are considered.

This option is recommended from a technical and economic perspective; however, finding a user for the general matrix material may take a longer time than is scheduled in the RAO. This will be handled outside the RAP process. Specific uses for the material will continue to be investigated. The hazardous materials would be segregated and stored on FMC property, which is part of the site, in separate piles until an end-user is identified.

7.1.6.2 Option A-6B - On-Site Use of Magnesia

This option is similar to Option A-6A except that the general magnesia material would be used on-site as a sub-base fill. The copper pellets and metals-contaminated magnesia material would be recycled off-site. The debris would be separated and disposed off-site in a municipal landfill or other Class III facility. Once the copper pellets and metals-contaminated magnesia materials had been removed, the general magnesia material could be used as backfill on the property because this material would not be classified as hazardous.

According to Tejima-Atkinson (1986), the addition of the magnesia material to the surrounding native soil at blends of up to 15% improves the characteristics of the soil for use as engineered

fill. However, because of the elevated pH of the mixture it would be necessary to protect metal or concrete structures placed in contact with the magnesia/soil mixture.

Approximately four months would be required for segregation of the hazardous materials during implementation of this option. The future use of the property has not been identified at the present time; therefore, it is not possible to estimate the time required for incorporating the general magnesia material into fill. Because the general magnesia material remaining on the site would not be classified as hazardous, this option should not entail operation and maintenance costs.

The costs for this option are difficult to estimate until a user for the copper pellets and metals-contaminated magnesia has been identified and the ultimate use of the property has been determined. While acknowledging these uncertainties, the estimated total cost is $1,570,000.

One of the major disadvantages of this remedial option is the difficulty of using the entire quantity of matrix material on-site. The general matrix material should not be added to the native soil in proportions greater than 15%; this limitation would require the blending of the matrix material over a large area and with a large volume of soil. If the matrix material is blended with the top two feet of native soil, then an area of 2600 feet by 2600 feet would be required to use all of the "clean" magnesia. This would cover an area over 20 times larger than the area of the present pile. It is uncertain at this time whether such an area of land exists. Furthermore, the end use of the property on which the pile is located is uncertain at the present time. Therefore, it is not recommended that this option be pursued further because it would commit the land to a present use that may not be a prudent use in the future.

7.1.6.3 Option A-6C - Residuals Left in Place

The basis of this remedial option involves the removal of all materials that contain copper and mercury in concentrations that exceed the appropriate TTLC. This would include the copper pellets and the copper- and mercury-contaminated general matrix material. These materials would be excavated and transported to an off-site user as discussed in Option A-6A. If suitable markets could not be identified, off-site disposal in a Class I landfill would be the remaining technology available.

The excavation and recycling processes in this option are the same as Option A-6A. Excavated waste materials would be segregated and stored on adjacent FMC property (Plate 1) for a period of up to 90 days. The general debris encountered during the excavation would be separated from other materials, temporarily stockpiled, then loaded into trucks and transported to a municipal landfill or other Class III facility for disposal.

The "clean" general magnesia material would be returned to the excavations after the removal of the contaminated materials; the excavations would then be graded to eliminate holes so that direct precipitation would not pond. The excavated areas would be periodically wetted with water to minimize wind erosion and to promote the formation of a hardened crust. Based on field observations during the RI work, it is judged that such a crust should form within one month.

Once all of the hazardous materials have been removed, the pile should be judged to be non-hazardous according to Title 22 of the California Administrative Code. Access to the general matrix material would be limited by fencing the site.

Approximately four months would be required for excavation and segregation of the hazardous materials during implementation of this option. The estimated cost for this remedial option is $360,000; this assumes that the hazardous material can be recycled at no net cost to FMC and Leslie Salt. If landfill disposal is required, this could add $1,000,000 to the cost of this option. Costs have not been assigned to any future movement of the general magnesia material because it is assumed that the materials would be left on-site indefinitely. No long-term maintenance of the pile is anticipated once the crust has formed. The fence would have to be maintained, but the costs associated with this are assumed to be minor.

This option provides a cost-effective means to address regulatory concerns in that the hazardous constituents are removed from the site; additionally, because the option does not require any unusual equipment or technology, the alternative would be easy to implement. However, the final future use of the property has not been identified at the present time; it is anticipated that because site access will be limited after the magnesia has been replaced and graded, the potential uses of the property would be severely restricted.

7.1.6.4 Option A-6D - Debris Removal and Disposal, and Stockpiling On-Site of all Magnesia Material

This remedial option is similar to the previously-described option in that all materials that contain copper and mercury in concentrations that exceed the appropriate TTLC would be removed from the pile, segregated and transported off-site. This would include the copper pellets and the copper- and mercury-contaminated general matrix material. Additionally, all of the general magnesia material would be excavated, debris would be segregated and removed, and the magnesia material would be stockpiled on-site

until a suitable use is found for the material. No timeframe would be specified for removal of the non-hazardous materials.

The excavation and recycling techniques would be similar to those outlined in Alternative A-3 and Option A-6A. The excavated general magnesia material would be placed in a prepared area. In order to minimize overland flow of the higher pH material into adjacent lands or waterways, the stockpile area would have to be bermed. In addition, the sides of the pile would be graded to a slope of three to one (horizontal to vertical) to minimize erosion. Dust abatement techniques would be observed during excavation to control fugitive dusts. The stockpile areas would require future maintenance until a user is found. Site access would also be limited to minimize exposure to the higher pH materials.

The estimated cost for this option is $1,660,000; costs for future handling have been included in this option because it is assumed that all the material in the pile would be moved. The future handling costs were calculated in 1989 dollars; these future costs should be increased for activities beyond 1989. It is important to note that a value has not been assigned to the general magnesia material. It is possible that the total sum spent for this remedial option could be offset by future revenue generated from sale of the magnesia.

It is the goal of FMC and Leslie Salt to secure an optimal use for the materials; because the material will be stockpiled on-site, the rate of removal and transport of material could be readily controlled, once an end user is identified. This option involves proven technology and would be easy to implement. However, because site access will be limited while material is stockpiled, the potential uses of the property would be severely restricted during this period of time. In addition, the estimated cost for this option ($1,660,000) is significantly greater than the cost for Option A-6A, even though the end result is the same in

both options. The additional expense can be attributed to costs associated with materials handling and maintenance of the stockpile.

7.2 RECOMMENDED FINAL REMEDIAL ACTION

7.2.1 Summary of Remedial Alternatives

Six remedial action alternatives have been identified. Although other variations of these alternatives could be developed, these alternatives provide a review of the basic technologies that can reduce the hazards presented by the Magnesia Waste Pile in its current state, and address the concerns of the general public, DHS, FMC and Leslie Salt.

Table 13 is a summary of the remedial action alternatives presented in the previous sections. Based on a review and evaluation of the remedial action alternatives presented, several alternatives have been eliminated from further consideration.

- Alternative A-1 - No Action

  Alternative A-1 has been eliminated from further consideration because of the probable long-term monitoring costs, future restrictions on land use, the hazardous materials remain on-site, and because it is not cost-effective.

- Alternative A-2 - Capping

  Alternative A-2 has been eliminated because waste materials are not removed or treated, long-term monitoring, some future uses of the land may be restricted, and because the alternative is not cost effective.

- Alternative A-3 - Excavation and Off-site Landfill Disposal of All Materials

  Alternative A-3 can be implemented; however, landfill disposal is discouraged under California's Health and Safety Code unless no other alternative is appropriate.

A-3 costs less than some alternatives presented; however, it is not cost-effective. Long-term liabilities associated with the waste are not eliminated for FMC and Leslie Salt. For all these reasons, this alternative is eliminated from further consideration.

- Alternative A-4 - Excavation and On-site Treatment Using Soil Fixation With Off-site Disposal

  Alternative A-4 is an innovative technology; however, the major disadvantage of this alternative centers on technical concerns regarding whether the alternative can be applied to the wastes in a cost-effective manner. The unit cost of this alternative is similar to the unit cost of the off-site disposal alternative; however, it is possible that the estimated costs for this technology could exceed those of off-site Class I disposal. Due to technical and cost considerations, this alternative has been eliminated from further consideration.

- Alternative A-5 - Excavation and On-site Treatment Using Soil Washing

  Alternative A-5 is an innovative technology; however, the major disadvantage of this alternative centers on the technical concerns regarding whether this alternative can be applied to the wastes in a cost-effective manner. The unit cost of this alternative is similar to the unit cost of the off-site disposal alternative; however, it is possible that the estimated costs for the technology could exceed those of off-site Class I disposal. Due to technical and cost considerations, this alternative has been eliminated from further consideration.

- Alternative A-6 - Excavation with Removal of Hazardous Materials from Site with Recycling

  This alternative would remove all hazardous materials from the site. There are four identified options that specify how the remaining non-hazardous magnesia and debris would be handled. These options are:

  - Complete off-site recycling of hazardous materials and general magnesia with disposal of debris
  - On-site use of magnesia
  - Residuals remain in place
  - Complete removal, disposal of debris, and stockpiling of the magnesia on site

This alternative offers a wide range of flexibility in how the non-hazardous materials are handled. The alternative is cost-effective and would meet all appropriate regulatory requirements.

7.2.2 Preferred Remedial Alternative

The alternative preferred by Leslie Salt and FMC for remediating the waste materials is:

- Alternative A-6: Excavation with Removal of Hazardous Materials from Site with Recycling

Alternative A-6 is the preferred alternative because under all the specified options, the hazardous materials would be removed from the site, thus minimizing the liabilities associated with the site and eliminating impacts to the environment. This alternative also attempts to use innovative recycling technology for the wastes; this is in contrast to landfill disposal which is Alternative A-3. Recycling and/or re-use of wastes are stated goals in California's Health and Safety Code.

It is recognized that the total cost of Alternative A-6 is variable at this time because a final user(s) has (have) not been identified. Potential users have been contacted and actual end-uses are still being identified. Final costs can be estimated and final regulatory issues addressed when the precise end uses of the hazardous materials has been identified. If an end-user(s) for the hazardous materials is (are) not found, then the hazardous materials will be disposed at a Class I hazardous waste facility. It must be emphasized that the hazardous constituents will be removed from the site. Thus, Alternative A-6 is the preferred remedial alternative.

This alternative has four identified options for handling the non-hazardous materials.

- The recycling of all of the materials (Option A-6A) is very attractive in that it can be cost-effective and it removes the wastes from the site. This option involves innovative possible uses of the wastes, and should be acceptable to regulatory agencies. However, it may be a difficult or lengthy process to find a user of the 65,000 cy of the general magnesia material within the time frame of the RAO.

- On-site use of magnesia (Option A-6B) would require an area over 20 times the size of the present Magnesia Waste Pile. The incorporation of magnesia into the soil would commit the land to a present use that might not be a prudent future use. Finally, if an adjacent parcel of land is not available for use, the transportation of the wastes to detached parcels could greatly increase the associated costs, thus making the option not cost-effective. For these reasons, on-site use of magnesia is eliminated from consideration.

- Leaving residuals on-site (Option A-6C) is a cost-effective option and would meet the appropriate regulatory requirements. At this time, there are no negative aspects to the option that would disqualify it from further consideration.

- On-site stockpiling (Option A-6D) would involve the excavation and screening of the materials. The debris would be disposed and the "clean" magnesia would be stockpiled on site. An optimal use for the magnesia would be identified in the future. There are no major technical or cost disadvantages with this option that would disqualify it from further consideration.

The recommended remedial action will utilize standard excavation technology. The hazardous materials will be removed from the pile with a track mounted excavator, e.g. a CAT-225. The excavated material would be loaded into 12 cy dump truck for transportation to the staging/stockpile area (Plate 1). There the material will be screened to remove the debris from the hazardous materials. In some cases, the larger pieces of debris will be removed by hand. After screening, the non-hazardous debris will be

When removed, the waste materials will be loaded into 20-yard trucks for transport. The waste materials will be wetted to minimize dust, and the trucks will be covered. Upon leaving the site, the trucks will follow routes that will avoid residential areas in Newark. Also, off-site truck movement will be minimized during rush-hour times.

7.2.3 Potential for Adverse Effects on Human Health and the Environment

Implementation of this alternative would present no long-term risks to human health or the environment in the vicinity of the Magnesia Waste Pile, because under all the options discussed in the alternative, the hazardous materials would be removed from the site, and the residual materials would meet appropriate standards for the site (TTLC). It is anticipated that hazardous materials would be delivered to an off-site end user, and wastes resulting from the recycling of this material would be incorporated into the waste stream of the end user, to be handled in a appropriate manner. State law requires that the excavated hazardous materials can only be stockpiled at the proposed location for up to 90 days. If a recycler has not been identified and the materials shipped to such recycler within the 90-day time frame, then the materials will be disposed at an off-site hazardous waste landfill. Such disposal will not have adverse impacts on the human health or the environment in the vicinity of Newarks.

FMC and Leslie Salt have requested that DHS conduct an initial study of CEQA impacts. It is anticipated that the initial study will recommend that a negative declaration be prepared for this project. Additional information for the CEQA requirements can be provided at that time, if necessary.

7.2.4 Consistency of the Selected Alternative with Applicable Regulations

Section 25356.1(c) of the California Health and Safety Code requires that

> "All remedial action plans prepared or approved pursuant to this section shall be based upon Section 25350, Subpart F of the National Oil and Hazardous Substances Pollution Contingency Plan (40 CFR Sec. 300.61 et seq.), and any amendments thereto, and upon all of the following factors, to the extent that these factors are consistent with these federal regulations and do not require a less stringent of cleanup than these federal regulations.
>
> 1. Health and safety risks posed by the conditions at the site.
>
> 2. The effect of contamination or pollution levels upon present, future, and probable beneficial uses of contaminated, polluted, or threatened resources.
>
> 3. The effect of alternative remedial action measures on the reasonable availability of groundwater resources for present, future, and probable beneficial uses.
>
> 4. Site specific characteristics.
>
> 5. Cost effectiveness of alternative remedial action measures.
>
> 6. The potential environmental impacts of alternative remedial action measures."

All of these factors have been examined in the present RAP. The selected remedial alternative has addressed concerns regarding health and safety risks posed by conditions at the site; the effects of contamination levels on present, future, and probable

beneficial uses of contaminated or threatened resources; and site specific characteristics. In addition, the effect of alternative remedial action measures on the reasonable availability of groundwater resources for present, future, and probable beneficial uses, the cost effectiveness of alternative remedial action measures, and the potential environmental impacts of alternative remedial action measures have all been compared. Consequently, the selected remedial alternative is judged to be consistent with the specified regulations.

7.2.5 Consistency of the Selected Alternative with the Requirements of CERCLA Section 101(24)

The selected remedial alternative (Alternative A-6) involves the off-site transport and recycling or disposal of hazardous material. Therefore, the requirements of CERCLA Section 101(24) must be met, including:

- the proposed remedial action must be more cost effective than other alternatives;
- the proposed remedial action must create new capacity to manage hazardous substances in addition to those at the facility; or
- the proposed remedial action must be necessary to protect public health, the public welfare, or the environment from a present or potential risk.

It is recognized that the total cost of this alternative is uncertain at this time because a final user(s) has (have) not been identified; however, the cost analyses presented indicate that this alternative would be more cost-effective than the five other alternatives that were examined. Under all the specified options considered in this alternative, the hazardous materials would be removed from the site, thus minimizing the liabilities associated with the site and eliminating impacts to the environment. Alternative A-6 also attempts to use innovative recycling technology for

the wastes; this is in contrast to landfill disposal or capping. Recycling and/or re-use of wastes are stated goals in California's Health and Safety Code. If recycling cannot be undertaken, it is because all reasonable possibilities for recycling have been exhausted.

Implementation of this alternative would reduce potential risks to human health or the environment in the vicinity of the Magnesia Waste Pile, because all the hazardous materials would be removed from the site, and the residual materials would meet appropriate standards for the site (TTLC).

7.2.6 Health and Safety Plan for Remedial Action

Scope

This section will:

- identify the known hazards associated with the site
- specify personnel training requirements
- specify personal protective equipment to be worn by field personnel
- describe decontamination procedures to be used, if required, and
- list pertinent emergency information.

Hazard Identification

The primary threats to health associated with the Magnesia Waste Pile are associated with the presence of copper- and mercury-contaminated materials within the pile, and to the high-pH material that makes up the bulk of the pile. Exposure to these materials could occur via the following routes:

- incidental ingestion of pile material;

- dermal exposure to pile material; or
- inhalation exposure to pile material.

The selected alternative requires the moving and possible regrading of existing materials on the pile. These activities would be conducted using earthmoving equipment or other equipment that may produce dusts. The potential hazards associated with the introduction of fugitive dust into the air were evaluated in the Public Health/Environmental Assessment conducted by TERRA (TERRA, 1989). TERRA concluded that the concentrations of chemicals of potential concern in air over the pile during remediation would range from 1.42 to 3,300,000,000 times lower than respective regulatory levels for the workplace. Thus, for persons working near the pile, the levels of chemicals of potential concern would be well within workplace guidelines. Levels of the chemicals of potential concern in air downwind from the pile would be further reduced by settling and dispersion of dusts, resulting in ever-decreasing chemical concentrations in air with increasing distance from the pile.

The site is an open field with excellent natural ventilation. There are no major structures nearby to block natural air circulation. During the first three days of operations that may potentially involve the introduction of dust into the air (excavation, grading), three air monitors shall be installed around the site perimeter and a fourth, mobile monitor shall be placed at the site perimeter directly downwind of the site operation. Eight-hour samples shall be collected by particulate air filter monitors to assess the potential for exposure by workers and local residents to airborne dust. These samples will be analyzed on a daily basis for copper, mercury, and calcium oxide.

Fugitive dust emission will be reduced using dust suppression techniques during remedial activities. Such techniques include the regular application of water during earthmoving activities, as well as the temporary suspension of remedial

activities during times of high winds (in excess of 20 miles per hour). A water truck will be available on the site to suppress dust during all operations that may potentially introduce dust into the air. During remedial operations, all personnel at the site shall remain upwind of operations, if possible.

Heat stress occurrence will be minimized by using a work/-rest regime for work performed during summer months, and fluids would be available.

Removal of material from the site will be conducted using covered trucks, to minimize the potential for dispersion of fugitive dust during transport. To the extent that hazardous materials would be transported, there is some risk of exposure in the course of transport due to spillage or accident; however, truck routes would be selected to avoid residential areas.

The site is surrounded at present with a perimeter fence, to restrict access by children and other trespassers. At the time of commencement of remedial activities, it is anticipated that the Magnesia Waste Pile would be managed as any other heavy construction site: that is, the Contractor shall be required to maintain restricted access for the duration of remedial activities to minimize public access to the site.

Personnel Training Requirements

Because of the possibility of exposure to soil material containing copper or mercury, and to high-pH material, all personnel engaged in site excavating, grading, filling, or compacting activities will be required to have completed 40 hours of Health and Safety Training for Hazardous Waste Site Operations, as set forth in 29 CFR, Part 1910.120. All personnel at the site will be familiar with the Site Safety Plan. One or more supervisory personnel shall be designated as Site Safety Officer(s), and shall

be responsible for ensuring that all Site Safety specifications are observed. This person (these persons) shall be present at the site during the entire course of work.

The Site Safety Officer shall be required to post in a prominent location on the site a map showing the locations of nearby public telephones, and the closest emergency facilities. A copy of the Safety Plan shall be present on the site at all times.

Various other OSHA regulations will apply to the personnel working at the site.

Personal Protective Equipment

All personnel on the site during site excavation, grading, filling, or compacting activities, shall be required to wear:

- Hard hats
- Tyvek-type disposable coveralls
- Steel-toed rubber boots
- Nitrile gloves or an Approved Equivalent
- Neoprene undergloves
- Safety glasses
- Half-face respirators with High-Efficiency Particulate cartridges (HEPA)

This is essentially Level C personal protection.

All personnel on the site during any other site operations not specifically listed above shall be required to wear:

- Hard hats

9.0 NON-BINDING PRELIMINARY ALLOCATION OF FINANCIAL RESPONSIBILITY

The California Department of Health has identified the following potentially responsible parties: FMC, operator when hazardous waste was placed at the facility and a generator of hazardous waste found at this facility; and Leslie Salt, owner of the property where the facility is located. FMC and Leslie Salt have proposed to remediate this site and have allocated the cost between themselves. Accordingly, the purpose for developing non-binding allocations of financial responsibility -- facilitating responsible party efforts to organize for purposes of conducting and financing remedial activities -- has been achieved.

10.0 ONGOING OPERATION AND MAINTENANCE (O&M) REQUIREMENTS

No operation and maintenance requirements are anticipated for any of the options discussed under the selected remedial alternative (Alternative A-6), as presented in Sections 7.1 and 7.2.

11.0 REFERENCES

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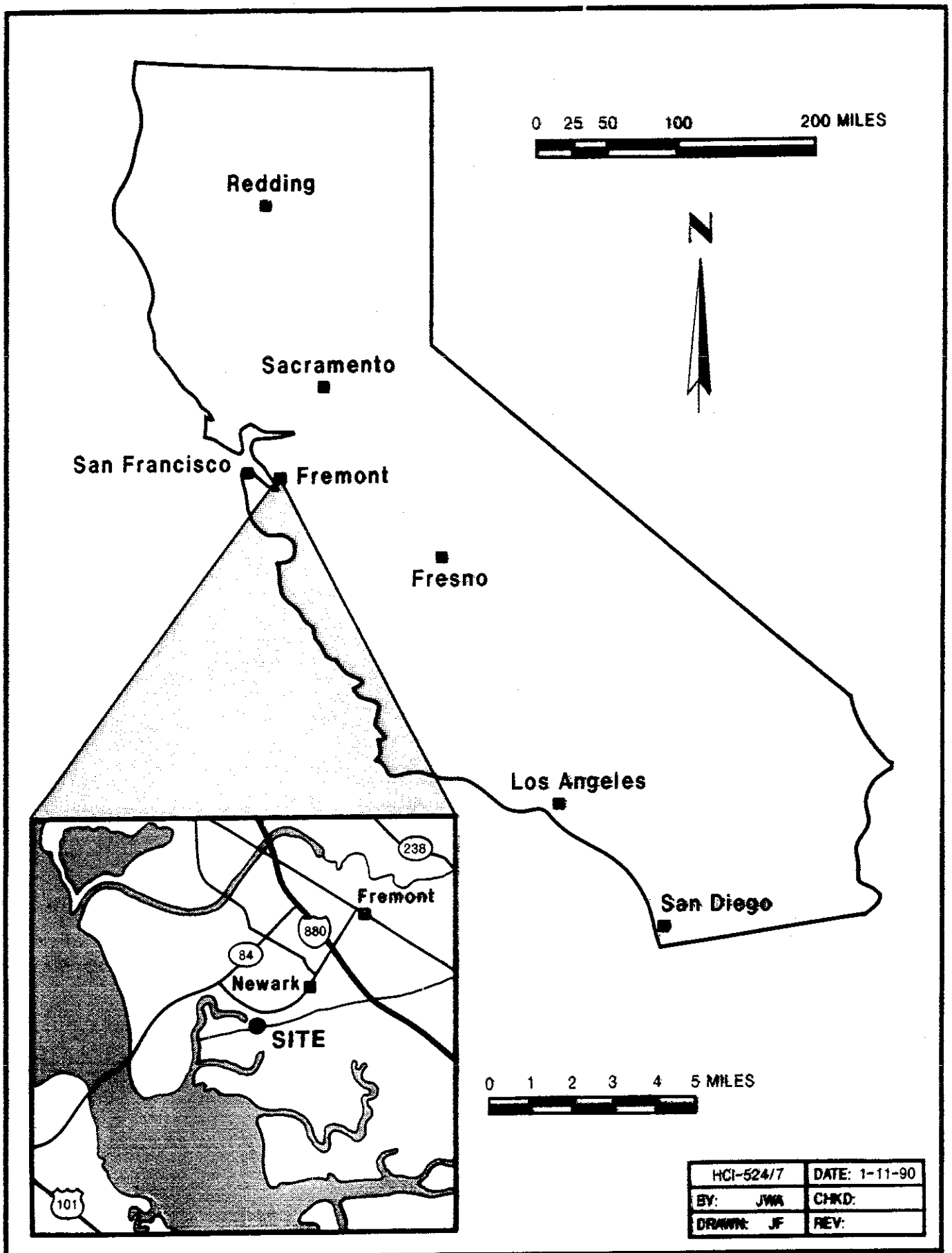
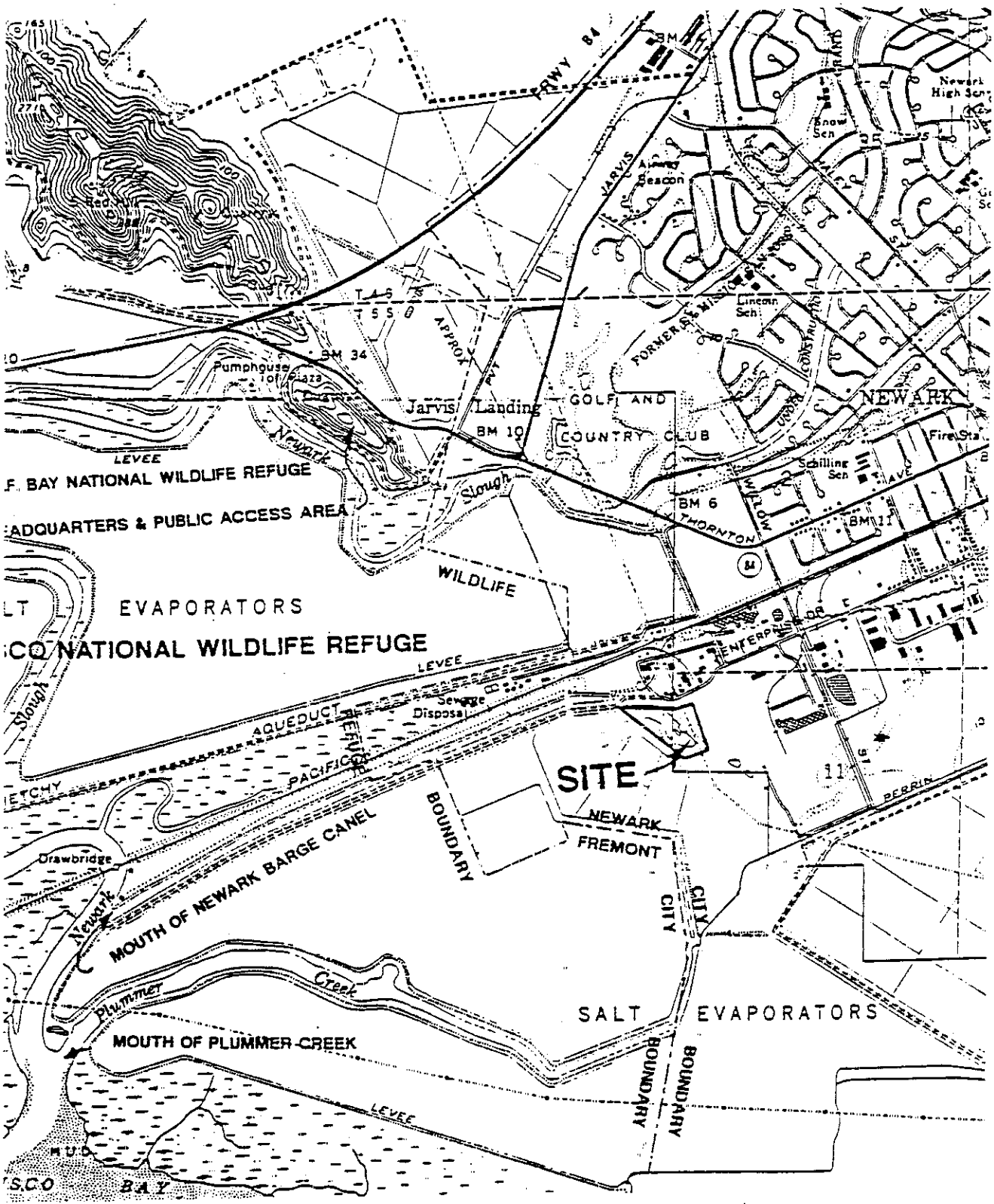


HCI-524/7	DATE: 1-11-90
BY: JWA	CHKD:
DRAWN: JF	REV:

HCI HYDROLOGIC CONSULTANTS, INC.

LOCATION MAP

FIGURE 1



Base from 7.5 minute U.S.G.S. Topographic Map of Newark, California Quadrangle dated 1959, Photorevised 1980.

DATE: 6-12-89
REV: 4-3-90

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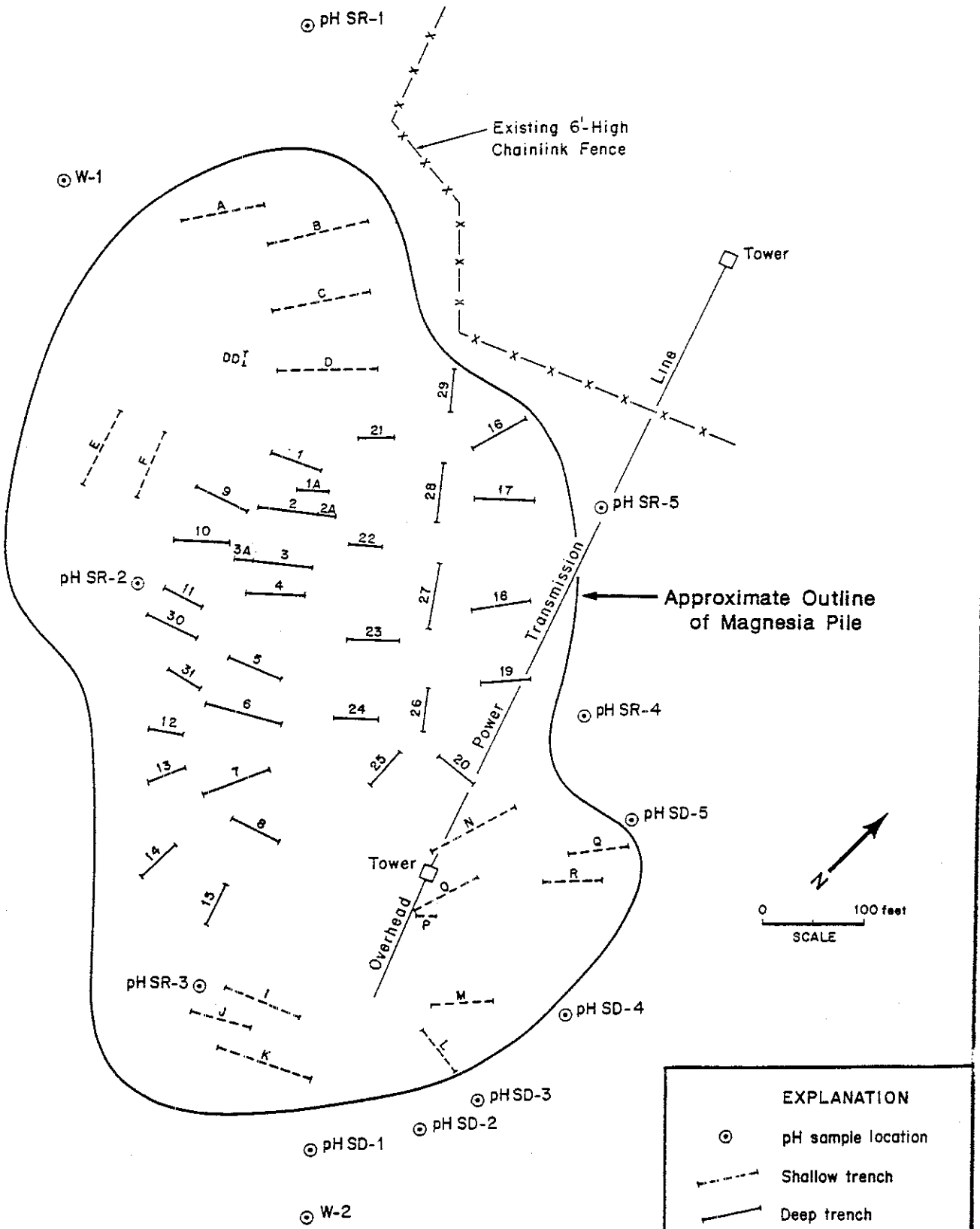
MAGNESIA WASTE PILE SITE LOCATION

FIGURE 2



DATE: 6-12-89

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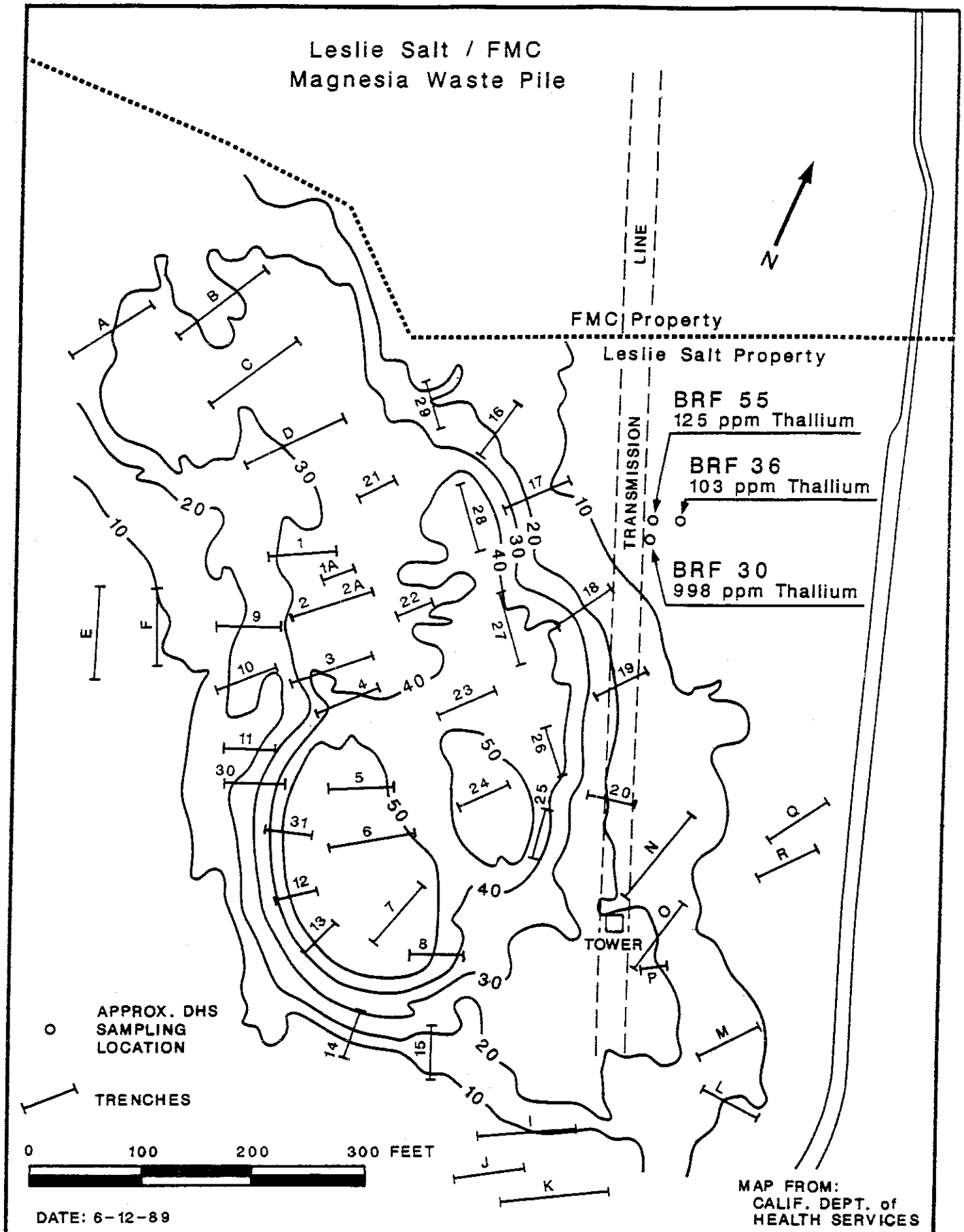
LOCATION OF TRENCHES

FIGURE 3



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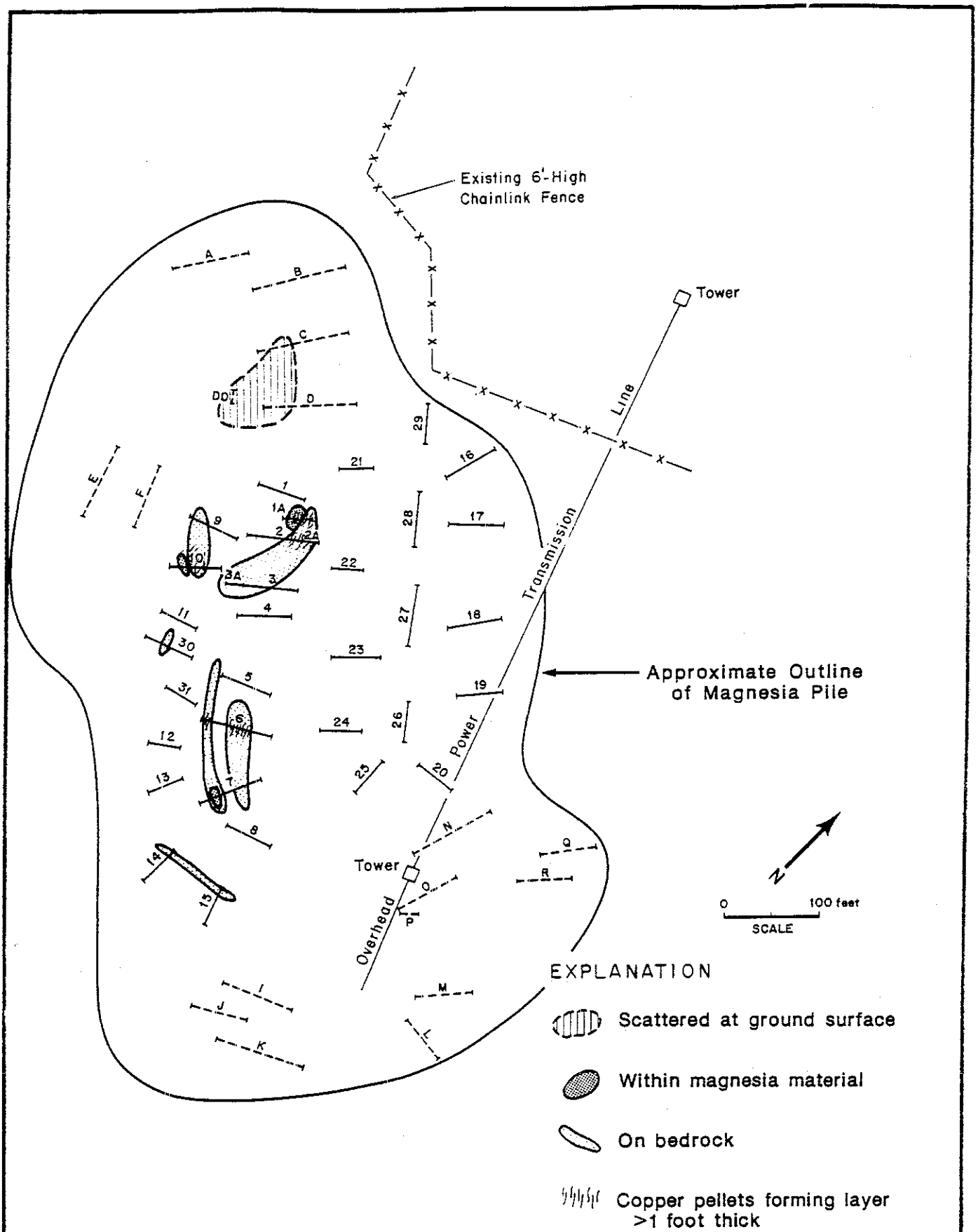
MAP OF DHS SAMPLING LOCATIONS

FIGURE 4

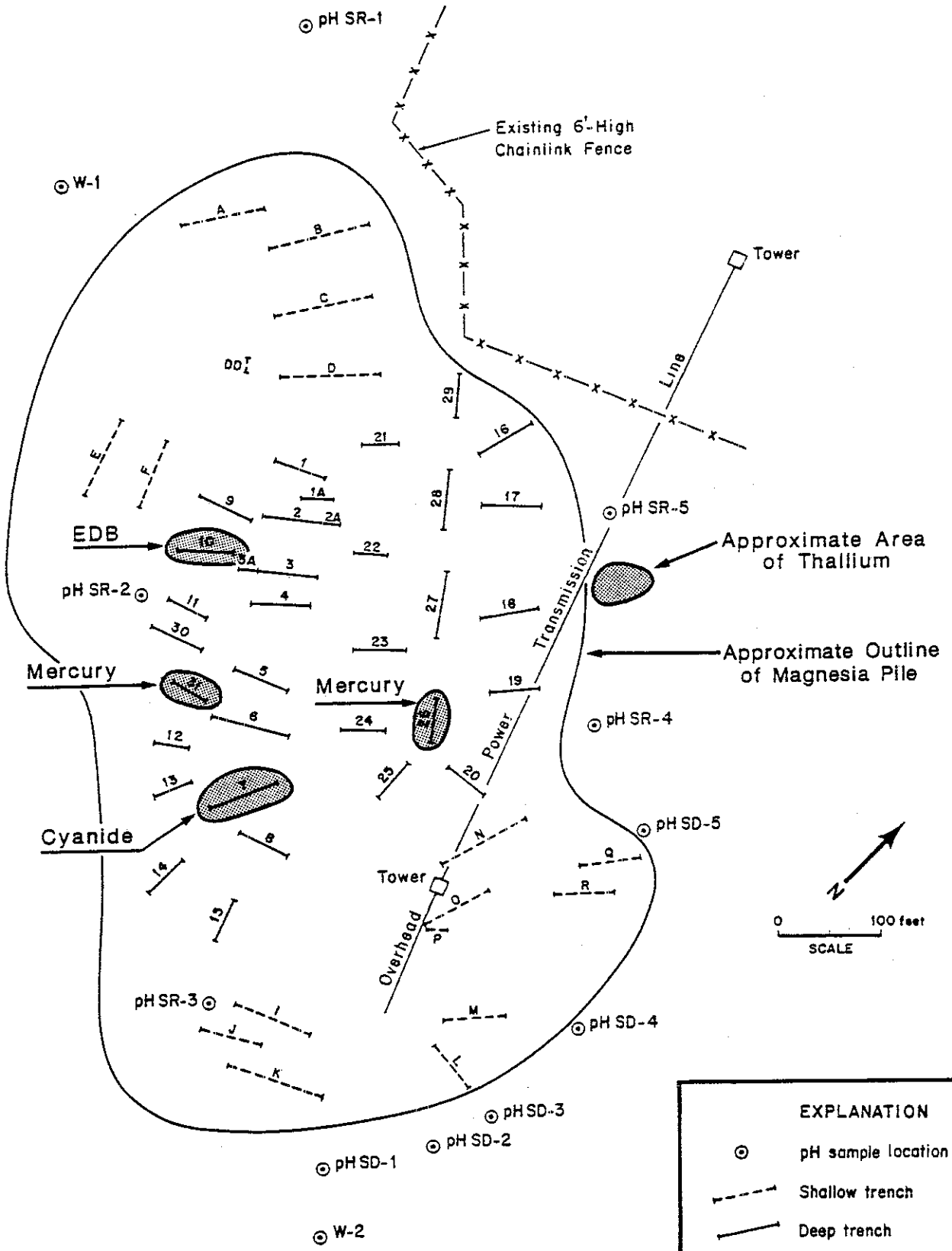


DATE: 6-12-89

HCI HYDROLOGIC CONSULTANTS, INC.

DISTRIBUTION OF COPPER CATALYST PELLETS

FIGURE 5

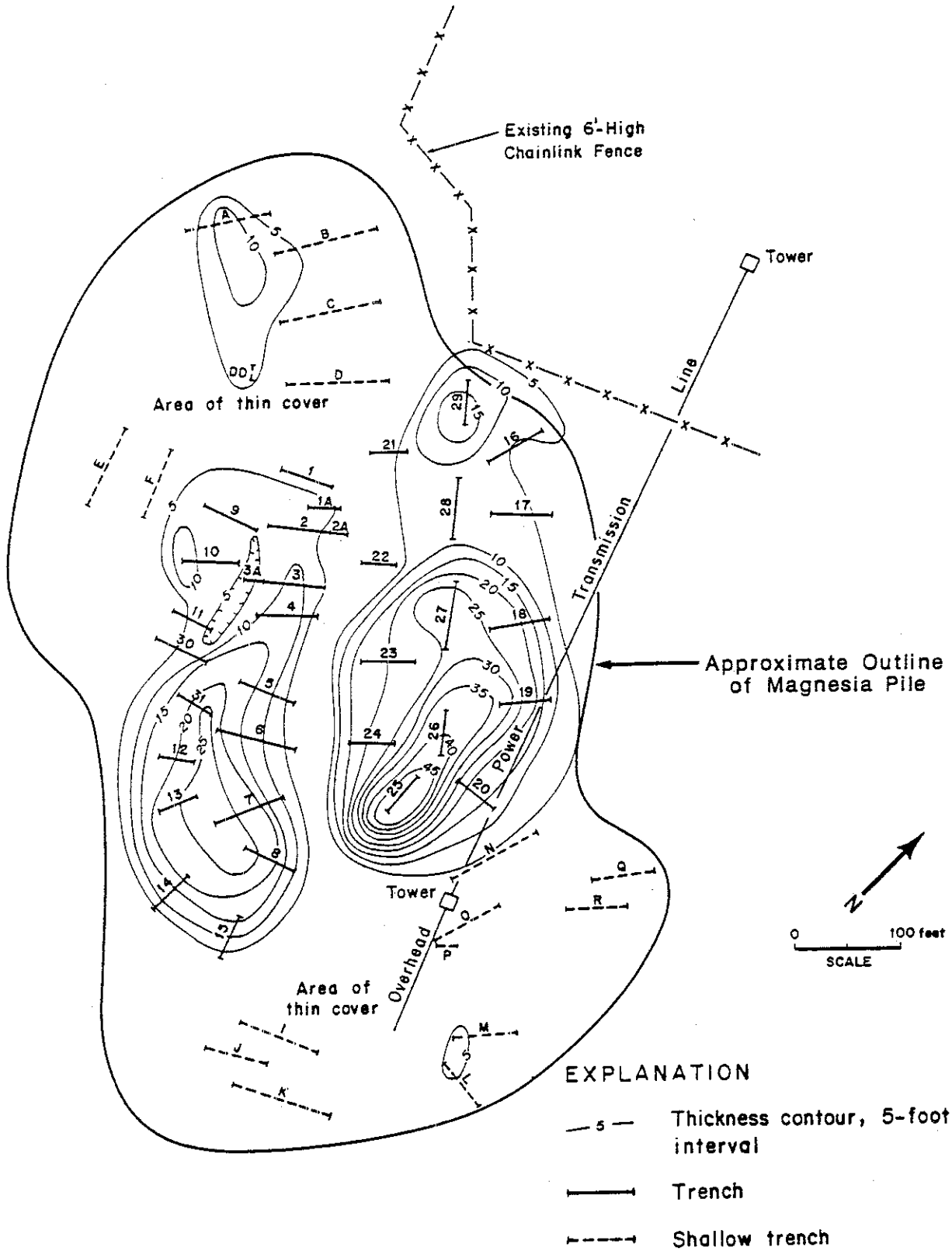


DATE: 6-12-89

HCI HYDROLOGIC CONSULTANTS, INC.

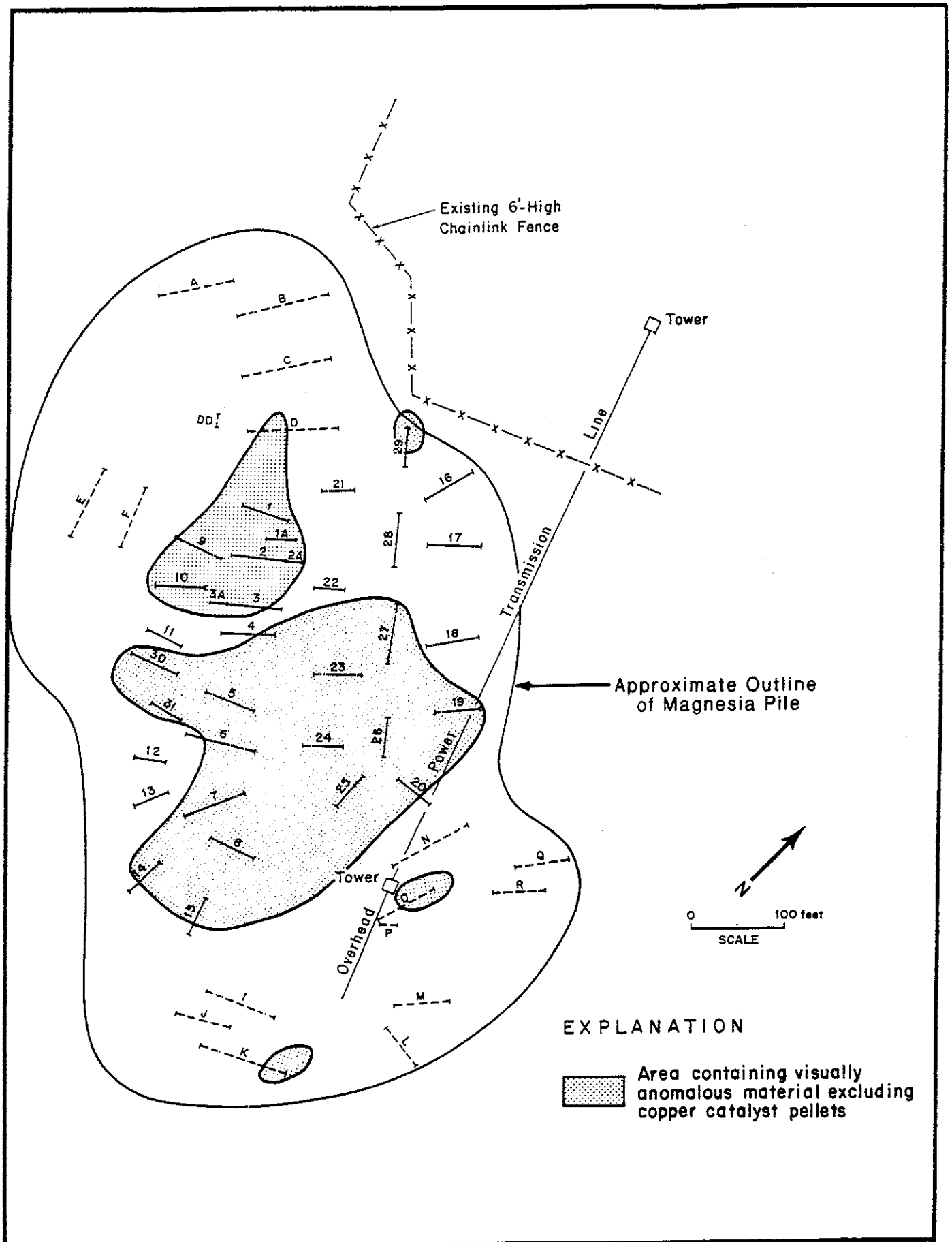
TRENCH LOCATIONS WHERE CYANIDE, MERCURY OR EDB CONCENTRATIONS WERE ABOVE TTLC

FIGURE 6



DATE: 6-12-89

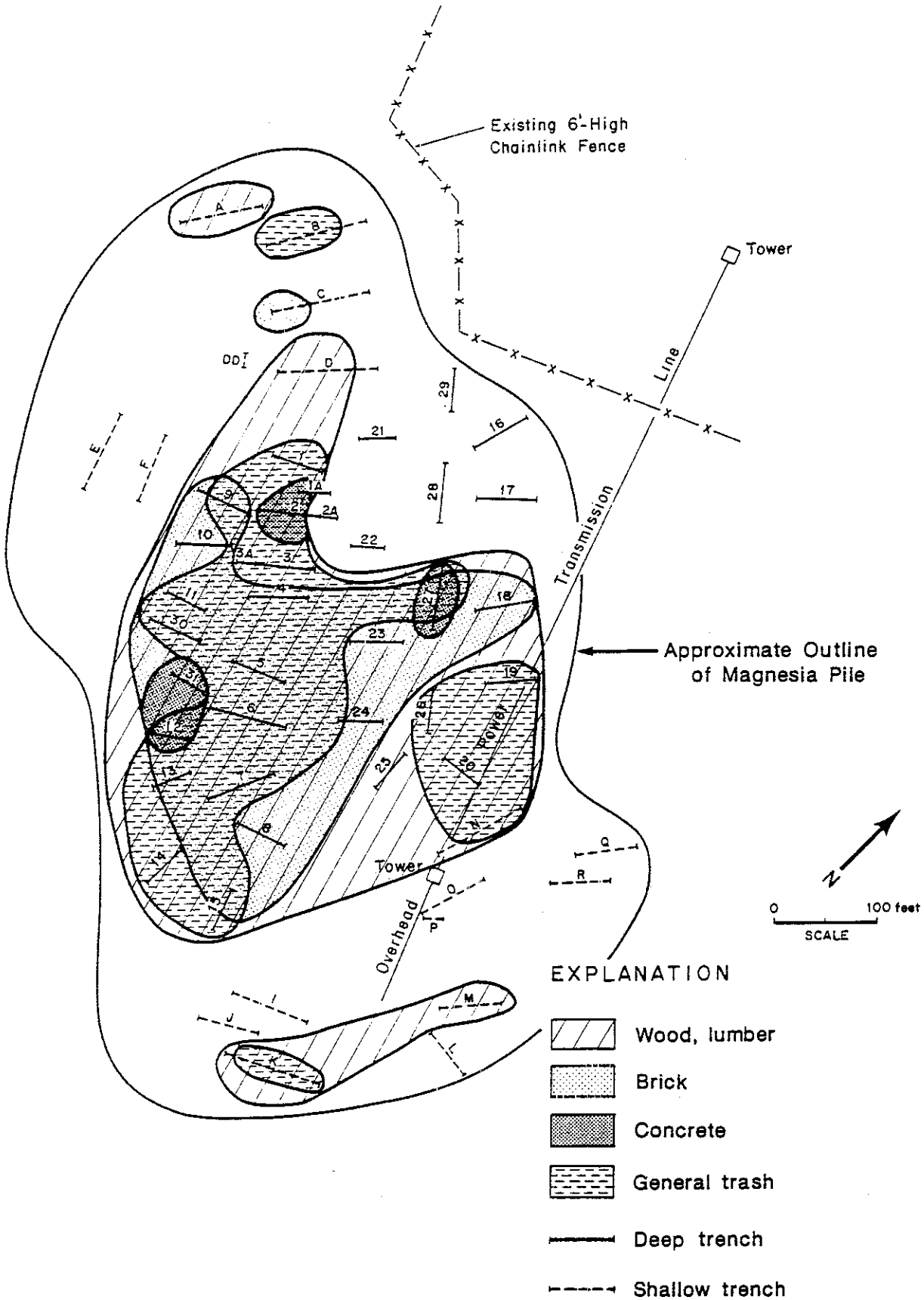
HCI HYDROLOGIC CONSULTANTS, INC.	WASTE PILE THICKNESS	FIGURE 7



HCI HYDROLOGIC CONSULTANTS, INC.

DISTRIBUTION OF VISUALLY ANOMALOUS MATERIAL

FIGURE 8

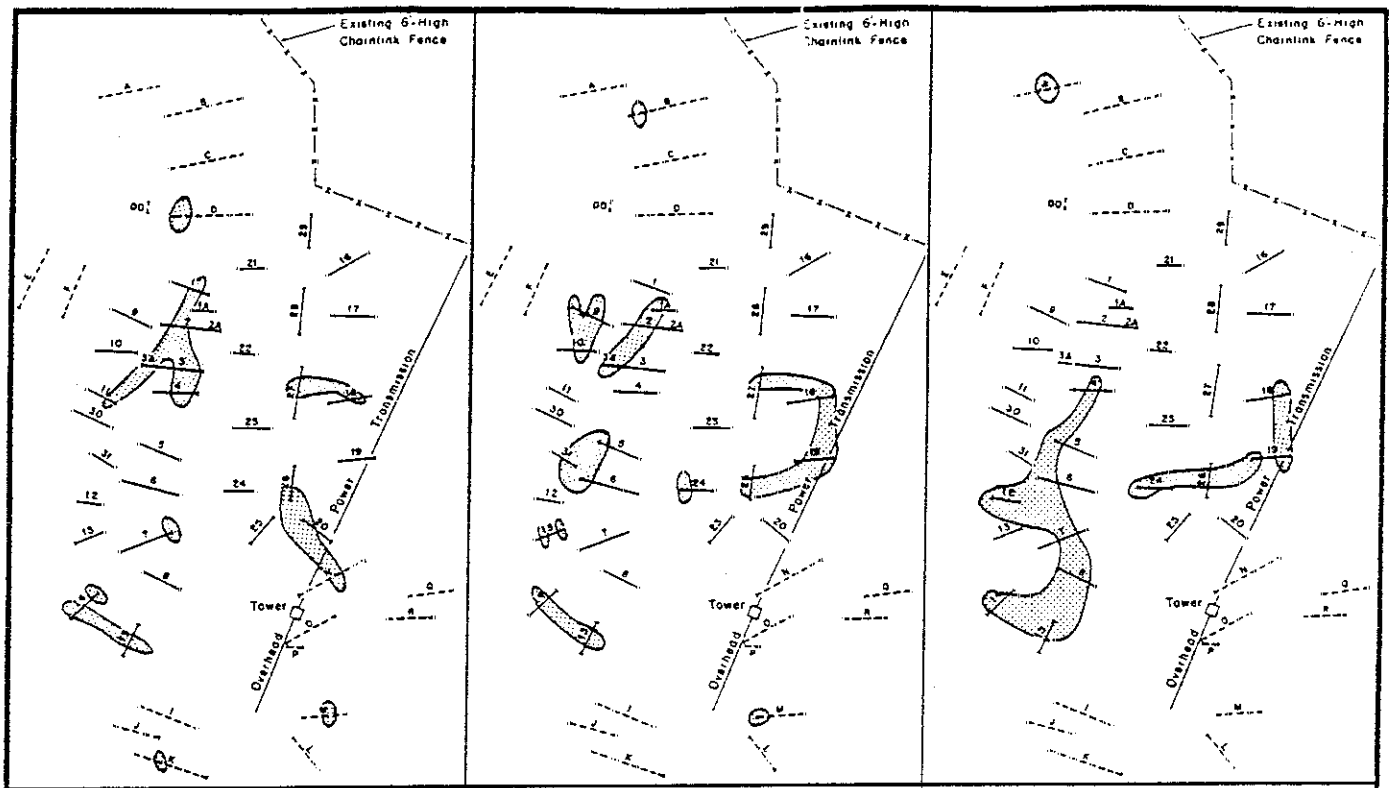


DATE: 6-12-89

HCI HYDROLOGIC CONSULTANTS INC

DISTRIBUTION OF DEBRIS TYPES

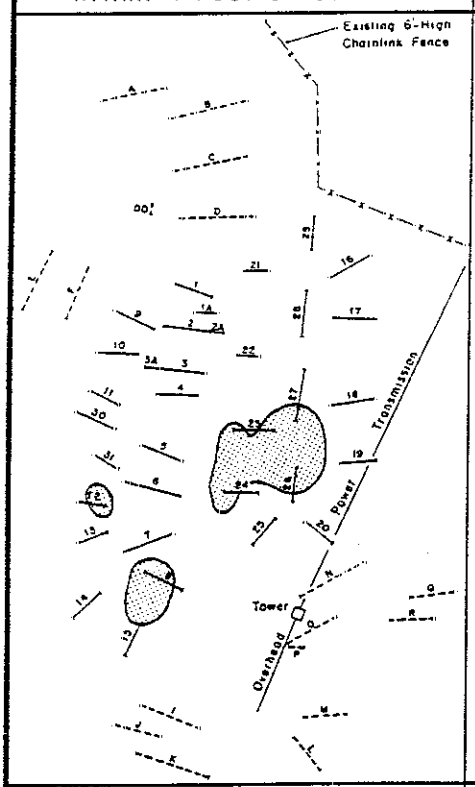
FIGURE 9



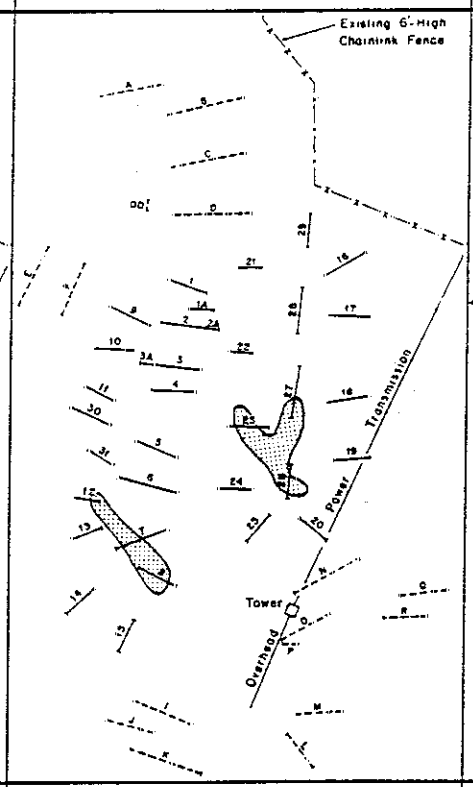
WITHIN 1-FOOT OF SURFACE

5-FOOT DEPTH

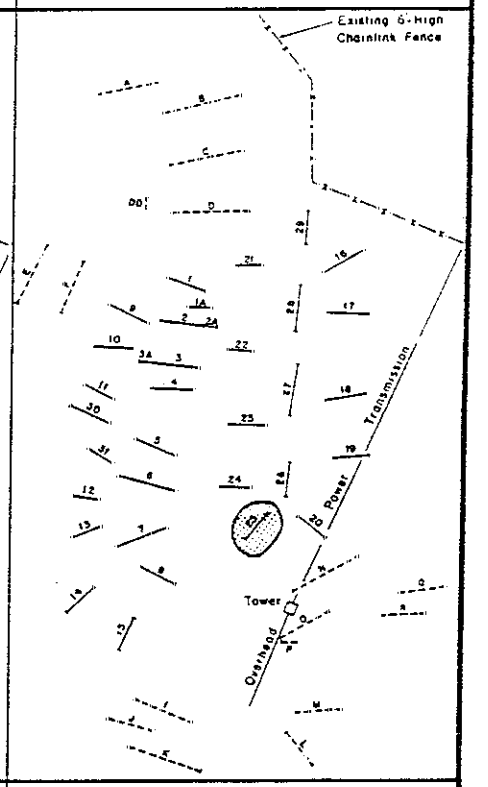
10-FOOT DEPTH



15-FOOT DEPTH



20-FOOT DEPTH



40-FOOT DEPTH

EXPLANATION

All debris

DATE: 6-12-89

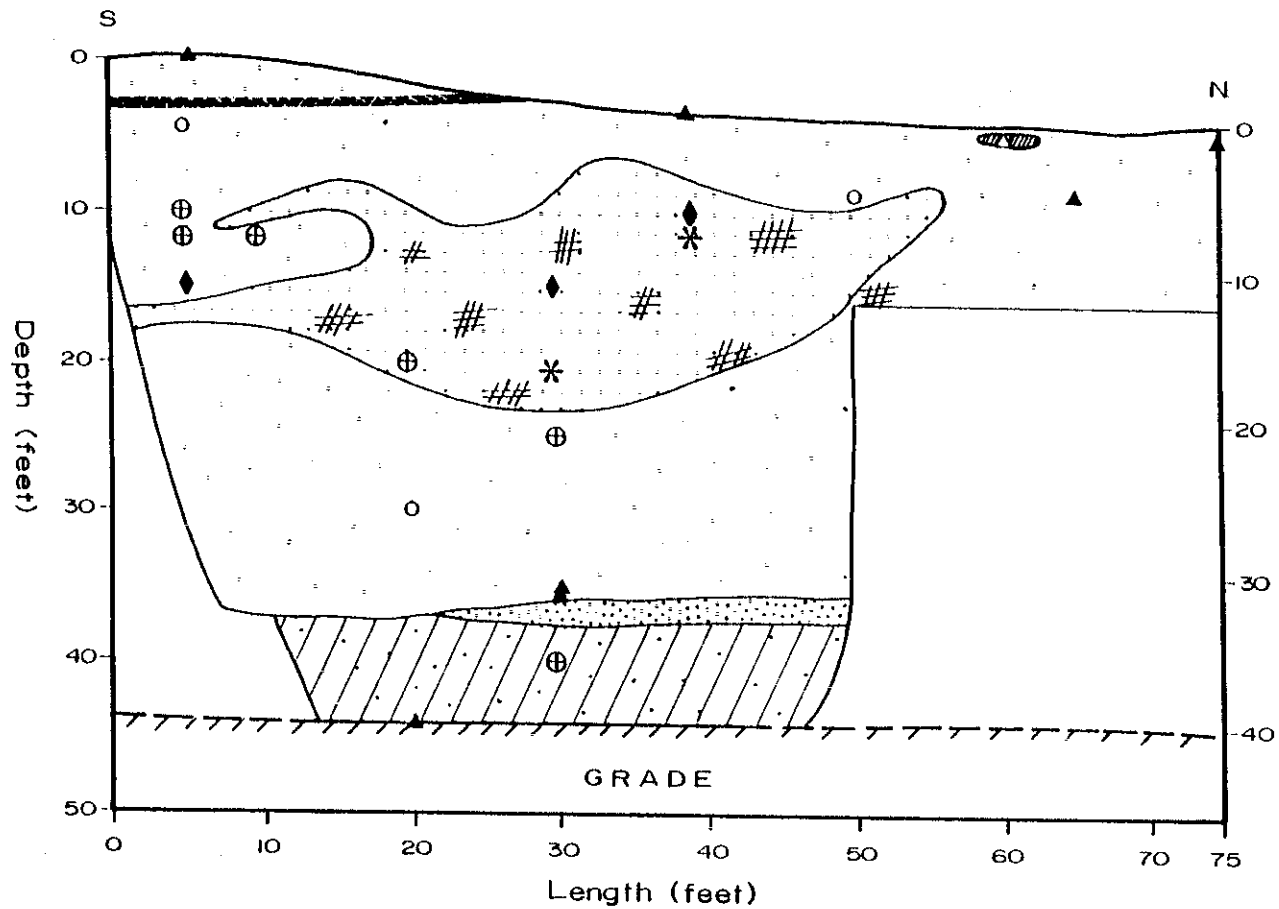
Note:
Depths shown only where debris was present

0 200 feet
SCALE

HCI HYDROLOGIC CONSULTANTS, INC.

DISTRIBUTION OF DEBRIS AT FIVE-FOOT DEPTH INTERVALS

FIGURE 10



EXPLANATION

- Normal sample point
- Sample with pH≥12.5
- Sample with pH≥12.5 and HNu≥5
- Sample with HNu≥5
- Visually different sample point
- Sample with high Hg
- Dry, hard, medium gray material
- Dry, light gray-dark gold material with debris mix
- Moist, yellow gray material
- Dry, very light gray granular material with gold stringers
- Orange colored material
- Dark brown dirt-like material
- Debris

SCALE IN FEET

0 10

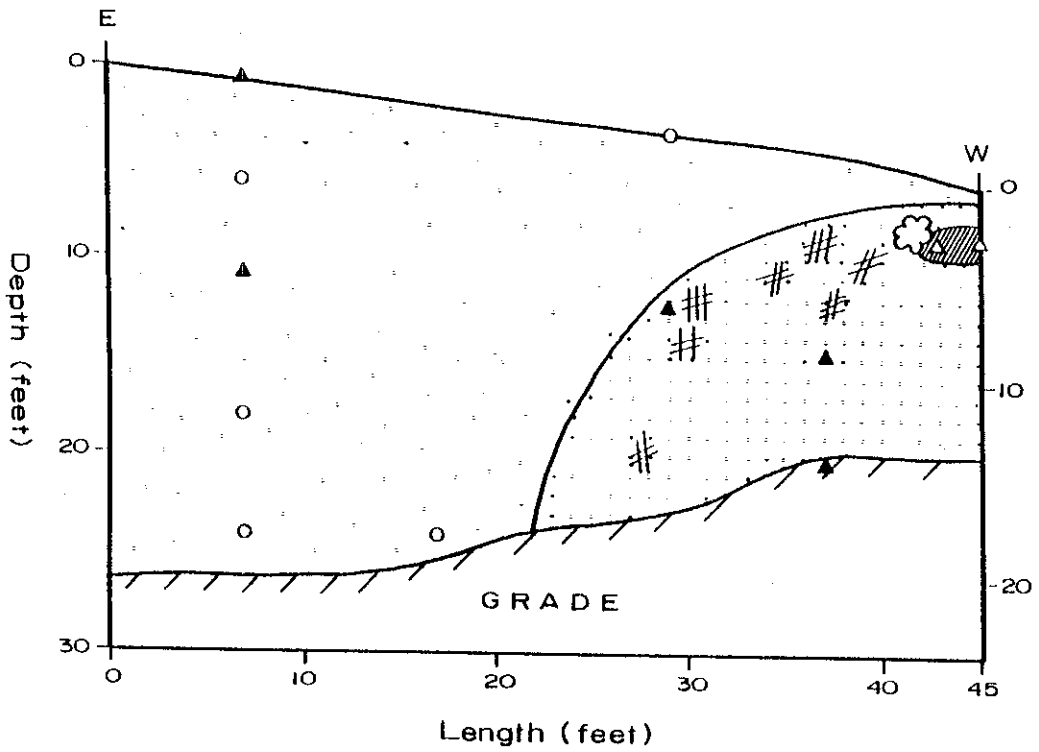
NO VERTICAL EXAGGERATION

DATE: 6-12-89
REV: 4-3-90

HCI HYDROLOGIC CONSULTANTS, INC.

MAGNESIA WASTE PILE
TRENCH 26

FIGURE 11



EXPLANATION

- ▲ Normal sample point
- o Sample with pH ≥ 12.5
- Δ Visually different sample point
- Dry, very light gray, fine granular material
- Dry, gray sandy material with debris
- Gray material in bags
- Light green crystaline material
- Debris : metal, wood, bricks, cement, bags, backfill soil

SCALE IN FEET

0 10

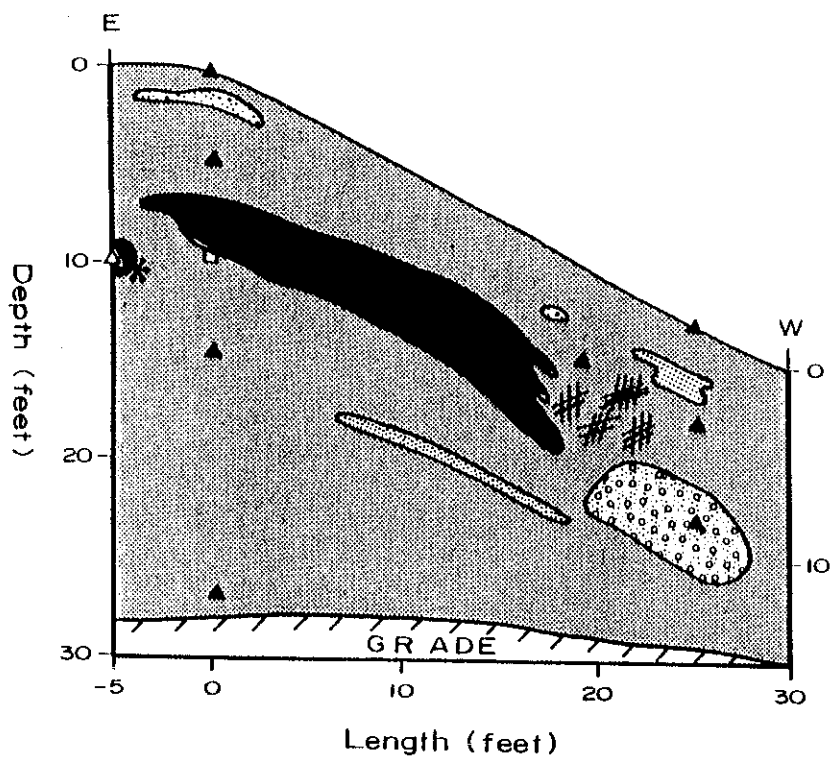
NO VERTICAL EXAGGERATION

DATE: 6-12-89
REV: 4-3-90

HCI HYDROLOGIC CONSULTANTS, INC.

MAGNESIA WASTE PILE
TRENCH 24

FIGURE
12



EXPLANATION

- ▲ Normal sample point
- □ Sample with Cu ≥ 500
- △ Visually different sample point
- ✻ Sample with high Mercury
- Light olive gray granular material
- Brown clayey and tan material mix with shells
- Pale yellow brown clayey material
- Very light tan material
- Yellowish to golden colored material
- Pinkish red material
- Black, tarry material
- Debris: concrete bricks, lumber

SCALE IN FEET

0 10

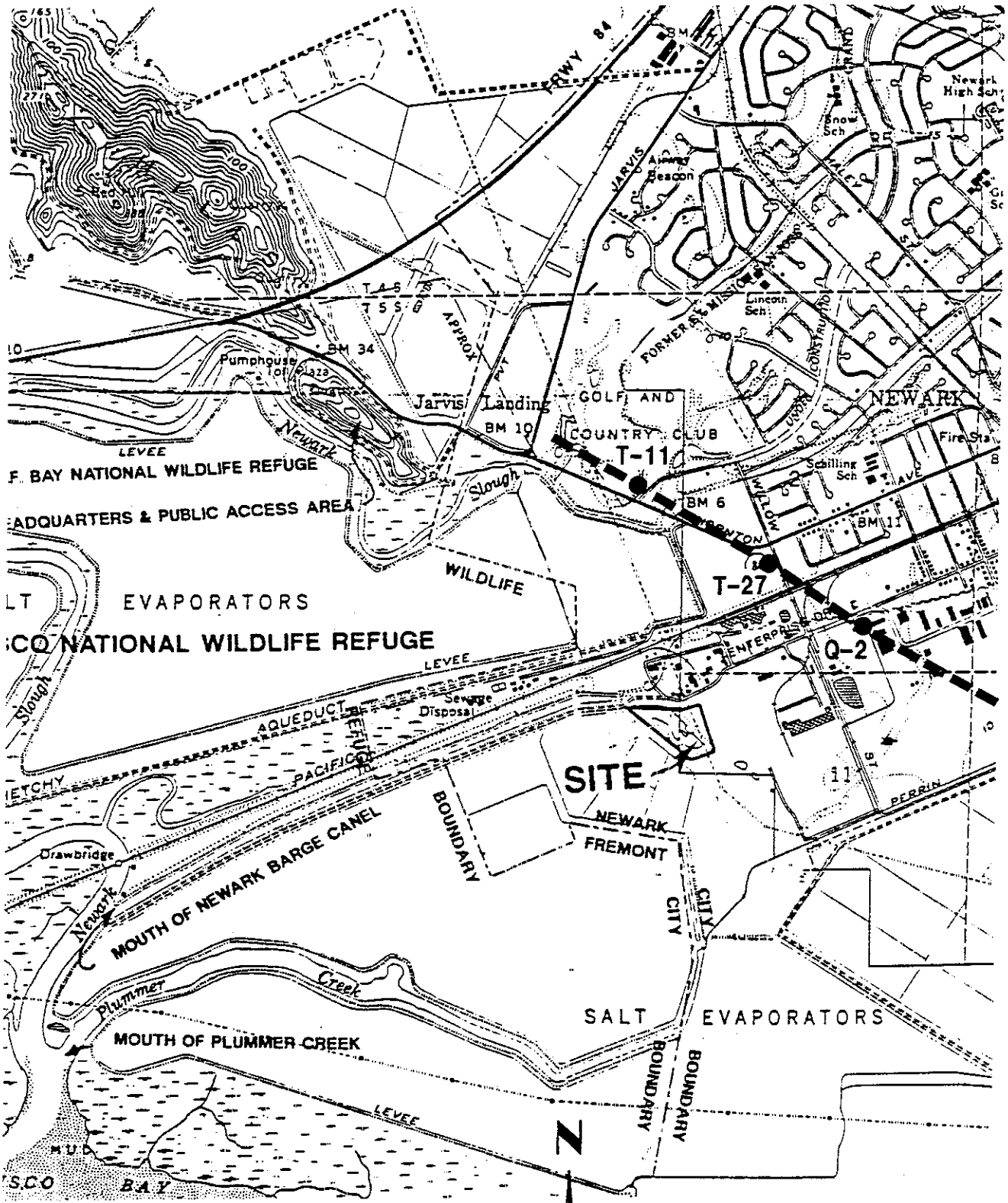
NO VERTICAL EXAGGERATION

DATE: 6-12-89
REV: 4-3-90

HCI HYDROLOGIC CONSULTANTS, INC.

MAGNESIA WASTE PILE
TRENCH 31

FIGURE 13



Base from 7.5 minute U.S.G.S. Topographic Map of Newark, California Quadrangle dated 1959, Photorevised 1980.

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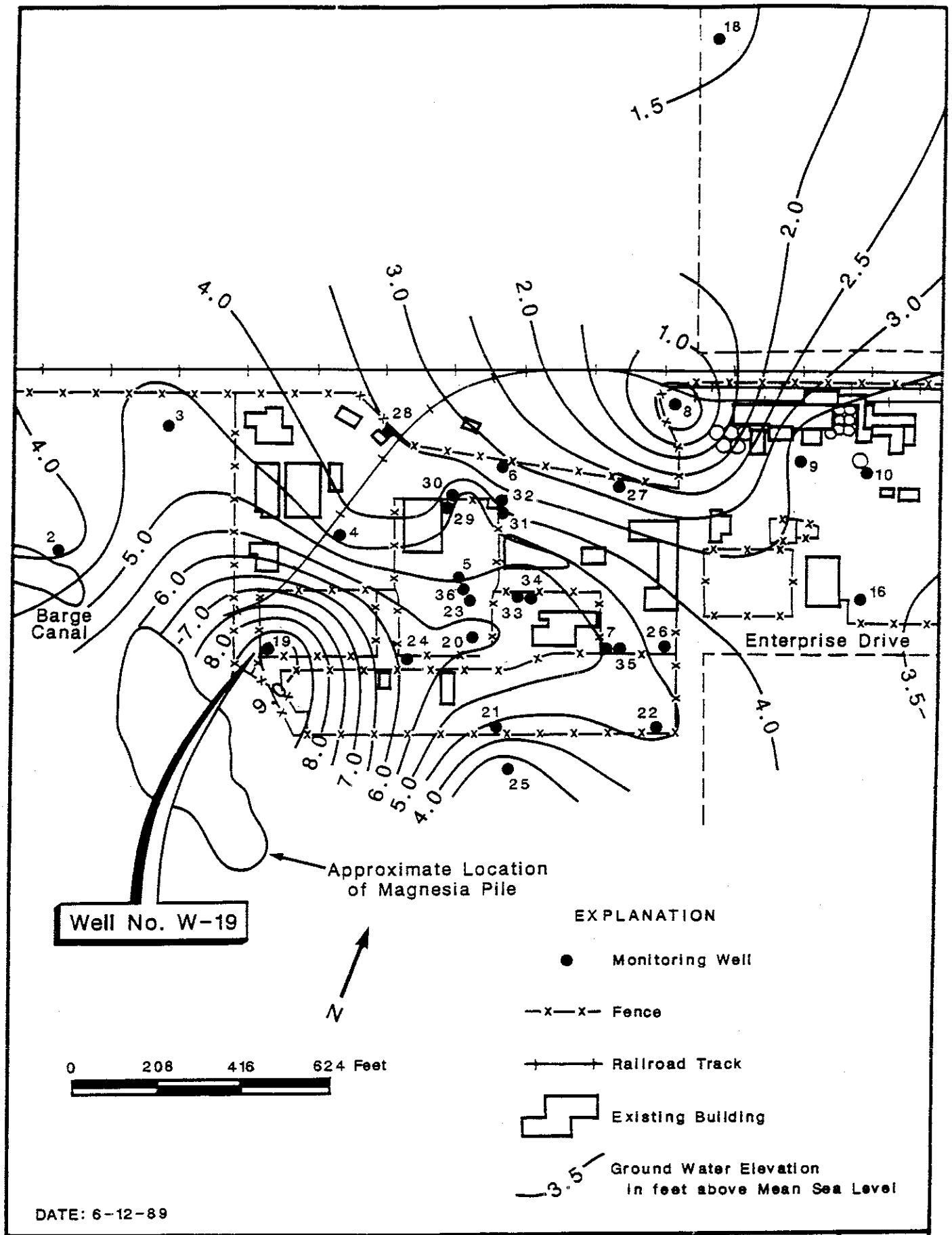
LOCATIONS of SWP EXTRACTION WELLS

FIGURE 14



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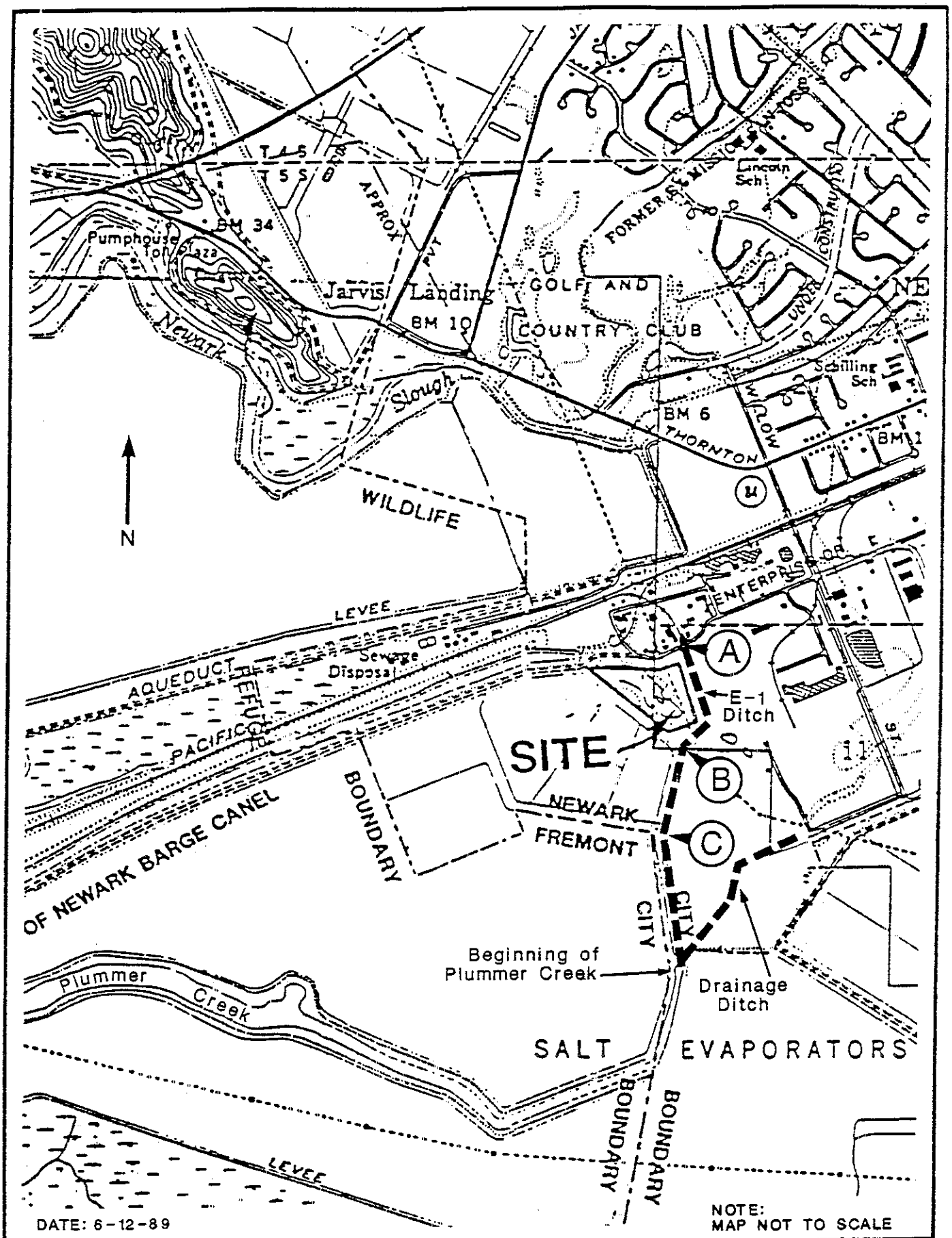
GROUND WATER CONTOURS
SHALLOW ZONE
January 1989

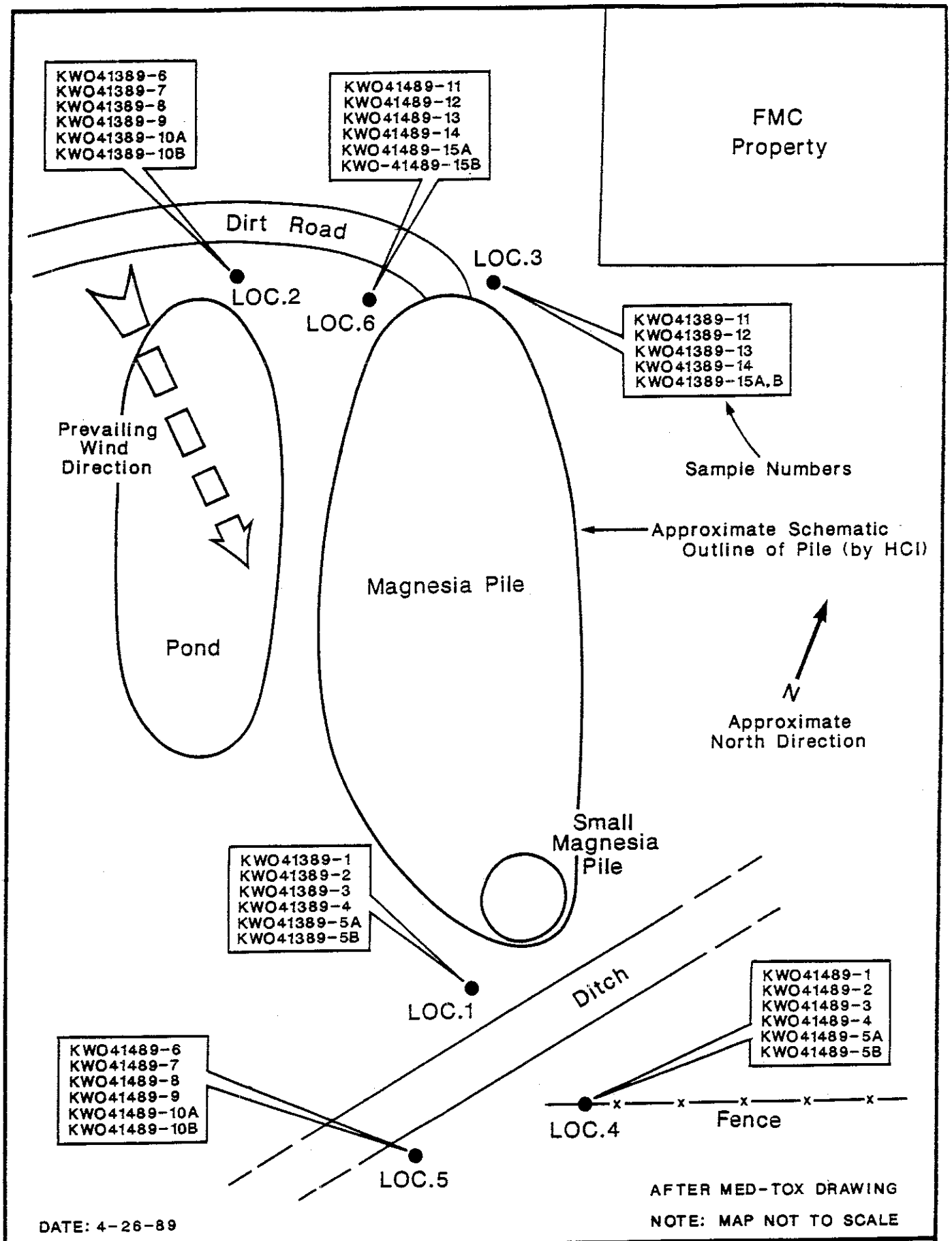
FIGURE 15



HCI HYDROLOGIC CONSULTANTS, INC.

SURFACE WATER SAMPLING LOCATIONS

FIGURE 16



HCI HYDROLOGIC CONSULTANTS, INC.

LOCATIONS OF AIR SAMPLING STATIONS

FIGURE 17

TABLE 2

TECHNICAL DATA FOR COPPER CATALYST PELLETS[1]

Properties	
Free Moisture	2.0% max.
On Ignited Basis	
MgO	62.0% min.
Fe_2O_3	16.0 - 19.0%
CuO	3.5 - 4.5%
K_2O	4.0 - 6.0%
Bulk Density	75 - 87 lbs/cu. ft.

NOTES:

1. Source: Technical Data Sheet For Catalyst 1707 Westvaco Mineral Products Division

   Report Date: Unknown

TABLE 3

CONCENTRATIONS (MG/KG) OF EDB, MERCURY, THALLIUM, COPPER AND CYANIDE DETECTED IN SAMPLES COLLECTED IN THE MAGNESIA WASTE PILE AND THE VICINITY

	CONSTITUENT				
Sample	EDB	Mercury	Thallium	Copper	Cyanide
2A-60SW-OC	---	---	---	6,700	---
2A-66SW-OC	---	---	---	6,900	---
7-40W-20V	<0.0005	0.028	<3	36	11.0
9-25NW-7	---	---	---	1,700	---
10-40NW-SV	0.018	1.3	<3	100	<0.5
10-45NW-S	0.011	2.6	<3	100	<0.5
11-30E-3	---	---	---	4,400	---
14-32S-5	---	---	---	31,000	---
26-30S-20	<0.0005	20.0	<3	63	<0.5
26-39S-10	<0.0005	78.0	<3	44	<0.5
31-(-5)E-10	0.0029	23.0	<3	220	<0.5
DHS Sample (Fig. 3)	---	---	998	---	---

NOTES:

1. (---) indicates that sample was not analyzed for specific compound.

2. < less than detection level

TABLE 4

POPULATION DISTRIBUTION WITHIN TWO MILES OF THE MAGNESIA WASTE PILE

Distance From Magnesia Pile (miles)	Cumulative Estimated Population	Estimated Population 6 Years & Younger	Estimated Population 65 Years & Older
0.5	550	61 - 72	17 - 22
1.0	12,100	1,331 - 1,573	363 - 484
1.5	16,500	1,815 - 2,145	495 - 660
2.0	27,500	3,025 - 3,575	825 - 1,100

NOTES:

1. Adapted from IT Corporation 1985. To account for potential population increase from the 1980 census until 1989, 10% was added to each of the IT estimates.

2. Numbers from TERRA, Inc., 1989.

3. Population estimates for persons 6 years old & younger based on assumption that this group comprises 11 to 13% of total population.

4. Population estimates for persons 65 years old & older based on assumption that this group comprises 3 to 4% of total population.

TABLE 5

LOCATIONS, QUANTITIES AND REGULATORY STANDARDS
FOR MATERIALS WITHIN THE MAGNESIA WASTE PILE

CONSTITUENT	LOCATION	ESTIMATED VOLUME (cy)[2]	CONCENTRATION (mg/kg)[3]	APPLICABLE REGULATORY STANDARD
General magnesia debris	Pile matrix	65,000	--	pH < 12.5 (Title 22)
Debris	Lenses throughout the pile, primarily on top and west side	9,600	--	--
Copper pellets/copper-contaminated magnesia	Lenses on west side of pile	600	1,204 mean 31,000 max	2,500 mg/kg (TTLC)[4]
Mercury-contaminated magnesia	Isolated areas throughout pile	2,500	4.6 mean 78 max	20 mg/kg (TTLC)
Thallium-contaminated soil	Restricted area east of pile	10	6.7 mean 998 max	700 mg/kg (TTLC)
Cyanide	Isolated areas throughout pile	--	3.4 mean 11 max	--
Ethylene Dibromide	Isolated areas throughout pile	--	0.0094 mean 0.018 max	--

NOTES:

1. Estimates based on results of remedial investigation (SSP&A, 1988)
2. Cubic Yards
3. Milligrams Per Kilogram
4. Total Threshold Limit Concentration

TABLE 6

ANALYSES OF DITCH-WATER SAMPLES

STATION	A-1	A-2	B-1	B-2	C-1	C-2
Chemical	Concentrations (mg/l)					
Copper	0.036	0.32	0.015	0.017	0.017	0.017
Mercury	N.D.[1]	N.D.	N.D.	N.D.	N.D.	N.D.
Thallium	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Cyanide	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Chloroform	0.0022	0.0024	0.00055	N.D.	N.D.	N.D.
Ethylene Dibromide	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
pH	8.3	8.2	8.0	8.0	8.0	8.0

NOTES:

1. N.D. indicates that analyte was not detected

TABLE 7

CONCENTRATIONS OF METALS AND COMPOUNDS DETECTED AT MW-2 SAMPLING OF AUGUST 18, 1989

CONSTITUENT	SAMPLE RESULTS (mg/l)	DETECTION LIMIT (mg/l)	REGULATORY STANDARD (mg/l)
Chloride	2,300	0.1	NA
Copper	0.0022	0.001	0.006 (AAL)[1]
Mercury	N.D.[2]	0.5	0.002 (AAL)
Thallium	N.D.	0.01	0.0138 (AAL)
1,2 Dichloroethane	0.0018[4]	0.0005	0.0005 (MCL)[3]

NOTES:

1. AAL is the California Applied Action Level
2. N.D. indicates that analyte was not detected
3. MCL is the U.S. EPA Maximum Contaminant Level
4. Detection is not associated with magnesia pile

TABLE 8

CONCENTRATIONS OF ORGANIC COMPOUNDS DETECTED IN MATRIX SAMPLES

(Page 1 of 2)

	SEMI-VOLATILE ORGANIC COMPOUNDS (CONCENTRATIONS IN µg/kg)[2]										
SAMPLE	ANTHRACENE	BENZO (a) ANTHRACENE	CHRYSENE	DIBUTYLPHTHALATE	1,2 DICHLORO-BENZENE	DIETHYLPHTHALATE	di-n-OCTYLPHTHALATE	FLUORANTHENE	NAPHTHALENE	PHENANTHRENE	PYRENE
10-45NW-S	--	--	--	--	--	--	--	--	--	--	--
13-0E-20	--	120	170	--	--	--	200	270	--	330	60
14-30S-6	--	--	--	--	--	--	--	--	--	--	--
19/26-S	--	--	--	--	--	--	--	--	--	1500	1300
23-3E-10	180	--	--	--	--	--	130	60	--	--	110
26-30S-20	--	--	--	--	--	--	--	--	720	220	120
26-39S-10	--	--	--	70	--	210	90	--	350	170	--
26-39S-10 Duplicate	--	--	--	--	200	--	--	--	280	240	--
30-35E-3	--	--	--	--	--	--	--	--	--	70	--

NOTES:

1. Samples collected from trenches during RI of July and August 1988 (SSP&A, 1988).
2. Concentrations are reported in micrograms per kilogram (µg/kg); 1 µg/kg equals 1 part per billion (ppb).
3. A dash (--) indicates that compound was not detected.

TABLE 8

CONCENTRATIONS OF ORGANIC COMPOUNDS DETECTED IN MATRIX SAMPLES

(Page 2 of 2)

	VOLATILE ORGANIC COMPOUNDS (CONCENTRATIONS IN µG/KG)[2]									
SAMPLE	BENZENE	CHLOROFORM	1,2 DICHLOROBENZENE	1,4 DICHLOROBENZENE	1,2 DICHLOROETHANE	ETHYLBENZENE	TETRACHLOROETHYLENE	TOLUENE	1,1,1 TRICHLOROETHANE	TOTAL XYLENES
10-45NW-S	19	--	--	--	--	7	--	12	--	20
13-OE-20	--	--	--	--	--	--	--	--	6	--
14-30S-6	--	--	--	--	--	--	--	--	--	300
19/26-S	66	12	16	180	--	58	800	330	--	420
23-3E-10	18	--	--	--	--	--	6	--	--	--
23-3E-10 Duplicate	9	--	--	--	--	8	8	6	--	19
26-30S-20	--	--	--	270	--	6	--	6	--	44
26-39S-10	--	--	--	85	--	--	--	--	--	21
26-39S-10 Duplicate	20	--	130	27	--	--	--	--	--	10
26-60S-1	--	--	--	--	--	--	--	11	--	--
30-35E-3	--	--	--	--	30	--	--	10	860	20

TABLE 9

SPECIES OF THE SAN FRANCISCO BAY AREA

COMMON BAYLANDS PLANTS

Cat-tail *(Typha spp.)*

Salt grass *(Distichlis spicata)*

Cordgrass *(Spartina foliosa)*

Tule or bulrush *(Scirpus spp.)*

Alkali bulrush *(S. robustus)*

Curly dock *(Rumex crispus)*

Pickleweed *(Salicornia pacifica)*

Beet or Swiss chard *(Beta vulgaris)*

Australian saltbush *(Atriplex semibaccata)*

Fat hen *(Atriplex patula)*

Russian thistle *(Salsola kali, S. soda)*

Alkali heath *(Frankenia grandifolia)*

Marsh rosemary, Sea statice or Sea Lavender, *(Limonium californicum)*

Salt marsh dodder *(Cuscuta salina)*

Gum plant *(Grindelia humilis)*

Jaumea *(Jaumea carnosa)*

Brass buttons *(Cotula coronopifolia)*

Arrow-grass *(Triglochin spp.)*

COMMON BAYLANDS INVERTEBRATES

California horn snail *(Cerithidea californica)*	N[1]
Oyster drill *(Urosalpinx cinerea)*	I[2]
Mud snail *(Nassarius obsoletus)*	I
Ribbed or Horse mussel *(Ischadium demissum)*	I
Bay mussel *(Mytilus edulis)*	N&I
Olympia oyster *(Ostrea lurida)*	N&I
Atlantic oyster *(Crassostrea virginica)*	I
Pacific oyster *(Crassostrea gigas)*	I
Gem clam *(Gemma gemma)*	I

TABLE 9

SPECIES OF THE SAN FRANCISCO BAY AREA

(Page 2 of 6)

Japanese littleneck clam *(Tapes japonica)*	I
Littleneck clam *(Protothacca staminea)*	N
Soft-shell clam *(Mya arenaria)*	I
Bent-nosed clam *(Macoma nasuta)*	N
Baltic clam *(Macoma balthica)*	N
Clam worm *(Neanthes virens succinea)*	I
Giant clam worm *(Neanthes brandti)*	N
Lugworm *(Arenicola brasiliensis)*	N
Brine shrimp *(Artemia salina)*	N
Burrowing pill bug *(Sphaeroma quoyanum)*	I
Oriental shrimp *(Palaemon macrodactylus)*	I
Bay shrimp *(Crangon franciscorum)*	N
(C. nigricauda)	N
(C. nigromaculata)	N
Blue mud shrimp *(Upogebia pugettensis)*	N
Ghost shrimp *(Callianassa californiensis)*	N
Hermit crab *(Pagurus hirsutiusculus)*	N
Mud crab *(Hemigrapsus oregonensis)*	N
Salt marsh water boatman *(Trichocorixa reticulata)*	N
Salt marsh mosquito *(Aedes squamiger, A. dorsalis)*	N
Salt marsh flies *(Family: Ephydridae)*	N
Brine fly *(Ephydra riparia)*	N
Pigmy blue butterfly *(Brephidium exilis)*	N

COMMON BAYLANDS VERTEBRATES

Bat Ray *(Miliobatus californicus)*

White Sturgeon *(Acipenser transmontanus)*

Green Sturgeon *(A. medirostris)*

Northern anchovy *(Engraulis mordax)*

Pacific herring *(Clupea harengus pallasi)*

TABLE 9

SPECIES OF THE SAN FRANCISCO BAY AREA

King or Chinook salmon *(Oncorhynchus tshawytscha)*

Silver or Coho salmon *(O. kisutch)*

Bay pipefish *(Syngnathus griseolineatus)*

Shiner surfperch *(Cymatogaster aggregata)*

Staghorn sculpin *(Leptocottus aramatus)*

Striped bass *(Morone saxatilis)*

Topsmelt *(Atherinopsis affinis)*

Starry flounder *(Platichthys stellatus)*

Gopher snake *(Pituophis catenifer)*

Fence lizard *(Sceloporus occidentalis)*

Opossum *(Didelphis marsupialis)*

Vagrant shrew *(Sorex vagrans)*

Raccoon *(Procyon lotor)*

Striped skunk *(Mephitis mephitis)*

Gray fox *(Urocyon cinereoargenteus)*

Harbor Seal *(Phoca vitulina)*

Beechey ground squirrel *(Spermophilus beecheyi)*

Western harvest mouse *(Reithrodontomys megalotis)*

Salt marsh harvest mouse *(Reithrodontomys raviventris)*

- Suisan Bay subspecies *(R.r. halicoetes)*
- San Francisco Bay subspecies *(R.r. raviventris)*
- (Red-bellied harvest mouse)

California vole (Meadow mouse) *(Microtus californicus)*

Norway rat *(Rattus norvegicus)*

Black rat *(Rattus rattus)*

House mouse *(Mus musculus)*

Black-tailed hare *(Lepus californicus)*

Brush rabbit *(Sylvilagus bachmani)*

TABLE 9

SPECIES OF THE SAN FRANCISCO BAY AREA

COMMON BAYLANDS BIRDS

(Including uplands marsh-grasslands species.)

Horned Grebe *(Podiceps auritus)*

Eared Grebe *(Podiceps nigricollis)*

Western Grebe *(Aechmophorus occidentalis)*

Pied-billed Grebe *(Podilymbus podiceps)*

White Pelican *(Pelecanus erythrorhynchos)*

Brown Pelican *(Pelecanus occidentalis)*

Double-crested Cormorant *(Phalacrocorax auritus)*

Brandt's Cormorant *(Phalacrocorax penicillatus)*

Great Blue Heron *(Ardea herodias)*

Great Egret or Common Egret *(Casmerodius albus)*

Snowy Egret *(Egretta thula)*

Black-crowned Night Heron *(Nycticorax nycticorax)*

American Bittern *(Botaurus lentiginosus)*

Mallard *(Anas platyrhynchos)*

Pintail *(Anas acuta)*

Green-winged Teal *(Anas crecca)*

Blue-winged Teal *(Anas discors)*

Cinnamon Teal *(Anas cyanoptera)*

Northern Shoveler *(Anas clypeata)*

Canvasback *(Aythya valisineria)*

Lesser Scaup *(Aythya affinis)*

White-winged Scoter *(Melanitta deglandi)*

Surf Scoter *(Melanitta perspicillata)*

Ruddy Duck *(Oxyura jamaicensis)*

White-tailed Kite *(Elanus leucurus)*

Marsh Hawk *(Circus cyaneus)*

Osprey *(Pandion haliaetus)*

Kestrel (Sparrow hawk) *(Falco sparverius)*

TABLE 9

SPECIES OF THE SAN FRANCISCO BAY AREA

(Page 5 of 6)

Clapper Rail *(Rallus longirostris)*

Virginia Rail *(Rallus limicola)*

Sora *(Porzana carolina)*

Black Rail *(Laterallus jamaicensis)*

American Coot or Mud Hen *(Fulica americana)*

Killdeer *(Charadrius vociferus)*

Black-bellied Plover *(Pluvialis squatarola)*

Long-billed Curlew *(Numenius americanus)*

Marbled Godwit *(Limosa fedoa)*

Greater Yellowlegs *(Tringa melanoleuca)*

Willet *(Catoptrophorus semipalmatus)*

Short-billed Dowitcher *(Limnodromus griseus)*

Long-billed Dowitcher *(Limnodromus scolopaceus)*

Western sandpiper *(Calidris mauri)*

Least Sandpiper *(Calidris minutilla)*

Dunlin *(Calidris alpina)*

Avocet *(Recurvirostra americana)*

Black-necked Stilt *(Himantopus mexicanus)*

Northern Phalarope *(Lobipes lobatus)*

Glaucous-winged Gull *(Larus glaucescens)*

Western Gull *(Larus occidentalis)*

Herring Gull *(Larus argentatus)*

California Gull *(Larus californicus)*

Ring-billed Gull *(Larus delawarensis)*

Bonaparte's Gull *(Larus philadelphia)*

Heermann's Gull *(Larus heermanni)*

Forster's Tern *(Sterna forsteri)*

Least Tern *(Sterna albifrons)*

Caspian Tern *(Sterna caspia)*

Burrowing Owl *(Athene cunicularia)*

TABLE 9

SPECIES OF THE SAN FRANCISCO BAY AREA

Short-eared Owl *(Asio flammeus)*

Barn Swallow *(Hirundo rustica)*

Cliff Swallow *(Petrochelidon pyrrhonota)*

Long-billed Marsh Wren *(Cistothorus palustris)*

Starling *(Sturnus vulgaris)*

Common Yellowthroat *(Geothlypis trichas)*

House Sparrow *(Passer domesticus)*

Western Meadowlark *(Sturnella neglecta)*

Red-winged Blackbird *(Agelaius pheoniceus)*

Brewer's Blackbird *(Euphagus cyanocephalus)*

Salt Marsh Song Sparrow *(Melospiza melodia)*

- San Francisco Bay race *(M.m. pusillula)*
- San Pablo Bay race *(M.m. samuelis)*
- Suisun Bay race *(M.m. maxillaris)*

NOTES:

1. N = Native Species
   I = Introduced Species

TABLE 10

RISK ASSESSMENT RESULTS FOR A CHILD

Chemical	Concentration (mg/kg)	Total[1] Intake (mg/kg/day)	Mean[2] Total Intake/RfD	Lifetime Risk For EDB
Mean Concentration				
Copper	1,204	2.65×10^{-4}	6.79×10^{-3}	
Cyanide	3.4	1.70×10^{-6}	8.48×10^{-3}	
EDB	0.0094	4.69×10^{-9}	---[3]	5.4×10^{-8}
Mercury	4.6	1.67×10^{-6}	5.56×10^{-3}	
Thallium	6.7	2.43×10^{-6}	3.47×10^{-2}	
	Summary		4.72×10^{-2}	
Maximum Concentration				
Copper	31,000	6.82×10^{-3}	1.75×10^{-1}	
Cyanide	11	5.48×10^{-6}	2.74×10^{-4}	
EDB	0.018	8.97×10^{-9}	---[3]	1.0×10^{-7}
Mercury	78	2.83×10^{-5}	9.43×10^{-2}	
Thallium	9	3.27×10^{-6}	4.66×10^{-2}	
	Summary		3.16×10^{1}	

NOTES:

1. Average daily intake
2. Based on average daily intake
3. EDB has no EPA - derived RfD

Source: TERRA, Inc., June 1989.

TABLE 11

RISK ASSESSMENT RESULTS FOR AN ADULT WORKER

Chemical	Concentration (mg/kg)	Total[1] Intake (mg/kg/day)	Mean[2] Total Intake/RfD	Lifetime Risk For EDB
Mean Concentration				
Copper	1,204	3.63×10^{-4}	9.82×10^{-3}	
Cyanide	3.4	3.83×10^{-4}	1.91×10^{-4}	
EDB	0.0094	1.06×10^{-8}	---(3)	6.4×10^{-8}
Mercury	4.6	2.36×10^{-6}	7.85×10^{-3}	
Thallium	6.7	3.43×10^{-6}	4.90×10^{-2}	
	Summary		6.69×10^{-2}	
Maximum Concentration				
Copper	31,000	9.35×10^{-6}	2.53×10^{-1}	
Cyanide	11	1.24×10^{-5}	6.19×10^{-4}	
EDB	0.018	2.03×10^{-8}	---(3)	1.2×10^{-7}
Mercury	78	3.99×10^{-5}	1.33×10^{-1}	
Thallium	9	4.61×10^{-6}	6.58×10^{-2}	
	Summary		4.52×10^{-1}	

NOTES:

1. Average daily intake
2. Based on average daily intake
3. EDB has no EPA - derived RfD

Source: TERRA, Inc., June 1989.

TABLE 12

CONCENTRATIONS OF COPPER IN DRINKING WATER SUPPLIES[1]

Location	Date Sampled	Copper Concentration (mg/l)[2]
San Andreas Reservoir	September 7, 1988	0.015
Pilarcitos Reservoir	September 7, 1988	0.002
Lake Merced Reservoir	September 7, 1988	0.004
Sunol Filters Galleries	September 6, 1988	0.002
Pleasanton Well Field	September 6, 1988	0.002
Alameda East (Treated)	September 6, 1988	0.002

NOTES:

1. Source: San Francisco Water Department
   Water Quality Division
   Mineral Analysis

   Report Date: Unknown

2. Concentrations reported in milligrams per liter (mg/l) equivalent to parts per million (ppm)

TABLE 13

SUMMARY OF REMEDIAL ALTERNATIVES

(Page 1 of 2)

Alternative	Title	Cost	Advantages	Disadvantages
A-1	No Action	$1,132,000	1. Easy to implement 2. Low maintenance	1. Requires long-term monitoring 2. Does not remove risks 3. Potential future liability 4. Lessens value of property 5. Negates other future uses of property 6. Not cost-effective
A-2	Capping	$8,500,000	1. Easy to implement 2. Low maintenance 3. Simple technology	1. Does not remove or treat contaminants from site 2. Limits future uses of property 3. Requires maintenance 4. May require monitoring 5. Expensive 6. Potential future liability
A-3	Excavation and Off-site Landfill Disposal	$3,000,000	1. Proven technology 2. Easy to emplement 3. Removes hazardous materials from site	1. Forgoes use of other technologies 2. Does not follow regulatory guidelines which prefer treatment or recycling in lieu of off-site disposal 3. Does not treat future liabilities of FMC or Leslie Salt 4. Not cost-effective
A-4	Excavation and On-Site Treatment Using Soil Fixation with Off-Site Disposal	$1,340,000	1. Innovative technology 2. Reduces mobility 3. Removes wastes from site	1. Because it is innovative, its applicability to site is uncertain 2. Would require bench and pilot scale testing 3. Does not treat wastes 4. Location of municipal landfill to accept waste is unknown at this time 5. Not cost effective
A-5	Excavation, and On-Site Treatment Using Soil Washing	$1,500,000	1. Permanently removes contaminants from site 2. Innovative technology	1. Because it is innovative, its applicability to site is uncertain 2. Would require bench and pilot scale testing 3. Not cost-effective
A-6	Excavation with Removal of Hazardous Materials from Site with Recycling			

TABLE 13

SUMMARY OF REMEDIAL ALTERNATIVES

(Page 2 of 2)

Alternative	Title	Cost	Advantages	Disadvantages
A-6 Options:				
A-6A	Off-site Recycling of Hazardous Materials and General Magnesia with Disposal of Debris	$ 680,000	1. Removes wastes from site 2. Cost effective 3. Can be implemented	1. Recycling of general matrix material may not be possible within the timeframe of the RAO 2. Recyclers an re-users not identified at this time
A-6B	On-Site Use of Magnesia	$1,570,000	1. Removes hazardous materials from site 2. Eliminates need to move general mag- 3. Proven Technology 4. Can be implemented	1. Land availability for implementation is not known 2. May restrict future uses of land
A-6C	Residuals Left in Place	$ 360,000	1. Removes hazardous materials from site 2. Easy to implement 3. Proven technology 4. Cost effective	1. Does not address additional debris and matrix material 2. Future handling costs could be significantly higher
A-6D	Debris Removal and Disposal, and Stock-piling On-site of All Magnesia Material	$1,660,000	1. Removes hazardous materials from site 2. Easy to implement 3. Proven technology 4. Cost effective 5. Can be implemented	1. Requires an handling of magnesia material 2. Maintenance of stockpiled magnesia materials required

INTERNATIONAL TECHNOLOGY CORPORATION

October 1991

Final Remediation Report
Magnesia Waste Pile
Newark, California

Prepared for:
Leslie Salt Company/FMC Corporation

Prepared by:
IT Corporation
4575 Pacheco Boulevard
Martinez, California

PART 1 OF 2

CARGILL
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November 12, 1991

Mr. Howard Hatayama, Chief
ATTN: Project Officer, Leslie Salt/FMC Magnesia Waste Pile Site
Region 2
Department of Toxic Substances Control
700 Heinz Avenue
Suite 200
Berkeley, CA 94710

Dear Mr. Hatayama:

Please find attached **"Final Remediation Report, Magnesia Pile, Newark, California"** for the Leslie Salt/FMC Magnesia Waste Pile Site. This report details the actions completed in accordance with RAP and remedial design approval by the Toxic Substances Control Department and working under Remedial Order, Docket #HSA 88/89-004.

We have received the Department of Toxic Substances Control's Certification of Completion that the Leslie Salt/FMC Magnesia Waste Pile Site has been adequately remediated. We have made the editing corrections suggested in your letter of October 28, 1991.

This completes RAP process and certification by the Department of Toxic Substances Control of the Leslie Salt/FMC Magnesia Waste Pile Site.

Sincerely,

Barbara N. Ransom, Leslie Salt Co.
Environmental Affairs Manager

Peter Zeh, FMC Corporation
Technical Services Manager

BNR/tb

cc: Mr. Steve Ritchie, CRWQCB
Mr. Rafat Shahid, Alameda Co. of Env. Health
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Mr. Peter Zeh, FMC Corp.

C:\WS2000\BNR\1112 DHS

FINAL REMEDIATION REPORT
MAGNESIA WASTE PILE
NEWARK, CALIFORNIA

Prepared for:
Leslie Salt Company/FMC Corporation
Newark, California

Prepared by:
IT Corporation
4575 Pacheco Boulevard
Martinez, California

October 1991

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D ELG SURVEYING, Volume Estimates

E Waste Manifests and Weight Tickets

F DHS Letter Regarding Mercury-Contaminated Magnesia Material Excavation and Sampling Protocol

1.0 INTRODUCTION

This submittal presents the final remediation report for the Leslie Salt/FMC Magnesia Waste Pile site. Section 1.0 provides a historical overview of the project including the previous Remedial Investigation (RI), Feasibility Study (FS), Risk Assessment, Remedial Action Plan (RAP), Interim Remedial Measure (IRM) and the Remedial Design (RD). The project site setting is also described in this section. Section 2.0 presents a description of the site remedial activities. Section 3.0 provides a description of the transportation and disposal of waste materials. Certification of the site remediation is provided in Section 4.0. The appendices provide supporting documentation for the site remediation and transportation activities. The site remediation was performed under the oversight of Ms. Valerie E. Crooks, P.E., a registered Civil Engineer in the State of California (No. 41974).

1.1 HISTORICAL OVERVIEW OF PROJECT

The magnesia waste pile located in Newark, California is a former magnesia waste disposal site and is currently owned by Leslie Salt Company. First leased to Westvaco Chemicals in 1929, FMC Corporation negotiated a lease with Leslie Salt Company in 1948 following its acquisition of Westvaco Chemicals, and retained the lease until 1969. Disposal at the magnesia waste pile essentially ended in 1969.

Several investigations of the magnesia waste pile materials have been performed. The dates and types of evaluations performed are as follows:

1969	Disposal at the magnesia waste pile terminated
1979	Magnesia waste pile property listed in the 1977 Waste Disposal Site Survey (Eckhardt Report).
1981	Analysis of the magnesia waste pile by the Department of Health Services (DHS) detected high pH levels and copper concentrations.
1983	Preliminary chemical and hydrogeological characterization prepared by Emcon Associates.
1985	Excavation of approximately 450 cubic yards of copper contaminated soil by Emcon Associates.
1987-88	Evaluation of site background and preparation of work plan for the evaluation of physical and chemical properties of the Magnesia Waste Pile (Environmental Solutions). Report was submitted to DHS in January 1988 and approved April 1988.
1988	Remedial Investigation (RI) performed by S.S. Papadopulos and Associates (S.S.P.&A.). Unilateral Remedial Action Order (RAO) issued by DHS mandating a Remedial Investigation (RI) and Feasibility Study (FS).
1988	Feasibility Study (FS) performed by Hydrologic Consultants Inc. for identification

of the preferred remedial alternatives and an air, surface water and groundwater impact evaluation.

January, 1990	RAP and FS report completed by Hydrologic Consultants, Inc. "Public Health Environmental Assessment for Leslie Salt/FMC Magnesia Pile" prepared by Terra Inc.
April 1990	HCI subcontracted US Pollution Control Inc. to conduct an Interim Removal Action to remove and dispose approximately 67,000 pounds of thallium contaminated magnesia material from the east side of the magnesia waste pile.
March 1991	Remedial Design (RD) prepared by IT Corporation which included the workplan and design for remediation of the magnesia pile. The RD provided construction and engineering plans for the removal(excavation and disposal) of copper and mercury contaminated magnesia.

The documents generated from the investigations conducted between 1981 and 1990 include:

- "Remedial Investigation Magnesia Pile - Newark, California." S.S. Papadopulos and Associates, Inc. (S.S.P.&A.), November 28, 1988.
- "Supplemental Investigation and Feasibility Study, FMC and Leslie Salt Company, FMC/Leslie Salt Magnesia Waste Pile." Hydrologic Consultants Inc. (HCI): January 6, 1990.
- "Public Health/Environmental Assessment for Magnesia Pile." Terra Inc.: January 1990.
- "Leslie Salt/FMC Magnesia Waste Pile Interim Removal Action Closure Report." Hydrologic Consultants Inc. (HCI): July 1990.
- "Leslie Salt/FMC Magnesia Waste Pile Site Remedial Action Plan." Hydrologic Consultants Inc. (HCI): October 1990.
- "Final Remedial Design - Magnesia Waste Pile, Newark, California." IT Corporation, March 1991.

1.1.1 Remedial Investigation

A remedial investigation (RI) was performed by S.S. Papadopulos and Associates, Inc. in 1988. The RI included physical and chemical characterization of the magnesia waste pile, and a magnetic survey to assess whether reported drums containing phosphorus sludge were present. Soil samples were collected from 51 trenches excavated on the magnesia waste pile. The results of the RI indicated that the magnesia waste pile consists of approximately 87 percent (66,100 cubic yards) of general magnesia matrix, approximately 0.8 percent (600 cubic yards) of copper catalyst pellets and approximately 12.2 percent (9,300 cubic yards) of "general debris". Analytical results from several trench samples indicated that copper and mercury exceeded Total Threshold Limit Concentrations (TTLC). The reported drums of phosphorus sludge were not located by the survey, and the RI concluded that the drums had either

decomposed and could no longer be magnetically detected or had not been buried in the area.

1.1.2 Risk Assessment, Feasibility Study and Remedial Action Plan

Supplemental analyses and a Feasibility Study (FS) were performed by Hydrologic Consultants, Inc. (HCI) in 1989. Air, surface water and groundwater samples were collected and analyzed for copper, thallium, mercury, cyanide, ethylene dibromide and pH. A public health and environmental assessment was also performed for this study, and analyzed the potential impacts of the mean and maximum concentrations of the contaminants of concern. The impacts were assessed for assumed exposures to a trespassing child or an adult worker.

The exposure assessment indicated that the maximum and mean contaminant concentrations do not represent significant carcinogenic or non-carcinogenic risks to human health. Based on the results of the RI and the public health assessment, it was concluded that the only materials that required remediation were the copper pellets and copper-, mercury-, and thallium- contaminated magnesia that exhibit concentrations above the appropriate TTLC.

The feasibility study considered six possible remedial alternatives, including:

- No action
- Capping
- Excavation and off-site disposal
- Excavation and on-site treatment with soil washing and off-site disposal and recycling
- Excavation, on-site treatment with soil fixation and off-site disposal and recycling
- Excavation and off-site recycling/disposal of hazardous materials

Each of these alternatives was evaluated for technical feasibility, implementability, ability to reduce the site hazards, regulatory compliance, and cost. The estimated cost of the remedial alternatives considered ranged from approximately $360,000 to $8,500,000. Based on the results of the feasibility study, the recommended remedial alternative was the excavation and off-site disposal of the hazardous materials. In this alternative, all materials having copper, mercury or thallium concentrations exceeding the appropriate TTLC would be excavated and disposed off-site. Once these hazardous materials are removed from the site, it will no longer be considered hazardous as defined by Title 22, California Code of Regulations.

1.1.3 Interim Removal Action Closure

In response to concerns expressed by DHS (July 1988) on April 26, 1990, HCI conducted an "Interim Removal Action" for removal of approximately 67,000 pounds of thallium contaminated soil. The excavated soils were collected from the east side of the magnesia waste pile and DHS relied upon the earlier sample analysis which detected thallium levels of 998 mg/kg and cited the 700 mg/kg Total Threshold Limit Concentration (TTLC) as the reference by which to make its determination. The procedures used to excavate the thallium contaminated waste material are summarized in the "Leslie Salt/FMC Magnesia Waste Pile Interim Removal Action Closure Report", written by HCI in July, 1990.

1.1.4 Final Remedial Design

IT Corporation(IT) submitted a final remedial design for the Leslie Salt/FMC magnesia waste pile in March 1991. This remedial design provided technical and operational plans and the engineering design for the implementation of the RAP approved and issued by DHS in 1990. The remedial design was approved by DHS on May 2, 1991 and site work began May 20, 1991. The site remediation was completed on August 8, 1991.

1.2 SITE LOCATION AND VICINITY DESCRIPTION

The Leslie Salt/FMC magnesia waste pile site is located east of the San Francisco Bay in Newark, California (Alameda County). The Leslie Salt/FMC magnesia waste pile is approximately 300 to 400 feet wide, 1,200 feet long, 45 feet thick and extends to an elevation of approximately 50 feet above sea level. A site location map is provided in Figure 1. The magnesia waste pile is situated on an outcrop of a linear serpentine ridge adjacent to the Leslie Salt evaporation ponds along the southeastern portion of the San Francisco Bay.

Properties in the vicinity of the magnesia waste pile are occupied by light industrial facilities. The City of Newark police department shooting range and the Newark's Sportsman's Club are located southeast of the Leslie Salt/FMC site, and the nearest residential properties are located more than 2000 feet from the site boundaries. The site vicinity map is shown in Figure 2.

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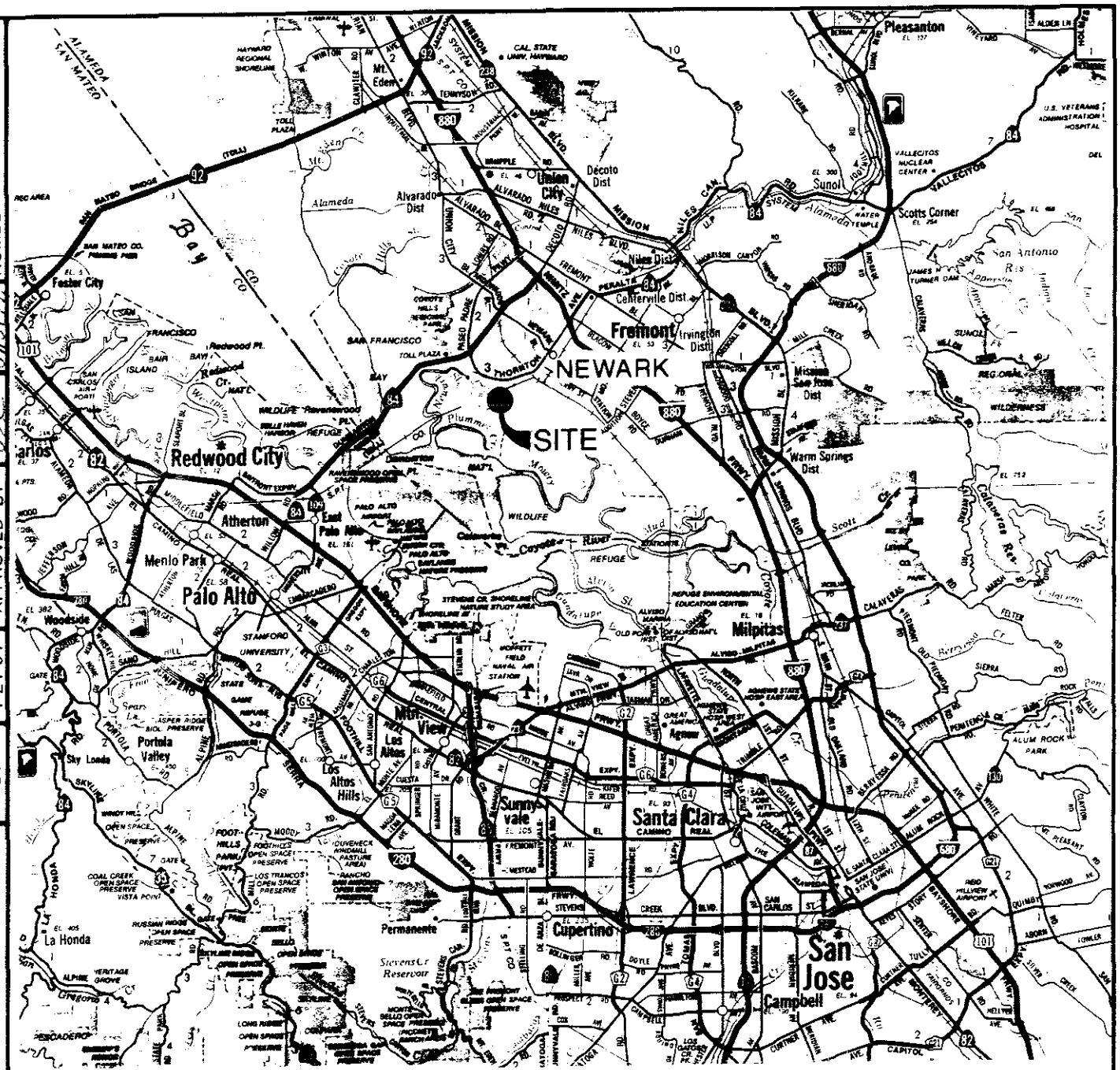
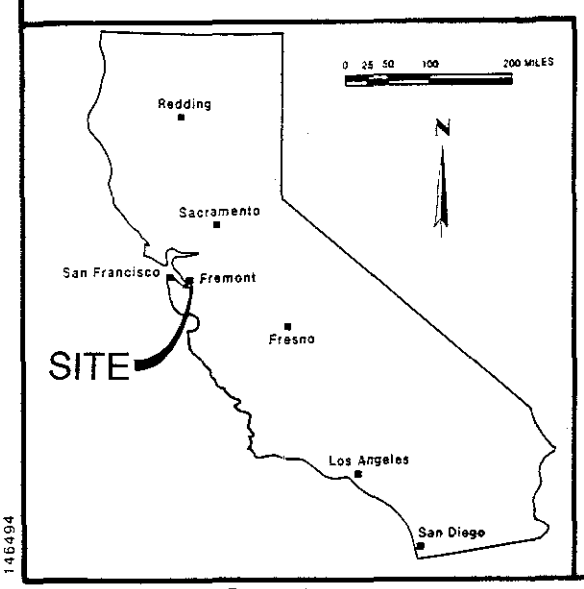
SJZ 1-21-91	FH 2-28-91	USC 07/31/91	142468-A4





REFERENCE:
CSAA "BAY AND RIVER AREA" 1979

FIGURE 1

SITE LOCATION MAP

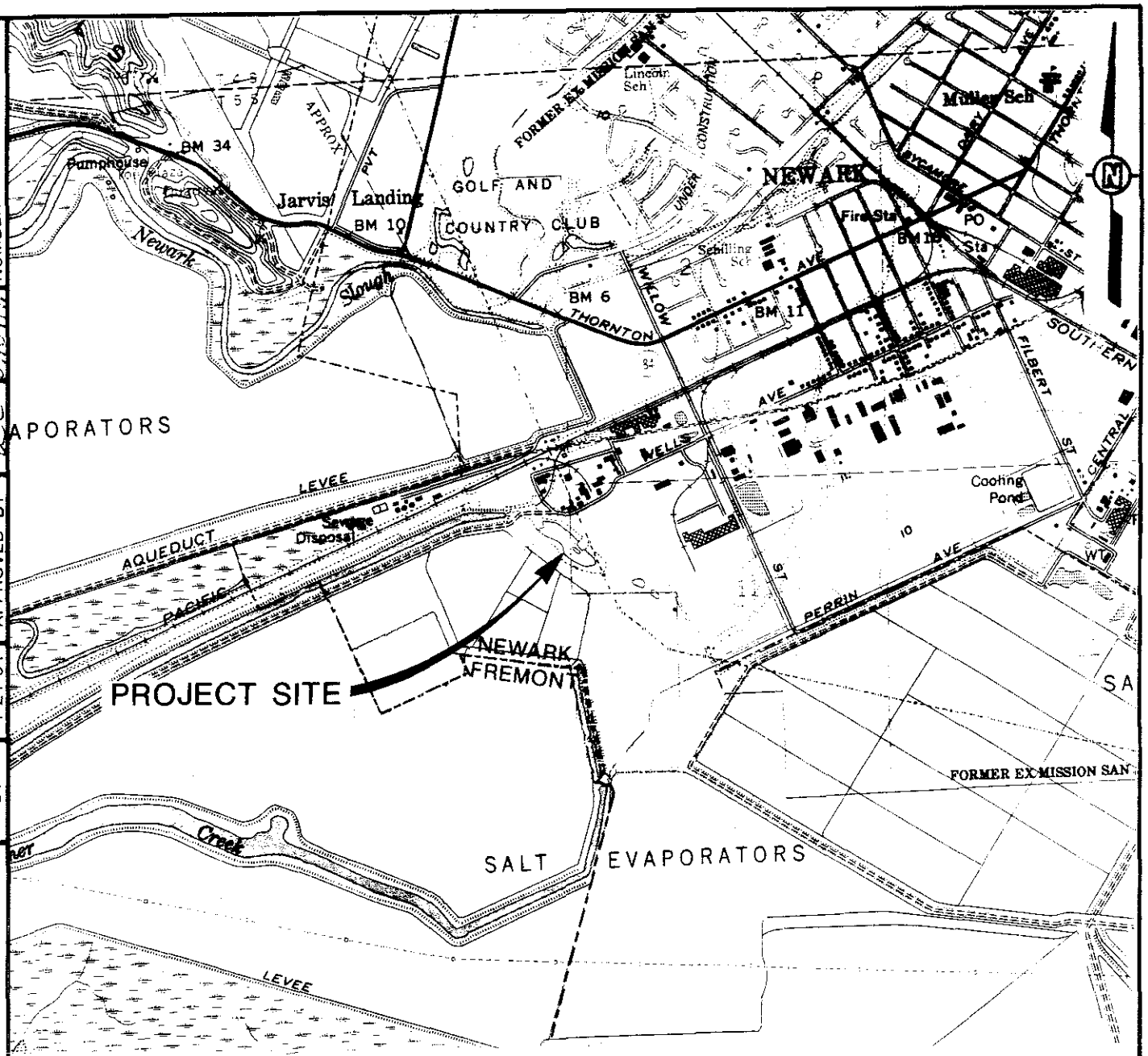
PREPARED FOR

LESLIE SALT/FMC
NEWARK CALIFORNIA

INTERNATIONAL TECHNOLOGY CORPORATION

146494

"Do Not Scale This Drawing"



SCALE

0 2000 4000 FEET

FIGURE 2

SITE VICINITY MAP
MAGNESIA WASTE PILE SITE

PREPARED FOR

LESLIE SALT/FMC
NEWARK CALIFORNIA

REFERENCE
USGS 7 5' TOPOGRAPHIC QUADRANGE OF NEWARK CA
DATED: 1959 PHOTOREVISED 1980 SCALE: 1:24 000

INTERNATIONAL TECHNOLOGY CORPORATION

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DRAWING NUMBER	CHECKED BY	APPROVED BY	BY
1-2468-A2	F.H. 8-30-91		
	SJZ 1-21-91		

146494

2.0 SITE REMEDIAL ACTIVITIES

2.1 INTRODUCTION

The magnesia waste pile is located on Leslie Salt property just southwest of the FMC property and manufacturing facility. The generally rectangular pile is oriented with its longitudinal axis in a northwest - southeast direction. The pile is approximately 300 to 400 feet wide at the base, and about 1,200 feet long. The pile was originally contoured such that it rose to an elevation of about 50 feet above mean sea level in the southeasterly area.

The original pile surface sloped from the southeast to the northwest. The pile exhibited steep slopes (approximately 1 vertical to 2 horizontal) in the southwest area of the pile. The thickness of the magnesia waste pile varied, and ranged from about 5 feet to 45 feet.

Materials identified in the RI as present in the magnesia pile include general magnesia material, mercury-contaminated magnesia, debris, copper pellets, and copper-contaminated magnesia. The debris encountered during the RI consisted of construction materials such as lumber, bricks, concrete blocks, wire, screens, and metal. Exploratory trench work also encountered tires, newspapers, plastic sheeting, PVC tubing, laboratory bottles and backfill soil. Approximately 9,600 cubic yards of debris were estimated to be present. The copper catalyst pellets were used in synthetic rubber production, and are classified as hazardous by the DHS since copper pellet concentrations exceed the TTLC limits for copper. Table 1 provides estimated volumes for the waste pile materials as follows:

TABLE 1
MAGNESIA MATERIAL AND WASTE VOLUME ESTIMATES PRIOR TO EXCAVATION

Material Type	Estimated Volume (cubic yards)
General Magnesia Material	65,000
Miscellaneous Debris	9,600
Mercury-contaminated Magnesia	2,500
Copper-contaminated Magnesia	600
Copper pellets	600

Reference: "Remedial Action Plan, Leslie Salt/FMC Magnesia Waste Pile Site," October 1990, prepared by Hydrologic Consultants, Inc.

It was estimated that about 600 cubic yards of copper pellets were present in the magnesia waste pile. Copper-contaminated magnesia material was also identified, which may result from decomposition of the

copper catalyst pellets. Approximately 600 cubic yards of copper-contaminated magnesia material was estimated to be present. About 2,500 cubic yards of mercury-contaminated magnesia was estimated to be present, which may have resulted from disposal of meters and other equipment.

The majority of the materials in the magnesia waste pile are nonhazardous as defined by Title 22 of the California Code of Regulations. The general magnesia waste material consists of magnesia (MgO), gypsum ($CaSO_4$), dolomite ($CaMg(CO_3)_2$), lime (CaO), and limestone ($CaCO_3$). The magnesia material tends to be hygroscopic (i.e. it absorbs and retains moisture). Trenching performed in the waste pile indicated the material is cohesive and will exhibit vertical or near vertical cut slopes. Little or no airborne dust was generated by the trenching activities and the previous thallium removal operation.

Previous remedial investigations described in Section 1.1.1 determined the presence of copper and mercury at concentrations that exceeded the regulatory guidelines. The Total Threshold Limit Concentration (TTLC) as provided in Title 22, Section 66699 of the California Code of Regulations, was used as the remedial guideline for this project, as presented in the RAP. The TTLC values for copper and mercury are 2,500 mg/kg and 20 mg/kg, respectively.

Figure 3 shows the exploratory trench locations on the magnesia pile and suspected areas of copper and mercury contamination defined by the remedial investigation. Previous characterization work determined that concentrations of copper in the matrix samples ranged from 5.2 mg/kg to 230 mg/kg. The matrix samples also exhibited mercury concentrations ranging from <0.002 mg/kg to 0.31 mg/kg. Measured concentrations of copper in the trench samples ranged from 6 mg/kg (Trench 30) to 31,000 mg/kg (Trench 14). Measured concentrations of mercury in the trench samples ranged from < 0.002 mg/kg (Trench 7) to 78 mg/kg (Trench 26). Trenching indicated the depth to the copper catalyst pellets varied; depths ranged between one to two feet and, in other areas, pellets extended to depths of 23 feet.

The remedial design (RD) provided construction plans and the engineering design for the implementation of the RAP. This report describes the implementation of the RD, results of the verification sampling, and documents the final disposition of the waste materials.

A summary of the remedial activities is provided in Section 2.2. Variances from the remedial design are also described. A description of the site layout is provided in Section 2.3. Section 2.4 provides a description of site construction and personnel work controls. Environmental monitoring which includes ambient and personnel air sampling is discussed in Section 2.5. Excavation sequence and documentation of activities is provided in Section 2.6. For each excavation, this section provides a description of the mobilization, visual observations, procedures, excavation and waste quantities, final grading and contouring, and demobilization. The verification sampling program and results are presented in Section 2.7. Final grading and contouring is discussed in Section 2.8 and demobilization activities are provided in Section 2.9. Loadout and transportation activities are described in Section 3.0. The site closure certification is provided in Section 4.0.

2.2 OVERVIEW OF REMEDIAL ACTIVITIES

A summary of the final project schedule is provided in Table 2, and a detailed schedule is provided in Table 2A. During mobilization, the trench locations from the RI were surveyed by a California registered land surveyor (Kier and Wright) to verify their locations. The survey was performed based on the original survey notes for the RI provided to IT by FMC Corporation. The areas shown in the RI that contained

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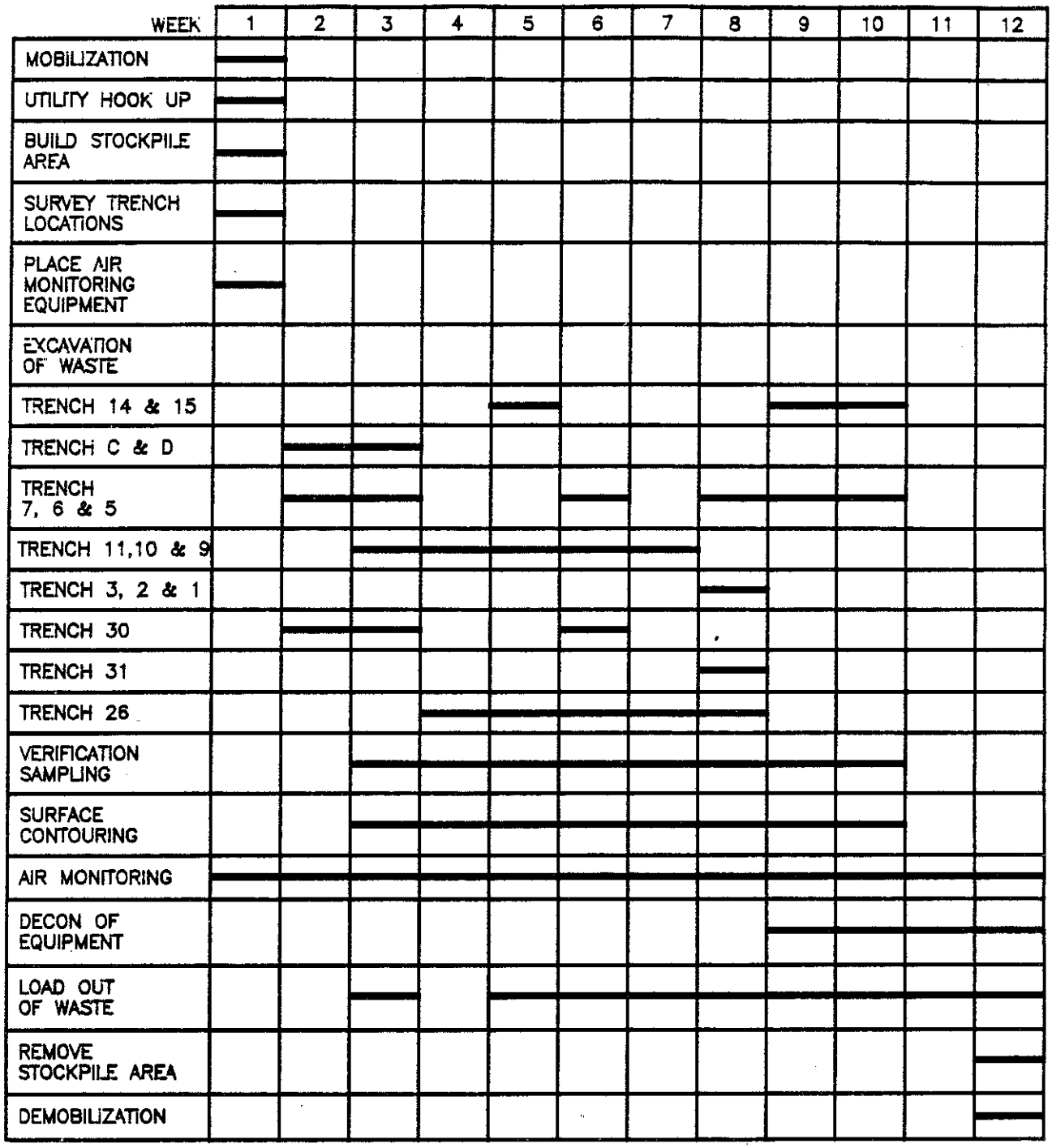


TABLE 2

FINAL PROJECT SCHEDULE
(SUMMARY)

PREPARED FOR

LESLIE SALT/FMC
MAGNESIA PILE SITE REMEDIATION
NEWARK, CALIFORNIA

INTERNATIONAL TECHNOLOGY CORPORATION

LSF-FPS(*LSF1)

TABLE 2A - FINAL PROJECT SCHEDULE DETAIL

Category	Task		May 1991 (date shown below)											
			20	21	22	23	24	25	26	27	28	29	30	31
Mobilization	Equipment Placement													
	Utility Hook-up													
	Install Hi Vol Air Samplers													
Environmental Monitoring	Ambient Air Sampling													
	Personnel Air Sampling													
Construction	Stockpile													
	Decontamination Pad													
	Surveying													
	Excavation (Areas)	5,6,7												
		30												
		C,D												
		Surface near C,D; 9,10,11; and 30												
		11												
		9,10												
		14,15												
		26												
		31												
		1,2,3												
	Mercury Stockpiling	26												
		31												
	Final Grading & Contouring													
Verification Sampling														
Waste Sampling														
Loadout	Railcar													
	Truck													

TABLE 2A (cont'd) - FINAL PROJECT SCHEDULE DETAIL

Category	Task		June 1991 (date shown below)																			
			3	4	5	6	7	10	11	12	13	14	17	18	19	20	21	24	25	26	27	28
Mobilization	Equipment Placement																					
	Utility Hook-up																					
	Install Hi Vol Air Samplers																					
Environmental Monitoring	Ambient Air Sampling																					
	Personnel Air Sampling																					
Construction	Stockpile																					
	Decontamination Pad																					
	Surveying																					
	Excavation (Areas)	5,6,7																				
		30																				
		C,D																				
		Surface near C,D; 9,10,11; and 30																				
		11																				
		9,10																				
		14,15																				
		26																				
		31																				
		1,2,3																				
	Mercury Stockpiling	26																				
		31																				
	Final Grading & Contouring																					
Verification Sampling																						
Waste Sampling																						
Loadout	Railcar																					
	Truck																					
Demobilization	Equipment																					
	Utilities																					

TABLE 2A (cont'd) - FINAL PROJECT SCHEDULE DETAIL

Category	Task		July 1991 (date shown below)																							August 1991 (dates shown below)					
			1	2	3	4	5	8	9	10	11	12	15	16	17	18	19	22	23	24	25	26	29	30	31	1	2	5	6	7	8
Mobilization	Equipment Placement																														
	Utility Hook-up																														
	Install Hi Vol Air Samplers																														
Environmental Monitoring	Ambient Air Sampling																														
	Personnel Air Sampling																														
Construction	Stockpile																														
	Decontamination Pad																														
	Surveying																														
	Excavation (Areas)	5,6,7																													
		30																													
		C,D																													
		Surface near C,D; 9,10,11; and 31																													
		11																													
		9,10																													
		14,15																													
		26																													
		31																													
		1,2,3																													
	Mercury Stockpiling	26																													
		31																													
	Final Grading & Contouring																														
Verification Sampling																															
Waste Sampling																															
Loadout	Railcar																														
	Truck																														
Demobilization	Equipment																														
	Utilities																														

the materials to be excavated were delineated with spray paint and flags around the area perimeter. The stockpile area and the equipment decontamination pad were also constructed during mobilization; trailers were placed in the designated areas, and heavy equipment was brought on site. The perimeter ambient air sampling stations were installed and calibrated.

Two track-hoe excavators worked at opposite ends of the pile. Each track-hoe was supported by a dedicated dump truck which transported overburden and waste material. Uncontaminated overburden material was typically excavated and piled proximate to the excavation. Waste or suspected waste material was either hauled directly to the loadout stockpile or intermittently stockpiled on the site.

Engineering activities were performed concurrently with the excavation and movement of material. Ambient, perimeter air samples were collected daily for analysis. Intermittent surveys were conducted to determine excavation volumes and define the location of important features. Verification samples were collected immediately after excavation activities were completed within each trench area.

Waste segregation, loadout, and disposal occurred concurrently with the excavation activities. Copper-contaminated magnesia material was segregated and directly hauled to the stockpile. Potentially mercury-contaminated material was segregated, stockpiled, and sampled to determine the mercury concentrations and assess the need for disposal.

Three types of waste material were encountered at the site: 1) Copper pellet contaminated magnesia ; 2) Napthalene contaminated magnesia; and, 3) Waste oil contaminated magnesia. The napthalene and waste oil contaminated magnesia was encountered during excavation and was not previously identified in the RI. Potentially mercury-contaminated magnesia material was excavated, stockpiled, and analyzed. The measured mercury concentrations in this material were below the criteria set by DHS, and the material remained on site. Table 3 provides a summary of the quantity and type of waste encountered during excavation of each trench.

The presence of copper contamination was assessed by visual observation. Material determined to be contaminated based on the obvious presence of pellets was segregated of debris, loaded into a dump truck, and transported to the stockpile area. This material was placed in the appropriate stockpile and distributed with a bulldozer and/or front loader.

Magnesia material suspected of having mercury contamination was excavated and segregated based on visual comparison with samples collected during the RI. These samples had been archived and were provided by Leslie Salt. Samples which had been analyzed as having elevated levels of mercury were compared to the material as it was removed from the excavation. Magnesia material that exhibited a darker gray color similar to the archived material was stockpiled separately on the magnesia pile in a visqueen-lined area. Composite samples of this material were collected and submitted to the laboratory for analysis. The analytical results indicated that the excavated material did not contain mercury concentrations that exceeded the standard established by DHS for the composite samples; which was defined by the TTLC limit for mercury (20 mg/kg) divided by the number of samples forming the composite.

Perimeter ambient air monitoring was performed for the duration of the excavation and loadout activities. The air monitoring results generally indicated that the ambient dust particulate concentrations ranged from 1.5 ug/m^3 to 154.9 ug/m^3 over the duration of the project, which is below the established Threshold Limit Value of 2,000 ug/m^3. Analytical results for copper in the ambient particulate matter ranged from non-

TABLE 3

TYPE OF WASTE AND VOLUME ENCOUNTERED DURING EXCAVATION

Trench Area	Suspected Waste Material (from the RI)	Waste Material Encountered during Excavation	Weight of Material Encountered[1] (tons)
5,6,7	Copper	Copper	3,985
30	Copper	Copper	792
C,D	Copper	Copper	751
9,10, 11	Copper	Copper	2,641
14,15	Copper	Copper	54
		Napthalene	65
		Waste Oil	54
26	Mercury	none detected[2]	-
31	Mercury	none detected[2]	-
Surface near Trench Areas C-D, 30, 9,10 and 11	Copper	Copper	279
1,2,3	Copper	Copper	1,172
TOTAL TONNAGE			9,793

[1] Weights of waste material are based on the transportation weights.

[2] Not detected above the applicable criteria provided by DHS; which consisted of the TTLC limit for mercury (20 mg/kg) divided by the number of samples forming the composite sample. (See DHS letters dated July 1 and 16, 1991, Appendix F)

detected to 0.267 ug/m^3; which is below the allowable limit of 1 ug/m^3. Mercury was generally not detected, and the allowable limit for mercury is 50 ug/m^3. The detection limits in the filter analyses were 3 ug for copper, 0.07 ug for mercury and 100 ug for alkaline dust.

Verification sampling was performed in excavated areas following removal of the contaminated material. In all cases, verification sampling indicated that the contaminated material had been removed and the underlying magnesia materials were classified as "clean" based on the TTLC criteria. All excavations were either backfilled and graded, or graded to provide a suitable drainage pattern on the magnesia pile to prevent ponding of water.

Initially, the contaminated material was transported by rail to the U.S. Pollution Control Incorporated (USPCI), Grassy Mountain Facility near Clive, Utah. During the latter stages of the project, waste material was transported via truck to Chemical Waste Management's Kettlemen City, California facility. Both the rail cars and the trucks were loaded adjacent to the stockpile area and manifested for transport.

2.3 SITE LAYOUT

The remedial project layout is shown on Figure 3 and includes both FMC Corporation and Leslie Salt Company property. The magnesia waste pile is located on Leslie Salt Company property. Contaminated materials requiring off-site disposal were excavated from the magnesia pile, transported to a stockpile area on property owned by FMC, and loaded on rail cars and trucks for disposal. The following section describes the site layout for the remediation project. The site layout provided in the RD was modified slightly during the mobilization phase of the project.

Magnesia Waste Pile

The nine areas originally identified in the RI as requiring remediation are shown on Figure 3. These nine areas collectively comprised an estimated area of about 20,150 square feet. Seven of the areas were identified as having copper catalyst and copper-contaminated magnesia materials to be excavated and removed. Two areas, which comprised a combined area of about 3,000 square feet, were expected to contain mercury-contaminated magnesia material. Contaminated areas identified for excavation were delineated using flags and spray paint.

On-Site Transportation Routes

The existing, unpaved, on-site roads shown on Figure 3 were used for on-site transportation of equipment and materials. Off-road activity, immediately adjacent to the magnesia pile access road, was minimized to ensure safety and to minimize the spread of contamination and airborne dust. At the completion of the site excavation, the on-site roads were scraped to a depth of 6 inches and this material was placed in the stockpile area for disposal.

Interim Mercury Stockpile Areas

Two stockpile areas, (Figure 17, Trench Area 26 interim stockpile, and Figure 18, Trench Area 31 interim stockpile) were established as interim stockpiles for suspected mercury contaminated magnesia material removed from Trenches 26 and 31. Trench 26 interim stockpile consisted of approximately twenty-nine, 50-cubic yard piles; and Trench 31 interim stockpile consisted of one 50-cubic yard stockpile. Potentially

mercury-contaminated magnesia material was excavated from each trench and hauled to the interim stockpile area. Following sampling, and review and approval of analytical results, the stockpile areas were graded and flattened. The final location of this material is shown on Figure 20. This excavated material either remained in the immediate stockpile area or was spread just adjacent to the stockpile areas.

Stockpile Area

The stockpile area was a rectangular area approximately 200 feet by 165 feet in plan view, and was situated near the Leslie Salt/FMC property line on FMC's property (Figure 3). The stockpile area was placed just adjacent to the railroad tracks to facilitate loading contaminated material into rail cars for transportation to the disposal site.

Design specifications for the loadout stockpile area are shown on Figure 3. The area was prepared by grading the upper 3 to 6 inches of surficial material. The area was then graded and sloped to one end to promote positive drainage. A containment berm was constructed around the stockpile. The berms were constructed using clean fill from the site, and were approximately 3 feet high with a crest width of about 2 feet. The berm side slopes were constructed at a 1 (vertical) to 3 (horizontal) slope. Once the berms were constructed, a 40 millimeter thick polyvinyl chloride (PVC) liner was placed over the entire stockpile area. The liner extended over the berms and was covered with clean native fill to prevent uplift by the wind.

At the completion of the loadout, the stockpile area was dismantled and included in the final loads sent for disposal. The area beneath the stockpile was scraped to a depth of 6 inches and this material was also disposed.

Equipment Decontamination Pad

The location of the equipment decontamination pad (EDP) in the RD was directly adjacent to the northwest corner of the stockpile area. The EDP was relocated just south of the stockpile area as shown on Figure 3. The EDP was approximately 15 feet by 40 feet in plan view. The EDP was constructed by excavating a 2-foot deep pit lined with PVC. The liner was covered with 3 inches of sand fill and one layer of railroad ties, as shown on Figure 3. The EDP was sloped to one corner to facilitate collection of liquid rinsate. Fluid collected from decontamination operations was used for dust control on the stockpile area for the duration of the project.

Personnel Decontamination and Office Trailer Area

The personnel decontamination trailer was approximately 8 feet wide and 10 feet long, and contained two (2) showers and a locker/change room. The shower water was collected in a holding tank and used for dust control within the contaminated stockpile area. The personnel decontamination trailer was initially proposed to be situated in an open area north of the magnesia pile and southeast of the loadout stockpile. The trailer was relocated to an area adjacent to the primary access gate as shown on Figure 3. Two (2) emergency eye wash units were positioned in strategic areas near excavation activities on the magnesia waste pile.

The office trailer was situated to the north of the decontamination trailer to provide convenient access. The breakroom trailer was placed adjacent to the office trailer. Portable toilet facilities were placed near the decontamination, office, and breakroom trailer. Personnel exiting the exclusion work zone passed

through the decontamination trailer prior using the toilet facilities.

Site Security

The existing site security was utilized for the project. A fence runs approximately east/west from the intersection of Enterprise Drive and Hickory Street (Figure 3). This fence constitutes the FMC/Leslie Salt property line just north of the magnesia pile. From the western end of this fence, an additional fence traverses the site area in an approximate north/south direction. The primary site exclusion zone access gate was installed just southeast of the stockpile area. This gate allowed access from the support zone to the magnesia waste pile.

Air Monitoring Locations

Five (5) high-volume air samplers were placed on site to monitor ambient air quality. The samplers were manufactured by General Metal Works and were Model B/M-2000. The rationale for the placement of the monitoring stations is discussed in Section 2.5. Stations were placed in the following areas as shown on Figure 3:

- Station 1: Just northwest (upwind) of the stockpile.
- Station 2: Near FMC's analytical laboratory (north/northwest of the magnesia pile).
- Station 3: Approximately 1000 feet east of the work area at the Ashland Chemical Property.
- Station 4: East of the work area just outside the magnesia pile.
- Station 5: East/southeast of the work area on the flank of the magnesia pile.

2.4 SITE CONTROLS

2.4.1 Site Access Controls

During the mobilization phase, the site was delineated into an exclusion or work zone, a contamination reduction zone, and a support zone as shown on Figure 4. The exclusion zone included the entire magnesia waste pile area extending northwest to include the loadout stockpile area and equipment decontamination pad. The contamination reduction zone included the southern portion of the decontamination trailer and trailer entry area. The support zone consisted of the office trailer, break trailer, portable toilets, and the unloading/parking zone. The exclusion or contaminated zone was delineated primarily by fence lines and physical barriers. The exclusion zone perimeter was posted with the following warning signs at minimum intervals of 50 feet.

HEAVY EQUIPMENT/
CHEMICAL DECONTAMINATION
WORK AREA
NO UNAUTHORIZED ACCESS

Only IT personnel and authorized visitors who had completed 40 hours OSHA training and were equipped with the required personnel protective equipment were allowed to enter this zone. Access to the exclusion zone was monitored and a log of all persons entering this area was maintained.

DRAWN BY	B.J 8-9-91	CHECKED BY APPROVED BY		DRAWING NUMBER	142468-A6

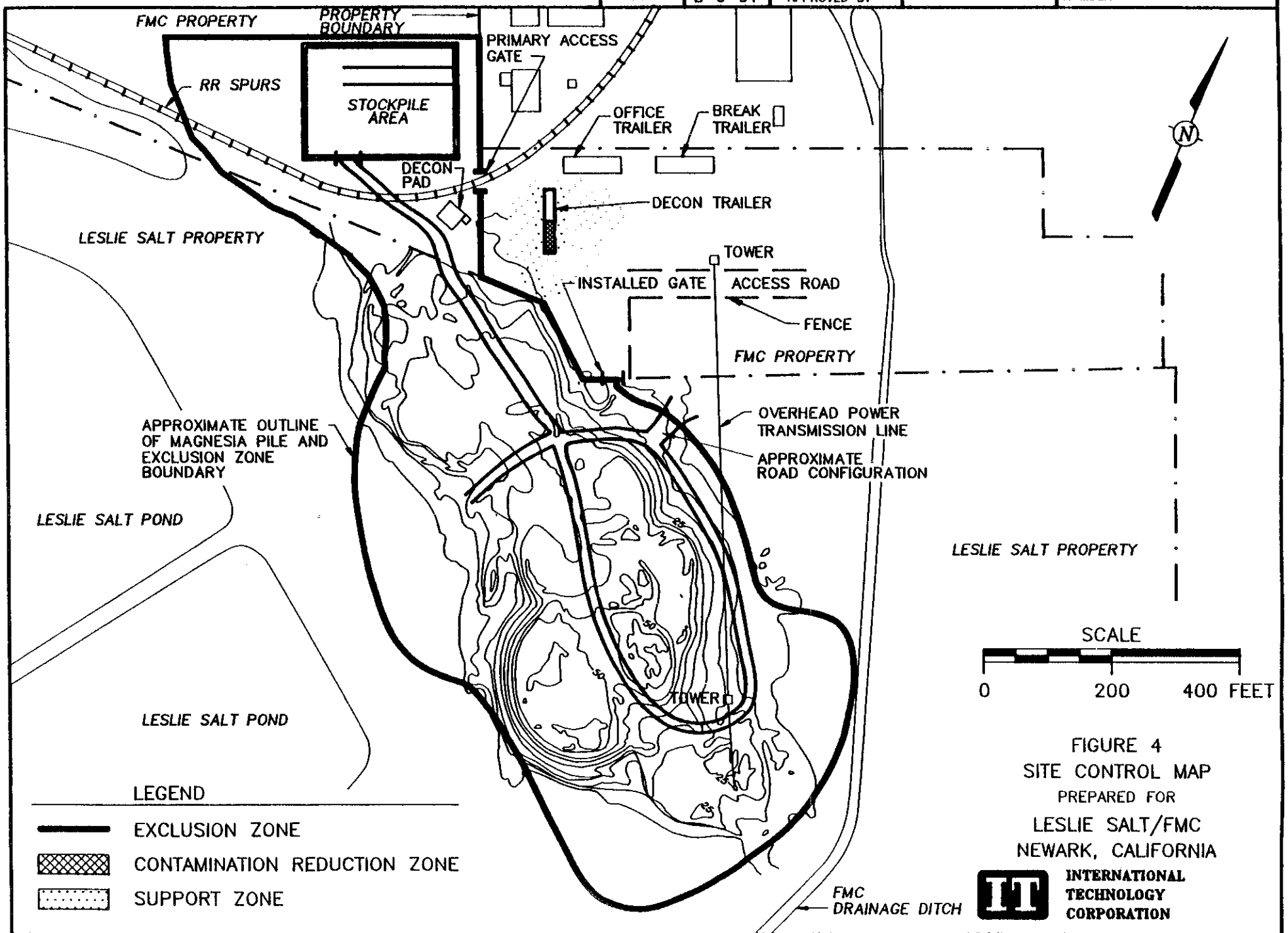


FIGURE 4
SITE CONTROL MAP
PREPARED FOR
LESLIE SALT/FMC
NEWARK, CALIFORNIA

LSF-SCM(LSF2)

The contamination reduction zone consisted of the personnel decontamination area and was delineated primarily by barrier tape. The perimeter of this area was posted at 50 foot minimum intervals with the following sign:

WORK AREA
NO UNAUTHORIZED ACCESS

The remainder of the area utilized by IT for this project was designated as the support zone. This area was delineated by traffic cones and barrier tape. The following warning sign was posted in the support zone:

CONSTRUCTION AREA
ALL VISITORS
CHECK-IN AT SITE OFFICE

2.4.2 Dust Control

The air monitoring program is described in detail in Section 2.5.1 Visual monitoring of the site for dust generation was combined with the results of the air monitoring program to determine the effectiveness of the dust control measures and evaluate the need for additional measures.

Dust control was performed by spraying excavation areas and on-site transportation routes with water generally once every day or more often as needed. Water used in these areas was either potable water or clean recycled water. Due to the hygroscopic (water absorbing) nature of the material, limited amounts of dust were generated during excavation and transport activities. Light water spraying was effective in suppressing dust generation.

Dust suppression in the stockpile area was performed generally once every day or more often as needed. Decontamination water from the equipment decontamination pad was collected by a sump pump and hand sprayed onto the contaminated waste piles for dust suppression. Additional dust suppression in this area was occasionally performed by the water truck.

2.4.3 Equipment Decontamination Procedures

Three types of decontamination were implemented during this project:

- Ongoing equipment decontamination for vehicles that remained on-site.
- Decontamination of rail cars and trucks used to transport contaminated magnesia material.
- Final equipment decontamination before the equipment left the site once the project was completed.

<u>Ongoing Equipment Decontamination</u>

Ongoing equipment decontamination was employed to prevent the spread of contamination outside the exclusion zone and cross contamination of excavations.
Solid material from truck beds and other easily accessible surfaces was removed using a combination of brooms, wire brushes, and moist cloths. Equipment under carriages, tracks and tires was steam cleaned

and rinsate was collected at the low point of the EDP with a sump pump. This water was ultimately used for dust control in the stockpile.

Railcar and Truck Decontamination

Both the railcars and the tandem dump trucks were lined with visqueen and excess visqueen was allowed to hang over the sides of the railcars and dump trucks to minimize spillage adhering to the sides. Following the loading of the material for disposal, both the railcars and trucks were inspected to determine whether contaminated material was present on the sides. If material was observed, it was brushed off and the affected area was hand wiped to decontaminate the surface.

Final Equipment Decontamination

All excavation equipment and on-site dump trucks were thoroughly cleaned with a high pressure water sprayer at 1000 psi and 130°F before leaving the site upon completion of the project. Liquid rinsate was collected at the low point of the EDP with a sump pump and sprayed on the stockpile. Once the final loadout was completed, and the EDP was removed and sent for disposal; the remaining equipment was hand wiped for decontamination.

2.5 ENVIRONMENTAL MONITORING

2.5.1 Perimeter Ambient Air Monitoring

Perimeter Ambient Air Monitoring Program

Ambient air monitoring was performed continuously during excavation, on-site transportation and loadout. This monitoring was conducted to evaluate ambient concentrations of metals (mercury and copper) and alkaline dust particulate levels to ensure that levels did not exceed safe thresholds and thereby present a health or safety risk.

Five General Metal Works high-volume (Hi-Vol) ambient air samplers (Model B/M-2000) were operated continuously and sampled daily during the remediation work. The locations of the sampling stations are shown on Figure 3. A continuously recording anemometer was installed in the exclusion zone just northwest of the stockpile area to obtain wind speed and wind direction information. The on-site prevailing wind direction, particularly during late morning or early afternoon was primarily from the west/northwest. This equipment malfunctioned partially through the project; however, data is available for the initial part of the project. The average wind speed recorded was 17 miles per hour (mph), and ranged from 12 to 22 mph.

Air monitoring stations 1 and 2 were placed upwind (north and northwest) of the work zone. These upwind stations provided background levels of copper, mercury, and dust particulates approaching the work site. Stations 4 and 5 were located downwind east and southeast of the primary excavation areas. Station 3 was positioned approximately 1000 feet east of the magnesia pile and provided information on potential off-site concentrations of airborne contaminants.

The Hi-Vol air samplers used an electric-powered blower drawing air through a pre-weighed filter at the rate of approximately 45 cubic feet per minute (cfm). The air samplers were operated for a 24 hour period

prior to the start of any site remedial activities to obtain background readings. Perimeter air samples were collected from May 24 through July 25, 1991 at sampling Stations 1, 2, 3, 4, and 5 during remedial excavation activities. Samples were collected only from Station 1, northwest of the loadout stockpile, from July 26 through August 5, 1991. The air samplers were operated 24 hours a day, Monday through Thursday. Samples were retrieved every morning at 8:00 a.m. Tuesday through Friday. On Friday, the sample which was loaded Friday morning was retrieved at about 1:00 or 2:00 p.m., at which time the site remedial activities stopped for the week.

Once the filters were collected, they were labelled, entered into IT standard chain-of-custody procedures, and sent by overnight courier to the IT Analytical Services Laboratory in Cerritos, California. The filters were dessicated and weighed to obtain the total weight of particulate material retained (gravimetric analysis). The particulate matter retained was analyzed for copper and mercury using EPA Methods 6010 and 7471 respectively.

The analytical results obtained from the laboratory report the amounts of copper, mercury and dust collected on the filters as micrograms. The volume of air drawn through the filter over the sampling period is calculated for each sample using the air sampler flowmeter recorder chart. The total weight of material (i.e. copper, mercury or dust) retained on the filter was divided by the volume of air in the sample to obtain results expressed as micrograms per cubic meter (ug/m^3).

Table 4 summarizes ambient air monitoring data collected over the duration of the project. The certificates of analysis and chain-of-custody forms are provided in Appendix A. Copper concentrations ranged from non-detectable to 0.267 ug/m^3. Mercury concentrations were generally less than 0.001 ug/m^3. Total particulate concentrations ranged from 1.5 ug/m^3 to 154.9 ug/m^3. The detection limit for particulates was 100 ug and for copper and mercury was 3 and 0.07 ug respectively.

The permissible exposure limits provided in 29 CFR 1910.1000 for copper and mercury are 1 ug/m^3 and 50 ug/m^3 respectively. The Threshold Limit Value (TLV) for total alkaline dust based on calcium oxide and established by the American Conference of Government Industrial Hygienists (AGIH, Cincinnati, Ohio; 1989) is 2 mg/m^3 (2,000 ug/m^3). The ambient mercury concentrations measured are well below the permissible exposure limt for mercury. The highest measured copper concentration (0.3 ug/m^3) was below the permissible exposure limit for copper. Total alkaline dust concentrations measured were below the AGIH TLV values.

2.5.2 Personnel Air Monitoring

The personnel air monitoring program was designed to monitor project personnel exposure to copper dust, mercury vapor, and alkaline dust. Personnel samples for copper and mercury were collected and analyzed in accordance with NIOSH Methods 7300 and 6009 respectively. Alkaline and respirable alkaline dust samples were collected in accordance with modified NIOSH Method 0500.

The analytical results are reported in total weight of the material retained by the personnel air filter. On-site IT health and safety personnel determined the volume of air passed through the filter during the sampling period. Volumetric concentrations of the material (i.e. milligrams per cubic meter) were determined by dividing the total weight retained by the total air volume. The air samples were analyzed by the IT Analytical Services Laboratory in Cerritos, California, which is accredited by the American Industrial Hygiene Association (AIHA). The certificates of analysis and chain-of-custody forms for these results are provided in Appendix B.

TABLE 4 - PERIMETER AMBIENT AIR MONITORING RESULTS

Sampling Information			Analytical Results (µg/m³)			Sampling Information			Analytical Results (µg/m³)			Sampling Information			Analytical Results (µg/m³)		
Date	Sta. I.D.	Sample I.D	Copper[1]	Mercury[2]	Dust[3]	Date	Sta. I.D.	Sample I.D	Copper	Mercury	Dust	Date	Sta. I.D.	Sample I.D	Copper	Mercury	Dust
5/24/91	1	1,5831196	0.009	ND	5.3	5/25/91	1	1,5902722	0.037	< 0.001	33.1	5/28/91	1	1,5902706	0.016	< 0.001	25.4
	2	2,5831197	0.055	ND	11.6		2	2,5902720	0.050	< 0.001	50.0		2	2,5902745	0.037	< 0.001	31.6
	3	3,5831198	0.005	ND	9.1		3	3,5902724	0.021	< 0.001	41.3		3	3,5902718	0.006	< 0.001	26.7
	4	4,5831199	0.011	ND	6.0		4	4,5902721	0.023	< 0.001	42.0		4	4,5902707	0.012	< 0.001	27.4
	5	5,5831200	0.010	ND	5.3		5	5,5902725	0.015	< 0.001	37.1		5	5,5902708	0.005	< 0.001	25.2
5/29/91	1	1,5902715	0.015	< 0.001	11.7	5/30/91	1	1,5902743	0.024	< 0.001	42.0	5/31/91	1	1,5902741	0.036	< 0.001	15
	2	SAMPLE DAMAGED					2	2,5902713	0.061	< 0.001	66.4		2	2,5902727	0.059	< 0.001	39.3
	3	3,5902717	0.004	< 0.001	14.4		3	3,5902744	0.009	< 0.001	40.0		3	3,5902726	0.01	< 0.001	28
	4	4,5902714	0.014	< 0.001	18.6		4	4,5902710	0.015	< 0.001	56.0		4	4,5902740	0.022	< 0.001	33.2
	5	5,5902709	0.006	< 0.001	12.0		5	5,5902711	0.009	< 0.001	145.8		5	5,5902742	0.013	< 0.001	36.5
6/03/91	1	1,5902738	0.028	< 0.001	50.6	6/04/91	1	1,5902734	0.021	< 0.001	72.3	6/05/91	1	FILTER SUPPLY EXHAUSTED			
	2	2,5902737	0.027	< 0.001	27.5		2	2,5902733	0.048	< 0.001	83.0		2				
	3	3,5902728	0.012	< 0.001	41.7		3	3,5902736	0.011	< 0.001	67.8		3				
	4	4,5902739	0.011	< 0.001	46.7		4	4,5902735	0.019	< 0.001	55.8		4	4,5902732	0.011	ND	44.7
	5	SAMPLE DAMAGED					5	5,5902730	0.008	< 0.001	76.2		5	5,5902731	0.007	< 0.001	60.0
6/07/91	1	1,5831008	0.004	ND	12.5	6/10/91	1	1,5902787	0.024	< 0.001	41.4	6/18/91	1	1,5831001	0.007	ND	21.5
	2	2,5831010	0.028	< 0.001	22.9		2	2,5831021	0.050	< 0.001	51.2		2	2,5831002	0.035	ND	48.4
	3	HI-VOL SAMPLER NON-OPERATIONAL					3	3,5831020	0.012	< 0.001	49.3		3	3,5831003	0.002	ND	9.0
	4	4,5831007	0.006	< 0.001	16.7		4	4,5831011	0.014	< 0.001	51.0		4	4,5831004	0.017	< 0.001	70.4
	5	5,5831006	ND	< 0.001	5.4		5	5,5902788	0.006	< 0.001	43.1		5	5,5831005	0.007	< 0.001	38.5
6/19/91	1	1,5831012	0.019	ND	19.7	6/20/91	1	1,5831017	0.012	ND	18.5	6/21/91	1	1,5831182	0.018	ND	3.0
	2	2,5831013	0.093	ND	34.8		2	2,5831048	0.054	ND	37.5		2	2,5831183	0.056	ND	47.5
	3	3,5831014	0.008	< 0.001	24.4		3	3,5831019	0.007	ND	27.4		3	3,5831184	0.031	ND	22.3
	4	4,5831015	0.018	< 0.001	29.4		4	4,5902794	0.019	< 0.001	6.4		4	4,5831185	0.020	ND	38.9
	5	5,5831016	0.006	< 0.001	26.5		5	5,5902795	0.005	ND	27.4		5	5,5831186	ND	ND	9.8
6/24/91	1	1,5831196	0.009	ND	5.3	6/25/91	1	1,5831181	0.011	ND	7.1	6/26/91	1	1,5831191	0.017	ND	20.9
	2	2,5831197	0.055	ND	11.6		2	HI-VOL SAMPLER NON-OPERATIONAL					2	2,5831192	0.137	< 0.001	29.4
	3	3,5831198	0.005	ND	9.1		3	3,5831188	0.009	ND	13.0		3	3,5831193	0.012	< 0.001	25.1
	4	4,5831199	0.010	ND	6.0		4	4,5831189	0.021	ND	17.8		4	4,5831194	0.014	< 0.001	31.1
	5	5,5831200	ND	ND	5.3		5	5,5831190	0.002	ND	7.8		5	NO	DATA	AVAILABLE	
6/27/91	1	ELECTRICAL POWER OUTAGE				6/28/91	1	ELECTRICAL POWER OUTAGE				7/01/91	1	1,5831160	0.028	< 0.001	38.2
	2						2						2	2,5831161	0.105	< 0.001	53.2
	3	3,5831153	0.013	< 0.001	34.0		3	3,5831157	0.048	ND	15.3		3	3,5831162	0.015	< 0.001	4.2
	4	4,5831154	0.013	ND	50.0		4	4,5831158	0.019	ND	10.4		4	4,5831163	0.017	< 0.001	47.4
	5	5,5831155	0.005	< 0.001	31.3		5	5,5831159	0.009	ND	3.1		5	5,5831164	0.005	< 0.001	33.4

1 The lower detection limits for copper, mercury, and total dust are 3.0 µg, 0.07 µg, and 100 µg respectively. Concentrations in µg/m³ are determined by dividing the total constituent weight retained in the sample filter by the volume of air transferred through the filter during the sampling interval.

TABLE 4 - PERIMETER AMBIENT AIR MONITORING RESULTS

Sampling Information			Analytical Results (µg/m³)			Sampling Information			Analytical Results (µg/m³)			Sampling Information			Analytical Results (µg/m³)		
Date	Sta. I.D.	Sample I.D	Copper[1]	Mercury[2]	Dust[3]	Date	Sta. I.D.	Sample I.D	Copper	Mercury	Dust	Date	Sta. I.D.	Sample I.D	Copper	Mercury	Dust
7/02/91	1	1,5831165	0.028	< 0.001	42.2	7/03/91	1	1,5831170	0.025	ND	50.1	7/05/91	1	1,5831175	0.032	ND	33.8
	2	2,5831166	0.126	< 0.001	66.8		2	2,5831171	0.059	ND	81.1		2	2,5831176	0.059	ND	53.4
	3	3,5831167	0.016	< 0.001	48.7		3	3,5831172	0.015	ND	66.4		3	3,5831177	0.025	ND	50.3
	4	4,5831168	0.017	< 0.001	67.7		4	NO	DATA		AVAILABLE		4	4,5831178	0.019	ND	107.8
	5	5,5831169	0.007	< 0.001	43.5		5	5,5831174	0.008	ND	41.8		5	5,5831179	0.007	< 0.001	36.6
7/08/91	1	1,5831145	0.012	ND	13.7	7/09/91	1	1,5831140	0.020	< 0.001	30.1	7/10/91	1	1,5831135	0.025	< 0.001	40.5
	2	2,5831146	0.066	< 0.001	39.1		2	2,5831136	0.114	< 0.001	62.6		2	2,5831137	0.074	< 0.001	56.0
	3	3,5831147	0.011	< 0.001	22.9		3	3,5831138	0.005	ND	15.9		3	3,5831139	0.050	ND	82.0
	4	4,5831148	0.011	< 0.001	33.5		4	4,5831141	0.014	ND	41.3		4	4,5831143	0.009	ND	44.1
	5	5,5831149	0.002	< 0.001	22.0		5	5,5831142	ND	ND	2.2		5	HIGH-VOL SAMPLER UN-PLUGGED			
7/11/91	1	1,5831125	0.032	< 0.001	54.7	7/12/91	1	1,5831129	0.267	ND	20.6	7/15/91	1	1,5831134	0.013	ND	5.7
	2	2,5831126	0.097	< 0.001	66.3		2	2,5831130	0.068	ND	48.2		2	2,5831101	0.081	ND	24.1
	3	3,5831127	0.011	< 0.001	43.7		3	3,5831131	0.022	ND	53.2		3	3,5831102	0.014	ND	13.4
	4	4,5831128	0.013	< 0.001	51.4		4	4,5831132	0.019	ND	25.4		4	4,5831103	0.014	< 0.001	29.5
	5	5,5831144	0.005	< 0.001	46.4		5	5,5831133	ND	ND	15.5		5	5,5831104	0.003	< 0.001	21.5
7/16/91	1	1,5831105	ND	< 0.001	8.4	7/17/91	1	1,5831110	0.019	< 0.001	9.9	7/18/91	1	1,5831115	0.025	ND	26.4
	2	2,5831106	0.069	ND	19.9		2	2,5831111	0.074	< 0.001	20.5		2	2,5831116	0.071	ND	47.9
	3	HIGH-VOL SAMPLER UN-PLUGGED					3	3,5831112	0.018	< 0.001	29.6		3	3,5831117	0.016	ND	35.0
	4	4,5831108	0.011	< 0.001	29.3		4	4,5831113	0.014	< 0.001	40.6		4	4,5831118	0.004	ND	17.7
	5	5,5831109	ND	ND	1.5		5	HIGH-VOL SAMPLER UN-PLUGGED					5	5,5831119	0.002	ND	20.5
7/19/91	1	1,5831120	0.035	< 0.001	83.2	7/22/91	1	1,5833823	0.031	< 0.001	28.0	7/23/91	1	1,5833828	0.025	ND	18.8
	2	2,5831121	0.155	< 0.001	46.6		2	2,5833824	0.092	ND	50.2		2	2,5833829	0.076	ND	35.5
	3	3,5831122	ND	ND	29.9		3	3,5833825	0.029	ND	34.4		3	3,5833830	0.021	ND	17.6
	4	4,5831123	ND	ND	21.8		4	4,5833826	0.011	< 0.001	57.4		4	4,5833831	0.006	ND	16.5
	5	5,5831124	ND	ND	1.5		5	5,5833827	0.005	ND	27.0		5	5,5833832	0.003	< 0.001	15.2
7/24/91	1	1,5833833	0.017	< 0.001	19.4	7/25/91	1	1,5833838	0.025	< 0.001	62.8	7/26/91	1	1,5833843	0.057	ND	154.9
	2	2,5833834	0.106	< 0.001	43.2		2	2,5833839	0.094	< 0.001	60.9	7/29/91	1	1,5887356	0.027	< .001	30.1
	3	3,5833835	0.023	< 0.001	32.2		3	3,5833840	0.015	< 0.001	54.5	7/30/91	1	1,5887353	0.032	< 0.001	32.7
	4	4,5833836	0.013	< 0.001	42.3		4	4,5833841	0.007	< 0.001	45.6	7/31/91	1	1,5887361	0.027	ND	34.6
	5	DAMAGED SAMPLE FILTER					5	5,5833842	0.002	< 0.001	35.0	8/1/91	1	1,5887350	0.024	< .001	27.3
8/2/91	1	SAMPLE DAMAGED				8/5/91	1	1,5887349	0.021	< 0.001	59.6						

1 The lower detection limits for copper, mercury, and total dust are 3.0 µg, 0.07 µg, and 100 µg respectively. Concentrations in µg/m³ are determined by dividing the total constituent weight retained in the sample filter by the volume of air transferred through the filter during the sampling interval.

The results of the personnel air monitoring program are provided in Table 5. The actual personnel air monitoring program varied from the original program presented in the Site Health and Safety Plan provided in the RD. Personnel air monitoring was performed daily through June 19, 1991. At this point, the results of the personnel air monitoring were evaluated, and were determined to be well below the permissible limits. The respiratory protection was accordingly downgraded from half-face respirators to no respiratory protection unless ambient dust conditions, as monitored by the on-site health and safety officer, warranted the use of respiratory protection. Copper was not detected in the personnel air monitoring samples at a detection limit of 3 grams (g) for the filter analysis. Mercury concentrations ranged from non-detectable to less than 0.01 mg/m^3. The detection limit for the mercury analysis was 0.5 g. Alkaline dust levels ranged from non-detectable to 0.8 mg/m^3. The detection limit for alkaline dust was 0.2 mg.

The permissible exposure limit provided in 29 CFR 1910.1000 for copper and mercury are 1 ug/m^3 and 50 ug/m^3 respectively. The Threshold Limit Value (TLV) for total alkaline dust based on calcium oxide and established by the American Conference of Government Industrial Hygienists (Cincinnati, Ohio; 1989) is 2 mg/m^3. The measured personnel exposure concentrations are below these permissible limits.

2.6 EXCAVATION ACTIVITIES

2.6.1 Overview of Excavation Activites

Two excavators worked concurrently for the duration of the project in separate areas of the magnesia pile. Uncontaminated overburden material was typically excavated and stockpiled proximate to the excavation. A ground technician was present at all times during excavation work to provide guidance for the equipment operator to locate and segregate the waste material. The trench areas were excavated in 6-inch lifts so that ground technicians could monitor any color or physical changes relevant to segregation of the magnesia material. Field personnel were briefed daily by the IT project manager and field superintendent regarding criteria for the segregation of overburden and waste material. Uncontaminated overburden in the copper trench areas was identified visually as light gray material, without obvious copper particle staining or conspicuous presence of copper pellets. Copper-contaminated material was obviously copper/brown stained and often contained discrete copper pellets. Samples of magnesia material from the RI, that had been analyzed as mercury contaminated and archived, were provided by Leslie Salt and were used as a reference by the ground technicians for segregating the suspected mercury- contaminated magnesia. Reference samples of copper-contaminated magnesia material were also prepared for use by the ground technicians.

Excavation was performed using a 6644 Koehring excavator and an Hitachi EX-200 excavator. Two, 10 cubic yard capacity dump trucks were used to transport contaminated material directly to the stockpile area. The excavations were sloped in accordance with 29 CFR 1926.652 (B1) which provides that unclassified soil will be sloped at 34 degrees or one (vertical) to one and one-half (horizontal). The cut slopes appeared to be stable throughout the field construction activities.

2.6.2 Excavation and Stockpiling

Figure 5 shows the existing pre-excavation site topography, based on a topographic and volume survey performed on the fourth day of excavation activities. The volume survey was performed by Earl Gray, a California licensed surveyer. An estimate of the pre-existing grade (i.e. ground surface prior to

TABLE 5

PERSONNEL AIR MONITORING RESULTS

Sampling Information			Concentration, mg/m^3[1]		
Date	Trench Area	Sample I.D.	Copper	Mercury	Dust
5/28/91	6,7	FMC TD04			0.8
	5,8	FMC Cu05	ND		
	5,8	FMC Hg06		< 0.01	
5/29/91	6,7	FMC TD07			ND
	6,7	FMC Cu08	ND		
	C,D	FMC Hg09		< 0.01	
5/30/91	8,3	FMC TD10			0.6
	8,3	FMC Cu11	ND		
	6,7	FMC Hg12		ND	
6/5/91	Decon Pad	FMC TD16			0.4
	6,7	FMC Cu17	ND		
	6,7	FMC Hg18		ND	
6/6/91	30	FMC TD22[2]			0.6
	Stockpile	FMC Cu23[2]	ND		
	30	FMC Hg24[2]		< 0.01	
6/19/91	26, 30	FMC Hg28[2]		0.01	
		FMC Hg29[2]		0.01	
6/28/91	26	FMC Hg31		ND	
	9,10	FMC Cu32	ND		
7/22/91	5,6,7 & Stockpile	FMC TD35	filter lost		
	5,6,7 & Stockpile	FMC Cu36	ND		
	Stockpile	FMC Hg37		ND	
7/30/91	Stockpile	FMC Cu42	ND		
8/5/91	Stockpile	FMC Cu44	ND		

[1] The lower detection limits for copper, mercury, and total dust are 3.0 g, 0.5 g, and 0.2 mg respectively. Contaminant concentrations in mg/m^3 are determined by dividing the total constituent weight retained in the sample filter by the volume of air passed transferred through the filter during the sampling interval.

[2] Air sample collection logs are not on file, results have not been validated.

excavation) at Trench Areas 5, 6, and 7 and C and D was provided by the IT construction superintendent, and is expected to be accurate to within ±1 foot. Figure 5 also shows for reference the trench areas delineated for removal in the RI.

The excavation sequence and use of a dedicated dump truck for each trench area ensured that the copper and potentially mercury contaminated material were kept separate. Each excavator worked on one excavation at a time. Two types of material were removed from each trench area: 1) overburden, or non-contaminated magnesia material, and; 2) obviously contaminated material and potentially contaminated material. Overburden material was placed proximate to the excavation by the excavator. Obviously copper-contaminated material was immediately placed in the dump truck and transported to the stockpile area. Potentially contaminated material in the mercury trench area was transported to on-site interim stockpiles pending receipt of analytical results.

Dump trucks entered the stockpile area from the west and backed into the stockpile zone. The load was dumped in this area and placed in the pile with a dedicated Fiat-Allis FR11 loader. The dump truck exited the stockpile area to the west and returned to the excavation area. The stockpile area was designed to hold 14,000 cubic yards of waste. The stockpile height was typically maintained at a maximum height of 10 feet. At the end of each day the stockpile was covered with visqueen and properly secured to prevent uplift by the wind. Operations in the stockpile area were conducted to avoid liner damage.

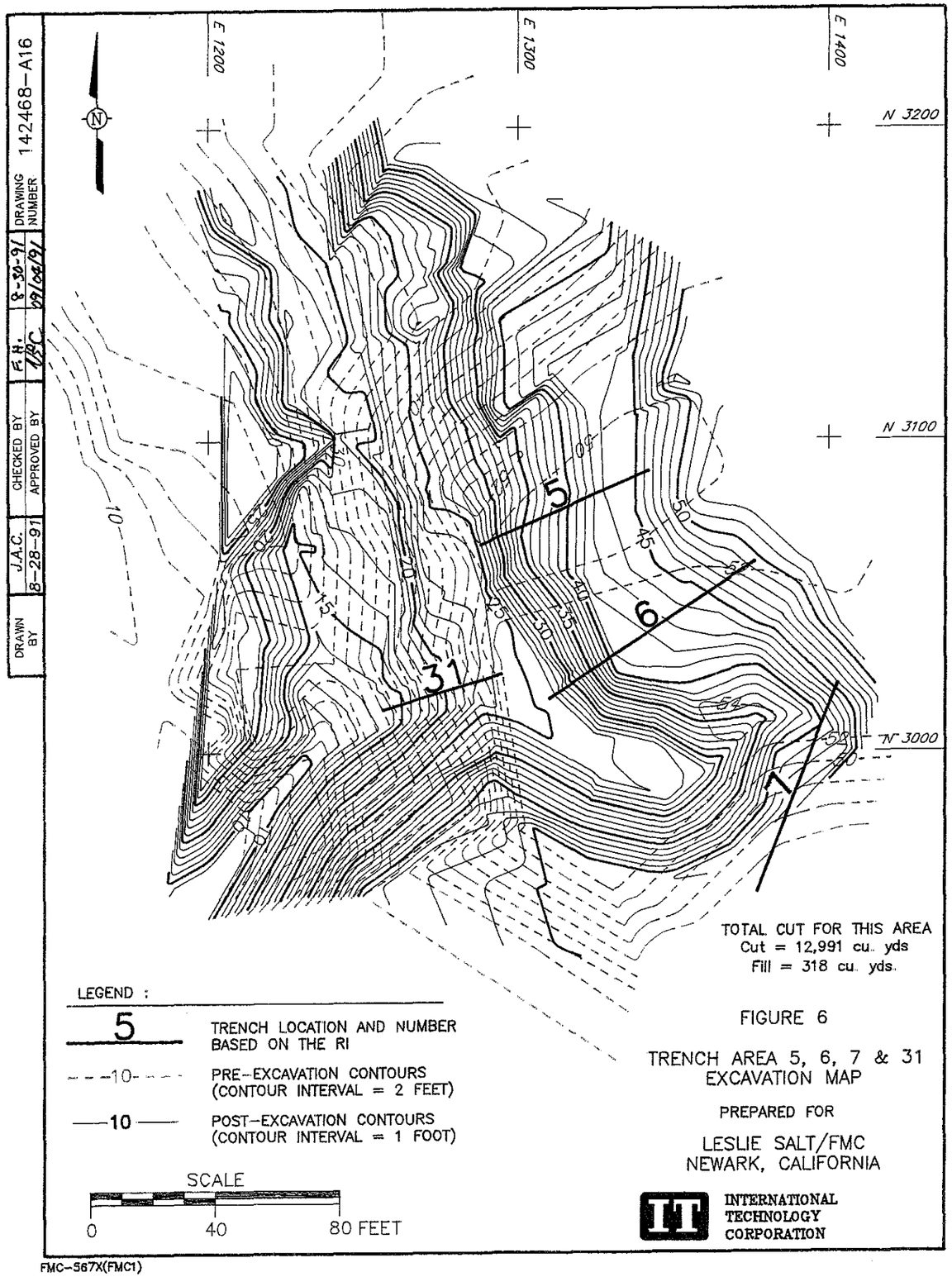
Trench Area 5, 6, and 7

Excavation of Trench Areas 5, 6, and 7 with the Koehring excavator began May 28, 1991. Construction began on the southeast corner of this trench area. Copper pellets were described in the RI to be present from a depth of about 2 feet to depths between 25 and 27 feet within this portion of the excavation. Copper pellets were first encountered on May 31 at approximately 13 feet below the pre-existing grade just southeast of Trench 7. Later this day, pellets were uncovered at the expected depth between 25 and 27 feet. These pellets were present between the south end of Trenches 6 and 7.

On June 5, the excavation and removal of copper pellets continued northward toward the southwest end of Trench 6. The zones of copper pellets extended outside the southwestern boundary of the copper contaminant zone specified in the remedial design. The Koehring completed excavation of the southeast portion of Trench Areas 5, 6, and 7 on June 7. The excavation for Trench Areas 5, 6 and 7 is shown on Figure 6.

The Koehring excavator moved to the northern portion of Trench Area 5, 6, and 7 on June 25. Excavation and pellet removal proceeded through the northwestern zone of Trench 5, 6, and 7 through July 9, 1991. The crew continued to locate pellets west of the end of Trenches 6 and 7 outside the contaminant zones specified in the RI. Pellet zones continued far west of Trench 6 onto the western slope of the magnesia pile and northward near the Trench 31 area. The last of the pellets were encountered just northwest of Trench 5 on July 22. The work crew performed final surficial scraping and clean-up of the excavation bottom on July 22. The Koehring crew was intermittently moved from Trench Area 5, 6, and 7 between June 25 and July 22 to conduct excavation activities in Trench Areas 26, and 14 and 15.

The Trench 5,6, and 7 volume survey indicated that 12,991 cubic yards of material were cut and moved from the area. The volume survey performed by ELG SURVEYING (Earl L. Gray, Licensed Surveyor) is provided in Appendix D. Approximately 3,293 tons of copper-contaminated magnesia material and pellets were removed from this area. This estimate is based on the total count of dump truck loads moved



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from Trench 5, 6, and 7 and a fixed tonnage per truck load.

Trench Area C and D

Excavation of Trench Areas C and D began on May 28, 1991. Large copper pellet lenses, approximately 2 feet thick, were encountered between depths of 5 and 6 feet. These pellet layers were located somewhat deeper than the surface to 4 foot depth specified in the RI. These pellet zones were found in the middle of Trenches C and D and continued past the south ends of Trenches C and D. The excavation for Trench Areas C and D is shown in Figure 7.

The surveyor's volume estimate indicated that 525 cubic yards of material were cut from Trench areas C and D. Approximately 468 tons of copper pellet/magnesia mixture were transported from Trenches C and D.

Surface Area near Trench 30, and Trenches 9, 10 and 11

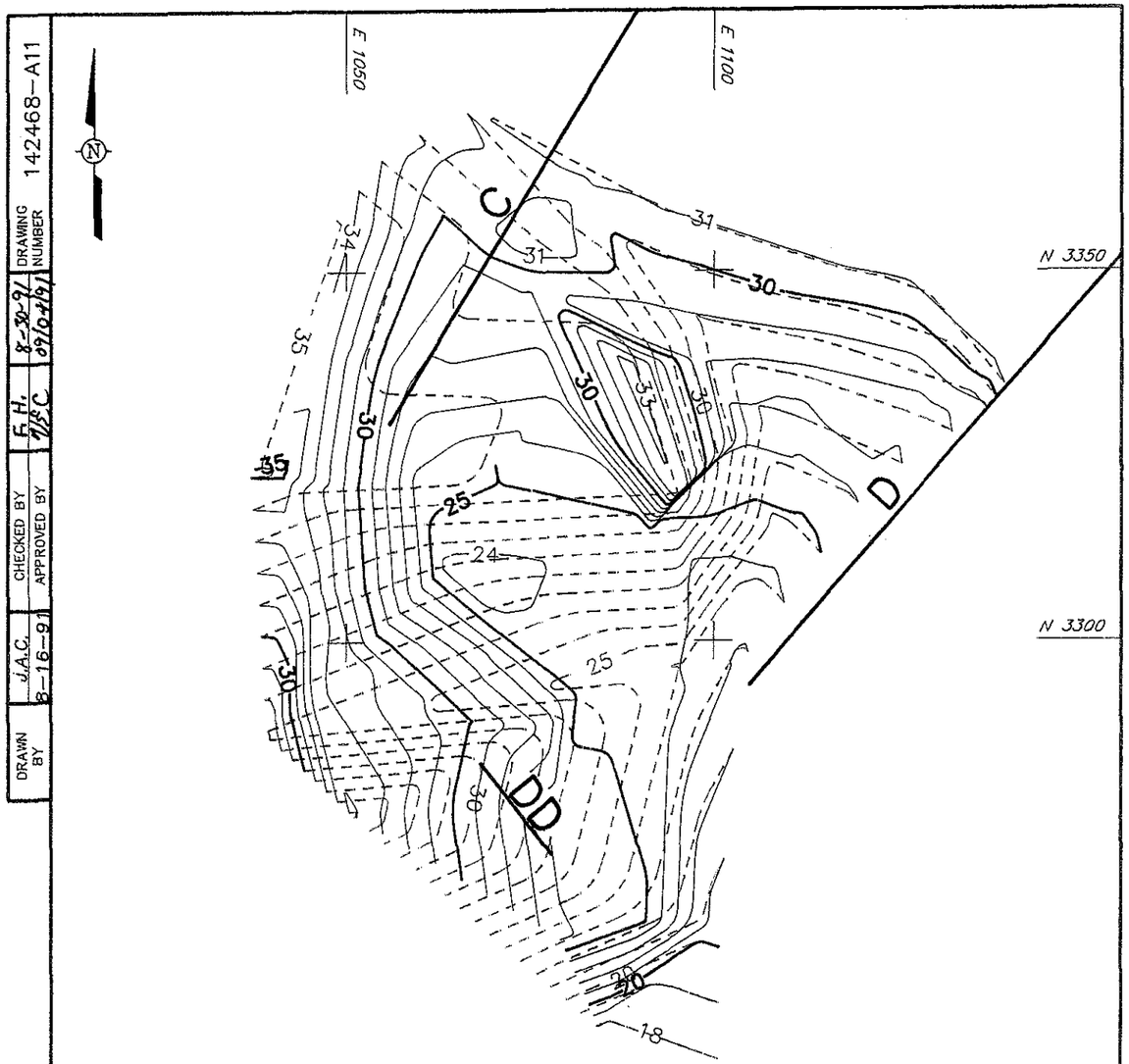
Shortly after excavation of the designated trench areas contained in the RI began; IT personnel observed copper pellets on the magnesia pile surface extending northwest and south of Trench Areas 11 and 30 as shown on Figure 8. The pellets were visible on the ground surface and appeared to extend approximately 6 inches deep during the initial field reconnaissance. The surficial contamination was estimated to cover an area of approximately 25,000 ft^2 and consisted of 500 cubic yards of material.

Removal of the surface material began on June 30 using the Hitachi excavator, and was completed June 10. The Koehring excavator and crew assisted the Hitachi crew on June 7 and 10 with surficial removal. A visual survey of this area once the removal operations were complete suggested that the majority of the obvious copper pellets were removed. The surface area in which copper pellets were removed is shown on Figure 8.

Trench Areas 1, 2, 3 and 4; 9, 10 and 11; and 30

Trench Areas 1, 2 and 3; 9, 10 and 11; and 30 were designated as separate trench areas for removal in the RD. During excavation, additional copper-contaminated material was encountered north and west of Trench Area 30. The copper pellets continued north through Trench 30 and into Trench Area 9 and 10. Pellets in Trench Area 9 and 10 continued further north to the access road just southeast of Trench Area C and D. Pellets also extended east of Trenches 9 and 10 and became contiguous with Trench Area 1, 2 and 3. The excavation performed in this area is shown on Figure 9.

The Hitachi excavator and work crew began excavating Trench Area 30 on May 28, 1991. During this initial excavation, surficial copper pellets in the vicinity of Trench Areas 11 and 30 were observed. On May 28, the Hitachi work crew was relocated to Trench Area C and D. Following completion of the excavation in Trench Area C and D, work on Trench 30 was re-initiated on June 5. During excavation on June 6, copper pellets were found to continue eastward into the magnesia pile side slope and west under a subsidiary site access route which flanks the southwest portion of the magnesia pile. By the end of the day on June 6, copper pellets could no longer be detected in the magnesia pile side slope west of Trench 30; however, pellets continued west and north beneath the access road. Continued excavation north and west of Trench 30 revealed the presence of thick copper pellet zones between depths of 4 to 6 feet and at 8 feet. These bands of pellets ranged from 4 inches to one foot in thickness. These zones of copper pellets were encountered between Trenches 11 and 30. Excavation in this area continued



DRAWN BY	J.A.C. 8-16-91	CHECKED BY / APPROVED BY	F.H. 7/15/C	8-30-91 09/04/91	DRAWING NUMBER	142468-A11

LEGEND :

C — TRENCH LOCATION AND NUMBER BASED ON THE RI

---10--- PRE-EXCAVATION CONTOURS (CONTOUR INTERVAL = 1 FOOT)

—10— POST-EXCAVATION CONTOURS (CONTOUR INTERVAL = 1 FOOT)

TOTAL CUT FOR THIS AREA
Cut = 525.3 cu. yds.
Fill = 0.7 cu. yds.

SCALE
0 20 40 FEET

FIGURE 7

TRENCH AREA C, D
EXCAVATION MAP

PREPARED FOR

LESLIE SALT/FMC
NEWARK, CALIFORNIA

INTERNATIONAL TECHNOLOGY CORPORATION

FMC-CD-X(FMC1)

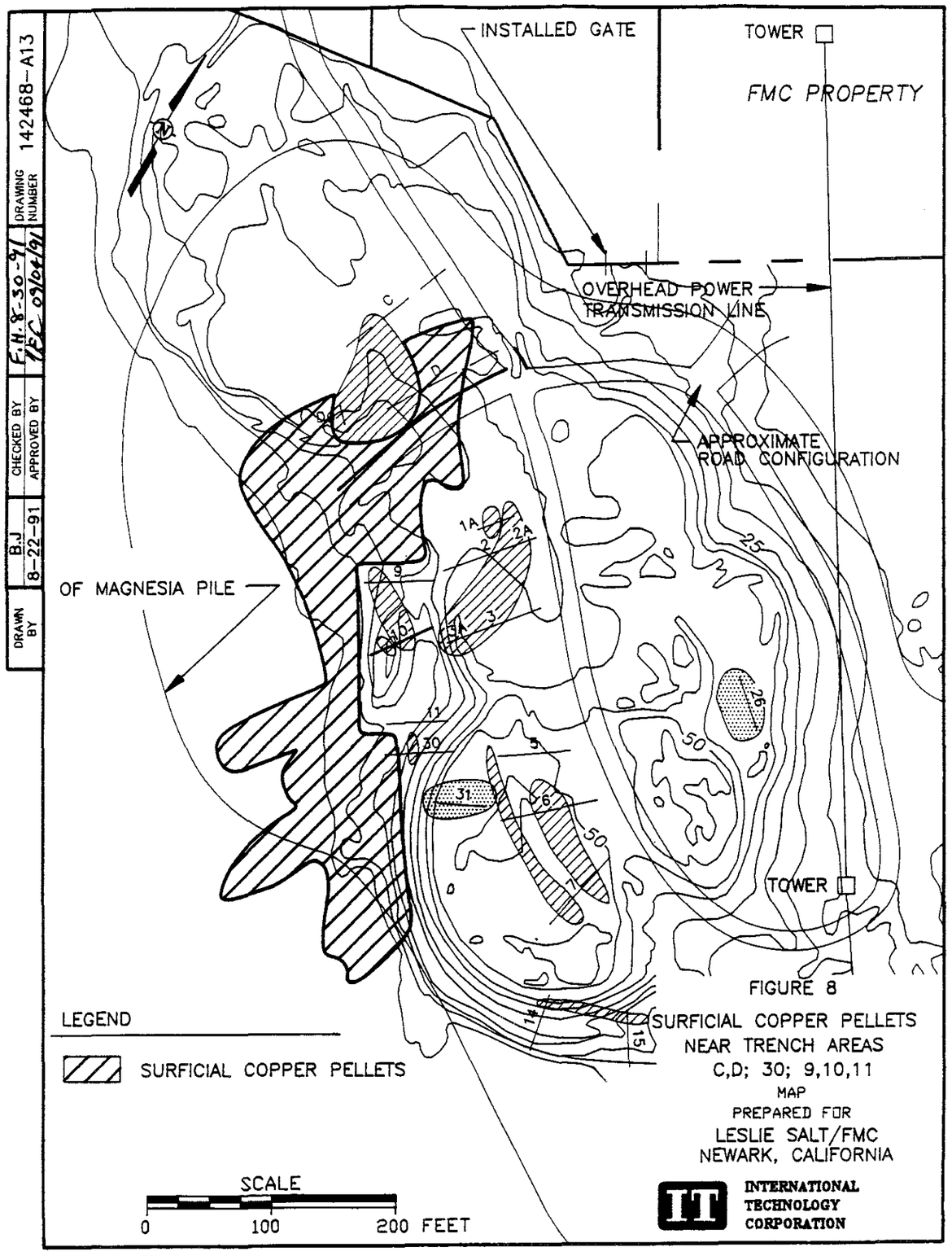
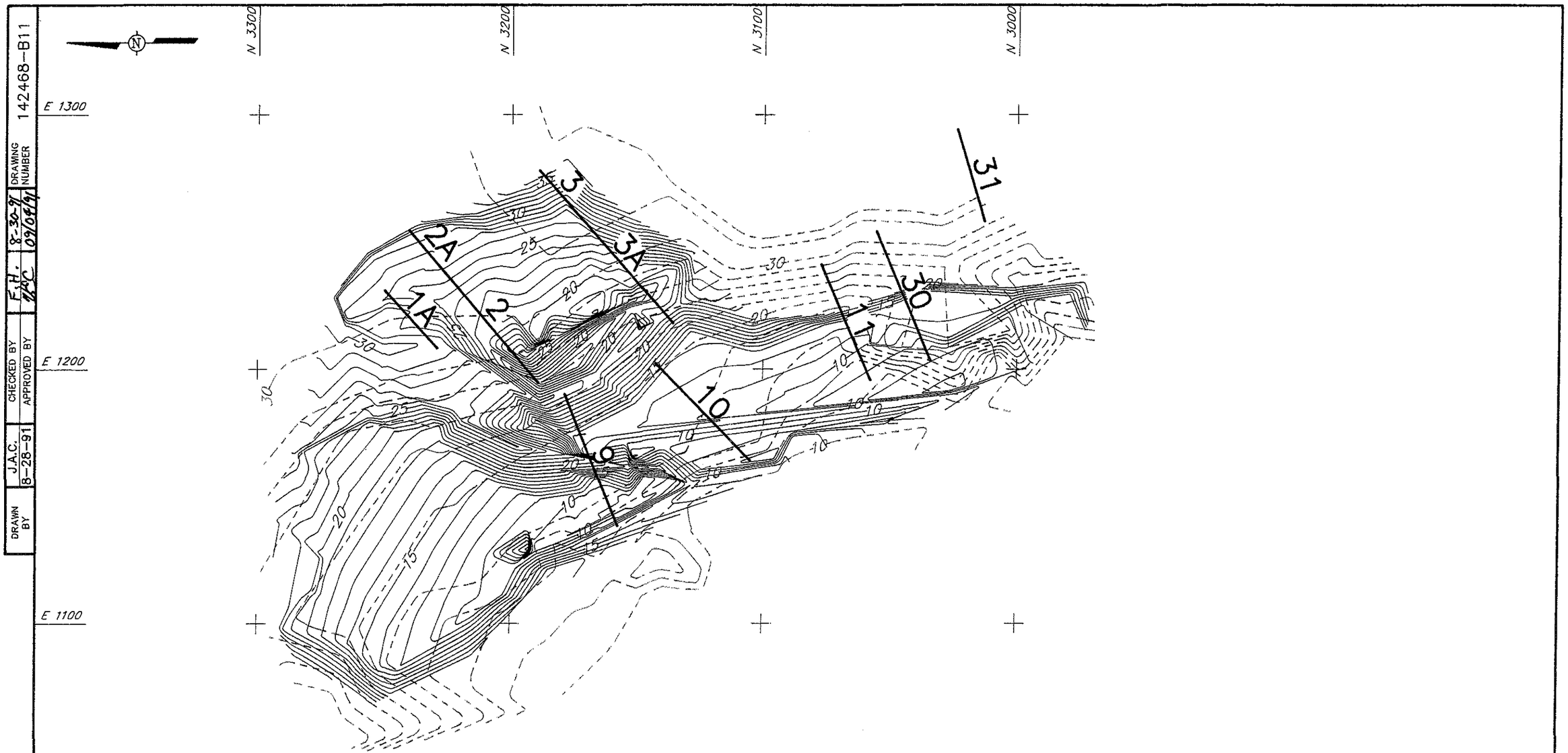


FIGURE 8
SURFICIAL COPPER PELLETS
NEAR TRENCH AREAS
C,D; 30; 9,10,11
MAP
PREPARED FOR
LESLIE SALT/FMC
NEWARK, CALIFORNIA

LSF-PELT(LSF3)



LEGEND :

5 — TRENCH LOCATION AND NUMBER BASED ON THE RI

- - -10- - - PRE-EXCAVATION CONTOURS (CONTOUR INTERVAL = 2 FEET)

——10—— POST-EXCAVATION CONTOURS (CONTOUR INTERVAL = 1 FOOT)

TOTAL CUT FOR THIS AREA
Cut = 5177.8 cu. yds
Fill = 92.9 cu. yds.

SCALE

0 40 80 120 FEET

FIGURE 9

TRENCH AREA 1, 2, 3, 9, 10, 11; AND 30 EXCAVATION MAP

PREPARED FOR

LESLIE SALT/FMC
NEWARK, CALIFORNIA

INTERNATIONAL TECHNOLOGY CORPORATION

FMC9-10X(FMC1)

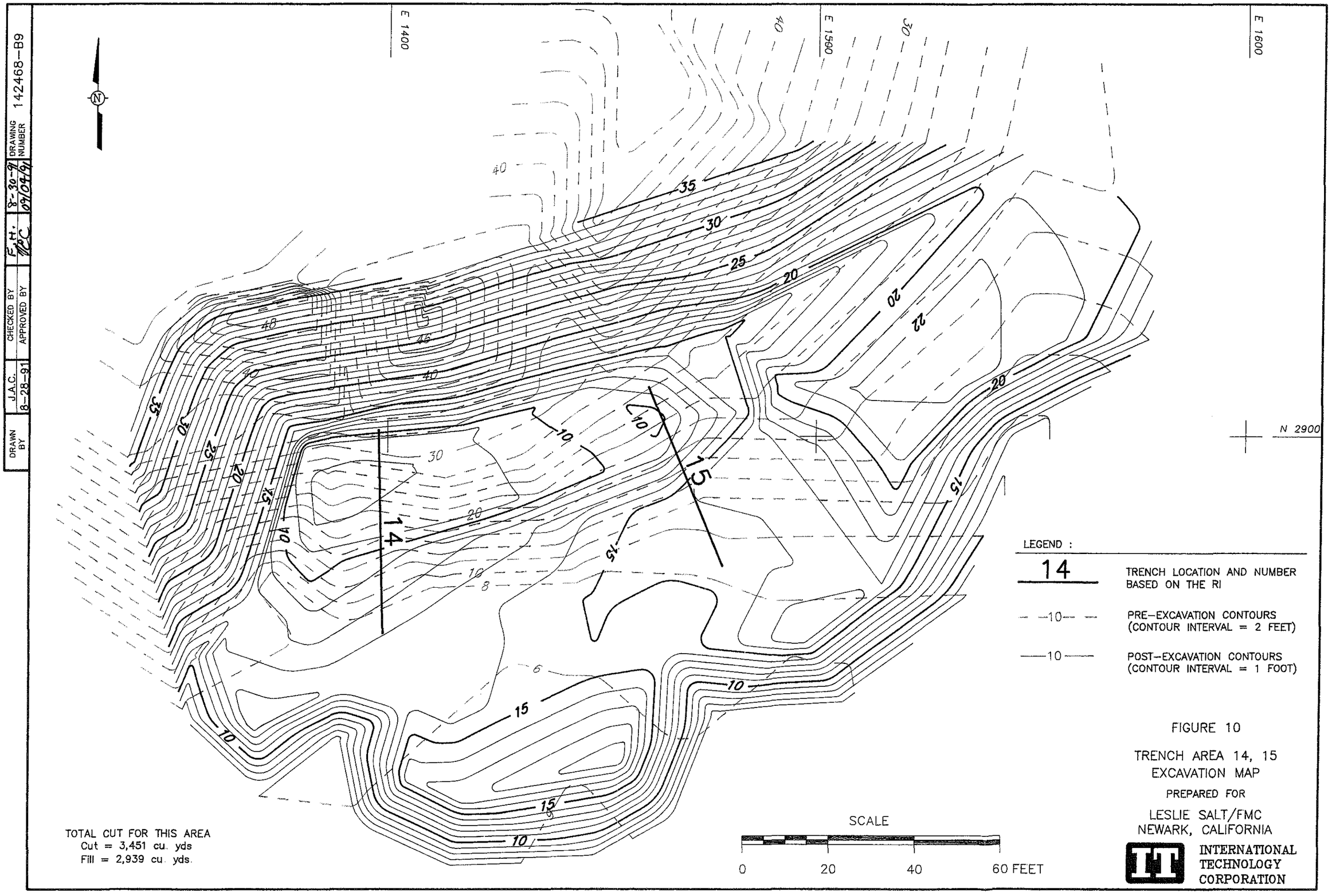


FIGURE 10

TRENCH AREA 14, 15
EXCAVATION MAP

PREPARED FOR

LESLIE SALT/FMC
NEWARK, CALIFORNIA

FMC1415X(FMC1)

Trench Area 26

The Koehring excavator and work crew initially began excavation in Trench Area 26 on June 10, 1991. The entire project was shutdown between June 11 and June 17 due to contract negotiations between IT and FMC. Excavation resumed on June 18 in the Trench 26 area; however, the equipment operators were ordered to stop excavating on June 19 because a protocol for segregating the potentially-contaminated mercury magnesia material had not been established. The excavation was approximately 10 feet deep at this time.

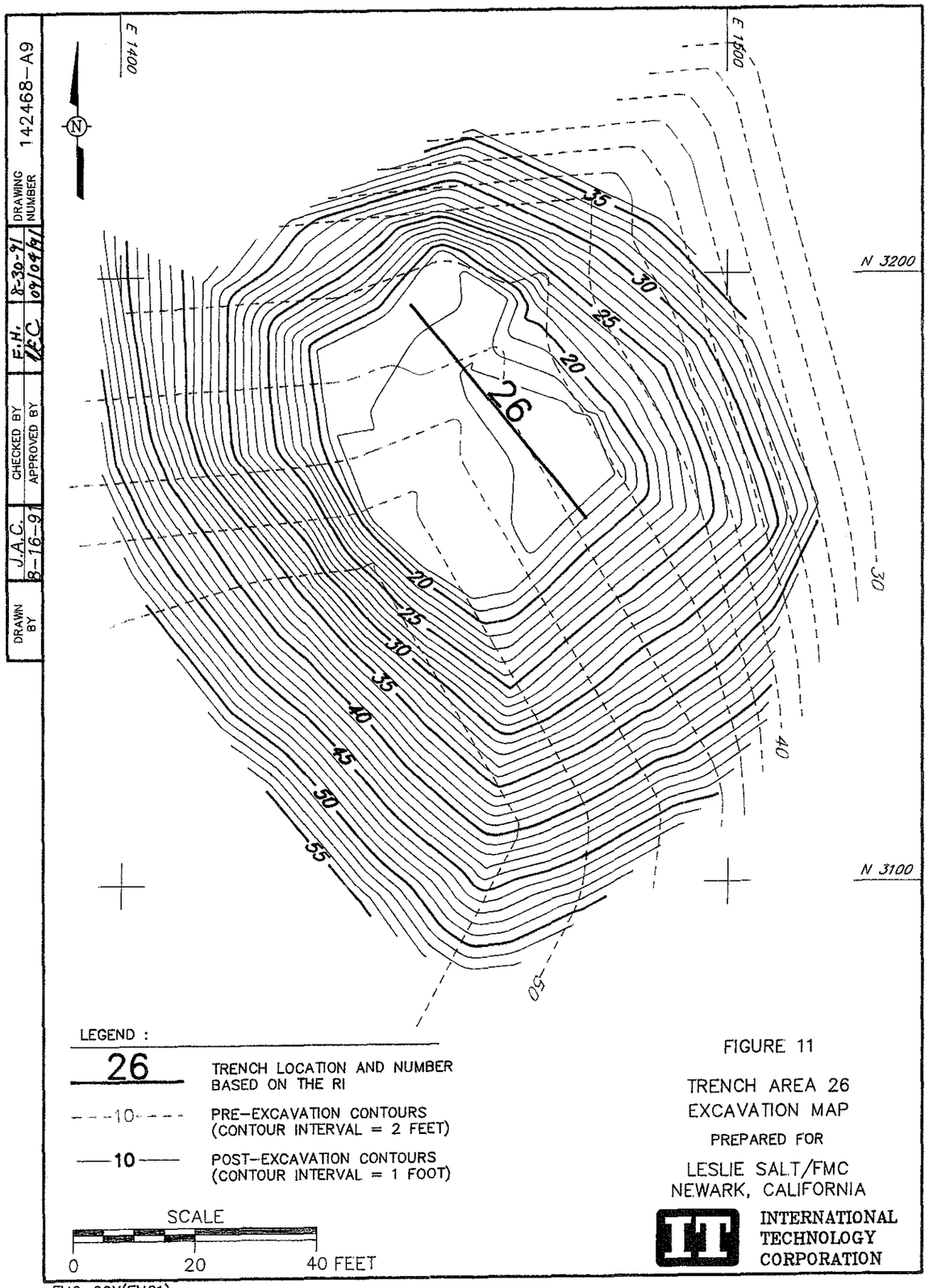
Following joint discussions between IT, FMC and DHS; a protocol was established for segregating and evaluating the potentially mercury-contaminated magnesia material. This protocol was described in the DHS letters dated July 1 and July 16, 1991: provided in Appendix F. This protocol consisted of the following: 1) Utilize an archived sample from the RI previously analyzed as being mercury contaminated for comparison with the magnesia material in the trench area. Material which appeared to be discolored a darker gray could be considered potentially contaminated. 2) Transport the potentially mercury-contaminated material to an interim, visqueen-lined stockpile area on the magnesia pile; 3) Obtain composite samples from each stockpile in the area to characterize the segregated material; 4) Depending on the measured mercury concentrations, either transport the material to the loadout stockpile or leave the material on the magnesia pile and survey the final location of this material.

Excavation and stockpiling for Trench 26 began on June 26. The ground technician used a sample from the remedial investigation archive as a field control to separate apparent uncontaminated magnesia overburden from potentially mercury-contaminated magnesia. Overburden was placed adjacent to the excavation and magnesia material observed to be darker gray in color was segregated, loaded in a dedicated dump truck, and transported to the dedicated Trench 26 interim stockpile area just north of Trench Area C and D on the east side of the access road, as shown on Figure 17. The rate of excavation slowed on July 2 due to an increase in the amount of dark gray material. Excavation proceeded slowly to the completion depth of 25 feet, which was reached on July 8, 1991.

Approximately 1,450 cubic yards of potentially mercury-contaminated magnesia material were placed in the Trench 26 interim stockpile area (Section 2.7.3.2, Figure 17). A total of 29 stockpiles, each consisting of 50 cubic yards were placed in the interim stockpile area. One composite sample was submitted for analysis for every 50 cubic yards of material. Eight individual subsamples were randomly collected throughout each individual stockpile and composited for analysis. The measured mercury concentrations in the composite samples were below the criteria established for comparison by DHS, which consisted of the TTLC value for mercury (20 mg/kg) divided by the number of samples forming the composite sample. In the case where 8 samples formed the composite, the analytical results were compared to a criteria of 2.5 mg/kg. Details of the sampling protocol and analytical results are provided in Section 2.7.3. As agreed with DHS, excavated mercury material that did not exceed the established criteria could be left on site, as long as the final location of the material was surveyed and located. The interim stockpile was graded and contoured in place, and the location of this material is shown on Figure 20 in Section 2.8. The volume survey indicated that 6,484 cubic yards of material were excavated from Trench 26. The excavation for Trench Area 26 is shown on Figure 11.

Trench Area 31

Excavation of Trench Area 31 began July 7 and was completed July 8. One dump truck load (approximately 50 cubic yards) of potentially mercury-contaminated magnesia material was segregated and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J.A.C.
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CHECKED BY
APPROVED BY
E.H.
8-30-91
09/04/91
DRAWING NUMBER
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E 1500
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N 3100
N
26
35
30
25
20
20
25
30
35
40
45
50
55
30
40
50
LEGEND :
26
TRENCH LOCATION AND NUMBER BASED ON THE RI
10
PRE-EXCAVATION CONTOURS (CONTOUR INTERVAL = 2 FEET)
10
POST-EXCAVATION CONTOURS (CONTOUR INTERVAL = 1 FOOT)
SCALE
0
20
40 FEET
FIGURE 11
TRENCH AREA 26
EXCAVATION MAP
PREPARED FOR
LESLIE SALT/FMC
NEWARK, CALIFORNIA
INTERNATIONAL
TECHNOLOGY
CORPORATION

FMC-26X(FMC1)

placed in a designated interim stockpile located north of Trench 26, shown on Figure 18 in Section 2.7.3.2. Approximately 50 cubic yards of potentially mercury-contaminated magnesia material were removed from Trench 31. Excavation in the area of Trench 31 is shown on Figure 6.

2.7 VERIFICATION AND WASTE SAMPLING

2.7.1 Overview

Verification sampling for the removal of contaminated material was performed at the completion of contaminated material removal from each excavation. Samples of the magnesia material were obtained from the base and the sidewalls of the excavation, and were analyzed for either total copper or mercury, depending on the trench location. The sampling program described in the RD was designed to provide sufficient verification that the contaminated magnesia material had been removed. The remedial action guidelines for the removal of copper and mercury are the TTLC limits for copper and mercury of 2,500 mg/kg and 20 mg/kg, respectively.

Methods described in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW-846, U.S. EPA, September 1986 were used to estimate the number of samples needed to obtain a statistically valid determination that contaminated material having concentrations above the TTLC limits had been removed. Values for the sample mean value (concentration) and variance were assumed, and equations provided in SW-846 were used to estimate the required number of samples. This exercise indicated that two samples per discrete area (i.e. base of excavation) would be required. SW-846 suggests that more samples than the minimum number calculated be collected to ensure that re-sampling will not be required, and that the results will be statistically valid.

2.7.2 Verification Sampling

Verification Sampling Protocol

The sampling plan proposed in the remedial design specified that 16 samples (total) would be collected and analyzed for each excavation. A total of six random samples were to be collected from the base of each excavation. The RD also proposed that a total of 10 samples be collected from the sidewalls of each excavation. The 10 samples would each be composites of three discrete sub-samples. This sampling plan could potentially result in a relatively high sampling density in the smaller excavations and a relatively low sampling density in larger excavations. At the time the RD was prepared, it was anticipated that the excavations would all be approximately the same size, with the similiar base and sidewall areas, based on the results of the RI and RAP.

However, the excavation performed in the field uncovered additional contaminated material and the excavations assumed differing sizes. As described in the RD, the nine copper and mercury trench areas had a combined surficial area of approximately 20,150 square feet. Assuming that 9 independent areas are excavated and that 16 samples per excavation are collected, one sample would be collected for about 118 square feet of excavation. Several weeks into the project, it became apparent that the excavations would have much different sizes, and the set number of samples per excavation would lead to a lack of samples in the very large excavations and more samples than required in the smaller ones. It was decided, with the concurrence of the supervising professional engineer, to be consistent with the intent of the RD

sampling program and maintain a sampling density of about one sample per 135 square feet. This change provided a consistent sampling density for all excavation areas.

The samples from the excavation base were randomly located and spaced so a representative sampling was obtained. Samples were obtained in areas in which pockets of contaminated material had been observed during excavation. Approximately one sub-sample was collected for every 8 feet of vertical excavation sidewall; these samples were then composited into one sample to represent a vertical sidewall section and submitted to the laboratory for analysis. The sub-samples were composited by the analytical laboratory.

Samples were collected from the base and sidewalls of the excavation using an impact driven California modified sampler containing stainless steel sample tubes. The sampler was always driven deep enough to fill the sample tube to a minimum of 70% full. After collection, the sample tubes were sealed at each end with teflon film, capped, and sealed with duct tape. The sampling tubes were labeled with the date and time of collection, project name/number, sampler's name, and sample identification. The samples were subsequently placed in ziploc storage bags and placed in a cooler on ice. Sample collection was documented on Sample Collection Logs and Daily Field Activity Logs. The samples were entered into IT standard chain-of-custody procedures. The samples were accompanied by chain-of-custody and request-for-analysis forms.

The samples were transported via courier to the Sequoia Analytical Laboratory (Sequoia) in Redwood City, California. Sequoia is certified by the California Department of Health Services. Samples were analyzed for either copper using EPA Method 6010, or mercury using EPA Method 7471. The sample holding times are six (6) months for copper and 28 days for mercury. Upon receipt of analytical results, the statistical validity was verified using the methods specified in SW-846.

Five gallon plastic buckets were used to contain the aquinox solution and the rinse water used for decontamination purposes. Decontamination of sampling tools consisted of an initial wash with an Aquinox and water solution, followed by two rinses with tap water. Sample tubes recently shipped from the factory were decontaminated prior to field use by washing in an Aquinox and water solution, rinsing with tap water and rinsing with distilled water. The tubes and caps were air dried and packed in new polyethylene bags for field use. The California modified sampler was decontaminated prior to collecting each sample. The decontamination water was collected in the buckets and transferred to the equipment decontamination pad sump and subsequently used for dust suppression on the contaminated material stockpiles.

Verification Sampling Results

Verification sampling for copper was conducted in Trench Areas C and D; 1, 2, 3, 9, 10, 11 and 30; 5, 6 and 7; and 14 and 15. Verification sampling for mercury was conducted in Trench Areas 26 and 31. Verification sampling for naphthalene and waste oil was conducted in the eastern portion of Trenches 14 and 15. The certificates of analysis and chain-of-custody forms for these samples are provided in Appendix C.

Table 6 provides a summary of the analytical results for the verification sampling in the trenches formerly containing copper-contaminated magnesia material. The results of the statistical analysis of these values are provided in Table 7. The number of samples in each excavation sidewall composite sample are also provided in Table 6. Analytical results for composite samples were compared to the TTLC value for either copper or mercury, divided by the number of samples in the composite. This approach is based on

TABLE 6

VERIFICATION SAMPLING RESULTS FOR COPPER CONTAMINATED MAGNESIA AREAS

Completed Excavation Area	Sample I.D.	Number of Samples in Composite[2]	Copper mg/kg[1]	Sample I.D.	Number of Samples in Composite[2]	Copper mg/kg[1]
Area 1-2-3-4, 9-10-11 and 30	123-1		35	9/10-9	2	110
	123-2		31	9/10/10	2	18
	123-3		35	9/10-11	2	18
	123-4		26	9/10-12		62
	123-5		30	9/10-13		53
	123-6		35	9/10-14		45
	123-7		41	9/10-15		45
	123-8		30	9/10-16		34
	123-9		25	9/10-17		39
	123-10		28	9/10-18		32
	123-11		26	9/10-19		30
	123-12		28	9/10-20		30
	123-13		26	9/10-21		28
	123-14		24	9/10-22		28
	123-15		22	9/10-23		33
	123-16		25	9/10-24		32
	9/10-1		43	9/10-25		31
	9/10-2		40	9/10-26		31
	9/10-3		30	9/10-27		31
	9/10-4		34	9/10-28	2	4
	9/10-5		31	9/10-29	2	(ND)
	9/10-6		32	9/10-30	2	39
	9/10-7		32	9/10-31	2	730
	9/10-8		30	9/10-32	2	63

TABLE 6

VERIFICATION SAMPLING RESULTS FOR COPPER CONTAMINATED MAGNESIA AREAS

Completed Excavation Area	Sample I.D.	Number of Samples in Composite[2]	Copper mg/kg[1]	Sample I.D.	Number of Samples in Composite[2]	Copper mg/kg[1]
Area 1-2-3-4, 9-10-11 and 30	11-1		47	30-5		260
	11-2		40	30-6		15
	11-3	2	360	30-7	2	20
	30-1		120	30-8	2	27
	30-2		6.0	30-9	2	17
	30-3		54	30-10	2	79
	30-4		52			
Area 5-6-7	567-1		81	567-21	3	99
	567-2		74	567-22	2	240
	567-3		16	567-23	3	140
	567-4		10	567-24		29
	567-5		9.6	567-25		120
	567-6		44	567-26		ND
	567-7		60	567-27		92
	567-8		55	567-28		21
	567-9		250	567-29		46
	567-10		86	567-30	3	58
	567-11	3	33	567-31		130
	567-12	2	34	567-32		73
	567-13	3	34	567-33		42
	567-14	3	17	567-34		15
	567-15		80	567-35		42
	567-16		87	567-36		29
	567-17		86	567-37		33
	567-18		19	567-38		65

TABLE 6

VERIFICATION SAMPLING RESULTS FOR COPPER CONTAMINATED MAGNESIA AREAS

Completed Excavation Area	Sample I.D.	Number of Samples in Composite[2]	Copper mg/kg[1]	Sample I.D.	Number of Samples in Composite[2]	Copper mg/kg[1]
	567-19	3	17	567-39		57
	567-20	3	20	567-40		38
Area 5-6-7	567-41		91	567-45	2	77
	567-42		24	567-46	2	18
	567-43		42	567-47	2	30
	567-44	2	42	567-48	3	80
Area 14-15	14/15-1		40	14/15-5	3	55
	14/15-2		15	14/15-6	3	71
	14/15-3		34	14/15-7		63
	14/15-4	3	32	14/15-8		290
				14/15-9	3	520
Area C-D	CD-1		32	CD-6	2	43
	CD-2		31	CD-7	3	39
	CD-3		31	CD-8	2	9.8
	CD-4		29	CD-9		2.7
	CD-5		28	CD-10		5.1

1 Copper detection limit was 0.50 mg/kg

2 This number represents the number of subsamples in the excavation sidewall composite sample

Table 7

STATISTICAL ANALYSIS OF VERIFICATION SAMPLING
RESULTS FOR COPPER-CONTAMINATED MAGNESIA AREAS

Completed Excavation Area	Excavation Base Samples			Sidewall Samples		
	Mean[1] (mg/kg)	Confidence Interval[2] (mg/kg)	Cleanup Criterion[3] (mg/kg)	Mean[1] (mg/kg)	Confidence Interval[2] (mg/kg)	Cleanup Criterion[4] (mg/kg)
5,6,7,31	58	58 ± 11	2500	66	66 ± 21	833
14,15	88	88 ± 78	2500	170	170 ± 192	833
C,D	23	23 ± 7	2500	31	31 ± 20	1250
1,2,3,4; 9,10,11; and 30	39	39 ± 7	2500	133	131 ± 91	1250

[1] Calculated as $\bar{x} = (\sum_{i=1}^{n} x_i)/n$

[2] Confidence interval, $CI = \bar{x} \pm (t_{0.20})(s_{\bar{x}})$, where $t_{0.20}$ is the tabulated value of Student's "t" for a two-tailed confidence interval and a probability of 0.20, and $s_{\bar{x}}$ is the standard error calculated as $s_{\bar{x}} = s/(n)^{0.5}$

[3] Cleanup criterion is the TTLC limit for copper (Title 22, Section 66699 of the California Code of Regulations)

[4] Cleanup criterion is the TTLC limit for copper divided by the number of subsamples in the composite sidewall samples

the guidance provided by DHS regarding criteria for the composite sampling performed for the potentially mercury-contaminated magnesia material.

The locations of the verification samples for trench areas formerly containing copper are shown on Figures 12 through 15. Figure 12 presents the sample locations for Trench Area 5, 6, 7 and 31. Verification sampling results for this area indicated that residual copper concentrations ranging from 10 to 250 mg/kg were present. Calculations indicated a mean value of 59 mg/kg for the base samples and 66 mg/kg for the sidewall samples. The statistical analysis for these results indicated a confidence interval of 59 ±11 mg/kg for the base samples and 66 ±21 mg/kg for the sidewall samples. These results are below the applicable criteria of 2,500 mg/kg for the base samples and 833 mg/kg for the sidewall samples.

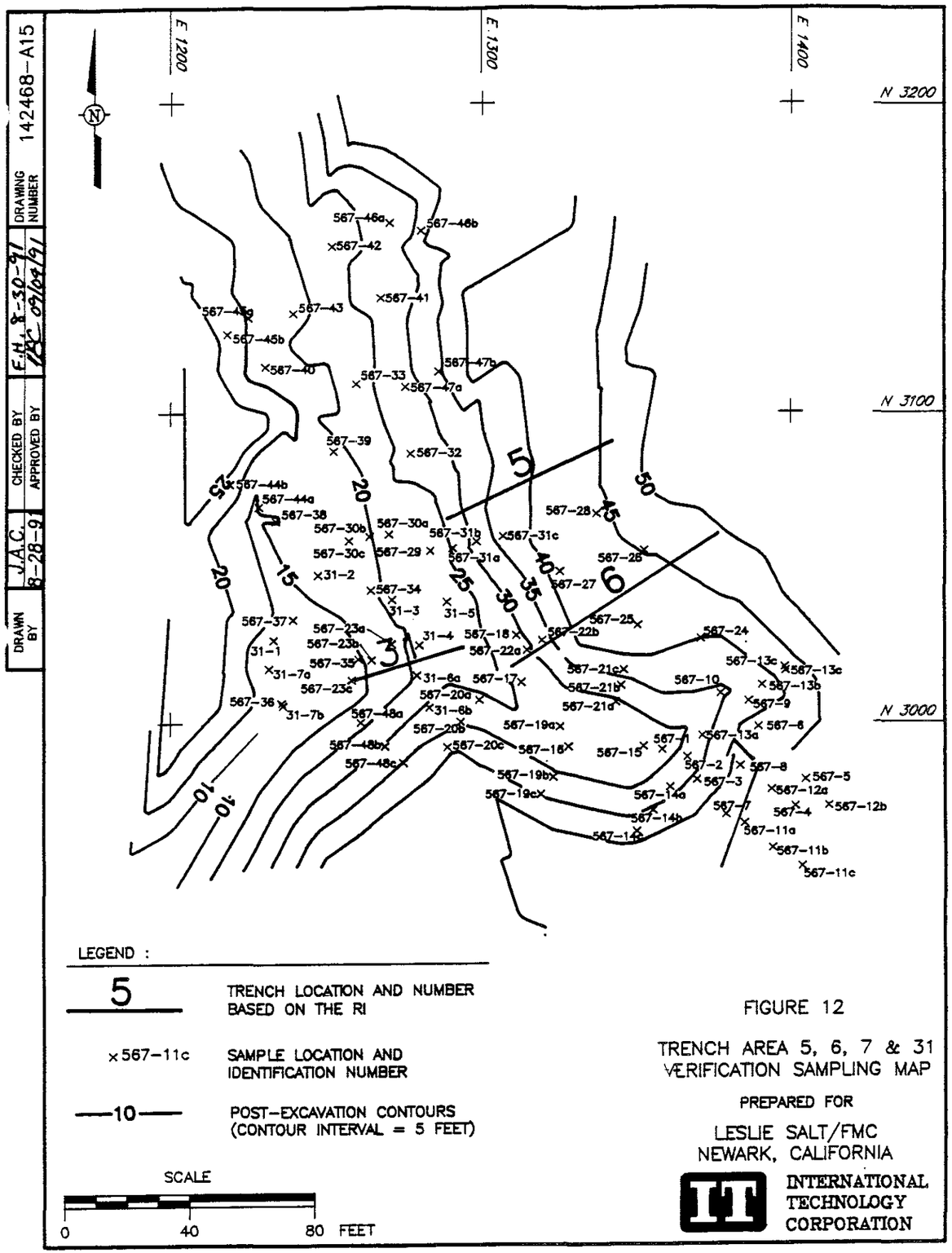
Figure 13 presents the sample locations for Trench Area C and D. Verification sampling results in this area indicated that residual copper concentrations ranging from 2.7 to 43 mg/kg were present. Calculations indicated a mean value of 23 mg/kg for the base samples and 31 mg/kg for the sidewall samples. The statistical analysis for these results indicated a confidence interval of 23 ±7 mg/kg for the base samples and 31 ±20 mg/kg for the sidewall samples. These results are below the applicable criteria of 2,500 mg/kg for the base samples and 1250 mg/kg for the sidewall samples.

Figure 14 presents the sample locations for Trench Areas 1, 2, 3, 4; 9, 10, 11; and 30. Measured residual copper concentrations in this excavation ranged from non detected at a detection limit of 0.5 mg/kg to 730 mg/kg. Calculations indicated a mean value of 39 mg/kg for the base samples and 133 mg/kg for the sidewall samples. Statistical calculations indicated a confidence interval of 39 ±7 mg/kg for the base samples and 133 ±91 mg/kg for the sidewall samples. These results are below the applicable criteria of 2,500 mg/kg for the base samples and 1,250 mg/kg for the sidewall samples.

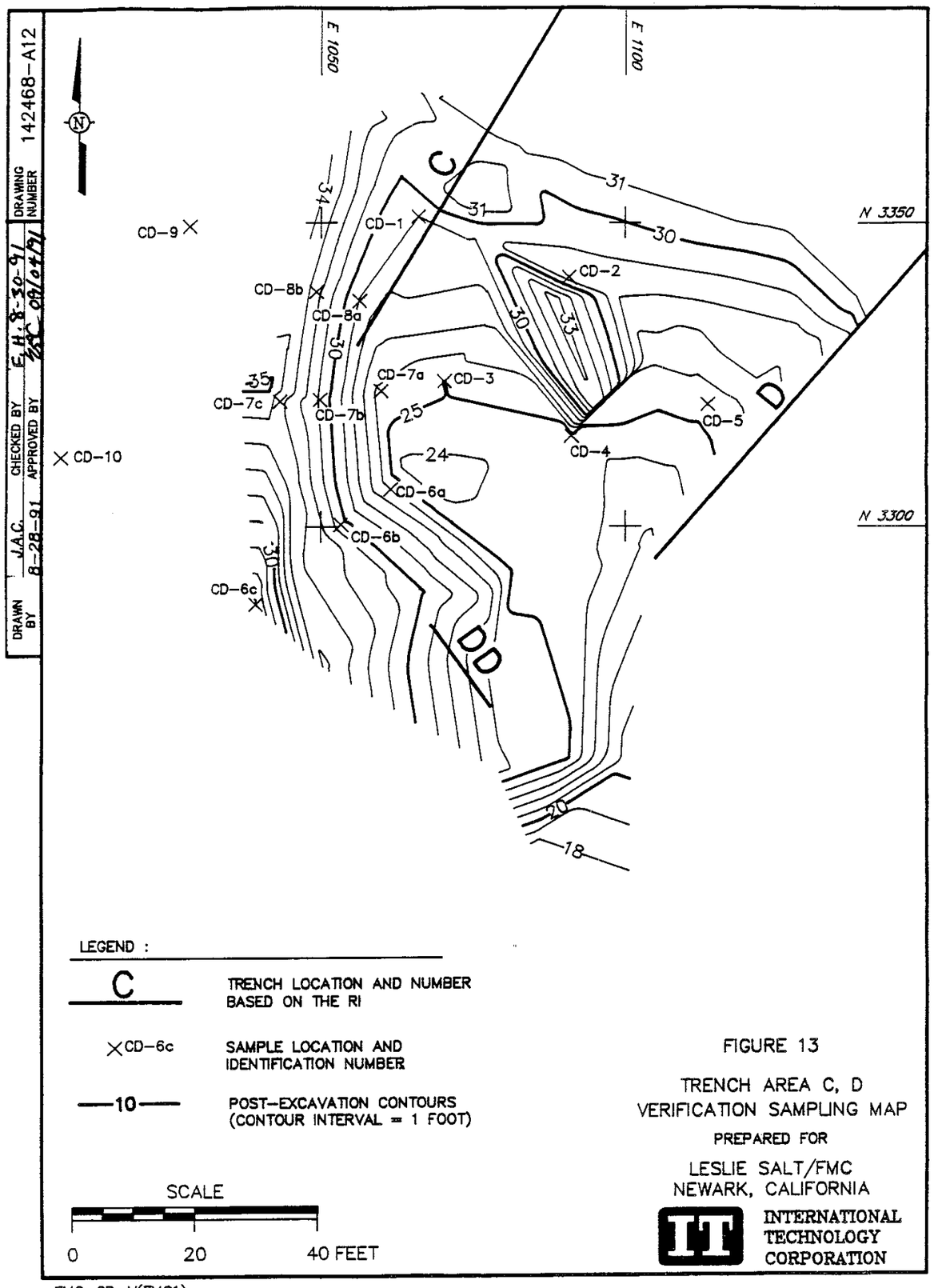
Figure 15 presents the sample locations for Trench Area 14 and 15. Verification sampling results in this area indicated residual copper concentrations ranging from 15 to 290 mg/kg were present. Calculations indicated a mean value of 88 mg/kg for the base samples and 170 mg/kg for the sidewall samples. The statistical analysis for these results indicated a confidence interval of 88 ±78 mg/kg for the base samples and 170 ±192 mg/kg for the sidewall samples. These results are below the applicable criterion of 2,500 mg/kg for the base samples and 833 mg/kg for the sidewall samples.

Table 8 provides a summary of the analytical results for the verification sampling performed for areas suspected of having mercury contamination. The statistical analysis of these results are presented in Table 9. Figure 16 presents the sample locations for the verification sampling for Trench 26. Measured mercury concentrations for Trench 26 ranged from non-detected less than 0.010 mg/kg to 0.720 mg/kg. Calculations indicated a mean value of 0.196 mg/kg for the base samples and 0.495 mg/kg for the sidewall samples. The statistical analysis provided a confidence interval of 0.196 ±0.287 mg/kg for the base samples and 0.495 ±0.528 mg/kg for the sidewall samples. These results are below the applicable criteria of 20 mg/kg for the base samples and 6.67 mg/kg for the sidewall samples. The measured mercury concentrations for Trench 31 ranged from 0.160 mg/kg to 1.6 mg/kg. Calculations indicated a mean value of 0.511 mg/kg for the base samples and 0.205 mg/kg for the sidewall samples. The statistical analysis provided a confidence interval of 0.511 ±0.426 mg/kg for the base samples and 0.205 ±0.138 mg/kg for the sidewall samples. These results are below the applicable criteria of 20 mg/kg for the base samples and 10 mg/kg for the sidewall samples.

Verification samples for naphthalene (Sample ID 14/15-NAP1 and 14/15-NAP2) were collected near Trench 15. The sample locations are shown on Figure 15. Samples for naphthalene were analyzed



FMC-567V(FMC1)


DRAWN BY J.A.C.
CHECKED BY E.H. 8-30-91
APPROVED BY
DRAWING NUMBER 142468-A12
E 1050
E 1100
N 3350
N 3300
CD-1
CD-2
CD-3
CD-4
CD-5
CD-6a
CD-6b
CD-6c
CD-7a
CD-7b
CD-7c
CD-8a
CD-8b
CD-9
CD-10
C
D
DD
31
30
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34
35
25
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20
18
LEGEND :
C TRENCH LOCATION AND NUMBER BASED ON THE RI
CD-6c SAMPLE LOCATION AND IDENTIFICATION NUMBER
10 POST-EXCAVATION CONTOURS (CONTOUR INTERVAL = 1 FOOT)
SCALE
0 20 40 FEET
FIGURE 13
TRENCH AREA C, D
VERIFICATION SAMPLING MAP
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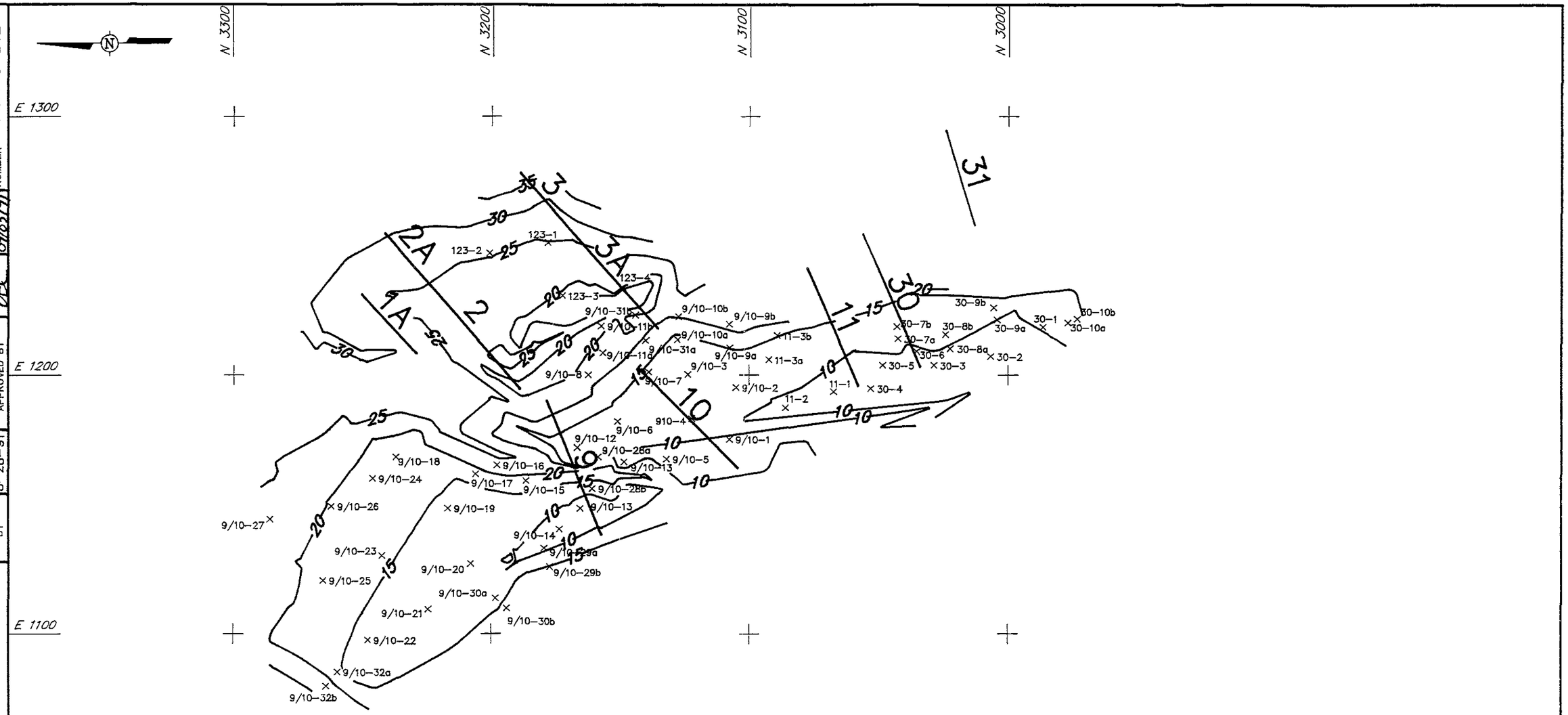
IT
INTERNATIONAL TECHNOLOGY CORPORATION

FMC-CD-V(FMC1)



LEGEND :

30	TRENCH LOCATION AND NUMBER BASED ON THE RI
×567-11c	SAMPLE LOCATION AND IDENTIFICATION NUMBER
—10—	POST-EXCAVATION CONTOURS (CONTOUR INTERVAL = 5 FEET)

SCALE

0 40 80 120 FEET

FIGURE 14

TRENCH AREA 1, 2, 3, 4; 9, 10, 11; AND 30 VERIFICATION SAMPLING MAP

PREPARED FOR

LESLIE SALT/FMC
NEWARK, CALIFORNIA

INTERNATIONAL TECHNOLOGY CORPORATION

DRAWN BY	J.A.C. 8-28-91	CHECKED BY / APPROVED BY	F.H. / DSC	8-30-91 / 09/05/91	DRAWING NUMBER	142468-B12

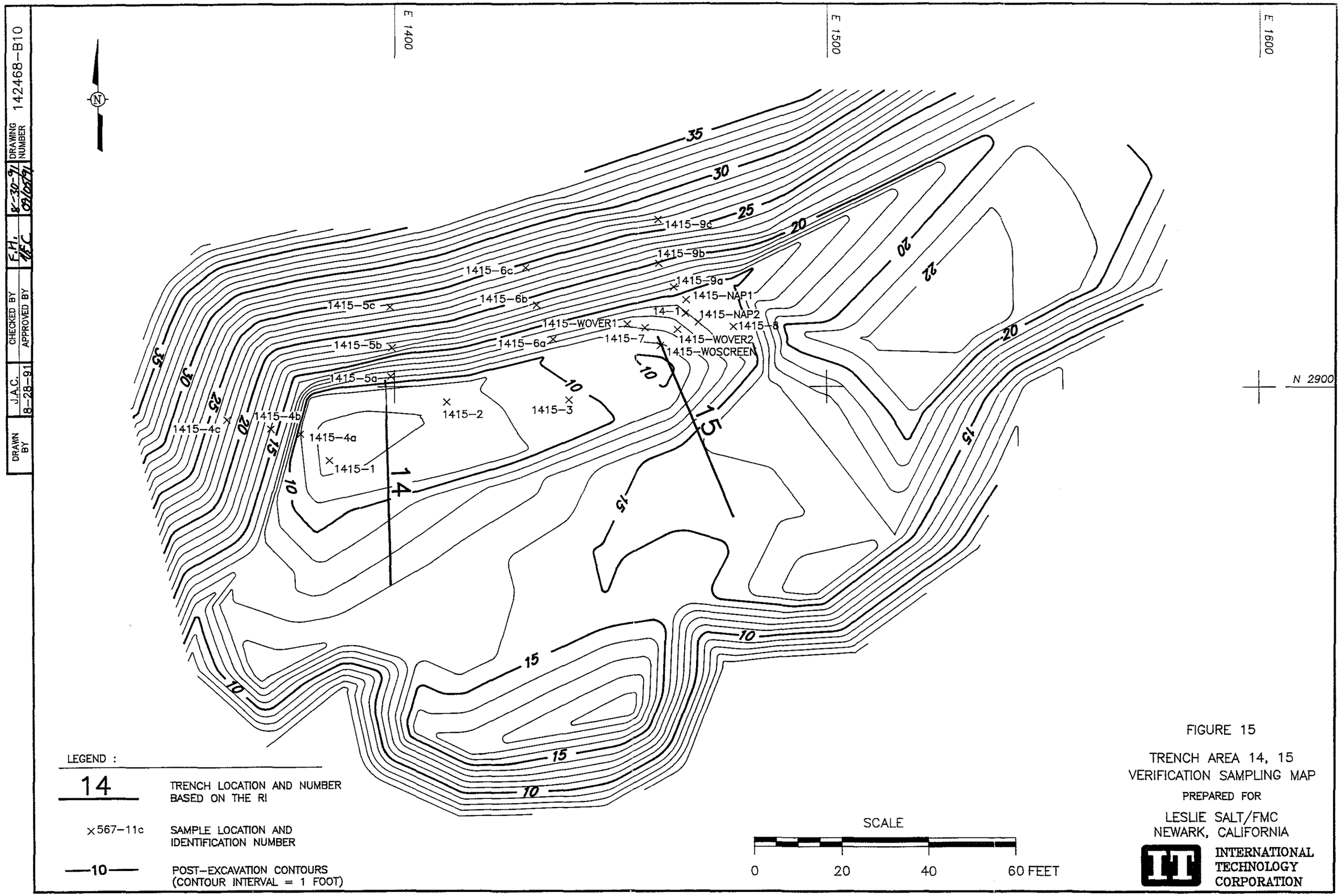


FIGURE 15

TRENCH AREA 14, 15
VERIFICATION SAMPLING MAP

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NEWARK, CALIFORNIA

INTERNATIONAL TECHNOLOGY CORPORATION

FMC1415V(FMC1)

TABLE 8

VERIFICATION SAMPLING RESULTS FOR SUSPECTED MERCURY-CONTAMINATED MAGNESIA AREAS

Completed Excavation Area	Sample I.D.	Number of samples in composite	Mercury Concentration[1], (mg/kg)
AREA 26	26-1		0.022
	26-2		0.720
	26-3		ND
	26-4		0.041
	26-5	3	0.064
	26-6	3	0.028
	26-7	3	ND
	26-8	3	ND
	26-9	3	0.680
	26-10	3	2.200
AREA 31	31-1		0.400
	31-2		1.600
	31-3		0.310
	31-4		0.170
	31-5		0.077
	31-6	2	0.160
	31-7	2	0.250

[1] The detection limit for mercury is 0.010 mg/kg.

Table 9

STATISTICAL ANALYSIS OF VERIFICATION SAMPLING
RESULTS FOR SUSPECTED MERCURY CONTAMINATED MAGNESIA AREAS

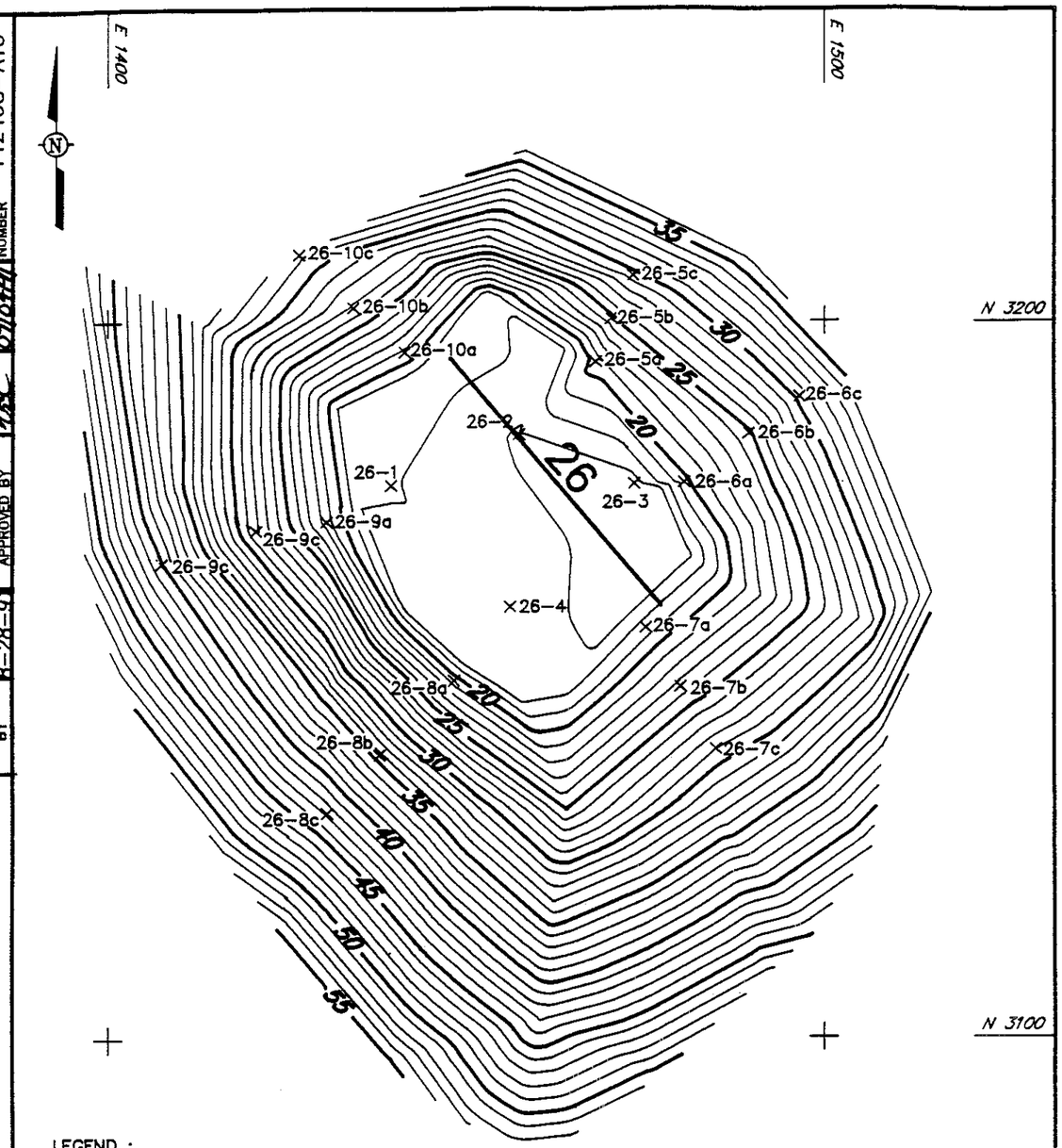
Completed Excavation Area	Excavation Base Samples			Sidewall Samples		
	Mean[1] (mg/kg)	Confidence Interval[2] (mg/kg)	Cleanup Criterion[3] (mg/kg)	Mean[1] (mg/kg)	Confidence Interval[2] (mg/kg)	Cleanup Criterion[4] (mg/kg)
26	.196	.196 ± .287	20	.495	.495 ± .528	6.67
31	.511	.511 ± .426	20	.205	.205 ± .139	10

[1] Calculated as $\bar{x} = (\sum_{i=1}^{n} x_i)/n$

[2] Confidence interval, $CI = \bar{x} \pm (s_{\bar{x}})(t_{0.20})$, where $t_{0.20}$ is the tabulated value of Student's "t" for a two-tailed confidence interval and a probability of 0.20, and $s_{\bar{x}}$ is the standard error calculated as $s_{\bar{x}}=s/(n)^{0.5}$

[3] Cleanup criterion is the TTLC limit for copper (Title 22, Section 66699 of the California Code of Regulations).

[4] Cleanup criterion is the TTLC limit for copper divided by the number of subsamples in the composite sidewall samples.



DRAWN BY	CHECKED BY	DRAWING NUMBER
J.A.C. 8-28-91	F.H. 8-30-91	142468-A10
	APPROVED BY	09/04/91

LEGEND :

26	TRENCH LOCATION AND NUMBER BASED ON THE RI
×26-8b	SAMPLE LOCATION AND IDENTIFICATION NUMBER
—10—	POST-EXCAVATION CONTOURS (CONTOUR INTERVAL = 5 FEET)

SCALE

0 20 40 FEET

FIGURE 16

TRENCH AREA 26
VERIFICATION SAMPLING MAP

PREPARED FOR

LESLIE SALT/FMC
NEWARK, CALIFORNIA

INTERNATIONAL TECHNOLOGY CORPORATION

FMC-26V(FMC1)

according to methodology provided in EPA Method 502. The certificates of analysis and chain-of-custody forms are provided in Appendix C. The analytical results indicated that naphthalene was not detected in the two samples at a detection limit of 5.0 ug/kg.

Verification samples for waste oil (Sample ID 14/15 WOVER1 and 14/15 WOVER2) were collected near Trench 15 at the locations shown on Figure 15. The samples were analyzed for total recoverable hydrocarbons using EPA Method 418.1, halogenated volatile organics using EPA Method 8010, organochlorine pesticides and PCBs using EPA Method 8080 and metals (cadmium, total chromium, lead and zinc). This set of analyses was chosen to scan for the most common contaminants in waste oil. The results indicated that total recoverable hydrocarbons, halogenated hydrocarbons, and pesticides and PCBs were not detected in the samples at detection limits of 313 mg/kg; 5.0 to 20 mg/kg; and 20 to 80 mg/kg, respectively. Cadmium was not detected in the samples at a detection limit of 0.50 mg/kg. Chromium was detected in samples 14/15 WOVER1 at 150 mg/kg and at 160 mg/kg in sample 14/15 WOVER2, which is below the TTLC limit of 2,500 mg/kg. Lead was detected in sample 14/15 WOVER1 at 2.2 mg/kg and in sample 14/15 WOVER2 at 3.0 mg/kg, which is below the TTLC limit of 1,000 mg/kg. Zinc was detected in sample 14/15 WOVER1 at 64 mg/kg and in sample 14/15 WOVER2 at 720 mg/kg, which is below the TTLC limit of 5,000 mg/kg.

The results of the verification sampling indicated that the copper-contaminated magnesia material has been removed to levels well below the cleanup criteria of 2,500 mg/kg (TTLC value). Excavation and analysis of magnesia material in areas suspected of having mercury contamination indicated that material having mercury concentrations which exceeded the TTLC limit was not present. The analytical results indicated that the detected mercury concentrations in this material were below the DHS criteria for composite samples (2.5 mg/kg) and could be left on site. Verification sampling in the areas where naphthalene and waste oil contamination were found indicated that this material had been completely removed. The results of the verification sampling program indicated that the excavated areas meet the cleanup criteria described in the RAP and RD of 2,500 mg/kg for copper and 20 mg/kg for mercury.

2.7.3 Waste Sampling

Three types of waste sampling were performed: 1) sampling from the stockpile prior to loadout for disposal; 2) sampling of potentially mercury-contaminated magnesia-material from both the Trench 26 and Trench 31 interim stockpile areas; 3) collection of characterization samples for contaminated materials discovered during the excavation of several trench locations. The copper-contaminated magnesia was placed in the loadout stockpile based on field segregation by the ground technician; this material was designated for loadout and off-site disposal. The Trench 26 and 31 stockpiles on the magnesia pile were designated as interim stockpiles where potentially mercury-contaminated magnesia was stored and sampled. Samples were collected from the east end of Trench areas 14 and 15 to characterize the contaminated material discovered.

A sample from the copper contaminated magnesia material was collected for every 300 cubic yards of loadout material and submitted for analysis. The samples were analyzed for both copper and mercury by EPA Methods 6010 and 7471 respectively.

2.7.3.1 Loadout Stockpile

One composite sample was submitted for laboratory analysis for every 300 cubic yards of material placed in the loadout stockpile. Each composite sample consisted of 5 sub-samples. The analytical results are summarized in Table 10, and the certificates of analysis and chain-of-custody forms are provided in Appendix C. Samples labelled SP-1 through SP-13 were collected from copper pellet/magnesia material being loaded into the railcars. Samples SP-14 through 25 were collected from material loaded into the disposal trucks. The analytical results for the samples from the loadout stockpile are summarized in Table 10, and ranged from 2 to 4,800 mg/kg copper, and 0.011 to 3.0 mg/kg mercury.

2.7.3.2 Trench Areas 26 and 31 Interim Stockpiles

Potentially mercury-contaminated magnesia material from Trenches 26 and 31 was segregated and stockpiled based on visual comparison to a known mercury-contaminated sample collected during the remedial investigation. Material similar to the field control sample was segregated and transported by dump truck to each designated stockpile area. The interim stockpile area for Trench 26 is shown on Figure 17, and the interim stockpile area for Trench 31 is shown on Figure 18. Each individual stockpile was composed of 8 dump truck loads, or approximately 50 cubic yards. Eight individual sub-samples were collected from each stockpile and composited into one sample for laboratory analysis.

The analytical results for the Trench 26 and 31 interim stockpile are summarized in Table 11 and the certificates of analysis and chain-of-custody forms are provided in Appendix C. The analytical results for the composite samples from Trench 26 ranged from 0.025 to 0.99 mg/kg mercury. The sample from the one stockpile for Trench 31 exhibited a concentration of 1.3 mg/kg mercury. These results were compared to the criteria established by DHS, which consisted of the TTLC value for mercury (20 mg/kg) divided by the number of samples forming the composite sample. In this case eight samples formed the composite, and the analytical results may be compared to a criteria of 2.5 mg/kg. The analytical results for this material did not exceed the criteria of 2.5 mg/kg, and this material was left on site, as agreed with DHS. The final location of this material was surveyed, and the location is shown on Figure 20.

2.7.3.3 Characterization Samples for Contaminated Material Discovered During Excavation

A waste material having a "mothball-like" odor was discovered on June 25 within the east end of Trench Area 14 and 15 near Trench 15. A sample of the magnesia material was collected and tested for halogenated volatile organics (EPA Method 8010), aromatic volatile organics (EPA Method 8020), and organochlorine pesticides and PCBs (EPA Method 8080) to characterize the waste sample. The analytical method for EPA Method 8010 was extended to detect naphthalene using an analytical procedure similar to that for EPA Method 502. The results indicated the presence of naphthalene at a concentration of 660,000 mg/kg. The remainder of the analyses did not detect the presence of any other compounds. The certificates of analysis and chain-of-custody forms are provided in Appendix C.

An apparent waste oil material was found at the east end of Trench Area 14 and 15 near Trench 15. A soil sample (14/15-WASEREEN) was subsequently collected and submitted for laboratory analysis. The sample was analyzed for total recoverable hydrocarbons (EPA Method 418.11), halogenated volatile organics (EPA Method 8010) and organochlorine pesticides and PCBs (EPA Method 8080). The analytical results indicated that petroleum hydrocarbons were present at a concentration of 24,000 mg/kg and freon 113 was detected at 3,600 mg/kg. Organochlorine pesticides and PCBs were not detected. The

TABLE 10

LOADOUT STOCKPILE SAMPLING RESULTS

Sample I.D.	Number of samples in composite	Concentrations, mg/kg	
		Copper[1]	Mercury[2]
SP-1	5	35	0.011
SP-2	5	54	0.440
SP-3	5	120	0.400
SP-4	5	630	0.054
SP-5	5	150	3.000
SP-6	5	50	0.780
SP-7	5	2200	0.91/0.47
SP-8	5	1100	0.150
SP-9	5	210	0.330
SP-10	5	350	0.150
SP-11	5	68	1.0
SP-12	5	4800	0.69
SP-13Cnap	5,200 mg/kg Napthalene by EPA Methods 5030/8010/8020		
SP-14	5	3000	0.36
SP-15	5	72	0.40
SP-16	5	3000	0.29
SP-17	5	3700	0.39
SP-18	5	2400	0.42
SP-19	5	2400	0.47
SP-20	5	1400	0.45
SP-21	5	3100	0.45
SP-22	5	1900	0.40
SP-23	5	79	0.37
SP-24	5	2.0	0.29
SP-25	5	93	0.33

[1] The lower detection limit for copper is 0.50 mg/kg

[2] The lower detection limit for mercury is 0.010 mg/kg

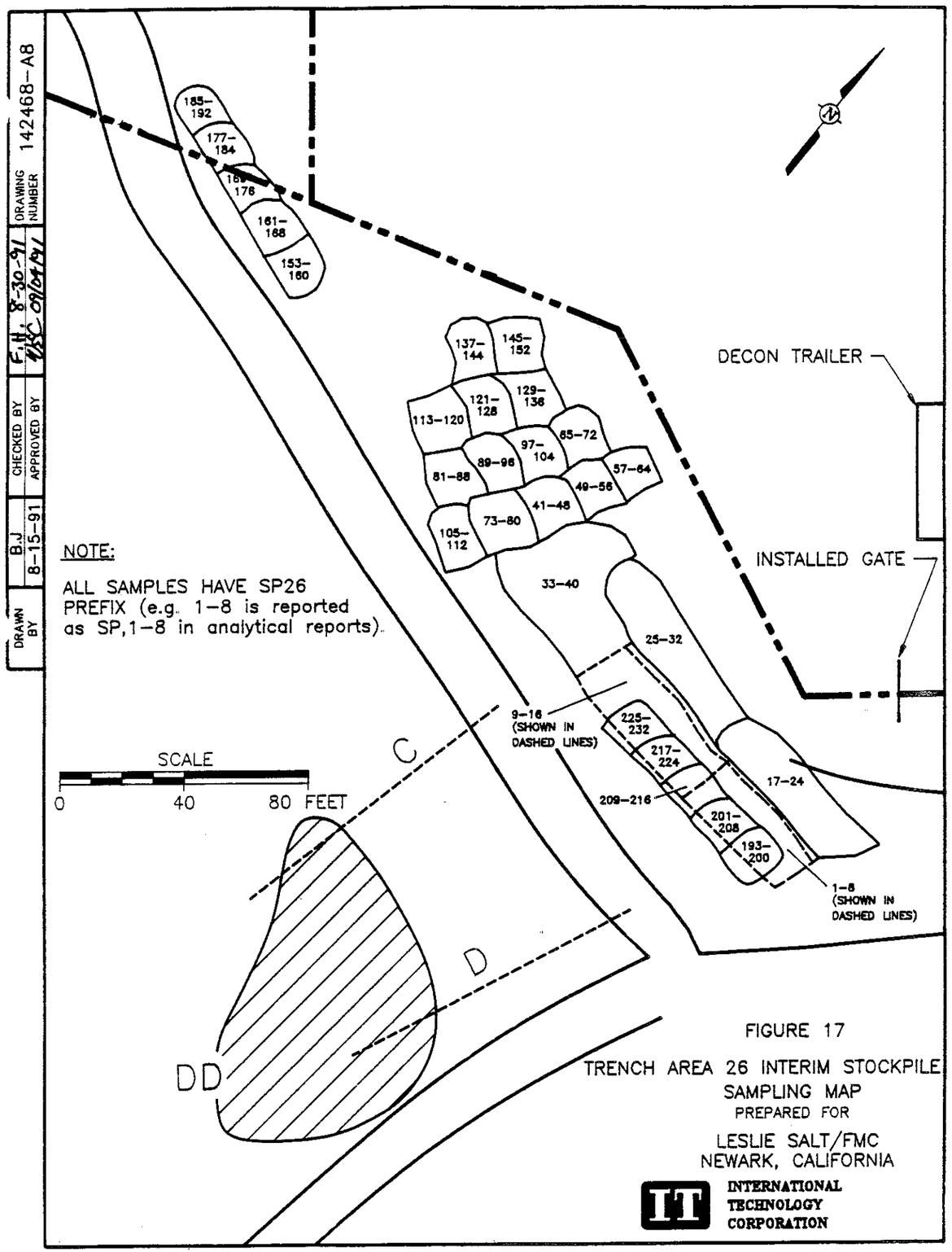


FIGURE 17

TRENCH AREA 26 INTERIM STOCKPILE SAMPLING MAP

PREPARED FOR

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NEWARK, CALIFORNIA

LSF-SP26(LSF3)

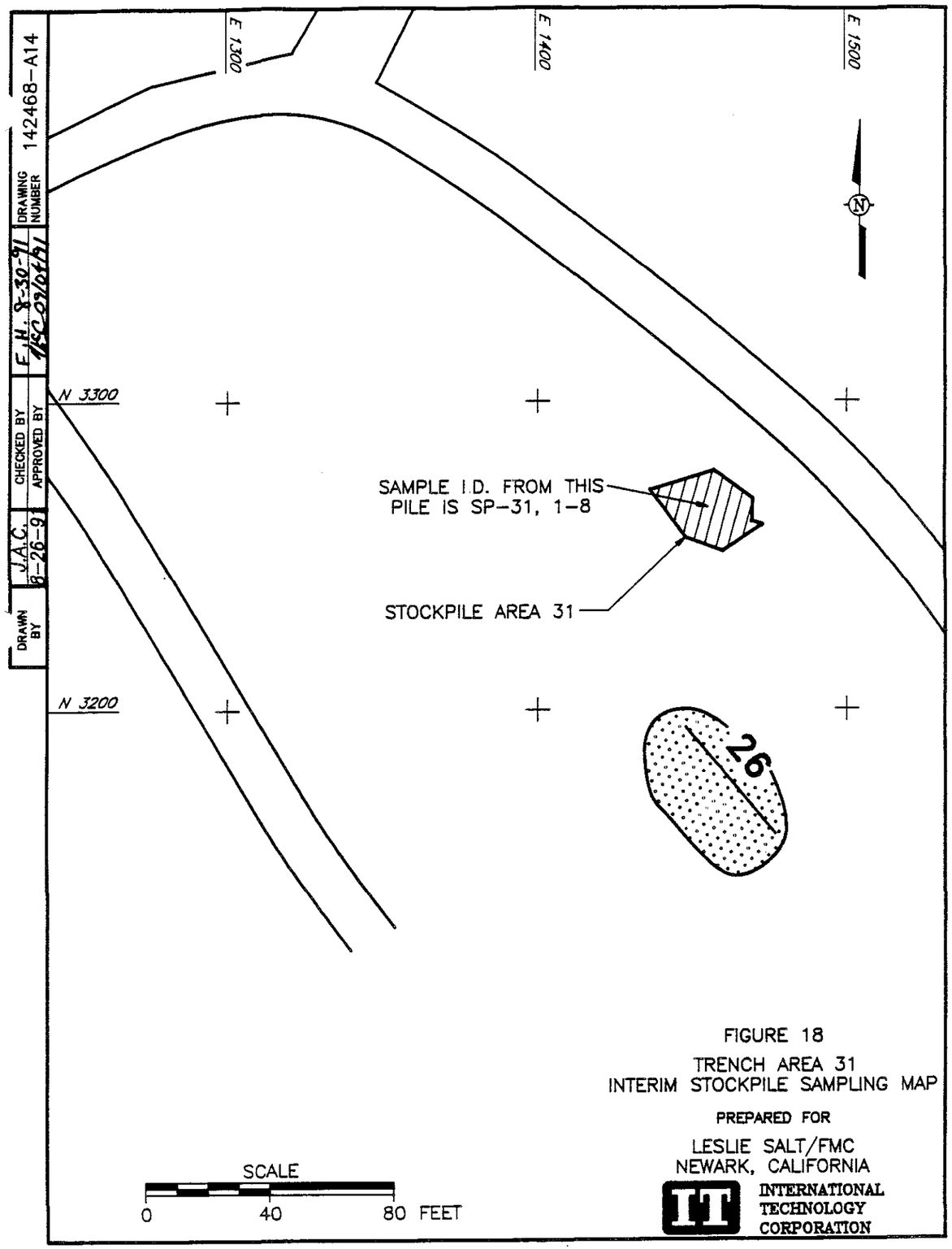

FIGURE 18

TRENCH AREA 31
INTERIM STOCKPILE SAMPLING MAP

PREPARED FOR

LESLIE SALT/FMC
NEWARK, CALIFORNIA

INTERNATIONAL TECHNOLOGY CORPORATION

TABLE 11
ON-SITE MERCURY INTERIM STOCKPILE SAMPLING RESULTS

Stockpile Area	Sample I.D.	Number of samples in composite	Mercury Concentrations[1], mg/kg
Trench 26	SP26, 1-8	8	0.260
	SP26, 9-16	8	0.270
	SP26, 17-24	8	0.054
	SP26, 25-32	8	0.025
	SP26, 33-40	8	0.097
	SP26, 41-48	8	0.091
	SP26, 49-56	8	0.560
	SP26, 57-64	8	0.140
	SP26, 65-72	8	0.030
	SP26, 73-80	8	0.360
	SP26, 81-88	8	0.630
	SP26, 89-96	8	0.120
	SP26, 97-104	8	0.320
	SP26, 105-112	8	0.180
	SP26, 113-120	8	0.980
	SP26, 121-128	8	0.820
	SP26, 129-136	8	0.860
	SP26, 137-144	8	0.097
	SP26, 145-152	8	0.840
	SP26, 153-160	8	0.110
	SP26, 161-168	8	0.040
	SP26, 169-176	8	0.031
	SP26, 177-184	8	0.040
	SP26, 185-192	8	0.370
	SP26, 193-200	8	0.089
	SP26, 201-208	8	0.130
	SP26, 209-216	8	0.990
	SP26, 217-224	8	0.950
	SP26, 225-232	8	0.670
Trench 31	SP31, 1-8	8	1.300

[1] The lower detection limit for mercury is 0.010 mg/kg.

certificates of analysis and chain-of-custody forms are provided in Appendix C.

2.8 FINAL GRADING AND CONTOURING

The final site excavation configuration is shown on Figure 19, prior to the final grading and contouring. Excavated, uncontaminated magnesia overburden material was used to backfill the excavations. The upper two to three feet of the backfill material was compacted by several passes of the dozer to minimize future settlement. The excavated areas were graded to optimize rainfall runoff. A large swath was cut through the western excavation wall of Trench Area 5, 6, and 7 to promote positive drainage. The final as-built topography is shown in Figure 20. Figure 20 also shows the final graded locations of the material excavated from Trenches 26 and 31.

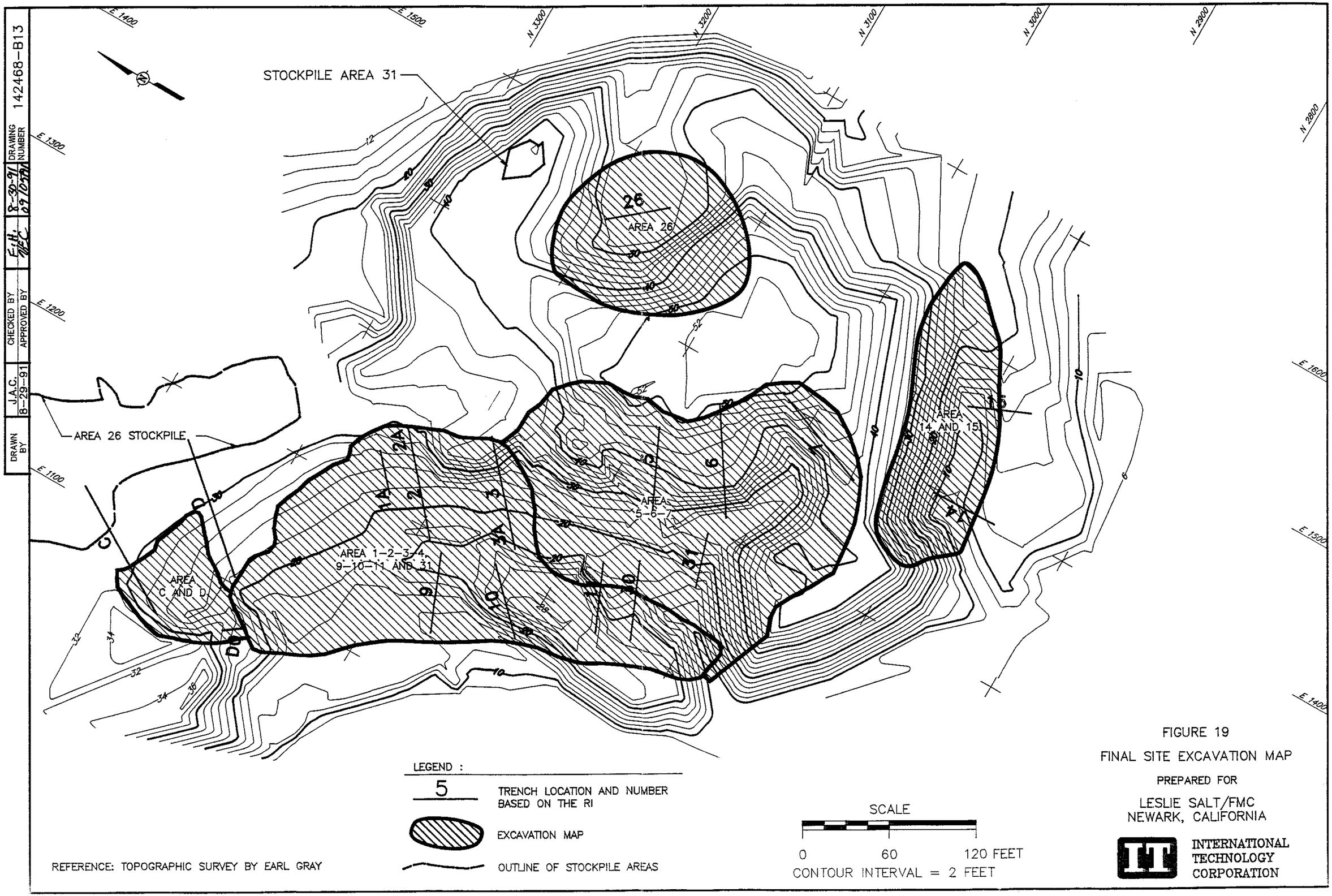

FIGURE 19

FINAL SITE EXCAVATION MAP

PREPARED FOR

LESLIE SALT/FMC
NEWARK, CALIFORNIA

3.0 LOADOUT AND TRANSPORTATION

Stockpiled copper contaminated magnesia waste was transported by rail and truck to both the U.S. Pollution Control Incorporated (USPCI) Grassy Mountain Facility near Clive, Utah and to Chemical Waste Management's Kettlemen City, California waste disposal facilities. The contaminated material was lifted from the loadout stockpile area with a front loader and placed in either the 100-ton capacity open gondola rail cars or tandem dump trucks. The railcars were staged on a rail spur adjacent to the loadout stockpile.

Standard dust control and air monitoring as described previously was performed throughout the loadout operation. The loaded rail cars were covered prior to transport to prevent release of airborne contaminants during transit. The cars were sealed with heavy duty plastic tarp liners which were secured with rope tie downs. The rail cars were properly manifested and rotated with empty cars until all contaminated magnesia waste and contaminated project debris were loaded. Loaded cars were transported by both the Southern Pacific Railroad and Union Pacific Railroad according to route responsibilities. The rail car route upon leaving the site is shown on Figure 21, and is described as follows:

- The shipment traveled northeast to Fremont (Centerville Station), then northwest through Hayward and San Leandro to Oakland;
- The shipment then proceeded northeast from Oakland through Roseville and Reno, Nevada;
- The shipment then traveled east through Nevada and Ogden, Utah, to the Union Pacific rail siding in Clive, Utah.

The contaminated waste material was loaded into USPCI or subcontractor dump trucks and transported approximately ten (10) miles northwest to the Grassy Mountain disposal site.

Material for disposal at the Chemical Waste Management site was loaded directly into tandem dump trucks, tarped to prevent the release of airborne contaminants and transported to the disposal site following the route shown on Figure 22.

Copies of the waste manifests are provided in Appendix E.

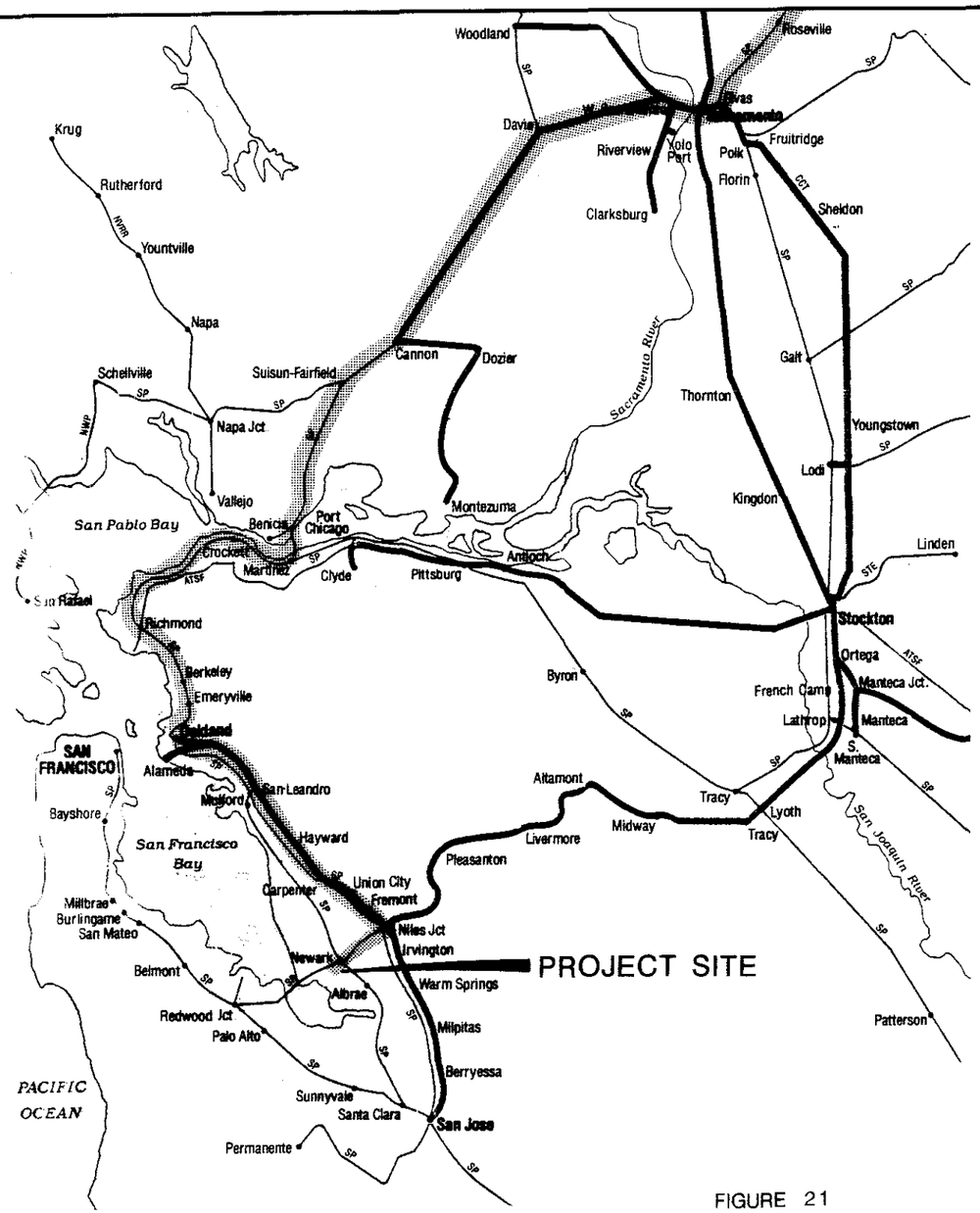

FIGURE 21

RAIL ROUTE MAP

PREPARED FOR

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NEWARK CALIFORNIA

SAN FRANCISCO BAY AREA

0 5 10 15 Miles

DESIGNATED ROUTE

INTERNATIONAL TECHNOLOGY CORPORATION

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	1-21-91	APPROVED BY			

146494

DRAWN BY	CHECKED BY	APPROVED BY	DRAWING NUMBER
SJZ 8-9-91	8-30-91	9/05/91	142468-A7

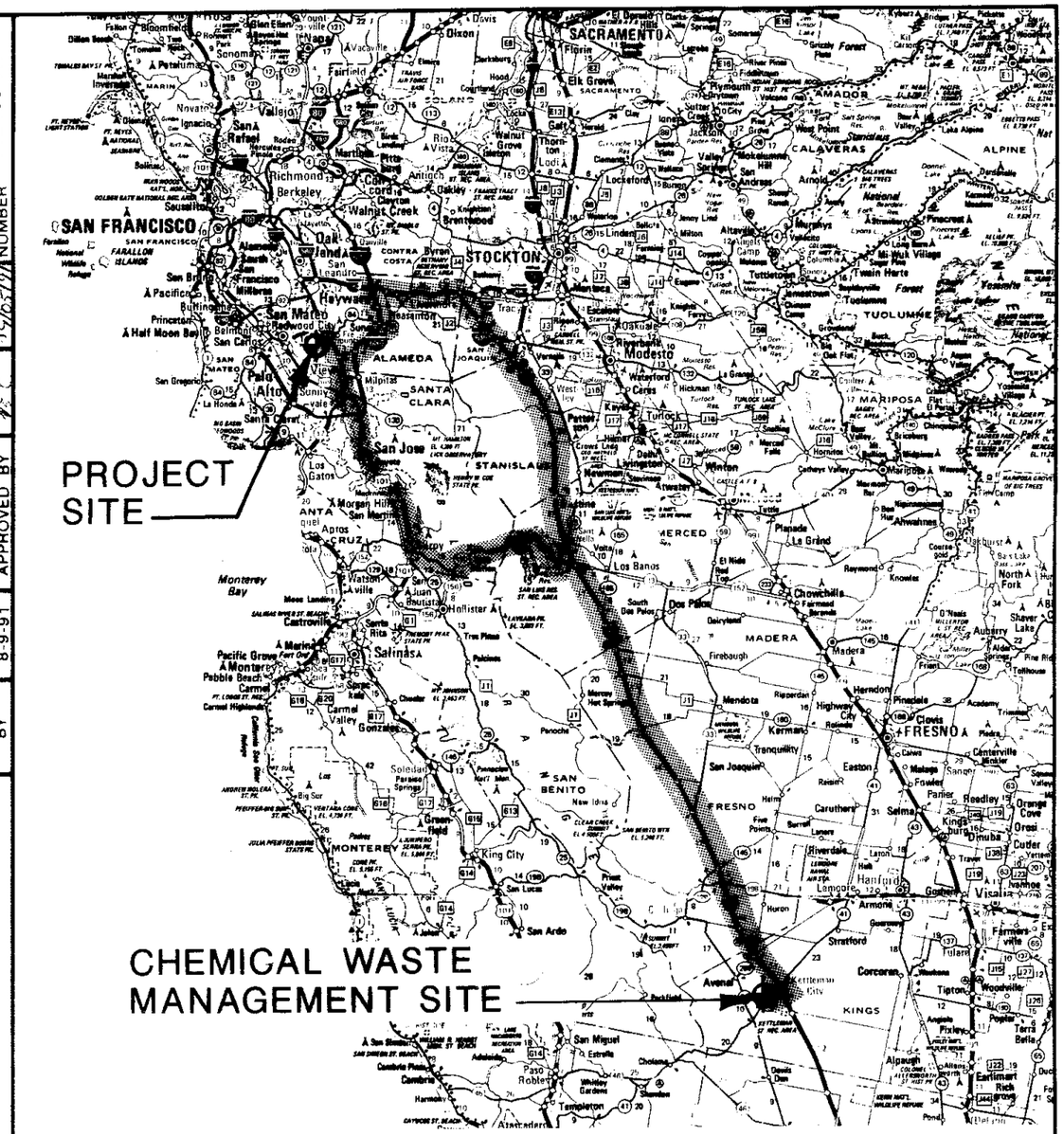

FIGURE 22

TRUCK ROUTE MAP

PREPARED FOR

LESLIE SALT/FMC
NEWARK CALIFORNIA

DESIGNATED ROUTE

0 10 20 30 40 50
SCALE

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146494

4.0 STATEMENT OF REMEDIATION CERTIFICATION

Data presented in this remediation report indicate that the copper-contaminated magnesia material, identified in the RI and RAP, having concentrations in excess of the applicable TTLC limit of 2,500 mg/kg has been removed from the site and properly disposed. Areas in which copper pellets were discovered on the surface were scraped to remove this material, and the copper pellets were disposed with the excavated material. Naphthalene and waste oil contaminated magnesia material discovered during the excavation was removed and disposed. Areas suspected of having mercury contamination based on the results of the RI were excavated, and samples obtained from the excavated material for analysis. The results of this testing indicated that the excavated magnesia material did not exhibit mercury concentrations that exceeded the criteria set by DHS for evaluating this material. The criteria was defined as the TTLC limit for mercury (20 mg/kg) divided by the number of subsamples forming a composite. Generally, this criteria gave an allowable limit of 2.5 mg/kg mercury, and all analytical results for the excavated material were below this limit. The remedial activities have accomplished the cleanup goals provided in the Remedial Action Plan for this site.

I hereby certify that the remedial activities for the Leslie Salt/FMC Magnesia Waste Pile site were conducted under my oversight, and were performed in accordance with the Remedial Design prepared by IT Corporation and approved by DHS on May 2, 1991. This remediation report has been prepared under my direction and supervision, and, to the best of my knowledge, is representative of the work performed on the site.

Valerie Crooks, P.E.

5.0 REFERENCES

1. "Remedial Investigation - Magnesia Pile - Newark, California", S.S. Papadopulos and Associates, Inc.; November 1988.

2. "Leslie Salt/FMC Magnesia Waste Pile Site - Final Remedial Action Plan", Hydrologic Consultants, Inc.; October 1990.

3. "Public Health/Environmental Assessment for Leslie Salt/FMC Magnesia Pile", Terra, Inc.; January 1990.

4. "Supplemental Investigation and Feasibility Study, Leslie Salt/FMC Magnesia Waste Pile", Hydrologic Consultants, Inc.; January 1990.

5. "Leslie Salt/FMC Magnesia Waste Pile Site: Remedial Action Plan", Hydrologic Consultants, Inc.; October 1990.

6. "Leslie Salt/FMC Magnesia Waste Pile Interim Removal Action Closure Report", Hydrologic Consultants, Inc.; July 1990.

7. "Leslie Salt/FMC Magnesia Waste Pile Site Fact Sheet", California Department of Health Services; June 1990

8. "Final Remedial Design - Magnesia Waste Pile, Newark, California", IT Corporation, March 1991.

APPENDIX A

AMBIENT AIR MONITORING CERTIFICATES OF ANALYSIS AND CHAIN OF CUSTODY FORMS

IT CORPORATION
TECHNOLOGY
CORPORATION

ANALYTICAL SERVICES

CERTIFICATE OF ANALYSIS

Date: 06/28/91

IT CORPORATION C/O FMC
8787 ENTERPRISE DR.
NEWARK, CA 94560
SHERRI WILLIAMS

Work Order: C1-06-169

Project/P.O.#: 142468
FMC

This is the Certificate of Analysis for the following samples:

Client Work ID: FMC 142468
Date Received: 06/26/91
Number of Samples: 7
Sample Type: AIR

142468

Samples were labeled as follows:

SAMPLE IDENTIFICATION	LABORATORY #
1,5831196	C1-06-169-01
2,5831197	C1-06-169-02
3,5831198	C1-06-169-03
4,5831199	C1-06-169-04
5,5831200	C1-06-169-05
BLANK SPIKE	C1-06-169-06
METHOD BLANK	C1-06-169-08

Reviewed and Approved:

Tracy Sidwell

Tracy Sidwell
Project Manager

Company: IT CORPORATION
Date: 06/28/91
Client Work ID: FMC 142468 142468

IT ANALYTICAL SERVICES
CERRITOS, CA

Work Order: C1-06-169

CLIENT SAMPLE ID	METHOD BLANK	
LAB SAMPLE ID	C1-06-169-08	
SAMPLED		
TEST		UNITS
MERCURY BY CVAA	ND [0.07] 06/27/91	ug
COPPER by ICP	ND [3] 06/26/91	ug

ND indicates the parameter was not detected.
Detection limits are specified in [].
NC indicates the parameter was not calculated.

Company: IT CORPORATION
Date: 06/28/91
Client Work ID: FMC 142468 142468

IT ANALYTICAL SERVICES
CERRITOS, CA

Work Order: C1-06-169

TEST NAME **COPPER by ICP** TEST CODE **CU_ICP**

Copper was analyzed by inductively coupled argon plasma (ICP) spectroscopy according to USEPA method 6010.

TEST NAME **MERCURY BY CVAA** TEST CODE **HG_AA**

The sample was prepared and analyzed for mercury by cold-vapor atomic absorption (CVAA) spectroscopy according to USEPA method 7471 (solids) or method 7470 (liquids).

TEST NAME **NUISANCE DUST(TOTAL)** TEST CODE **HI_VOL**

The filters are weighed after allowing to stablize at room conditions for one hour. The relative humidity and temperature are recorded at the time of weighing. The difference in weight is reported in micrograms.

INTERNATIONAL TECHNOLOGY CORPORATION

REQUEST FOR ANALYSIS

R/A Control No. B 78125

C/C Control No. _____

PROJECT NAME: FMC

PROJECT NUMBER: 142468

PROJECT MANAGER: Gene Lovett

BILL TO: IT Corp
4585 Pacheco Blvd
Martinez, CA

PURCHASE ORDER NO.: 2221

DATE SAMPLES SHIPPED: 6-25-91

LAB DESTINATION: IT Cerritos

LABORATORY CONTACT: Tracy Sidwell

SEND LAB REPORT TO: Attn: IT Corp c/o FMC
8891 Enterprise Dr
Newark, CA

DATE REPORT REQUIRED: _____

PROJECT CONTACT: Sherri Williams

PROJECT CONTACT PHONE NO.: 415-795-4395

Sample No.	Sample Type	Sample Volume	Preservative	Requested Testing Program	Special Instructions
1, 583196	Air	1750		Copper EPA 6010	
2, 583197	↓	1800		Mercury EPA 7471	
3, 583198	↓	1962		Particulate	
4, 583199	↓	1711		Perform all tests on	
5, 583200	↓	1777		all samples	

COP

TURNAROUND TIME REQUIRED: (Rush must be approved by the Project Manager.)

Normal _____ Rush X (Subject to rush surcharge)

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances)

Nonhazard _____ Flammable _____ Skin Irritant _____ Highly Toxic _____ Other _____ (Please Specify)

SAMPLE DISPOSAL: (Please indicate disposition of sample following analysis. Lab will charge for packing, shipping, and disposal.)

Return to Client _____ Disposal by Lab _____

FOR LAB USE ONLY

Received By _____ Date/Time _____

WHITE - Original, to accompany samples
YELLOW - Lab copy

5

INTERNATIONAL TECHNOLOGY CORPORATION

CHAIN-OF-CUSTODY RECORD

R/A Control No. [illegible]

C/C Control No. 159672

PROJECT NAME/NUMBER FMC / [illegible]

LAB DESTINATION [illegible]

SAMPLE TEAM MEMBERS [illegible]

CARRIER/WAYBILL NO. 0493703946 5

Sample Number	Sample Location and Description	Date and Time Collected	Sample Type	Container Type	Condition on Receipt (Name and Date)	Disposal Record No.
1, [illegible]	Location 1 Air	6-24-91 0810	Air			
2, [illegible]	2	0710				
3, [illegible]	3	0700				
4, [illegible]	4	0805				
5, [illegible]	5	0800				

COPY

Special Instructions:

Possible Sample Hazards: Mercury, Copper

SIGNATURES: (Name, Company, Date and Time)

1. Relinquished By: S. Williams, IT Corp, 6-25-91, 1215

   Received By:

2. Relinquished By:

   Received By:

3. Relinquished By:

   Received by:

4. Relinquished By:

   Received By:

WHITE - To accompany samples
YELLOW - Field copy

INTERNATIONAL TECHNOLOGY CORPORATION

ANALYTICAL SERVICES

CERTIFICATE OF ANALYSIS

IT CORPORATION
4585 PACHECO BLVD
MARTINEZ CA 94553
SHERRI WILLIAMS

Date: 06/14/91

Work Order: C1-06-011

Project/P.O.#: 2221
FMC

This is the Certificate of Analysis for the following samples:
Client Work ID: FMC/LESLIE SALT 142468-04
Date Received: 06/04/91
Number of Samples: 7
Sample Type: FILTERS

CORRECTED REPORT

Samples were labeled as follows:

SAMPLE IDENTIFICATION	LABORATORY #
5902722	C1-06-011-01
5902720	C1-06-011-02
5902721	C1-06-011-03
5902725	C1-06-011-04
BLANK SPIKE	C1-06-011-05
BLANK SPIKE DUPLICATE	C1-06-011-06
METHOD BLANK	C1-06-011-08

Reviewed and Approved:

Tracy Sidwell

Tracy Sidwell
Project Manager

Company: IT CORPORATION
Date: 06/14/91
Client Work ID: FMC/LESLIE SALT 142468-04

IT ANALYTICAL SERVICES
CERRITOS, CA

Work Order: C1-06-011

CLIENT SAMPLE ID	923 5902725	BLANK SPIKE	BLANK SPIKE DUPLICATE	
LAB SAMPLE ID	C1-06-011-04	C1-06-011-05	C1-06-011-06	
SAMPLED	05/25/91			
TEST				UNITS
NUISANCE DUST(TOTAL)	77900			ug
	[100]			
	06/04/91			
MERCURY BY CVAA	0.19	77	75	
	[0.07]	[--]	[--]	
	06/06/91	06/06/91	06/06/91	
	ug	% Rec.	% Rec.	
COPPER by ICP	12	86	90	
	[3]	[--]	[--]	
	06/05/91	06/05/91	06/05/91	
	ug	% Rec.	% Rec.	

ND indicates the parameter was not detected.
Detection limits are specified in [].
NC indicates the parameter was not calculated.

Company: IT CORPORATION
Date: 06/14/91
Client Work ID: FMC/LESLIE SALT 142468-04

IT ANALYTICAL SERVICES
CERRITOS, CA

Work Order: C1-06-011

CLIENT SAMPLE ID	1860 5902722	1798 5902720	1816 5902721	
LAB SAMPLE ID	C1-06-011-01	C1-06-011-02	C1-06-011-03	
SAMPLED	05/25/91	05/25/91	05/25/91	
TEST				UNITS
NUISANCE DUST(TOTAL)	61600	92600	77200	ug
	[100]	[100]	[100]	
	06/04/91	06/04/91	06/04/91	
MERCURY BY CVAA	0.14	0.15	0.10	ug
	[0.07]	[0.07]	[0.07]	
	06/06/91	06/06/91	06/06/91	
COPPER by ICP	69	93	43	ug
	[3]	[3]	[3]	
	06/05/91	06/05/91	06/05/91	

ND indicates the parameter was not detected.
Detection limits are specified in [].
NC indicates the parameter was not calculated.

Company: IT CORPORATION
Date: 06/14/91
Client Work ID: FMC/LESLIE SALT 142468-04

IT ANALYTICAL SERVICES
CERRITOS, CA

Work Order: C1-06-011

CLIENT SAMPLE ID	METHOD BLANK	
LAB SAMPLE ID	C1-06-011-08	
SAMPLED		
TEST		UNITS
MERCURY BY CVAA	ND [0.07] 06/06/91	ug
COPPER by ICP	ND [3] 06/05/91	ug

ND indicates the parameter was not detected.
Detection limits are specified in [].
NC indicates the parameter was not calculated.

Company: IT CORPORATION
Date: 06/14/91
Client Work ID: FMC/LESLIE SALT 142468-04

IT ANALYTICAL SERVICES
CERRITOS, CA

Work Order: C1-06-011

TEST NAME **COPPER by ICP** TEST CODE **CU_ICP**

Copper was analyzed by inductively coupled argon plasma (ICP) spectroscopy according to USEPA method 6010.

TEST NAME **MERCURY BY CVAA** TEST CODE **HG_AA**

The sample was prepared and analyzed for mercury by cold-vapor atomic absorption (CVAA) spectroscopy according to USEPA method 7471 (solids) or method 7470 (liquids).

TEST NAME **NUISANCE DUST(TOTAL)** TEST CODE **HI_VOL**

The filters are weighed after allowing to stablize at room conditions for one hour. The relative humidity and temperature are recorded at the time of weighing. The difference in weight is reported in micrograms.

INTERNATIONAL TECHNOLOGY CORPORATION

REQUEST FOR ANALYSIS

R/A Control No. 226408
C/C Control No. 211808

PROJECT NAME: FMC / LESLIE SALT
PROJECT NUMBER: 142468-04
PROFIT CENTER NUMBER: MARTINEZ, CA PC #
PROJECT MANAGER: Valerie Crook,
BILL TO: ~~ACCTS PAYABLE~~ IT MARTINEZ
4585 PACHECO BLVD.
Attn. Gene Lovett → MARTINEZ, CA.
PURCHASE ORDER NO.: MARTINEZ, CA PC #

DATE SAMPLES SHIPPED: 5/25/91
LAB DESTINATION: (IT - KNOXVILLE) → (IT - CERRITOS)
LABORATORY CONTACT: KNOXVILLE - TONY SIMPSON
CERRITOS - TRACY SIDWELL
SEND LAB REPORT TO: FRANK HORATH
~~13553~~ AMBER WAY
~~SAN JOSE CA 95112~~
DATE REPORT REQUIRED: FAX A.S.A.P. TO (408) 283-2255
PROJECT CONTACT: FRANK HORATH
PROJECT CONTACT PHONE NO.: 408-283-2262

Sample No.	Sample Type	Sample Volume	Preservative	Requested Testing Program	Special Instructions
1, 5902722	FILTER (AIR)	—	—	PARTICULATES	
~~2, 5902720~~ 7471	"			MERCURY, EPA 7471	
				COPPER, EPA 6010	
2, 5902720	FILTER (AIR)	—	—	"SAME AS ABOVE"	
3, 5902724	FILTER (AIR)	—	—	"SAME AS ABOVE"	
4, 5902721	FILTER (AIR)	—	—	"SAME AS ABOVE"	
5, 5902725	FILTER (AIR)	—	—	"SAME AS ABOVE"	
		NOTE: RUSH CHARGE	TO BE WAIVED	AS PER KUMAR TRIVEDI / V. CROOK COMMUNICATION	

TURNAROUND TIME REQUIRED: (Rush must be approved by the Laboratory Project Manager.)
Normal _____ Rush ✓ 48 HR (Subject to rush surcharge.)

QC LEVEL: (Levels II and III subject to surcharge; project-specific requirements must be submitted to lab before beginning work.)
I _____ II _____ III _____ Project Specific _____

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances.) Possible trace
Non-hazard _____ Flammable _____ Skin Irritant _____ Highly Toxic _____ Other MERCURY, COPPER (Please Specify)

SAMPLE DISPOSAL: (Please indicate disposition of sample following analysis. Lab will charge for packing, shipping, archive and disposal.)
Return to Client _____ Disposal by Lab ✓ Archive _____ (Indicate number of months.)

FOR LAB USE ONLY
Received by _____ Date / Time _____

WHITE - Original, to accompany samples
YELLOW - Field copy

126A-10-85

INTERNATIONAL TECHNOLOGY CORPORATION

CHAIN-OF-CUSTODY RECORD

R/A Control No. 228408

C/C Control No. 211808

PROJECT NAME/NUMBER EMC/ LESLIE SALT 142468 - 04

LAB DESTINATION KNOXVILLE, KY → CERRITOS, CA

SAMPLE TEAM MEMBERS Carl Franc, F. HORATH

CARRIER/WAYBILL NO.

Sample Number	Sample Location and Description	Date and Time Collected	Sample Type	Container Type	Condition on Receipt (Name and Date)	Disposal Record No.
1, 5902722	Location #1, AIR FILTER	5/25/91	AIR	FILTER		
∫	∫	∫	∫	∫		
2, 5902720	Location #2, AIR FILTER	5/25/91	AIR	FILTER		
3, 5902724	" " #3 " "	5/25/91	" "	" "		
4, 5902721	" " #4 " "	5/25/91	" "	" "		
5,	" " #5 " "	5/25/91	" "	" "		

Archived

Special Instructions:

Possible Sample Hazards:

SIGNATURES: (Name, Company, Date and Time)

1. Relinquished By:

   Received By:

2. Relinquished By:

   Received By:

3. Relinquished By:

   Received by:

4. Relinquished By:

   Received By:

WHITE - To accompany samples
YELLOW - Field

INTERNATIONAL TECHNOLOGY CORPORATION

ANALYTICAL SERVICES

CERTIFICATE OF ANALYSIS

IT CORPORATION
4585 PACHECO BLVD
MARTINEZ CA 94553
SHERRI WILLIAMS

Date: 06/14/91

Work Order: C1-06-012 Project/P.O.#: 2221

This is the Certificate of Analysis for the following samples:
Client Work ID: FMC/LESLIE SALT 142468-05
Date Received: 06/04/91 142468-005
Number of Samples: 9
Sample Type: FILTER

CORRECTED REPORT

Samples were labeled as follows:

SAMPLE IDENTIFICATION	LABORATORY #
3,5902724	C1-06-012-01
2,5902745	C1-06-012-02
1,5902706	C1-06-012-03
3,5902718	C1-06-012-04
4,5902707	C1-06-012-05
5,5902708	C1-06-012-06
BLANK SPIKE	C1-06-012-07
BLANK SPIKE DUPLICATE	C1-06-012-08
METHOD BLANK	C1-06-012-10

Reviewed and Approved:

Tracy Sidwell

Tracy Sidwell
Project Manager

Company: IT CORPORATION
Date: 06/14/91
Client Work ID: FMC/LESLIE SALT 142468-05 142468-005 Work Order: C1-06-012

IT ANALYTICAL SERVICES
CERRITOS, CA

CLIENT SAMPLE ID	1857 3,5902724	1674 2,5902745	1621 1,5902706	
LAB SAMPLE ID	C1-06-012-01	C1-06-012-02	C1-06-012-03	
SAMPLED	05/28/91	05/29/91	05/29/91	
TEST				UNITS
NUISANCE DUST(TOTAL)	79300	53100	41200	ug
	[100]	[100]	[100]	
	06/04/91	06/04/91	06/04/91	
MERCURY BY CVAA	0.28	0.15	0.22	ug
	[0.07]	[0.07]	[0.07]	
	06/06/91	06/06/91	06/06/91	
COPPER by ICP	41	63	27	ug
	[3]	[3]	[3]	
	06/05/91	06/05/91	06/05/91	

ND indicates the parameter was not detected.
Detection limits are specified in [].
NC indicates the parameter was not calculated.

IT ANALYTICAL SERVICES
CERRITOS, CA

Company: IT CORPORATION
Date: 06/14/91
Client Work ID: FMC/LESLIE SALT 142468-05 142468-005 Work Order: C1-06-012

	1715	1721	1632	
CLIENT SAMPLE ID	3,5902718	4,5902707	5,5902708	
LAB SAMPLE ID	C1-06-012-04	C1-06-012-05	C1-06-012-06	
SAMPLED	05/29/91	05/29/91	05/29/91	
TEST				UNITS
NUISANCE DUST(TOTAL)	45800	44400	40800	ug
	[100]	[100]	[100]	
	06/04/91	06/04/91	06/04/91	
MERCURY BY CVAA	0.13	0.10	0.09	ug
	[0.07]	[0.07]	[0.07]	
	06/06/91	06/06/91	06/06/91	
COPPER by ICP	11	20	9	ug
	[3]	[3]	[3]	
	06/05/91	06/05/91	06/05/91	

ND indicates the parameter was not detected.
Detection limits are specified in [].
NC indicates the parameter was not calculated.

IT ANALYTICAL SERVICES
CERRITOS, CA

Company: IT CORPORATION
Date: 06/14/91
Client Work ID: FMC/LESLIE SALT 142468-05 142468-005 Work Order: C1-06-012

CLIENT SAMPLE ID	BLANK SPIKE	BLANK SPIKE DUPLICATE	METHOD BLANK	
LAB SAMPLE ID	C1-06-012-07	C1-06-012-08	C1-06-012-10	
SAMPLED				
TEST				UNITS
MERCURY BY CVAA	77	75	ND	
	[--]	[--]	[0.07]	
	06/06/91	06/06/91	06/06/91	
	% Rec.	% Rec.		ug
COPPER by ICP	86	90	ND	
	[--]	[--]	[3]	
	06/05/91	06/05/91	06/05/91	
	% Rec.	% Rec.		ug

ND indicates the parameter was not detected.
Detection limits are specified in [].
NC indicates the parameter was not calculated.

IT ANALYTICAL SERVICES
CERRITOS, CA

Company: IT CORPORATION
Date: 06/14/91
Client Work ID: FMC/LESLIE SALT 142468-05 142468-005 Work Order: C1-06-012

TEST NAME **COPPER by ICP** TEST CODE **CU_ICP**

Copper was analyzed by inductively coupled argon plasma (ICP) spectroscopy according to USEPA method 6010.

TEST NAME **MERCURY BY CVAA** TEST CODE **HG_AA**

The sample was prepared and analyzed for mercury by cold-vapor atomic absorption (CVAA) spectroscopy according to USEPA method 7471 (solids) or method 7470 (liquids).

TEST NAME **NUISANCE DUST(TOTAL)** TEST CODE **HI_VOL**

The filters are weighed after allowing to stablize at room conditions for one hour. The relative humidity and temperature are recorded at the time of weighing. The difference in weight is reported in micrograms.

INTERNATIONAL TECHNOLOGY CORPORATION

REQUEST FOR ANALYSIS

R/A Control No. 228409
C/C Control No. ~~22~~ 211809

PROJECT NAME: FMC MAGNESIA PILE
PROJECT NUMBER: 142468 - 05
PROFIT CENTER NUMBER: 2221
PROJECT MANAGER: Gene Lovett
BILL TO: IT CORP A/P
4585 PACHECO BLVD
MARTINEZ, CA 94553
PURCHASE ORDER NO.: 2221

DATE SAMPLES SHIPPED: 5-29-91
LAB DESTINATION: IT Knoxville, TN → IT Cerritos, CA
LABORATORY CONTACT: ~~Tony~~ Tony Simpson
SEND LAB REPORT TO: Sheri Williams, IT Corp
c/o FMC Corp
8787 Enterprise Drive
Newark, CA 94560
DATE REPORT REQUIRED:
PROJECT CONTACT: Sheri Williams
PROJECT CONTACT PHONE NO.: 415-795-1139

Sample No.	Sample Type	Sample Volume (M3)	Preservative	Requested Testing Program	Special Instructions
3, 5902724	AIR FILTER	35730	—	PARTICULATES	
↓	↓	∫	∫	MERCURY, EPA 7471	
				COPPER, EPA 6010	
2, 5902745	AIR FILTER	37800	—	SAME 3 AS ABOVE	
1, 5902706	" "	57420	—	" "	
3, 5902718	" "	31050	—	" "	
4, 5902707	" "	23175	—	" "	
5, 5902708	" "	24300	—	" "	
		note: RUSH CHARGE TO BE WAIVED AS PER MOHAR TRIVEDI			O.K.

TURNAROUND TIME REQUIRED: (Rush must be approved by the Laboratory Project Manager.)
Normal _____ Rush 1/8 hr. (Subject to rush surcharge.)

QC LEVEL: (Levels II and III subject to surcharge; project-specific requirements must be submitted to lab before beginning work.)
I _____ II _____ III _____ Project Specific _____

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances.)
Non-hazard _____ Flammable _____ Skin Irritant _____ Highly Toxic _____ Other _____ (Please Specify)

SAMPLE DISPOSAL: (Please indicate disposition of sample following analysis. Lab will charge for packing, shipping, archive and disposal.)
Return to Client _____ Disposal by Lab _____ Archive _____ (Indicate number of months.)

FOR LAB USE ONLY
Received by _____ Date/Time _____

WHITE - C[illegible]l, to accompany samples
YEL[illegible] Field

126A-10-85

COPY

FMC MAGNESIA PILE
PROJECT NO. 142468-05

AIR SAMPLE DATA TABLE

LOCATION #	FILTER I.D.	FILTER PRE-WEIGHT	FILTER POST-WEIGHT	AIR VOLUME SAMPLERS (ft^3)
1	5902706	43855		57420
2	5902745	44209		37800
3	5902718	44732		31050
4	5902707	43472		23175
5	5902708	43928		24300
3	5902724	44219		35730

INTERNATIONAL TECHNOLOGY CORPORATION

CHAIN-OF-CUSTODY RECORD

R/A Control No. 228409

C/C Control No. 211809

PROJECT NAME/NUMBER FMC MAGNESIA PILE 142468-05

LAB DESTINATION IT KNOXVILLE, TN → CERRITOS, CA

SAMPLE TEAM MEMBERS MORATH, FRANK, WILLIAMS, SHERRY

CARRIER/WAYBILL NO.

Sample Number	Sample Location and Description	Date and Time Collected	Sample Type	Container Type	Condition on Receipt (Name and Date)	Disposal Record No.
3,5902724	AIR FILTER (LOCATION # 3)	5/28/91, 0842	FILTER	—		
2,5902745	" " (" " # 2)	5/29/91, 0730	" "	—		
1,5902706	" " (" " # 1)	5/29/91, 0351	" "	—		
3,5902718	" " (" " # 3)	5/29/91, 0715	" "	—		
4,5902	" " (" " # 4)	5/29/91, 0915	" "	—		
5,5902708	" " (" " # 5)	5/29/91, 0930	" "	—		
	35730					

Special Instructions:

Possible Sample Hazards: Copper, Mercury

SIGNATURES: (Name, Company, Date and Time)

1. Relinquished By: [illegible] IT Corp. 5/29/91 1400

Received By:

2. Relinquished By:

Received By:

3. Relinquished By:

Received by:

4. Relinquished By:

Received By:

WHITE - To ar[illegible] any samples
YELLOW - Fi[illegible] y

INTERNATIONAL TECHNOLOGY CORPORATION

ANALYTICAL SERVICES

CERTIFICATE OF ANALYSIS

IT CORPORATION
4585 PACHECO BLVD
MARTINEZ CA 94553
SHERRI WILLIAMS

Date: 06/17/91

Work Order: C1-06-026

Project/P.O.#: 2221
FMC

This is the Certificate of Analysis for the following samples:
Client Work ID: FMC/LESLIE SALT 142468-05
Date Received: 06/06/91 142468-005
Number of Samples: 6
Sample Type: FILTER

CORRECTED REPORT

Samples were labeled as follows:

SAMPLE IDENTIFICATION	LABORATORY #
1,5902715	C1-06-026-01
3,5902717	C1-06-026-02
4,5902714	C1-06-026-03
5,5902709	C1-06-026-04
BLANK SPIKE	C1-06-026-05
METHOD BLANK	C1-06-026-08

Reviewed and Approved:

Tracy Sidwell

Tracy Sidwell
Project Manager

IT ANALYTICAL SERVICES
CERRITOS, CA

Company: IT CORPORATION
Date: 06/17/91
Client Work ID: FMC/LESLIE SALT 142468-05 142468-005 Work Order: C1-06-026

	37395	32850	33975	
CLIENT SAMPLE ID	1,5902715	3,5902717	4,5902714	
LAB SAMPLE ID	C1-06-026-01	C1-06-026-02	C1-06-026-03	
SAMPLED	05/29/91	05/29/91	05/29/91	
TEST				UNITS
NUISANCE DUST(TOTAL)	22400	26300	35000	ug
	[100]	[100]	[100]	
	06/06/91	06/06/91	06/06/91	
MERCURY BY CVAA	0.15	0.16	0.15	ug
	[0.07]	[0.07]	[0.07]	
	06/08/91	06/08/91	06/08/91	
COPPER by ICP	28	8	27	ug
	[3]	[3]	[3]	
	06/07/91	06/07/91	06/07/91	

ND indicates the parameter was not detected.
Detection limits are specified in [].
NC indicates the parameter was not calculated.

IT ANALYTICAL SERVICES
CERRITOS, CA

Company: IT CORPORATION
Date: 06/17/91
Client Work ID: FMC/LESLIE SALT 142468-05 142468-005 Work Order: C1-06-026

33075

CLIENT SAMPLE ID	5,5902709	BLANK SPIKE	METHOD BLANK	
LAB SAMPLE ID	C1-06-026-04	C1-06-026-05	C1-06-026-08	
SAMPLED	05/29/91			
TEST				UNITS
NUISANCE DUST(TOTAL)	21700			ug
	[100]			
	06/06/91			
MERCURY BY CVAA	0.14	91	ND	
	[0.07]	[--]	[0.07]	
	06/08/91	06/08/91	06/08/91	
	ug	% Rec.	ug	
COPPER by ICP	12	84	ND	
	[3]	[--]	[3]	
	06/07/91	06/07/91	06/07/91	
	ug	% Rec.	ug	

ND indicates the parameter was not detected.
Detection limits are specified in [].
NC indicates the parameter was not calculated.

IT ANALYTICAL SERVICES
CERRITOS, CA

Company: IT CORPORATION
Date: 06/17/91
Client Work ID: FMC/LESLIE SALT 142468-05 142468-005 Work Order: C1-06-026

TEST NAME **COPPER by ICP** TEST CODE **CU_ICP**

Copper was analyzed by inductively coupled argon plasma (ICP) spectroscopy according to USEPA method 6010.

TEST NAME **MERCURY BY CVAA** TEST CODE **HG_AA**

The sample was prepared and analyzed for mercury by cold-vapor atomic absorption (CVAA) spectroscopy according to USEPA method 7471 (solids) or method 7470 (liquids).

TEST NAME **NUISANCE DUST(TOTAL)** TEST CODE **HI_VOL**

The filters are weighed after allowing to stablize at room conditions for one hour. The relative humidity and temperature are recorded at the time of weighing. The difference in weight is reported in micrograms.

5/2 Samples

INTERNATIONAL TECHNOLOGY CORPORATION

REQUEST FOR ANALYSIS

R/A Control No. 203734
C/C Control No. 171249

PROJECT NAME	FMC Magnesia Pile	DATE SAMPLES SHIPPED	5-30-91
PROJECT NUMBER	142468	LAB DESTINATION	IT Knoxville → IT Cerritos
PROFIT CENTER NUMBER	2221	LABORATORY CONTACT	~~Larry~~ Tony Simpson
PROJECT MANAGER	Gene Lovett	SEND LAB REPORT TO	Sherri Williams
BILL TO	IT Corp.		IT Corp C/O FMC
	4585 Pacheco Blvd		8787 Enterprise, Newark, CA 94560
	Martinez, CA 94553	DATE REPORT REQUIRED	
PURCHASE ORDER NO.	2221	PROJECT CONTACT	Sherri Williams
		PROJECT CONTACT PHONE NO.	415-795-4359

Sample No.	Sample Type	Sample Volume (ft³)	Preservative	Requested Testing Program	Special Instructions
1, 5902715	filter	37395		Hexavalent chromium } on all filter	
~~2, 5902716~~	~~sample lost~~			~~Mercury EPA 7471~~ }	
3, 5902717		32850		Copper EPA 6010 }	
4, 5902714		33975			
5, 5902709		33075			

COPY

TURNAROUND TIME REQUIRED: (Rush must be approved by the Laboratory Project Manager.) → Rush Charge waived per

Normal _____ Rush 48 hrs (Subject to rush surcharge.)

QC LEVEL: (Levels II and III subject to surcharge; project-specific requirements must be submitted to lab before beginning work.)

I _____ II _____ III _____ Project Specific _____

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances.)

Non-hazard _____ Flammable _____ Skin Irritant _____ Highly Toxic _____ Other _____ (Please Specify)

SAMPLE DISPOSAL: (Please indicate disposition of sample following analysis. Lab will charge for packing, shipping, archive and disposal.)

Return to Client _____ Disposal by Lab _____ Archive _____ (Indicate number of months.)

FOR LAB USE ONLY

Received by _____ Date / Time _____

WHITE - Original, to accompany samples
YELLOW - Field copy

126A-10-85

INTERNATIONAL TECHNOLOGY CORPORATION

CHAIN-OF-CUSTODY RECORD

R/A Control No. 2087391

C/C Control No. 171249

PROJECT NAME/NUMBER FMC Magnesia Pile / 142468

LAB DESTINATION IT Knoxville, TN - Cerr. Nos

SAMPLE TEAM MEMBERS Sherri Williams

CARRIER/WAYBILL NO. 0070187121

Sample Number	Sample Location and Description	Date and Time Collected	Sample Type	Container Type	Condition on Receipt (Name and Date)	Disposal Record No.
1, 5902715	Location #1, Air	5-29-91, 0851	Filter	—		
~~2, 5902716~~	~~Location #2, Air~~	~~5-29-91,~~	~~Filter~~	~~—~~		
3, 5902717	Location #3, Air	5-29-91, 0715	Filter	—		
4, 5902714	Location #4, Air	5-29-91, 0915	Filter	—		
5, 5902709	Location #5, Air	5-29-91, 0930	Filter	—		

Special Instructions: Sample # 5902716 location 2 was lost!!

Possible Sample Hazards: Copper, Mercury

SIGNATURES: (Name, Company, Date and Time)

1. Relinquished By: [illegible], IT Corp, 5-30-91, 1715

   Received By:

2. Relinquished By:

   Received By:

3. Relinquished By:

   Received by:

4. Relinquished By:

   Received By:

WHITE - To accompany samples
YELLOW - File

INTERNATIONAL TECHNOLOGY CORPORATION

ANALYTICAL SERVICES

CERTIFICATE OF ANALYSIS

IT CORPORATION
4585 PACHECO BLVD
MARTINEZ CA 94553
COLIN BROWNLOW

Date: 06/17/91

Work Order: C1-06-034

Project/P.O.#: 2221
FMC

This is the Certificate of Analysis for the following samples:
Client Work ID: FMC/MAGNESIA PILE 142468-05
Date Received: 06/07/91 142468-005
Number of Samples: 7
Sample Type: FILTERS

CORRECTED REPORT

Samples were labeled as follows:

SAMPLE IDENTIFICATION	LABORATORY #
1,5902743	C1-06-034-01
2,5902713	C1-06-034-02
3,5902744	C1-06-034-03
4,5902710	C1-06-034-04
5,5902711	C1-06-034-05
BLANK SPIKE	C1-06-034-06
METHOD BLANK	C1-06-034-08

RECEIVED
JUN 21 1991
OPERATIONS

Reviewed and Approved:
Tracy Sidwell
Tracy Sidwell
Project Manager

IT ANALYTICAL SERVICES
CERRITOS, CA

Company: IT CORPORATION
Date: 06/17/91
Client Work ID: FMC/MAGNESIA PILE 142468-05 142468-005 Work Order: C1-06-034

	1702	1778	1780	
CLIENT SAMPLE ID	1,5902743	2,5902713	3,5902744	
LAB SAMPLE ID	C1-06-034-01	C1-06-034-02	C1-06-034-03	
SAMPLED	05/30/91	05/30/91	05/30/91	
TEST				UNITS
NUISANCE DUST(TOTAL)	71400	118000	71200	ug
	[100]	[100]	[100]	
	06/10/91	06/10/91	06/10/91	
MERCURY BY CVAA	0.12	0.15	0.14	ug
	[0.07]	[0.07]	[0.07]	
	06/08/91	06/08/91	06/08/91	
COPPER by ICP	41	110	17	ug
	[3]	[3]	[3]	
	06/07/91	06/07/91	06/07/91	

RECEIVED
JUN 21 1991
OPERATIONS

ND indicates the parameter was not detected.
Detection limits are specified in [].
NC indicates the parameter was not calculated.

Page: 3

IT ANALYTICAL SERVICES
CERRITOS, CA

Company: IT CORPORATION
Date: 06/17/91
Client Work ID: FMC/MAGNESIA PILE 142468-05 142468-005 Work Order: C1-06-034

CLIENT SAMPLE ID	1784 4,5902710	1721 5,5902711	BLANK SPIKE	
LAB SAMPLE ID	C1-06-034-04	C1-06-034-05	C1-06-034-06	
SAMPLED	05/30/91	05/30/91		
TEST				UNITS
NUISANCE DUST(TOTAL)	99800	251000		ug
	[100]	[100]		
	06/10/91	06/10/91		
MERCURY BY CVAA	0.08	0.36	91	
	[0.07]	[0.07]	[--]	
	06/08/91	06/08/91	06/08/91	
	ug	ug	% Rec.	
COPPER by ICP	27	16	84	
	[3]	[3]	[--]	
	06/07/91	06/07/91	06/07/91	
	ug	ug	% Rec.	

RECEIVED
JUN 21 1991
OPERATIONS

ND indicates the parameter was not detected.
Detection limits are specified in [].
NC indicates the parameter was not calculated.

IT ANALYTICAL SERVICES
CERRITOS, CA

Company: IT CORPORATION
Date: 06/17/91
Client Work ID: FMC/MAGNESIA PILE 142468-05 142468-005 Work Order: C1-06-034

CLIENT SAMPLE ID	METHOD BLANK	
LAB SAMPLE ID	C1-06-034-08	
SAMPLED		
TEST		UNITS
MERCURY BY CVAA	ND [0.07] 06/08/91	ug
COPPER by ICP	ND [3] 06/07/91	ug

RECEIVED
JUN 21 1991
OPERATIONS

ND indicates the parameter was not detected.
Detection limits are specified in [].
NC indicates the parameter was not calculated.

IT ANALYTICAL SERVICES
CERRITOS, CA

Company: IT CORPORATION
Date: 06/17/91
Client Work ID: FMC/MAGNESIA PILE 142468-05 142468-005 Work Order: C1-06-034

TEST NAME COPPER by ICP TEST CODE CU_ICP

Copper was analyzed by inductively coupled argon plasma (ICP) spectroscopy according to USEPA method 6010.

TEST NAME MERCURY BY CVAA TEST CODE HG_AA

The sample was prepared and analyzed for mercury by cold-vapor atomic absorption (CVAA) spectroscopy according to USEPA method 7471 (solids) or method 7470 (liquids).

TEST NAME NUISANCE DUST(TOTAL) TEST CODE HI_VOL

The filters are weighed after allowing to stablize at room conditions for one hour. The relative humidity and temperature are recorded at the time of weighing. The difference in weight is reported in micrograms.

RECEIVED
JUN 21 1991
OPERATIONS

INTERNATIONAL TECHNOLOGY CORPORATION

REQUEST FOR ANALYSIS

R/A Control No. 208735
C/C Control No. 159852

PROJECT NAME: FMC Magnesia Pile
PROJECT NUMBER: 142468-05
PROFIT CENTER NUMBER: 2221
PROJECT MANAGER: Gene Lovett
BILL TO: IT Corp. 4585 Pacheco Blvd Martinez, CA 94553
PURCHASE ORDER NO.: 2221

DATE SAMPLES SHIPPED: 5-31-91
LAB DESTINATION: IT Knoxville → IT Cerritos, CA
LABORATORY CONTACT: Tony Simpson
SEND LAB REPORT TO: IT Corp C/O FMC 3287 Enterprise, Dr Newark, CA 94560
DATE REPORT REQUIRED:
PROJECT CONTACT: Sherri Williams
PROJECT CONTACT PHONE NO.: 415-795-4359

Sample No.	Sample Type	Sample Volume (Ft3)	Preservative	Requested Testing Program	Special Instructions
1, 5902743	Air	60300		Particulates	
2, 5902713	↓	63000		Mercury EPA 7471	
3, 5902744	↓	63045		Copper EPA 6010	
4, 5902710	↓	63225		same as above	
5, 5902711	↓	60975		" "	

COPY

Note: Rush charge to be waived per

TURNAROUND TIME REQUIRED: (Rush must be approved by the Laboratory Project Manager.)
Normal ____ Rush X (Subject to rush surcharge.)

QC LEVEL: (Levels II and III subject to surcharge; project-specific requirements must be submitted to lab before beginning work.)
I ____ II ____ III ____ Project Specific ____

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances.)
Non-hazard ____ Flammable ____ Skin Irritant ____ Highly Toxic ____ Other ____ (Please Specify)

SAMPLE DISPOSAL: (Please indicate disposition of sample following analysis. Lab will charge for packing, shipping, archive and disposal.)
Return to Client ____ Disposal by Lab ____ Archive ____ (Indicate number of months.)

FOR LAB USE ONLY
Received by ____ Date/Time ____

WHITE - C[illegible]al, to accompany samples
YEL[illegible] - Fiel[illegible]

126A-10-85

5/30 sample

INTERNATIONAL TECHNOLOGY CORPORATION

CHAIN-OF-CUSTODY RECORD

R/A Control No. 20-735

C/C Control No. 159852

PROJECT NAME/NUMBER FMC Magnesia Site / 142468-05 LAB DESTINATION IT Knoxville → IT Cerritos

SAMPLE TEAM MEMBERS Sherri Williams CARRIER/WAYBILL NO. 0070187106

Sample Number	Sample Location and Description	Date and Time Collected	Sample Type	Container Type	Condition on Receipt (Name and Date)	Disposal Record No.
1,5902743	Location #1, Air	5-30-91 1000	Filter			
2,5902713	" " #2,	0745				
3,5902744	" " #3,	0715				
4,5902710	" " #4,	0910				
5,5902711	" " #5,	0925				

COPY

Special Instructions:

Possible Sample Hazards: Copper, Mercury

SIGNATURES: (Name, Company, Date and Time)

1. Relinquished By: Sherri Williams, IT Corp, 5-31-91, 1045

   Received By:

2. Relinquished By:

   Received By:

3. Relinquished By:

   Received by:

4. Relinquished By:

   Received By:

WHITE - To accompany samples
YELLOW - Field copy

INTERNATIONAL TECHNOLOGY CORPORATION

ANALYTICAL SERVICES

CERTIFICATE OF ANALYSIS

Date: 06/14/91

IT CORPORATION C/O FMC
8787 ENTERPRISE DR.
NEWARK, CA 94560
SHERRI WILLIAMS

Work Order: C1-06-060 Project/P.O.#: 142468
FMC

This is the Certificate of Analysis for the following samples:
Client Work ID: FMC MAGNESIA PILE 142468-05
Date Received: 06/11/91 142468-005
Number of Samples: 7
Sample Type: AIR

Samples were labeled as follows:

SAMPLE IDENTIFICATION	LABORATORY #
1,5902741	C1-06-060-01
2,5902727	C1-06-060-02
3,5902726	C1-06-060-03
4,5902740	C1-06-060-04
5,5902742	C1-06-060-05
BLANK SPIKE	C1-06-060-06
METHOD BLANK	C1-06-060-07

Reviewed and Approved:

Tracy Sidwell

Tracy Sidwell
Project Manager

IT ANALYTICAL SERVICES
CERRITOS, CA

Company: IT CORPORATION
Date: 06/14/91
Client Work ID: FMC MAGNESIA PILE 142468-05 142468-005 Work Order: C1-06-060

	441	559	59,	
CLIENT SAMPLE ID	1,5902741	2,5902727	3,5902726	
LAB SAMPLE ID	C1-06-060-01	C1-06-060-02	C1-06-060-03	
SAMPLED	05/31/91	05/31/91	05/31/91	
TEST				UNITS
NUISANCE DUST(TOTAL)	6600	22000	16500	ug
	[100]	[100]	[100]	
	06/12/91	06/12/91	06/12/91	
MERCURY BY CVAA	0.12	0.14	0.11	ug
	[0.07]	[0.07]	[0.07]	
	06/13/91	06/13/91	06/13/91	
COPPER by ICP	16	33	6	ug
	[3]	[3]	[3]	
	06/11/91	06/11/91	06/11/91	

ND indicates the parameter was not detected.
Detection limits are specified in [].
NC indicates the parameter was not calculated.

IT ANALYTICAL SERVICES
CERRITOS, CA

Company: IT CORPORATION
Date: 06/14/91
Client Work ID: FMC MAGNESIA PILE 142468-05 142468-005 Work Order: C1-06-060

	413	457		
CLIENT SAMPLE ID	4,5902740	5,5902742	BLANK SPIKE	
LAB SAMPLE ID	C1-06-060-04	C1-06-060-05	C1-06-060-06	
SAMPLED	05/31/91	05/31/91		
TEST				UNITS
NUISANCE DUST(TOTAL)	13700	16700		ug
	[100]	[100]		
	06/12/91	06/12/91		
MERCURY BY CVAA	0.10	0.15	95	
	[0.07]	[0.07]	[--]	
	06/13/91	06/13/91	06/13/91	
	ug	ug	% Rec.	
COPPER by ICP	9	6	87	
	[3]	[3]	[--]	
	06/11/91	06/11/91	06/11/91	
	ug	ug	% Rec.	

ND indicates the parameter was not detected.
Detection limits are specified in [].
NC indicates the parameter was not calculated.

IT ANALYTICAL SERVICES
CERRITOS, CA

Company: IT CORPORATION
Date: 06/14/91
Client Work ID: FMC MAGNESIA PILE 142468-05 142468-005 Work Order: C1-06-060

CLIENT SAMPLE ID	METHOD BLANK	
LAB SAMPLE ID	C1-06-060-07	
SAMPLED		
TEST		UNITS
MERCURY BY CVAA	ND [0.07] 06/13/91	ug
COPPER by ICP	ND [3] 06/11/91	ug

ND indicates the parameter was not detected.
Detection limits are specified in [].
NC indicates the parameter was not calculated.

Company: IT CORPORATION
Date: 06/14/91
Client Work ID: FMC MAGNESIA PILE 142468-05 142468-005

IT ANALYTICAL SERVICES
CERRITOS, CA

Work Order: C1-06-060

TEST NAME **COPPER by ICP** TEST CODE **CU_ICP**

Copper was analyzed by inductively coupled argon plasma (ICP) spectroscopy according to USEPA method 6010.

TEST NAME **MERCURY BY CVAA** TEST CODE **HG_AA**

The sample was prepared and analyzed for mercury by cold-vapor atomic absorption (CVAA) spectroscopy according to USEPA method 7471 (solids) or method 7470 (liquids).

TEST NAME **NUISANCE DUST(TOTAL)** TEST CODE **HI_VOL**

The filters are weighed after allowing to stablize at room conditions for one hour. The relative humidity and temperature are recorded at the time of weighing. The difference in weight is reported in micrograms.

INTERNATIONAL TECHNOLOGY CORPORATION

REQUEST FOR ANALYSIS

R/A Control No. 205736
C/C Control No. 159849

PROJECT NAME: FMC Magnesia Pile
PROJECT NUMBER: 142468-055
PROFIT CENTER NUMBER: 2221
PROJECT MANAGER: Gene Lovett
BILL TO: IT Corp
4585 Pacheco Blvd
Martinez, CA 94553
PURCHASE ORDER NO.: 2221

DATE SAMPLES SHIPPED: 6-3-91
LAB DESTINATION: IT Knoxville → IT Cerritos
LABORATORY CONTACT: Tony Simpson
SEND LAB REPORT TO: IT Corp C/O FMC
8787 Enterprise Dr
Newark, CA 94560
DATE REPORT REQUIRED:
PROJECT CONTACT: Sherri Williams
PROJECT CONTACT PHONE NO.: 415-795-4359

Sample No.	Sample Type	Sample Volume (ft3)	Preservative	Requested Testing Program	Special Instructions
1,5902741	Air	15750		Particulates	
2,5902724	↓	19800		Mercury EPA 7471	
3,5902726		20925		Copper EPA 6010	
4,5902740		14625		Same 3 as above for all	
5,590242	↓	16200		" "	
				"	

COPY

TURNAROUND TIME REQUIRED: (Rush must be approved by the Laboratory Project Manager.)
Normal ____ Rush X (Subject to rush surcharge.)

QC LEVEL: (Levels II and III subject to surcharge; project-specific requirements must be submitted to lab before beginning work.)
I ____ II ____ III ____ Project Specific ____

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances.)
Non-hazard ____ Flammable ____ Skin Irritant ____ Highly Toxic ____ Other ____ (Please Specify)

SAMPLE DISPOSAL: (Please indicate disposition of sample following analysis. Lab will charge for packing, shipping, archive and disposal.)
Return to Client ____ Disposal by Lab ____ Archive ____ (Indicate number of months.)

FOR LAB USE ONLY
Received by ____ Date/Time ____

WHITE - Original, to accompany samples
YELLOW - Field copy

126A-10-85

5-31 samples

INTERNATIONAL TECHNOLOGY CORPORATION

CHAIN-OF-CUSTODY RECORD

R/A Control No. 2087336

C/C Control No. 159849

PROJECT NAME/NUMBER FMC Magnesia Pile / 142468-05

LAB DESTINATION ITknoxville → IT Cerritos

SAMPLE TEAM MEMBERS Sherri Williams

CARRIER/WAYBILL NO. 0070187084

Sample Number	Sample Location and Description	Date and Time Collected	Sample Type	Container Type	Condition on Receipt (Name and Date)	Disposal Record No.
1, 5902741	Location #1, Air	5-31-91, 0825	Filter			
2, 5902727	" " 2	, 0715				
3, 5902726	" " 3	, 0645				
4, 5902740	" " 4	, 0845				
5, 5902742	" " 5	, 0810				
	~~1550~~					
	~~1610~~					
	~~1645~~					
	~~1625~~					
	~~1630~~					

COPY

Special Instructions:

Possible Sample Hazards: Copper, Mercury

SIGNATURES: (Name, Company, Date and Time)

1. Relinquished By: Sherri Williams, IT Corp, 6-3-91, 0855

   Received By:

2. Relinquished By:

   Received By:

3. Relinquished By:

   Received by:

4. Relinquished By:

   Received By:

WHITE - To [illegible] company samples
YELLOW - F[illegible] copy

INTERNATIONAL TECHNOLOGY CORPORATION

ANALYTICAL SERVICES

CERTIFICATE OF ANALYSIS

Date: 06/14/91

IT CORPORATION C/O FMC
8787 ENTERPRISE DR.
NEWARK, CA 94560
SHERRI WILLIAMS

Work Order: C1-06-058 Project/P.O.#: 142468
FMC

This is the Certificate of Analysis for the following samples:
Client Work ID: FMC MAGNESIA PILE 142468
Date Received: 06/11/91 142468
Number of Samples: 6
Sample Type: AIR

Samples were labeled as follows:

SAMPLE IDENTIFICATION	LABORATORY #
1,5902738	C1-06-058-01
2,5902737	C1-06-058-02
3,5902728	C1-06-058-03
4,5902739	C1-06-058-04
BLANK SPIKE	C1-06-058-05
METHOD BLANK	C1-06-058-06

Reviewed and Approved:

Tracy Sidwell

Tracy Sidwell
Project Manager

IT ANALYTICAL SERVICES
CERRITOS, CA

Company: IT CORPORATION
Date: 06/14/91
Client Work ID: FMC MAGNESIA PILE 142468 142468 Work Order: C1-06-058

	1784	2006	1852	
CLIENT SAMPLE ID	1,5902738	2,5902737	3,5902728	
LAB SAMPLE ID	C1-06-058-01	C1-06-058-02	C1-06-058-03	
SAMPLED	06/03/91	06/03/91	06/03/91	
TEST				UNITS
NUISANCE DUST(TOTAL)	86100	55400	77500	ug
	[100]	[100]	[100]	
	06/12/91	06/12/91	06/12/91	
MERCURY BY CVAA	0.28	0.13	0.15	ug
	[0.07]	[0.07]	[0.07]	
	06/13/91	06/13/91	06/13/91	
COPPER by ICP	49	56	22	ug
	[3]	[3]	[3]	
	06/11/91	06/11/91	06/11/91	

ND indicates the parameter was not detected.
Detection limits are specified in [].
NC indicates the parameter was not calculated.

Company: IT CORPORATION
Date: 06/14/91
Client Work ID: FMC MAGNESIA PILE 142468 142468

IT ANALYTICAL SERVICES
CERRITOS, CA

Work Order: C1-06-058

CLIENT SAMPLE ID	1784 4,5902739	BLANK SPIKE	METHOD BLANK	
LAB SAMPLE ID	C1-06-058-04	C1-06-058-05	C1-06-058-06	
SAMPLED	06/03/91			
TEST				UNITS
NUISANCE DUST(TOTAL)	83600			ug
	[100]			
	06/12/91			
MERCURY BY CVAA	0.13	95	ND	
	[0.07]	[--]	[0.07]	
	06/13/91	06/13/91	06/13/91	
	ug	% Rec.	ug	
COPPER by ICP	19	87	ND	
	[3]	[--]	[3]	
	06/11/91	06/11/91	06/11/91	
	ug	% Rec.	ug	

ND indicates the parameter was not detected.
Detection limits are specified in [].
NC indicates the parameter was not calculated.

IT ANALYTICAL SERVICES
CERRITOS, CA

Company: IT CORPORATION
Date: 06/14/91
Client Work ID: FMC MAGNESIA PILE 142468 142468 Work Order: C1-06-058

TEST NAME **COPPER by ICP** TEST CODE **CU_ICP**

Copper was analyzed by inductively coupled argon plasma (ICP) spectroscopy according to USEPA method 6010.

TEST NAME **MERCURY BY CVAA** TEST CODE **HG_AA**

The sample was prepared and analyzed for mercury by cold-vapor atomic absorption (CVAA) spectroscopy according to USEPA method 7471 (solids) or method 7470 (liquids).

TEST NAME **NUISANCE DUST(TOTAL)** TEST CODE **HI_VOL**

The filters are weighed after allowing to stablize at room conditions for one hour. The relative humidity and temperature are recorded at the time of weighing. The difference in weight is reported in micrograms.

INTERNATIONAL TECHNOLOGY CORPORATION

REQUEST FOR ANALYSIS

R/A Control No. 20738

C/C Control No. 159853

PROJECT NAME: FMC Magnesia Pile

PROJECT NUMBER: 142468

PROFIT CENTER NUMBER: 2221

PROJECT MANAGER: Gene Lovett

BILL TO: IT Corp
4585 Pacheco Blvd
Martinez, CA 94553

PURCHASE ORDER NO.: 2221

DATE SAMPLES SHIPPED: 6-4-91

LAB DESTINATION: IT Knoxville → IT Cerritos

LABORATORY CONTACT: Tony Simpson

SEND LAB REPORT TO: IT Corp C/O FMC
8787 Enterprise Dr
Newark, CA 94560

DATE REPORT REQUIRED: 48 hrs

PROJECT CONTACT: Sherri Williams

PROJECT CONTACT PHONE NO.: 415-795-4359

Sample No.	Sample Type	Sample Volume (Ft3)	Preservative	Requested Testing Program	Special Instructions
1.5902738	Air	63225			
2.5902737	↓	71100			
3.5902728	↓	65610			
4.5902739	↓	63225			

COPY

TURNAROUND TIME REQUIRED: (Rush must be approved by the Laboratory Project Manager.)

Normal ____ Rush X (Subject to rush surcharge.)

QC LEVEL: (Levels II and III subject to surcharge; project-specific requirements must be submitted to lab before beginning work.)

I ____ II ____ III ____ Project Specific ____

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances.)

Non-hazard ____ Flammable ____ Skin Irritant ____ Highly Toxic ____ Other ____ (Please Specify)

SAMPLE DISPOSAL: (Please indicate disposition of sample following analysis. Lab will charge for packing, shipping, archive and disposal.)

Return to Client ____ Disposal by Lab ____ Archive ____ (Indicate number of months.)

FOR LAB USE ONLY

Received by ____ Date / Time ____

WHITE - Original, to accompany samples
YELLOW - Field copy

126A-10-85

4

INTERNATIONAL TECHNOLOGY CORPORATION

6-3-91 samples

CHAIN-OF-CUSTODY RECORD

R/A Control No. 208738

C/C Control No. 159853

PROJECT NAME/NUMBER FMC Magnesia Pile / 1424168

LAB DESTINATION IT knoxville → IT cerritos

SAMPLE TEAM MEMBERS Sherri Williams

CARRIER/WAYBILL NO. 0070187073 5

Sample Number	Sample Location and Description	Date and Time Collected	Sample Type	Container Type	Condition on Receipt (Name and Date)	Disposal Record No.
1, 59102738	Location #1 Air	6-3-91 0815	Filter			
2, 59102737	2	0655				
3, 59102728	3	0645				
4, 59102739	4	0805				
5	~~Sample destroyed~~					

COPY

Special Instructions:

Possible Sample Hazards: Copper, Mercury

SIGNATURES: (Name, Company, Date and Time)

1. Relinquished By: Sam Williams, IT Corp, 6-4-91, 1000

   Received By:

2. Relinquished By:

   Received By:

3. Relinquished By:

   Received by:

4. Relinquished By:

   Received By:

WHITE - To a[illegible]any samples
YELLOW - Fi[illegible]y

INTERNATIONAL TECHNOLOGY CORPORATION

ANALYTICAL SERVICES

CERTIFICATE OF ANALYSIS

Date: 06/18/91

IT CORPORATION C/O FMC
8787 ENTERPRISE DR.
NEWARK, CA 94560
SHERRI WILLIAMS

Work Order: C1-06-078 Project/P.O.#: 142468
FMC

This is the Certificate of Analysis for the following samples:
Client Work ID: FMC 142468
Date Received: 06/14/91 142468
Number of Samples: 9
Sample Type: AIR

Samples were labeled as follows:

SAMPLE IDENTIFICATION	LABORATORY #
1,5902734	C1-06-078-01
2,5902733	C1-06-078-02
3,5902736	C1-06-078-03
4,5902735	C1-06-078-04
5,5902730	C1-06-078-05
4,5902732	C1-06-078-06
5,5902731	C1-06-078-07
BLANK SPIKE	C1-06-078-08
METHOD BLANK	C1-06-078-09

Reviewed and Approved:
Tracy Sidwell
Tracy Sidwell
Project Manager

IT ANALYTICAL SERVICES
CERRITOS, CA

Company: IT CORPORATION
Date: 06/18/91
Client Work ID: FMC 142468 142468 Work Order: C1-06-078

	63000	63450	64125	
CLIENT SAMPLE ID	1,5902734	2,5902733	3,5902736	
LAB SAMPLE ID	C1-06-078-01	C1-06-078-02	C1-06-078-03	
SAMPLED	06/04/91	06/04/91	06/04/91	
TEST				UNITS
NUISANCE DUST(TOTAL)	129000	149000	123000	ug
	[100]	[100]	[100]	
	06/19/91	06/17/91	06/17/91	
MERCURY BY CVAA	0.16	0.16	0.20	ug
	[0.07]	[0.07]	[0.07]	
	06/15/91	06/15/91	06/15/91	
COPPER by ICP	39	86	20	ug
	[3]	[3]	[3]	
	06/17/91	06/17/91	06/17/91	

ND indicates the parameter was not detected.
Detection limits are specified in [].
NC indicates the parameter was not calculated.

IT ANALYTICAL SERVICES
CERRITOS, CA

Company: IT CORPORATION
Date: 06/18/91
Client Work ID: FMC 142468 142468 Work Order: C1-06-078

	63225	63000	1772	
CLIENT SAMPLE ID	4,5902735	5,5902730	4,5902732	
LAB SAMPLE ID	C1-06-078-04	C1-06-078-05	C1-06-078-06	
SAMPLED	06/04/91	06/04/91	06/05/91	
TEST				UNITS
NUISANCE DUST(TOTAL)	99800	136000	79200	ug
	[100]	[100]	[100]	
	06/17/91	06/17/91	06/17/91	
MERCURY BY CVAA	0.17	0.31	ND	ug
	[0.07]	[0.07]	[0.07]	
	06/15/91	06/15/91	06/15/91	
COPPER by ICP	34	15	19	ug
	[3]	[3]	[3]	
	06/17/91	06/17/91	06/17/91	

ND indicates the parameter was not detected.
Detection limits are specified in [].
NC indicates the parameter was not calculated.

IT ANALYTICAL SERVICES
CERRITOS, CA

Company: IT CORPORATION
Date: 06/18/91
Client Work ID: FMC 142468 142468 Work Order: C1-06-078

1784

CLIENT SAMPLE ID	5,5902731	BLANK SPIKE	METHOD BLANK	
LAB SAMPLE ID	C1-06-078-07	C1-06-078-08	C1-06-078-09	
SAMPLED	06/05/91			
TEST				UNITS
NUISANCE DUST(TOTAL)	107000			ug
	[100]			
	06/17/91			
MERCURY BY CVAA	0.16	89	ND	
	[0.07]	[--]	[0.07]	
	06/15/91	06/15/91	06/15/91	
	ug	% Rec.	ug	
COPPER by ICP	12	93	ND	
	[3]	[--]	[3]	
	06/17/91	06/17/91	06/17/91	
	ug	% Rec.	ug	

ND indicates the parameter was not detected.
Detection limits are specified in [].
NC indicates the parameter was not calculated.

Company: IT CORPORATION
Date: 06/18/91
Client Work ID: FMC 142468 142468

IT ANALYTICAL SERVICES
CERRITOS, CA

Work Order: C1-06-078

TEST NAME **COPPER by ICP** TEST CODE **CU_ICP**

Copper was analyzed by inductively coupled argon plasma (ICP) spectroscopy according to USEPA method 6010.

TEST NAME **MERCURY BY CVAA** TEST CODE **HG_AA**

The sample was prepared and analyzed for mercury by cold-vapor atomic absorption (CVAA) spectroscopy according to USEPA method 7471 (solids) or method 7470 (liquids).

TEST NAME **NUISANCE DUST(TOTAL)** TEST CODE **HI_VOL**

The filters are weighed after allowing to stablize at room conditions for one hour. The relative humidity and temperature are recorded at the time of weighing. The difference in weight is reported in micrograms.

6-4-91 samples

INTERNATIONAL TECHNOLOGY CORPORATION

REQUEST FOR ANALYSIS

R/A Control No. 208737
C/C Control No. 159850

PROJECT NAME: FMC Magnesia Pile
PROJECT NUMBER: 1424168
PROFIT CENTER NUMBER: 2221
PROJECT MANAGER: Gene Novett
BILL TO: IT Corp
4585 Pacheco Blvd
Martinez, CA 94553
PURCHASE ORDER NO.: 2221

DATE SAMPLES SHIPPED: 6-5-91
LAB DESTINATION: IT Knoxville → IT Cerritos
LABORATORY CONTACT: Tony Simpson
SEND LAB REPORT TO: IT Corp C/O FMC
8787 Enterprise Dr.
Newark, CA 94560
DATE REPORT REQUIRED: 48 hrs
PROJECT CONTACT: Sherri Williams
PROJECT CONTACT PHONE NO.:

Sample No.	Sample Type	Sample Volume (ft3)	Preservative	Requested Testing Program	Special Instructions
1,5902734	Air	63000			
2,5902733	↓	63450			
3,5902736		64125			
4,5902735		63225			
5,5902730	↓	63000			

COPY

TURNAROUND TIME REQUIRED: (Rush must be approved by the Laboratory Project Manager.)
Normal _____ Rush X (Subject to rush surcharge.)

QC LEVEL: (Levels II and III subject to surcharge; project-specific requirements must be submitted to lab before beginning work.)
I _____ II _____ III _____ Project Specific _____

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances.)
Non-hazard _____ Flammable _____ Skin Irritant _____ Highly Toxic _____ Other _____ (Please Specify)

SAMPLE DISPOSAL: (Please indicate disposition of sample following analysis. Lab will charge for packing, shipping, archive and disposal.)
Return to Client _____ Disposal by Lab _____ Archive _____ (Indicate number of months.)

FOR LAB USE ONLY
Received by _____ Date/Time _____

WHITE - C[illegible]l, to accompany samples
YELLOW - Field copy

126A-10-85

INTERNATIONAL TECHNOLOGY CORPORATION

CHAIN-OF-CUSTODY RECORD

R/A Control No. 206137

C/C Control No. 159850

PROJECT NAME/NUMBER EMC Magnesia Pile / 142468

LAB DESTINATION IT Knoxville → IT Cerritos

SAMPLE TEAM MEMBERS Sherri Williams

CARRIER/WAYBILL NO. 0070127073

Sample Number	Sample Location and Description	Date and Time Collected	Sample Type	Container Type	Condition on Receipt (Name and Date)	Disposal Record No.
1,5902734	Location #1 Air	6-1-91 0845	Air			
2,5902733	2	0925				
3,5902736	3	0705				
4,5902735	4	0830				
5,5902730	5	0825				

COPY

Special Instructions:

Possible Sample Hazards: Copper, Mercury

SIGNATURES: (Name, Company, Date and Time)

1. Relinquished By: S. Williams, IT Corp., 6-5-91, 0915

   Received By:

2. Relinquished By:

   Received By:

3. Relinquished By:

   Received by:

4. Relinquished By:

   Received By:

WHITE - To accompany samples
YELLOW - Field copy

INTERNATIONAL TECHNOLOGY CORPORATION

6-6-91 samples

REQUEST FOR ANALYSIS

R/A Control No. B 78131
C/C Control No. 1591681

PROJECT NAME: FMC
PROJECT NUMBER: 142468
PROJECT MANAGER: Gene Lovett
BILL TO: 4585 Pacheco Blvd, Martinez, CA
PURCHASE ORDER NO.: 2221

DATE SAMPLES SHIPPED: 6-7-91
LAB DESTINATION: IT Knoxville → IT Cerritos
LABORATORY CONTACT: Tony Simpson
SEND LAB REPORT TO: IT Corp c/o FMC, 8787 Enterprise Dr, Newark, CA
DATE REPORT REQUIRED:
PROJECT CONTACT: Sherri Williams
PROJECT CONTACT PHONE NO.: 415-795-4395

Sample No.	Sample Type	Sample Volume (m^3)	Preservative	Requested Testing Program	Special Instructions
4, 5902732	Air	1772		Copper EPA 6010	
5, 5902731	↓	1784		Hg EPA 7471	
				Particulate for both samples	

COPY

11000

TURNAROUND TIME REQUIRED: (Rush must be approved by the Project Manager.)

Normal ____ Rush X (Subject to rush surcharge)

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances)

Nonhazard ____ Flammable ____ Skin Irritant ____ Highly Toxic ____ Other ____ (Please Specify)

SAMPLE DISPOSAL: (Please indicate disposition of sample following analysis. Lab will charge for packing, shipping, and disposal.)

Return to Client ____ Disposal by Lab ____ 552 GY45

FOR LAB USE ONLY

Received By ____ Date/Time ____

WHITE - Original, to accompany samples
YELLOW - Lab copy

INTERNATIONAL TECHNOLOGY CORPORATION

CHAIN-OF-CUSTODY RECORD

R/A Control No. B 0131

C/C Control No. 159681

PROJECT NAME/NUMBER FMC/142468

LAB DESTINATION IT Knoxville → IT Cerritos

SAMPLE TEAM MEMBERS Sherri Williams

CARRIER/WAYBILL NO. 0070187051

Sample Number	Sample Location and Description	Date and Time Collected	Sample Type	Container Type	Condition on Receipt (Name and Date)	Disposal Record No.
4,5902732	Location #4 Air	6-5-91	Air			
5,5902731	↓ 5 ↓	6-5-91	↓			

COPY

Special Instructions:

Possible Sample Hazards: Mercury, Copper

SIGNATURES: (Name, Company, Date and Time)

1. Relinquished By: S. Williams, IT Corp, 6-7-91, 1245

   Received By:

2. Relinquished By:

   Received By:

3. Relinquished By:

   Received by:

4. Relinquished By:

   Received By:

WHITE - To accompany samples
YELLOW - Field copy

INTERNATIONAL TECHNOLOGY CORPORATION

ANALYTICAL SERVICES

CERTIFICATE OF ANALYSIS

Date: 06/14/91

IT CORPORATION C/O FMC
8787 ENTERPRISE DR.
NEWARK, CA 94560
SHERRI WILLIAMS

Work Order: C1-06-061

Project/P.O.#: 142468
FMC

This is the Certificate of Analysis for the following samples:
Client Work ID: FMC 142468
Date Received: 06/11/91 142468
Number of Samples: 7
Sample Type: AIR

Samples were labeled as follows:

SAMPLE IDENTIFICATION	LABORATORY #
1,5831008	C1-06-061-01
2,5831010	C1-06-061-02
4,5831007	C1-06-061-03
5,5831006	C1-06-061-04
3,5831009	C1-06-061-05
BLANK SPIKE	C1-06-061-06
METHOD BLANK	C1-06-061-07

Reviewed and Approved:

Tracy Sidwell

Tracy Sidwell
Project Manager

Company: IT CORPORATION
Date: 06/14/91
Client Work ID: FMC 142468 142468

IT ANALYTICAL SERVICES
CERRITOS, CA

Work Order: C1-06-061

	2254	2214	2218	
CLIENT SAMPLE ID	1,5831008	2,5831010	4,5831007	
LAB SAMPLE ID	C1-06-061-01	C1-06-061-02	C1-06-061-03	
SAMPLED	06/07/91	06/07/91	06/07/91	
TEST				UNITS
NUISANCE DUST(TOTAL)	28300	50900	37600	ug
	[100]	[100]	[100]	
	06/13/91	06/13/91	06/13/91	
MERCURY BY CVAA	ND	0.11	0.11	ug
	[0.07]	[0.07]	[0.07]	
	06/13/91	06/13/91	06/13/91	
COPPER by ICP	9	64	15	ug
	[3]	[3]	[3]	
	06/11/91	06/11/91	06/11/91	

ND indicates the parameter was not detected.
Detection limits are specified in [].
NC indicates the parameter was not calculated.

IT ANALYTICAL SERVICES
CERRITOS, CA

Company: IT CORPORATION
Date: 06/14/91
Client Work ID: FMC 142468 142468 Work Order: C1-06-061

2254

CLIENT SAMPLE ID	5,5831006	3,5831009	BLANK SPIKE	
LAB SAMPLE ID	C1-06-061-04	C1-06-061-05	C1-06-061-06	
SAMPLED	06/07/91	06/07/91		
TEST				UNITS
NUISANCE DUST(TOTAL)	12200	11800		ug
	[100]	[100]		
	06/13/91	06/13/91		
MERCURY BY CVAA	0.11	0.11	95	
	[0.07]	[0.07]	[--]	
	06/13/91	06/13/91	06/13/91	
	ug	ug	% Rec.	
COPPER by ICP	ND	4	87	
	[3]	[3]	[--]	
	06/11/91	06/11/91	06/11/91	
	ug	ug	% Rec.	

ND indicates the parameter was not detected.
Detection limits are specified in [].
NC indicates the parameter was not calculated.

IT ANALYTICAL SERVICES
CERRITOS, CA

Company: IT CORPORATION
Date: 06/14/91
Client Work ID: FMC 142468 142468 Work Order: C1-06-061

CLIENT SAMPLE ID	METHOD BLANK	
LAB SAMPLE ID	C1-06-061-07	
SAMPLED		
TEST		UNITS
MERCURY BY CVAA	ND [0.07] 06/13/91	ug
COPPER by ICP	ND [3] 06/11/91	ug

ND indicates the parameter was not detected.
Detection limits are specified in [].
NC indicates the parameter was not calculated.

Company: IT CORPORATION
Date: 06/14/91
Client Work ID: FMC 142468 142468

IT ANALYTICAL SERVICES
CERRITOS, CA

Work Order: C1-06-061

TEST NAME **COPPER by ICP** TEST CODE **CU_ICP**

Copper was analyzed by inductively coupled argon plasma (ICP) spectroscopy according to USEPA method 6010.

TEST NAME **MERCURY BY CVAA** TEST CODE **HG_AA**

The sample was prepared and analyzed for mercury by cold-vapor atomic absorption (CVAA) spectroscopy according to USEPA method 7471 (solids) or method 7470 (liquids).

TEST NAME **NUISANCE DUST(TOTAL)** TEST CODE **HI_VOL**

The filters are weighed after allowing to stablize at room conditions for one hour. The relative humidity and temperature are recorded at the time of weighing. The difference in weight is reported in micrograms.

INTERNATIONAL TECHNOLOGY CORPORATION

REQUEST FOR ANALYSIS

R/A Control No. B 8129
C/C Control No. 159680

PROJECT NAME: FMC
PROJECT NUMBER: 142468
PROJECT MANAGER: Gene Lovett
BILL TO: IT Corp
4585 Pacheco Blvd.
Martinez, CA
PURCHASE ORDER NO. 2221

DATE SAMPLES SHIPPED: 6-10-91
LAB DESTINATION: → IT Cerritos
LABORATORY CONTACT: Tracy Sewell
SEND LAB REPORT TO: IT Corp C/O FMC
8787 Enterprise Dr
Newark, CA
DATE REPORT REQUIRED:
PROJECT CONTACT: Sherri Williams
PROJECT CONTACT PHONE NO. 415-795-4395

Sample No.	Sample Type	Sample Volume	Preservative	Requested Testing Program	Special Instructions
1, 5831008	Air	2254		Copper EPA 6010	
2, 5831010	↓	2216		Mercury EPA 7471	
~~3, 5831009~~				Particulate ~~for~~	
4, 5831007		2248		~~the~~ 3 tests on all	
5, 5831006		2254		samples	

COPY

TURNAROUND TIME REQUIRED: (Rush must be approved by the Project Manager.)

Normal _____ Rush X (Subject to rush surcharge)

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances)

Nonhazard _____ Flammable _____ Skin Irritant _____ Highly Toxic _____ Other _____ (Please Specify)

SAMPLE DISPOSAL: (Please indicate disposition of sample following analysis. Lab will charge for packing, shipping, and disposal.)

Return to Client _____ Disposal by Lab _____

FOR LAB USE ONLY

Received By _____ Date/Time _____

WHITE - Original, to accompany samples
YELLOW - Field copy

5

INTERNATIONAL TECHNOLOGY CORPORATION

6-7-91 samples

CHAIN-OF-CUSTODY RECORD

R/A Control No. B78129

C/C Control No. 159680

PROJECT NAME/NUMBER FMC / 142468

LAB DESTINATION IT Cerritos

SAMPLE TEAM MEMBERS Sherri Williams

CARRIER/WAYBILL NO. 0070187036

Sample Number	Sample Location and Description	Date and Time Collected	Sample Type	Container Type	Condition on Receipt (Name and Date)	Disposal Record No.
1.58310008	Location #1 Air	6-7-91, 0705	Air			
2.58310010	2	, 0855				
3.58310009	3	, 0845				
4.58310007	4	, 0800				
5.58310006	5	, 0755				

COPY

Special Instructions:

Possible Sample Hazards: Mercury, Copper

SIGNATURES: (Name, Company, Date and Time)

1. Relinquished By: Sherri Williams, IT Corp, 6-10-91, 0845

   Received By:

2. Relinquished By:

   Received By:

3. Relinquished By:

   Received by:

4. Relinquished By:

   Received By:

WHITE - To accompany samples
YELLOW - Field copy

INTERNATIONAL TECHNOLOGY CORPORATION

ANALYTICAL SERVICES

CERTIFICATE OF ANALYSIS

Date: 06/14/91

IT CORPORATION C/O FMC
8787 ENTERPRISE DR.
NEWARK, CA 94560
SHERRI WILLIAMS

Work Order: C1-06-067 Project/P.O.#: 142468
FMC

This is the Certificate of Analysis for the following samples:
Client Work ID: FMC 142468
Date Received: 06/12/91 142468
Number of Samples: 7
Sample Type: AIR

Samples were labeled as follows:

SAMPLE IDENTIFICATION	LABORATORY #
1,5902787	C1-06-067-01
2,5831021	C1-06-067-02
3,5831020	C1-06-067-03
4,5831011	C1-06-067-04
5,5902788	C1-06-067-05
BLANK SPIKE	C1-06-067-06
METHOD BLANK	C1-06-067-07

Reviewed and Approved:
Tracy Sidwell
Tracy Sidwell
Project Manager

IT ANALYTICAL SERVICES
CERRITOS, CA

Company: IT CORPORATION
Date: 06/14/91
Client Work ID: FMC 142468 142468 Work Order: C1-06-067

	1873	1880	1884	
CLIENT SAMPLE ID	1,5902787	2,5831021	3,5831020	
LAB SAMPLE ID	C1-06-067-01	C1-06-067-02	C1-06-067-03	
SAMPLED	06/10/91	06/10/91	06/10/91	
TEST				UNITS
NUISANCE DUST(TOTAL)	77600	96200	93000	ug
	[100]	[100]	[100]	
	06/13/91	06/13/91	06/13/91	
MERCURY BY CVAA	0.18	0.21	0.29	ug
	[0.07]	[0.07]	[0.07]	
	06/14/91	06/14/91	06/14/91	
COPPER by ICP	45	94	22	ug
	[3]	[3]	[3]	
	06/12/91	06/12/91	06/12/91	

ND indicates the parameter was not detected.
Detection limits are specified in [].
NC indicates the parameter was not calculated.

IT ANALYTICAL SERVICES
CERRITOS, CA

Company: IT CORPORATION
Date: 06/14/91
Client Work ID: FMC 142468 142468 Work Order: C1-06-067

CLIENT SAMPLE ID	4,5831011	5,5902788	BLANK SPIKE	
LAB SAMPLE ID	C1-06-067-04	C1-06-067-05	C1-06-067-06	
SAMPLED	06/10/91	06/10/91		
TEST				UNITS
NUISANCE DUST(TOTAL)	95900	81300		ug
	[100]	[100]		
	06/13/91	06/13/91		
MERCURY BY CVAA	0.15	0.29	93	
	[0.07]	[0.07]	[--]	
	06/14/91	06/14/91	06/14/91	
	ug	ug	% Rec.	
COPPER by ICP	26	12	90	
	[3]	[3]	[--]	
	06/12/91	06/12/91	06/12/91	
	ug	ug	% Rec.	

ND indicates the parameter was not detected.
Detection limits are specified in [].
NC indicates the parameter was not calculated.

Company: IT CORPORATION
Date: 06/14/91
Client Work ID: FMC 142468 142468

IT ANALYTICAL SERVICES
CERRITOS, CA

Work Order: C1-06-067

CLIENT SAMPLE ID	METHOD BLANK	
LAB SAMPLE ID	C1-06-067-07	
SAMPLED		
TEST		UNITS
MERCURY BY CVAA	ND [0.07] 06/14/91	ug
COPPER by ICP	ND [3] 06/12/91	ug

ND indicates the parameter was not detected.
Detection limits are specified in [].
NC indicates the parameter was not calculated.

Company: IT CORPORATION
Date: 06/14/91
Client Work ID: FMC 142468

IT ANALYTICAL SERVICES
CERRITOS, CA

142468

Work Order: C1-06-067

TEST NAME **COPPER by ICP** TEST CODE **CU_ICP**

Copper was analyzed by inductively coupled argon plasma (ICP) spectroscopy according to USEPA method 6010.

TEST NAME **MERCURY BY CVAA** TEST CODE **HG_AA**

The sample was prepared and analyzed for mercury by cold-vapor atomic absorption (CVAA) spectroscopy according to USEPA method 7471 (solids) or method 7470 (liquids).

TEST NAME **NUISANCE DUST(TOTAL)** TEST CODE **HI_VOL**

The filters are weighed after allowing to stablize at room conditions for one hour. The relative humidity and temperature are recorded at the time of weighing. The difference in weight is reported in micrograms.

6-10-91 samples

INTERNATIONAL TECHNOLOGY CORPORATION

REQUEST FOR ANALYSIS

R/A Control No. B 78128

C/C Control No. _____

PROJECT NAME: FMC

PROJECT NUMBER: 142468

PROJECT MANAGER: Gene Lovell

BILL TO: IT Corp
4585 Pacheco Blvd
Martinez, CA

PURCHASE ORDER NO. 2221

DATE SAMPLES SHIPPED: 6-11-91

LAB DESTINATION: IT Cerntrs

LABORATORY CONTACT: Tracy Sidwell

SEND LAB REPORT TO: IT Corp c/o FMC
8787 Enterprise

DATE REPORT REQUIRED: _____

PROJECT CONTACT: Sherri Williams

PROJECT CONTACT PHONE NO. 415-795-4395

Sample No.	Sample Type	Sample Volume m³	Preservative	Requested Testing Program	Special Instructions
1,5902787	Air	~~1875~~ 1873			
2,5831021	↓	~~1880~~ 1880			
3,5831020	↓	~~1875~~ 1886			
4,5831011	↓	~~5~~ 1880			
5,5902788	↓	1886			

COPY

TURNAROUND TIME REQUIRED: (Rush must be approved by the Project Manager.)

Normal _____ Rush X (Subject to rush surcharge)

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances)

Nonhazard _____ Flammable _____ Skin Irritant _____ Highly Toxic _____ Other _____ (Please Specify)

SAMPLE DISPOSAL: (Please indicate disposition of sample following analysis. Lab will charge for packing, shipping, and disposal.)

Return to Client _____ Disposal by Lab _____

FOR LAB USE ONLY

Received By _____ Date/Time _____

WHITE - C al, to accompany samples
YELLOW - copy

INTERNATIONAL TECHNOLOGY CORPORATION

CHAIN-OF-CUSTODY RECORD

R/A Control No. 13,818X

C/C Control No. 159679

PROJECT NAME/NUMBER FMC / 1424468

LAB DESTINATION IT Cerritos

SAMPLE TEAM MEMBERS Sherri Williams

CARRIER/WAYBILL NO.

Sample Number	Sample Location and Description	Date and Time Collected	Sample Type	Container Type	Condition on Receipt (Name and Date)	Disposal Record No.
1, 5902781	Location #1 Air	6-11-91 0805	Air			
2, 5831021	2	0715				
3, 5831020	3	0700				
4, 5831011	4	0740				
5, 5902788	5	0745				

COPY

Special Instructions:

Possible Sample Hazards: Mercury, Copper

SIGNATURES: (Name, Company, Date and Time)

1. Relinquished By: Sherri Williams, IT Corp, 6-11-91, 0930

   Received By:

2. Relinquished By:

   Received By:

3. Relinquished By:

   Received by:

4. Relinquished By:

   Received By:

WHITE - To accompany samples
YELLOW - Field copy

INTERNATIONAL TECHNOLOGY CORPORATION

ANALYTICAL SERVICES

CERTIFICATE OF ANALYSIS

Date: 06/24/91

IT CORPORATION C/O FMC
8787 ENTERPRISE DR.
NEWARK, CA 94560
SHERRI WILLIAMS

Work Order: C1-06-125 Project/P.O.#: 142468
FMC

This is the Certificate of Analysis for the following samples:
Client Work ID: FMC 142468
Date Received: 06/20/91 142468
Number of Samples: 8
Sample Type: AIR

Samples were labeled as follows:

SAMPLE IDENTIFICATION	LABORATORY #
1,5831001	C1-06-125-01
2,5831002	C1-06-125-02
3,5831003	C1-06-125-03
4,5831004	C1-06-125-04
5,5831005	C1-06-125-05
BLANK SPIKE	C1-06-125-06
BLANK SPIKE DUPLICATE	C1-06-125-07
METHOD BLANK	C1-06-125-08

Reviewed and Approved:

Tracy Sidwell

Tracy Sidwell
Project Manager

Company: IT CORPORATION
Date: 06/24/91
Client Work ID: FMC 142468 142468

IT ANALYTICAL SERVICES
CERRITOS, CA

Work Order: C1-06-125

CLIENT SAMPLE ID	1892 1,5831001	1885 2,5831002	1879 3,5831003	
LAB SAMPLE ID	C1-06-125-01	C1-06-125-02	C1-06-125-03	
SAMPLED	06/18/91	06/18/91	06/18/91	
TEST				UNITS
NUISANCE DUST(TOTAL)	40700	91200	17000	ug
	[100]	[100]	[100]	
	06/20/91	06/20/91	06/20/91	
MERCURY BY CVAA	ND	ND	ND	ug
	[0.07]	[0.07]	[0.07]	
	06/21/91	06/21/91	06/21/91	
COPPER by ICP	14	67	4	ug
	[3]	[3]	[3]	
	06/20/91	06/20/91	06/20/91	

ND indicates the parameter was not detected.
Detection limits are specified in [].
NC indicates the parameter was not calculated.

Company: IT CORPORATION
Date: 06/24/91
Client Work ID: FMC 142468 142468

IT ANALYTICAL SERVICES
CERRITOS, CA

Work Order: C1-06-125

CLIENT SAMPLE ID	1860 4,5831004	1873 5,5831005	BLANK SPIKE	
LAB SAMPLE ID	C1-06-125-04	C1-06-125-05	C1-06-125-06	
SAMPLED	06/18/91	06/18/91		
TEST				UNITS
NUISANCE DUST(TOTAL)	131000	72100		ug
	[100]	[100]		
	06/20/91	06/20/91		
MERCURY BY CVAA	0.19	0.11	73	
	[0.07]	[0.07]	[--]	
	06/21/91	06/21/91	06/21/91	
	ug	ug	% Rec.	
COPPER by ICP	32	14	92	
	[3]	[3]	[--]	
	06/20/91	06/20/91	06/20/91	
	ug	ug	% Rec.	

ND indicates the parameter was not detected.
Detection limits are specified in [].
NC indicates the parameter was not calculated.

Company: IT CORPORATION
Date: 06/24/91
Client Work ID: FMC 142468 142468

IT ANALYTICAL SERVICES
CERRITOS, CA

Work Order: C1-06-125

CLIENT SAMPLE ID	BLANK SPIKE DUPLICATE	METHOD BLANK	
LAB SAMPLE ID	C1-06-125-07	C1-06-125-08	
SAMPLED			
TEST			UNITS
MERCURY BY CVAA		ND [0.07] 06/21/91	ug
COPPER by ICP	92 [--] 06/20/91 % Rec.	ND [3] 06/20/91 ug	mg/L

ND indicates the parameter was not detected.
Detection limits are specified in [].
NC indicates the parameter was not calculated.

Company: IT CORPORATION
Date: 06/24/91
Client Work ID: FMC 142468 142468 Work Order: C1-06-125

IT ANALYTICAL SERVICES
CERRITOS, CA

TEST NAME **COPPER by ICP** TEST CODE **CU_ICP**

Copper was analyzed by inductively coupled argon plasma (ICP) spectroscopy according to USEPA method 6010.

TEST NAME **MERCURY BY CVAA** TEST CODE **HG_AA**

The sample was prepared and analyzed for mercury by cold-vapor atomic absorption (CVAA) spectroscopy according to USEPA method 7471 (solids) or method 7470 (liquids).

TEST NAME **NUISANCE DUST(TOTAL)** TEST CODE **HI_VOL**

The filters are weighed after allowing to stablize at room conditions for one hour. The relative humidity and temperature are recorded at the time of weighing. The difference in weight is reported in micrograms.

INTERNATIONAL TECHNOLOGY CORPORATION

REQUEST FOR ANALYSIS

R/A Control No. B 8127
C/C Control No. 154678

PROJECT NAME: FMC
PROJECT NUMBER: 142468
PROJECT MANAGER: Gene Lovett
BILL TO: IT Corp
4585 Pacheco Blvd
Martinez, CA

PURCHASE ORDER NO. 2221

DATE SAMPLES SHIPPED: June 19, 1997
LAB DESTINATION: IT Cerritos
LABORATORY CONTACT: Tracy Sidwell
SEND LAB REPORT TO: IT Corp c/o FMC
8891 Enterprise
Newark, CA

DATE REPORT REQUIRED:
PROJECT CONTACT: Sherri Williams
PROJECT CONTACT PHONE NO. 415-795-4395

Sample No.	Sample Type	Sample Volume (m^3)	Preservative	Requested Testing Program	Special Instructions
1, 5831001	Air	1892		Copper EPA 6010	
2, 5831002		1885		Mercury EPA 7471	
3, 5831003		1879		Particulate	
4, 5831004		1860		Perform all 3 tests	
5, 5831005		1873		on all samples	

COP

TURNAROUND TIME REQUIRED: (Rush must be approved by the Project Manager.)

Normal _____ **Rush** X (Subject to rush surcharge)

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances)

Nonhazard _____ **Flammable** _____ **Skin Irritant** _____ **Highly Toxic** _____ **Other** _____ **(Please Specify)**

SAMPLE DISPOSAL: (Please indicate disposition of sample following analysis. Lab will charge for packing, shipping, and disposal.)

Return to Client _____ **Disposal by Lab** _____

FOR LAB USE ONLY

Received By _____ **Date/Time** _____

WHITE - Original, to accompany samples
YELLOW - Field copy

6-18-91 samples

INTERNATIONAL TECHNOLOGY CORPORATION

CHAIN-OF-CUSTODY RECORD

R/A Control No. 578107

C/C Control No. 159678

PROJECT NAME/NUMBER FMC / 142468

LAB DESTINATION IT Cerritos

SAMPLE TEAM MEMBERS Sherri Williams

CARRIER/WAYBILL NO. 0493703991

Sample Number	Sample Location and Description	Date and Time Collected	Sample Type	Container Type	Condition on Receipt (Name and Date)	Disposal Record No.
1,5831001	Location #1	6-18-91, 0845	Air			
2,5831002	2	, 0710				
3,5831003	3	, 0700				
4,5831004	4	, 0755				
5,5831005	5	, 0745				

COPY

Special Instructions:

Possible Sample Hazards: Copper, ~~[illegible]~~ Mercury

SIGNATURES: (Name, Company, Date and Time)

1. Relinquished By: S. Williams, IT Corp, 6-19-91, 1230

   Received By:

2. Relinquished By:

   Received By:

3. Relinquished By:

   Received by:

4. Relinquished By:

   Received By:

WHITE - To accompany samples
YELLOW - Field copy

INTERNATIONAL TECHNOLOGY CORPORATION

ANALYTICAL SERVICES

CERTIFICATE OF ANALYSIS

Date: 06/25/91

IT CORPORATION C/O FMC
8787 ENTERPRISE DR.
NEWARK, CA 94560
SHERRI WILLIAMS

Work Order: C1-06-137 Project/P.O.#: 142468
FMC

This is the Certificate of Analysis for the following samples:
Client Work ID: FMC 142468
Date Received: 06/21/91 142468
Number of Samples: 7
Sample Type: AIR

Samples were labeled as follows:

SAMPLE IDENTIFICATION	LABORATORY #
1,5831012	C1-06-137-01
2,5831013	C1-06-137-02
3,5831014	C1-06-137-03
4,5831015	C1-06-137-04
5,5831016	C1-06-137-05
BLANK SPIKE	C1-06-137-06
METHOD BLANK	C1-06-137-08

Reviewed and Approved:

Tracy Sidwell

Tracy Sidwell
Project Manager

Company: IT CORPORATION
Date: 06/25/91
Client Work ID: FMC 142468 142468

IT ANALYTICAL SERVICES
CERRITOS, CA

Work Order: C1-06-137

CLIENT SAMPLE ID	1829 1,5831012	1829 2,5831013	1841 3,5831014	
LAB SAMPLE ID	C1-06-137-01	C1-06-137-02	C1-06-137-03	
SAMPLED	06/19/91	06/19/91	06/19/91	
TEST				UNITS
NUISANCE DUST(TOTAL)	36100	63800	44900	ug
	[100]	[100]	[100]	
	06/21/91	06/21/91	06/21/91	
MERCURY BY CVAA	ND	ND	0.11	ug
	[0.07]	[0.07]	[0.07]	
	06/22/91	06/22/91	06/22/91	
COPPER by ICP	35	170	15	ug
	[3]	[3]	[3]	
	06/21/91	06/21/91	06/21/91	

ND indicates the parameter was not detected.
Detection limits are specified in [].
NC indicates the parameter was not calculated.

Company: IT CORPORATION
Date: 06/25/91
Client Work ID: FMC 142468 142468

IT ANALYTICAL SERVICES
CERRITOS, CA

Work Order: C1-06-137

CLIENT SAMPLE ID	1822 4,5831015	1758 5,5831016	BLANK SPIKE	
LAB SAMPLE ID	C1-06-137-04	C1-06-137-05	C1-06-137-06	
SAMPLED	06/19/91	06/19/91		
TEST				UNITS
NUISANCE DUST(TOTAL)	53700	46600		ug
	[100]	[100]		
	06/21/91	06/21/91		
MERCURY BY CVAA	0.11	0.16	77	
	[0.07]	[0.07]	[--]	
	06/22/91	06/22/91	06/22/91	
	ug	ug	% Rec.	
COPPER by ICP	33	11	89	
	[3]	[3]	[--]	
	06/21/91	06/21/91	06/21/91	
	ug	ug	% Rec.	

ND indicates the parameter was not detected.
Detection limits are specified in [].
NC indicates the parameter was not calculated.

Company: IT CORPORATION
Date: 06/25/91
Client Work ID: FMC 142468 142468

IT ANALYTICAL SERVICES
CERRITOS, CA

Work Order: C1-06-137

CLIENT SAMPLE ID	METHOD BLANK	
LAB SAMPLE ID	C1-06-137-08	
SAMPLED		
TEST		UNITS
MERCURY BY CVAA	ND [0.07] 06/22/91	ug
COPPER by ICP	ND [3] 06/21/91	ug

ND indicates the parameter was not detected.
Detection limits are specified in [].
NC indicates the parameter was not calculated.

Company: IT CORPORATION
Date: 06/25/91
Client Work ID: FMC 142468

IT ANALYTICAL SERVICES
CERRITOS, CA

142468

Work Order: C1-06-137

TEST NAME **COPPER by ICP** TEST CODE **CU_ICP**

Copper was analyzed by inductively coupled argon plasma (ICP) spectroscopy according to USEPA method 6010.

TEST NAME **MERCURY BY CVAA** TEST CODE **HG_AA**

The sample was prepared and analyzed for mercury by cold-vapor atomic absorption (CVAA) spectroscopy according to USEPA method 7471 (solids) or method 7470 (liquids).

TEST NAME **NUISANCE DUST(TOTAL)** TEST CODE **HI_VOL**

The filters are weighed after allowing to stablize at room conditions for one hour. The relative humidity and temperature are recorded at the time of weighing. The difference in weight is reported in micrograms.

6-24-91

INTERNATIONAL TECHNOLOGY CORPORATION

REQUEST FOR ANALYSIS

R/A Control No. B 78124
C/C Control No. 159675

PROJECT NAME: FMC
PROJECT NUMBER: 142468
PROJECT MANAGER: Gene Lovett
BILL TO: IT Corp
4585 Pacheco Blvd
Martinez, CA

PURCHASE ORDER NO. 2221

DATE SAMPLES SHIPPED: June 20, 1991
LAB DESTINATION: IT Cerritos
LABORATORY CONTACT: Tracy Sidwell
SEND LAB REPORT TO: IT Corp c/o FMC
8891 Enterprise
Newark, CA.

DATE REPORT REQUIRED:
PROJECT CONTACT: Sherri Williams
PROJECT CONTACT PHONE NO. 415-795-4395

Sample No.	Sample Type	Sample Volume (m^3)	Preservative	Requested Testing Program	Special Instructions
1,5831012	Air	1829		Copper EPA 6010	
2,5831013	↓	1829		Mercury EPA 7471	
3,5831014		1841		Pesticides	
4,5831015		1822		Perkin Mall 3 kits	
5,5831016		1758		[illegible] samples	

COPY

TURNAROUND TIME REQUIRED: (Rush must be approved by the Project Manager.)

Normal _____ Rush X (Subject to rush surcharge)

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances)

Nonhazard _____ Flammable _____ Skin Irritant _____ Highly Toxic _____ Other _____ (Please Specify)

SAMPLE DISPOSAL: (Please indicate disposition of sample following analysis. Lab will charge for packing, shipping, and disposal.)

Return to Client _____ Disposal by Lab _____

FOR LAB USE ONLY

Received By _____ Date/Time _____

WHITE - O[illegible]al, to accompany samples
YELLOW - [illegible] copy

INTERNATIONAL TECHNOLOGY CORPORATION

CHAIN-OF-CUSTODY RECORD

R/A Control No. B-1024

C/C Control No. 159675

PROJECT NAME/NUMBER FMC / 142468

LAB DESTINATION IT Corporation

SAMPLE TEAM MEMBERS Sherri Williams

CARRIER/WAYBILL NO. 0070186981 Fed X

Sample Number	Sample Location and Description	Date and Time Collected	Sample Type	Container Type	Condition on Receipt (Name and Date)	Disposal Record No.
1,583012	location 1 Air	6-19-92 0720	Air			
2,583013	2	0730				
3,583014	3	0735				
4,583015	4	0930				
5,583016	5	0930				

COPY

Special Instructions:

Possible Sample Hazards: Mercury, Copper

SIGNATURES: (Name, Company, Date and Time)

1. Relinquished By: Sherri Williams IT Corp. 6-20-91, 1240

   Received By:

2. Relinquished By:

   Received By:

3. Relinquished By:

   Received by:

4. Relinquished By:

   Received By:

WHITE - To accompany samples
YELLOW - Field copy

INTERNATIONAL TECHNOLOGY CORPORATION

ANALYTICAL SERVICES

CERTIFICATE OF ANALYSIS

Date: 06/27/91

IT CORPORATION C/O FMC
8787 ENTERPRISE DR.
NEWARK, CA 94560
SHERRI WILLIAMS

Work Order: C1-06-150

Project/P.O.#: 142468
FMC

This is the Certificate of Analysis for the following samples:
Client Work ID: FMC 142468
Date Received: 06/24/91
Number of Samples: 7
Sample Type: AIR

142468

Samples were labeled as follows:

SAMPLE IDENTIFICATION	LABORATORY #
1,5831017	C1-06-150-01
2,5831018	C1-06-150-02
3,5831019	C1-06-150-03
4,5902794	C1-06-150-04
5,5902795	C1-06-150-05
BLANK SPIKE	C1-06-150-06
METHOD BLANK	C1-06-150-08

Reviewed and Approved:

Tracy Sidwell

Tracy Sidwell
Project Manager

Company: IT CORPORATION
Date: 06/27/91
Client Work ID: FMC 142468 142468

IT ANALYTICAL SERVICES
CERRITOS, CA

Work Order: C1-06-150

CLIENT SAMPLE ID	1,5831017	2,5831018	3,5831019	
LAB SAMPLE ID	C1-06-150-01	C1-06-150-02	C1-06-150-03	
SAMPLED	06/20/91	06/20/91	06/20/91	
TEST				UNITS
NUISANCE DUST(TOTAL)	34500	76000	55400	ug
	[100]	[100]	[100]	
	06/24/91	06/24/91	06/24/91	
MERCURY BY CVAA	ND	ND	ND	ug
	[0.07]	[0.07]	[0.07]	
	06/25/91	06/25/91	06/25/91	
COPPER by ICP	22	110	14	ug
	[3]	[3]	[3]	
	06/24/91	06/24/91	06/24/91	

ND indicates the parameter was not detected.
Detection limits are specified in [].
NC indicates the parameter was not calculated.

Company: IT CORPORATION
Date: 06/27/91
Client Work ID: FMC 142468 142468

IT ANALYTICAL SERVICES
CERRITOS, CA

Work Order: C1-06-150

CLIENT SAMPLE ID	1864 4,5902794	1841 5,5902795	BLANK SPIKE	
LAB SAMPLE ID	C1-06-150-04	C1-06-150-05	C1-06-150-06	
SAMPLED	06/20/91	06/20/91		
TEST				UNITS
NUISANCE DUST(	11900*	50500		ug
TOTAL)	[100]	[100]		
	06/24/91	06/24/91		
MERCURY BY	0.08	ND	89	
CVAA	[0.07]	[0.07]	[--]	
	06/25/91	06/25/91	06/25/91	
	ug	ug	% Rec.	
COPPER by ICP	35	10	93	
	[3]	[3]	[--]	
	06/24/91	06/24/91	06/24/91	
	ug	ug	% Rec.	

ND indicates the parameter was not detected.
Detection limits are specified in [].
NC indicates the parameter was not calculated.

Company: IT CORPORATION
Date: 06/27/91
Client Work ID: FMC 142468 142468

IT ANALYTICAL SERVICES
CERRITOS, CA

Work Order: C1-06-150

CLIENT SAMPLE ID	METHOD BLANK	
LAB SAMPLE ID	C1-06-150-08	
SAMPLED		
TEST		UNITS
MERCURY BY CVAA	ND [0.07] 06/25/91	ug
COPPER by ICP	ND [3] 06/24/91	ug

ND indicates the parameter was not detected.
Detection limits are specified in [].
NC indicates the parameter was not calculated.

Company: IT CORPORATION
Date: 06/27/91
Client Work ID: FMC 142468

IT ANALYTICAL SERVICES
CERRITOS, CA

142468

Work Order: C1-06-150

Nonconformance Summary

*Sample 4,5902794 was damaged upon receipt by the laboratory such that a piece of the filter was missing from the sample. The sample was reported as is but the data is uncertain.

Company: IT CORPORATION
Date: 06/27/91
Client Work ID: FMC 142468 142468

IT ANALYTICAL SERVICES
CERRITOS, CA

Work Order: C1-06-150

TEST NAME **COPPER by ICP** TEST CODE **CU_ICP**

Copper was analyzed by inductively coupled argon plasma (ICP) spectroscopy according to USEPA method 6010.

TEST NAME **MERCURY BY CVAA** TEST CODE **HG_AA**

The sample was prepared and analyzed for mercury by cold-vapor atomic absorption (CVAA) spectroscopy according to USEPA method 7471 (solids) or method 7470 (liquids).

TEST NAME **NUISANCE DUST(TOTAL)** TEST CODE **HI_VOL**

The filters are weighed after allowing to stablize at room conditions for one hour. The relative humidity and temperature are recorded at the time of weighing. The difference in weight is reported in micrograms.

INTERNATIONAL TECHNOLOGY CORPORATION

REQUEST FOR ANALYSIS

R/A Control No. B 78122

C/C Control No. _____

PROJECT NAME: FMC

PROJECT NUMBER: 142468

PROJECT MANAGER: Gene Lovett

BILL TO: IT Corp
4585 Pacheco Blvd
Martinez, CA

PURCHASE ORDER NO.: 2221

DATE SAMPLES SHIPPED: 6-21-91

LAB DESTINATION: IT Cerritos

LABORATORY CONTACT: Tracy Sidwell

SEND LAB REPORT TO: IT Corp c/o FMC
8891 Enterprise Dr
Newark, CA

DATE REPORT REQUIRED: _____

PROJECT CONTACT: Sherri Williams

PROJECT CONTACT PHONE NO.: 415-795-4395

Sample No.	Sample Type	Sample Volume	Preservative	Requested Testing Program	Special Instructions
1,5831017	Air	1866		Copper EPA 6010	
2,5831018	↓	2026		Mercury EPA 7471	
3,5831019	↓	2019		Particulate	
4,5902794	↓	1866		Perform all tests on all	
5,5902795	↓	1841		samples	

COP

TURNAROUND TIME REQUIRED: (Rush must be approved by the Project Manager.)

Normal _____ Rush X (Subject to rush surcharge)

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances)

Nonhazard _____ Flammable _____ Skin Irritant _____ Highly Toxic _____ Other _____ (Please Specify)

SAMPLE DISPOSAL: (Please indicate disposition of sample following analysis. Lab will charge for packing, shipping, and disposal.)

Return to Client _____ Disposal by Lab _____

FOR LAB USE ONLY

Received By _____ Date/Time _____

WHITE - C[illegible]al, to accompany samples
YELLOW [illegible] copy

6-20-91
samples

IT CORPORATION

CHAIN-OF-CUSTODY RECORD

R/A Control No. _____

C/C Control No. 1596

PROJECT NAME/NUMBER FMC / 142468

LAB DESTINATION IT Cerritos

SAMPLE TEAM MEMBERS Sherri Williams

CARRIER/WAYBILL NO. 0493703980 Fed-X

Sample Number	Sample Location and Description	Date and Time Collected	Sample Type	Container Type	Condition on Receipt (Name and Date)	Disp Recor
1,5831017	Location 1 Air	6-20-91 0930	Air			
2,5831018	2	1015				
3,5831019	3	1000				
4,5902794	4	0945				
5,5902795	5	0935				

COPY

Special Instructions: _____

Possible Sample Hazards: Mercury, Copper

SIGNATURES: (Name, Company, Date and Time)

1. Relinquished By: Shri Williams, IT Corp., 6-21-91, 1200

Received By: _____

2. Relinquished By: _____

Received By: _____

3. Relinquished By: _____

Received by: _____

4. Relinquished By: _____

Received By: _____

WHITE - To accompany samples
YELLOW - Field copy

INTERNATIONAL TECHNOLOGY CORPORATION

ANALYTICAL SERVICES

CERTIFICATE OF ANALYSIS

Date: 06/27/91

IT CORPORATION C/O FMC
8787 ENTERPRISE DR.
NEWARK, CA 94560
SHERRI WILLIAMS

Work Order: C1-06-157

Project/P.O.#: 142468
FMC

This is the Certificate of Analysis for the following samples:
Client Work ID: FMC 142468
Date Received: 06/25/91 142468
Number of Samples: 7
Sample Type: AIR

Samples were labeled as follows:

SAMPLE IDENTIFICATION	LABORATORY #
1,5831182	C1-06-157-01
2,5831183	C1-06-157-02
3,5831184	C1-06-157-03
4,5831185	C1-06-157-04
5,5831186	C1-06-157-05
BLANK SPIKE	C1-06-157-06
METHOD BLANK	C1-06-157-08

Reviewed and Approved:

Tracy Sidwell

Tracy Sidwell
Project Manager

Company: IT CORPORATION
Date: 06/27/91
Client Work ID: FMC 142468 142468 Work Order: C1-06-157

IT ANALYTICAL SERVICES
CERRITOS, CA

	331	299	287	
CLIENT SAMPLE ID	1,5831182	2,5831183	3,5831184	
LAB SAMPLE ID	C1-06-157-01	C1-06-157-02	C1-06-157-03	
SAMPLED	06/21/91	06/21/91	06/21/91	
TEST				UNITS
NUISANCE DUST(TOTAL)	1000	14200	6400	ug
	[100]	[100]	[100]	
	06/25/91	06/25/91	06/25/91	
MERCURY BY CVAA	ND	ND	ND	ug
	[0.07]	[0.07]	[0.07]	
	06/26/91	06/26/91	06/26/91	
COPPER by ICP	6	17	9	ug
	[3]	[3]	[3]	
	06/25/91	06/25/91	06/25/91	

ND indicates the parameter was not detected.
Detection limits are specified in [].
NC indicates the parameter was not calculated.

Company: IT CORPORATION
Date: 06/27/91
Client Work ID: FMC 142468 142468 Work Order: C1-06-157

IT ANALYTICAL SERVICES
CERRITOS, CA

CLIENT SAMPLE ID	293 4,5831185	306 5,5831186	BLANK SPIKE	
LAB SAMPLE ID	C1-06-157-04	C1-06-157-05	C1-06-157-06	
SAMPLED	06/21/91	06/21/91		
TEST				UNITS
NUISANCE DUST(TOTAL)	11400	3000		ug
	[100]	[100]		
	06/25/91	06/25/91		
MERCURY BY CVAA	ND	ND	97	
	[0.07]	[0.07]	[--]	
	06/26/91	06/26/91	06/26/91	
	ug	ug	% Rec.	
COPPER by ICP	6	ND	87	
	[3]	[3]	[--]	
	06/25/91	06/25/91	06/25/91	
	ug	ug	% Rec.	

ND indicates the parameter was not detected.
Detection limits are specified in [].
NC indicates the parameter was not calculated.

Company: IT CORPORATION
Date: 06/27/91
Client Work ID: FMC 142468 142468

IT ANALYTICAL SERVICES
CERRITOS, CA

Work Order: C1-06-157

CLIENT SAMPLE ID	METHOD BLANK	
LAB SAMPLE ID	C1-06-157-08	
SAMPLED		
TEST		UNITS
MERCURY BY CVAA	ND [0.07] 06/26/91	ug
COPPER by ICP	ND [3] 06/25/91	ug

ND indicates the parameter was not detected.
Detection limits are specified in [].
NC indicates the parameter was not calculated.

Company: IT CORPORATION
Date: 06/27/91
Client Work ID: FMC 142468

IT ANALYTICAL SERVICES
CERRITOS, CA

142468

Work Order: C1-06-157

TEST NAME **COPPER by ICP** TEST CODE **CU_ICP**

Copper was analyzed by inductively coupled argon plasma (ICP) spectroscopy according to USEPA method 6010.

TEST NAME **MERCURY BY CVAA** TEST CODE **HG_AA**

The sample was prepared and analyzed for mercury by cold-vapor atomic absorption (CVAA) spectroscopy according to USEPA method 7471 (solids) or method 7470 (liquids).

TEST NAME **NUISANCE DUST(TOTAL)** TEST CODE **HI_VOL**

The filters are weighed after allowing to stablize at room conditions for one hour. The relative humidity and temperature are recorded at the time of weighing. The difference in weight is reported in micrograms.

INTERNATIONAL TECHNOLOGY CORPORATION

6-21-91

REQUEST FOR ANALYSIS

Samples

R/A Control No. B 8123

C/C Control No. 154673

PROJECT NAME: FMC

PROJECT NUMBER: 142468

PROJECT MANAGER: Gene Lovett

BILL TO: IT Corp
4585 Pacheco Blvd
Martinez, CA

PURCHASE ORDER NO.: 2221

DATE SAMPLES SHIPPED: 6-24-91

LAB DESTINATION: IT Cerritos

LABORATORY CONTACT: Tracy Sidwell

SEND LAB REPORT TO: IT Corp C/O FMC
8891 Enterprise Dr
Newark, CA

DATE REPORT REQUIRED:

PROJECT CONTACT: Sherri Williams

PROJECT CONTACT PHONE NO.: 415-795-4395

Sample No.	Sample Type	Sample Volume µ3	Preservative	Requested Testing Program	Special Instructions
1, 5831182	Air	331		Copper EPA 6010	
2, 5831183	↓	299		Mercury EPA 7471	
3, 5831184	↓	287		Particulate	
4, 5831185	↓	293		Perform all tests on	
5, 5831186	↓	306		all samples	

COPY

TURNAROUND TIME REQUIRED: (Rush must be approved by the Project Manager.)

Normal _____ Rush X (Subject to rush surcharge)

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances)

Nonhazard _____ Flammable _____ Skin Irritant _____ Highly Toxic _____ Other _____ (Please Specify)

SAMPLE DISPOSAL: (Please indicate disposition of sample following analysis. Lab will charge for packing, shipping, and disposal.)

Return to Client _____ Disposal by Lab _____

FOR LAB USE ONLY

Received By _____ Date/Time _____

WHITE - Original, to accompany samples
YELLOW - Field copy

INTERNATIONAL TECHNOLOGY CORPORATION

CHAIN-OF-CUSTODY RECORD

R/A Control No. B 78123

C/C Control No. 159673

PROJECT NAME/NUMBER FMC / 142468

LAB DESTINATION IT Cerritos

SAMPLE TEAM MEMBERS Sherri Williams

CARRIER/WAYBILL NO. 0493703976

Sample Number	Sample Location and Description	Date and Time Collected	Sample Type	Container Type	Condition on Receipt (Name and Date)	Disposal Record No.
1,5831182	Location 1 Air	6-21-91 0950	Air			
2,5831183	2	1010				
3,5831184	3	1000				
4,5831185	4	0940				
5,5831186	5	0930				

COPY

Special Instructions:

Possible Sample Hazards: Mercury, Copper

SIGNATURES: (Name, Company, Date and Time)

1. Relinquished By: Sherri Williams, IT Corp, 6-24-91, 1200

   Received By:

2. Relinquished By:

   Received By:

3. Relinquished By:

   Received by:

4. Relinquished By:

   Received By:

WHITE - To accompany samples
YELLOW - Field copy

INTERNATIONAL TECHNOLOGY CORPORATION

ANALYTICAL SERVICES

CERTIFICATE OF ANALYSIS

Date: 07/01/91

IT CORPORATION C/O FMC
8787 ENTERPRISE DR.
NEWARK, CA 94560
SHERRI WILLIAMS

Work Order: C1-06-184 Project/P.O.#: 142468
FMC

This is the Certificate of Analysis for the following samples:
Client Work ID: FMC 142468
Date Received: 06/27/91 142468
Number of Samples: 6
Sample Type: AIR

Samples were labeled as follows:

SAMPLE IDENTIFICATION	LABORATORY #
1,5831181	C1-06-184-01
3,5831188	C1-06-184-02
4,5831189	C1-06-184-03
5,5831190	C1-06-184-04
BLANK SPIKE	C1-06-184-06
METHOD BLANK	C1-06-184-08

Reviewed and Approved:
Tracy Sidwell
Tracy Sidwell
Project Manager

Company: IT CORPORATION
Date: 07/01/91
Client Work ID: FMC 142468 142468

IT ANALYTICAL SERVICES
CERRITOS, CA

Work Order: C1-06-184

	1815	1777	1780	
CLIENT SAMPLE ID	1,5831181	3,5831188	4,5831189	
LAB SAMPLE ID	C1-06-184-01	C1-06-184-02	C1-06-184-03	
SAMPLED	06/25/91	06/25/91	06/25/91	
TEST				UNITS
NUISANCE DUST(TOTAL)	12900	23100	31700	ug
	[100]	[100]	[100]	
	06/27/91	06/27/91	06/27/91	
MERCURY BY CVAA	ND	ND	ND	ug
	[0.07]	[0.07]	[0.07]	
	06/28/91	06/28/91	06/28/91	
COPPER by ICP	21	17	38	ug
	[3]	[3]	[3]	
	06/27/91	06/27/91	06/27/91	

ND indicates the parameter was not detected.
Detection limits are specified in [].
NC indicates the parameter was not calculated.

Company: IT CORPORATION
Date: 07/01/91
Client Work ID: FMC 142468 142468

IT ANALYTICAL SERVICES
CERRITOS, CA

Work Order: C1-06-184

CLIENT SAMPLE ID	5,5831190 (K03)	BLANK SPIKE	METHOD BLANK	
LAB SAMPLE ID	C1-06-184-04	C1-06-184-06	C1-06-184-08	
SAMPLED	06/25/91			
TEST				UNITS
NUISANCE DUST(TOTAL)	14100			ug
	[100]			
	06/27/91			
MERCURY BY CVAA	ND	87	ND	
	[0.07]	[--]	[0.07]	
	06/28/91	06/28/91	06/28/91	
	ug	% Rec.	ug	
COPPER by ICP	4	94	ND	
	[3]	[--]	[3]	
	06/27/91	06/27/91	06/27/91	
	ug	% Rec.	ug	

ND indicates the parameter was not detected.
Detection limits are specified in [].
NC indicates the parameter was not calculated.

Company: IT CORPORATION
Date: 07/01/91
Client Work ID: FMC 142468 142468

IT ANALYTICAL SERVICES
CERRITOS, CA

Work Order: C1-06-184

TEST NAME **COPPER by ICP** TEST CODE **CU_ICP**

Copper was analyzed by inductively coupled argon plasma (ICP) spectroscopy according to USEPA method 6010.

TEST NAME **MERCURY BY CVAA** TEST CODE **HG_AA**

The sample was prepared and analyzed for mercury by cold-vapor atomic absorption (CVAA) spectroscopy according to USEPA method 7471 (solids) or method 7470 (liquids).

TEST NAME **NUISANCE DUST(TOTAL)** TEST CODE **HI_VOL**

The filters are weighed after allowing to stablize at room conditions for one hour. The relative humidity and temperature are recorded at the time of weighing. The difference in weight is reported in micrograms.

INTERNATIONAL TECHNOLOGY CORPORATION

REQUEST FOR ANALYSIS

R/A Control No. 205476
C/C Control No. 159671

PROJECT NAME: FMC
PROJECT NUMBER: 142468
PROFIT CENTER NUMBER: 2221
PROJECT MANAGER: Gene Lovett
BILL TO: IT Corp
4585 Pacheco Blvd
Martinez, CA
PURCHASE ORDER NO.: 2221

DATE SAMPLES SHIPPED: 6-26-91
LAB DESTINATION: IT Cerritos
LABORATORY CONTACT: Tracy Sidwell
SEND LAB REPORT TO: IT Corp C/O FMC
8891 Enterprise Dr
Newark, CA
DATE REPORT REQUIRED:
PROJECT CONTACT: Sherri Williams
PROJECT CONTACT PHONE NO.: 415-795-4395

Sample No.	Sample Type	Sample Volume	Preservative	Requested Testing Program	Special Instructions
1, 5831181	Air	1815		Copper EPA 6010	
2, 5831187	↓	— sample not tested		Mercury EPA 7471	
3, 5831188	↓	1777		Perchlorate	
4, 5831189	↓	1780		Perform all tests on all	
5, 5831190	↓	1803		samples	

COPY

TURNAROUND TIME REQUIRED: (Rush must be approved by the Laboratory Project Manager.)
Normal ____ Rush X (Subject to rush surcharge.)

QC LEVEL: (Levels II and III subject to surcharge; project-specific requirements must be submitted to lab before beginning work.)
I ____ II ____ III ____ Project Specific ____

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances.)
Non-hazard ____ Flammable ____ Skin Irritant ____ Highly Toxic ____ Other ____ (Please Specify)

SAMPLE DISPOSAL: (Please indicate disposition of sample following analysis. Lab will charge for packing, shipping, archive and disposal.)
Return to Client ____ Disposal by Lab ____ Archive ____ (Indicate number of months.)

FOR LAB USE ONLY
Received by ____ Date/Time ____

WHITE - Original, to accompany samples
YELLOW - Field copy

126A-10-85

5

INTERNATIONAL TECHNOLOGY CORPORATION

CHAIN-OF-CUSTODY RECORD

R/A Control No. 208476

C/C Control No. 159671

PROJECT NAME/NUMBER EMC / 142468

LAB DESTINATION IT Cerritos

SAMPLE TEAM MEMBERS Sherri Williams

CARRIER/WAYBILL NO. 0493703954

Sample Number	Sample Location and Description	Date and Time Collected	Sample Type	Container Type	Condition on Receipt (Name and Date)	Disposal Record No.
1,5831181	Location 1	6-25-91	Air	Copper - 1 PA	[illegible]	
2,5831187	2			Mercury TPH 7471		
3,5831188	3			Nitrate		
4,5831189	4			Nitrate [illegible]		
5,5831190	5			2AM		

COPY

Special Instructions: Sample # 5831187 not sent

Possible Sample Hazards: Mercury, Copper

SIGNATURES: (Name, Company, Date and Time)

1. Relinquished By: Sherri Williams, ITCORP, 6-26-91, 1145

Received By:

2. Relinquished By:

Received By:

3. Relinquished By:

Received by:

4. Relinquished By:

Received By:

WHITE - To accompany samples
YELLOW - File copy

INTERNATIONAL TECHNOLOGY CORPORATION

ANALYTICAL SERVICES

CERTIFICATE OF ANALYSIS

Date: 07/03/91

IT CORPORATION C/O FMC
8787 ENTERPRISE DR.
NEWARK, CA 94560
SHERRI WILLIAMS

Work Order: C1-07-001

Project/P.O.#: 142468
FMC

This is the Certificate of Analysis for the following samples:
Client Work ID: FMC 142468
Date Received: 07/01/91 142468
Number of Samples: 9
Sample Type: AIR

Samples were labeled as follows:

SAMPLE IDENTIFICATION	LABORATORY #
1,5831191	C1-07-001-01
2,5831192	C1-07-001-02
3,5831193	C1-07-001-03
4,5831194	C1-07-001-04
3,5831153	C1-07-001-05
4,5831154	C1-07-001-06
5,5831155	C1-07-001-07
BLANK SPIKE	C1-07-001-08
METHOD BLANK	C1-07-001-09

Reviewed and Approved:
Tracy Sidwell
Tracy Sidwell
Project Manager

Company: IT CORPORATION
Date: 07/03/91
Client Work ID: FMC 142468 142468

IT ANALYTICAL SERVICES
CERRITOS, CA

Work Order: C1-07-001

	1873	1892	1981	
CLIENT SAMPLE ID	1,5831191	2,5831192	3,5831193	
LAB SAMPLE ID	C1-07-001-01	C1-07-001-02	C1-07-001-03	
SAMPLED	06/26/91	06/26/91	06/26/91	
TEST				UNITS
NUISANCE DUST(TOTAL)	39100	55600	49800	ug
	[100]	[100]	[100]	
	07/01/91	07/01/91	07/01/91	
MERCURY BY CVAA	ND	0.07	0.09	ug
	[0.07]	[0.07]	[0.07]	
	07/03/91	07/03/91	07/03/91	
COPPER by ICP	33	260	24	ug
	[3]	[3]	[3]	
	07/01/91	07/01/91	07/01/91	

ND indicates the parameter was not detected.
Detection limits are specified in [].
NC indicates the parameter was not calculated.

Company: IT CORPORATION
Date: 07/03/91
Client Work ID: FMC 142468 142468 Work Order: C1-07-001

IT ANALYTICAL SERVICES
CERRITOS, CA

	1854	1445	1784	
CLIENT SAMPLE ID	4,5831194	3,5831153	4,5831154	
LAB SAMPLE ID	C1-07-001-04	C1-07-001-05	C1-07-001-06	
SAMPLED	06/26/91	06/27/91	06/27/91	
TEST				UNITS
NUISANCE DUST(TOTAL)	57600	62200	88600	ug
	[100]	[100]	[100]	
	07/01/91	07/01/91	07/01/91	
MERCURY BY CVAA	0.08	0.07	ND	ug
	[0.07]	[0.07]	[0.07]	
	07/03/91	07/03/91	07/03/91	
COPPER by ICP	26	25	24	ug
	[3]	[3]	[3]	
	07/01/91	07/01/91	07/01/91	

ND indicates the parameter was not detected.
Detection limits are specified in [].
NC indicates the parameter was not calculated.

Company: IT CORPORATION
Date: 07/03/91
Client Work ID: FMC 142468 142468

IT ANALYTICAL SERVICES
CERRITOS, CA

Work Order: C1-07-001

1780

CLIENT SAMPLE ID	5,5831155	BLANK SPIKE	METHOD BLANK	
LAB SAMPLE ID	C1-07-001-07	C1-07-001-08	C1-07-001-09	
SAMPLED	06/27/91			
TEST				UNITS
NUISANCE DUST(TOTAL)	55800			ug
	[100]			
	07/01/91			
MERCURY BY CVAA	0.07	79	ND	
	[0.07]	[--]	[0.07]	
	07/03/91	07/03/91	07/03/91	
	ug	% Rec.	ug	
COPPER by ICP	9	92	ND	
	[3]	[--]	[3]	
	07/01/91	07/01/91	07/01/91	
	ug	% Rec.	ug	

ND indicates the parameter was not detected.
Detection limits are specified in [].
NC indicates the parameter was not calculated.

Company: IT CORPORATION
Date: 07/03/91
Client Work ID: FMC 142468 142468

IT ANALYTICAL SERVICES
CERRITOS, CA

Work Order: C1-07-001

TEST NAME **COPPER by ICP** TEST CODE **CU_ICP**

Copper was analyzed by inductively coupled argon plasma (ICP) spectroscopy according to USEPA method 6010.

TEST NAME **MERCURY BY CVAA** TEST CODE **HG_AA**

The sample was prepared and analyzed for mercury by cold-vapor atomic absorption (CVAA) spectroscopy according to USEPA method 7471 (solids) or method 7470 (liquids).

TEST NAME **NUISANCE DUST(TOTAL)** TEST CODE **HI_VOL**

The filters are weighed after allowing to stablize at room conditions for one hour. The relative humidity and temperature are recorded at the time of weighing. The difference in weight is reported in micrograms.

INTERNATIONAL TECHNOLOGY CORPORATION

REQUEST FOR ANALYSIS

R/A Control No. 203450
C/C Control No. 171312

PROJECT NAME: FMC
PROJECT NUMBER: 142468
PROFIT CENTER NUMBER: 2221
PROJECT MANAGER: Gene Lovett
BILL TO: IT Corp. 4585 Pacheco Blvd Martinez, CA
PURCHASE ORDER NO.: 2221

DATE SAMPLES SHIPPED: 6-28-91
LAB DESTINATION: IT Cerritos
LABORATORY CONTACT: Tracy Sidwell
SEND LAB REPORT TO: IT Corp. C/O FMC 8891 Enterprise Newark, CA
DATE REPORT REQUIRED:
PROJECT CONTACT: Sherri Williams
PROJECT CONTACT PHONE NO.: 415-795-4395

Sample No.	Sample Type	Sample Volume	Preservative	Requested Testing Program	Special Instructions
1 5831191	Air	1073			
2 5831192	↓	1892			
3 5831193	↓	1951			
4 5831194	↓	1554			
5					

copy

TURNAROUND TIME REQUIRED: (Rush must be approved by the Laboratory Project Manager.)
Normal _____ Rush X (Subject to rush surcharge.)

QC LEVEL: (Levels II and III subject to surcharge; project-specific requirements must be submitted to lab before beginning work.)
I _____ II _____ III _____ Project Specific _____

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances.)
Non-hazard _____ Flammable _____ Skin Irritant _____ Highly Toxic _____ Other _____ (Please Specify)

SAMPLE DISPOSAL: (Please indicate disposition of sample following analysis. Lab will charge for packing, shipping, archive and disposal.)
Return to Client _____ Disposal by Lab _____ Archive _____ (Indicate number of months.)

FOR LAB USE ONLY
Received by _____ Date/Time _____

WHITE - O., to accompany samples
YELLOW - Field copy

126A-10-85

4

INTERNATIONAL TECHNOLOGY CORPORATION

CHAIN-OF-CUSTODY RECORD

R/A Control No. 26,450

C/C Control No. 171312

PROJECT NAME/NUMBER FMC/ 142468

LAB DESTINATION IT Corvitas

SAMPLE TEAM MEMBERS Sherri Williams

CARRIER/WAYBILL NO. 0493703932 Fed X

Sample Number	Sample Location and Description	Date and Time Collected	Sample Type	Container Type	Condition on Receipt (Name and Date)	Disposal Record No.
1, 5831191	location 1 Air	6-26-91 0705	Air			
2, 5831192	2	0815				
3, 5831193	3	0805				
4, 5831194	4	0745				
5,						

Special Instructions: Sample # from pump # 5 not sent

Possible Sample Hazards: Mercury, Copper

SIGNATURES: (Name, Company, Date and Time)

1. Relinquished By: Sw Williams, IT Corp., 6-28-91, 1240

Received By:

2. Relinquished By:

Received By:

3. Relinquished By:

Received by:

4. Relinquished By:

Received By:

WHITE - To accompany samples
YELLOW - Field copy

INTERNATIONAL TECHNOLOGY CORPORATION

REQUEST FOR ANALYSIS

R/A Control No. 013001
C/C Control No. 45452

PROJECT NAME: FMC
PROJECT NUMBER: 1424168
PROJECT MANAGER: Gene Lovett
BILL TO: IT Corp. 4585 Pacheco Blvd Martinez, CA
PURCHASE ORDER NO.: 2221

DATE SAMPLES SHIPPED: [illegible]
LAB DESTINATION: IT Corp Labs
LABORATORY CONTACT: Tracy Sidwell
SEND LAB REPORT TO: IT Corp C/O FMC 8281 Enterprise Newark, CA
DATE REPORT REQUIRED:
PROJECT CONTACT: Sherri Williams
PROJECT CONTACT PHONE NO.: 415-795-4295

Sample No.	Sample Type	Sample Volume	Preservative	Requested Testing Program	Special Instructions
1, 5831151	Air	—		—	
2, 5831152		—		—	
3, 5831153				Copper EPA 6010	
4, 5831154		1784		Mercury EPA 7471	
5, 5831155		1780		Particulate	
				Perform all tests on all samples	
Samples 5831151 + 5831152 not turned in					

COPY

TURNAROUND TIME REQUIRED: (Rush must be approved by the Project Manager.)

Normal ____ Rush X (Subject to rush surcharge)

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances)

Nonhazard ____ Flammable ____ Skin Irritant ____ Highly Toxic ____ Other ____ (Please Specify)

SAMPLE DISPOSAL: (Please indicate disposition of sample following analysis. Lab will charge for packing, shipping, and disposal.)

Return to Client ____ Disposal by Lab ____

FOR LAB USE ONLY

Received By ____ Date/Time ____

WHITE - Original, to accompany samples
YELLOW - [illegible] copy

5

INTERNATIONAL TECHNOLOGY CORPORATION

CHAIN-OF-CUSTODY RECORD

R/A Control No. [illegible]

C/C Control No.

PROJECT NAME/NUMBER FMC / 1412468

LAB DESTINATION [illegible]

SAMPLE TEAM MEMBERS Sherri Williams

CARRIER/WAYBILL NO. 0493703932 FedEx

Sample Number	Sample Location and Description	Date and Time Collected	Sample Type	Container Type	Condition on Receipt (Name and Date)	Disposal Record No.
1, 583151	Roshoot 1 Air	6-29-4	Air	—		
2, 583152	2			—		
3, 583153	3	6-29-11 1100				
4, 583154	4	6-29-11 0930				
5, 583155	5	6-29-11 [illegible]				

COPY

Special Instructions: Samples 583151 + 583152 not turned in

Possible Sample Hazards: Mercury, [illegible]

SIGNATURES: (Name, Company, Date and Time)

1. Relinquished By: Sherri Williams, 6-28-11, 1210

   Received By:

2. Relinquished By:

   Received By:

3. Relinquished By:

   Received by:

4. Relinquished By:

   Received By:

WHITE - To accompany samples
YELLOW - Field copy

INTERNATIONAL TECHNOLOGY CORPORATION

ANALYTICAL SERVICES

CERTIFICATE OF ANALYSIS

Date: 07/05/91

IT CORPORATION C/O FMC
8787 ENTERPRISE DR.
NEWARK, CA 94560
SHERRI WILLIAMS

Work Order: C1-07-010 Project/P.O.#: 142468
FMC

This is the Certificate of Analysis for the following samples:
Client Work ID: FMC 142468
Date Received: 07/02/91 142468
Number of Samples: 5
Sample Type: AIR

Samples were labeled as follows:

SAMPLE IDENTIFICATION	LABORATORY #
3,5831157	C1-07-010-01
4,5831158	C1-07-010-02
5,5831159	C1-07-010-03
BLANK SPIKE	C1-07-010-08
METHOD BLANK	C1-07-010-09

Reviewed and Approved:

Tracy Sidwell
Project Manager

American Council of Independent Laboratories
International Association of Environmental Testing Laboratories
American Association for Laboratory Accreditation

Company: IT CORPORATION
Date: 07/05/91
Client Work ID: FMC 142468 142468

IT ANALYTICAL SERVICES
CERRITOS, CA

Work Order: C1-07-010

	408	414	420	
CLIENT SAMPLE ID	3,5831157	4,5831158	5,5831159	
LAB SAMPLE ID	C1-07-010-01	C1-07-010-02	C1-07-010-03	
SAMPLED	06/28/91	06/28/91	06/28/91	
TEST				UNITS
NUISANCE DUST(TOTAL)	4100	4300	1300	ug
	[100]	[100]	[100]	
	07/02/91	07/02/91	07/02/91	
MERCURY BY CVAA	ND	ND	ND	ug
	[0.07]	[0.07]	[0.07]	
	07/03/91	07/03/91	07/03/91	
COPPER by ICP	13	8	4	ug
	[3]	[3]	[3]	
	07/02/91	07/02/91	07/02/91	

ND indicates the parameter was not detected.
Detection limits are specified in [].
NC indicates the parameter was not calculated.

Company: IT CORPORATION
Date: 07/05/91
Client Work ID: FMC 142468 142468

IT ANALYTICAL SERVICES
CERRITOS, CA

Work Order: C1-07-010

CLIENT SAMPLE ID	BLANK SPIKE	METHOD BLANK	
LAB SAMPLE ID	C1-07-010-08	C1-07-010-09	
SAMPLED			
TEST			UNITS
MERCURY BY CVAA	81	ND	mg/L
	[--]	[0.07]	
	07/03/91	07/03/91	
	% Rec.	ug	
COPPER by ICP	93	ND	mg/L
	[--]	[3]	
	07/02/91	07/02/91	
	% Rec.	ug	

ND indicates the parameter was not detected.
Detection limits are specified in [].
NC indicates the parameter was not calculated.

Company: IT CORPORATION
Date: 07/05/91
Client Work ID: FMC 142468

IT ANALYTICAL SERVICES
CERRITOS, CA

142468

Work Order: C1-07-010

TEST NAME **COPPER by ICP** TEST CODE **CU_ICP**

Copper was analyzed by inductively coupled argon plasma (ICP) spectroscopy according to USEPA method 6010.

TEST NAME **MERCURY BY CVAA** TEST CODE **HG_AA**

The sample was prepared and analyzed for mercury by cold-vapor atomic absorption (CVAA) spectroscopy according to USEPA method 7471 (solids) or method 7470 (liquids).

TEST NAME **NUISANCE DUST(TOTAL)** TEST CODE **HI_VOL**

The filters are weighed after allowing to stablize at room conditions for one hour. The relative humidity and temperature are recorded at the time of weighing. The difference in weight is reported in micrograms.

INTERNATIONAL TECHNOLOGY CORPORATION

REQUEST FOR ANALYSIS

R/A Control No. 018073
C/C Control No. 159615

PROJECT NAME: FMC
PROJECT NUMBER: 1424168
PROJECT MANAGER: Gene Lovett
BILL TO: IT Corp
4585 Pacheco Blvd
Martinez, CA

PURCHASE ORDER NO. 2221

DATE SAMPLES SHIPPED: ~~5~~ 7-1-91
LAB DESTINATION: IT Cerritos
LABORATORY CONTACT: Tracy Sidwell
SEND LAB REPORT TO: IT Corp C/O FMC
8891 Enterprise Dr
Newark, CA

DATE REPORT REQUIRED:
PROJECT CONTACT: Sherri Williams
PROJECT CONTACT PHONE NO. 415-795-4395

Sample No.	Sample Type	Sample Volume	Preservative	Requested Testing Program	Special Instructions
3, 58311157	Vacuum Air	268		Copper EPA 6010	
4, 58311158	↓	414		Mercury EPA 7471	
5, 58311591		420		Perchlorate	
				Perform tests on all samples	

COPY

TURNAROUND TIME REQUIRED: (Rush must be approved by the Project Manager.)

Normal ____ Rush X (Subject to rush surcharge)

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances)

Nonhazard ____ Flammable ____ Skin irritant ____ Highly Toxic ____ Other ____ (Please Specify)

SAMPLE DISPOSAL: (Please indicate disposition of sample following analysis. Lab will charge for packing, shipping, and disposal.)

Return to Client ____ Disposal by Lab ____

FOR LAB USE ONLY

Received By ____ Date/Time ____

WHITE - Original, to accompany samples
YELLOW - Lab copy

3 INTERNATIONAL TECHNOLOGY CORPORATION

6-8-91

CHAIN-OF-CUSTODY RECORD

Samples

R/A Control No. 06073

C/C Control No. 159615

PROJECT NAME/NUMBER FMC/1421168

LAB DESTINATION IT Cerritos

SAMPLE TEAM MEMBERS Sherri Williams

CARRIER/WAYBILL NO. 0493703906

Sample Number	Sample Location and Description	Date and Time Collected	Sample Type	Container Type	Condition on Receipt (Name and Date)	Disposal Record No.
3, 5831157	Location 3 Air	6-28-91 1010	Air			
4 5831158	4 ↓	↓ 0810	↓			
5, 5831159	5 ↓	↓ 0805	↓			

COPY

Special Instructions:

Possible Sample Hazards: Mercury + Copper

SIGNATURES: (Name, Company, Date and Time)

1. Relinquished By: [illegible], IT Corp, 7-1-91, 0920

Received By:

2. Relinquished By:

Received By:

3. Relinquished By:

Received by:

4. Relinquished By:

Received By:

WHITE - To accompany samples
YELLOW - Field copy

INTERNATIONAL TECHNOLOGY CORPORATION

ANALYTICAL SERVICES

CERTIFICATE OF ANALYSIS

Date: 07/09/91

IT CORPORATION C/O FMC
8787 ENTERPRISE DR.
NEWARK, CA 94560
SHERRI WILLIAMS

Work Order: C1-07-014 Project/P.O.#: 142468
FMC

This is the Certificate of Analysis for the following samples:
Client Work ID: FMC 142468
Date Received: 07/03/91 142468
Number of Samples: 7
Sample Type: AIR

Samples were labeled as follows:

SAMPLE IDENTIFICATION	LABORATORY #
1,5831160	C1-07-014-01
2,5831161	C1-07-014-02
3,5831162	C1-07-014-03
4,5831163	C1-07-014-04
5,5831164	C1-07-014-05
BLANK SPIKE	C1-07-014-06
METHOD BLANK	C1-07-014-08

Reviewed and Approved:
Tracy Sidwell
Tracy Sidwell
Project Manager

Company: IT CORPORATION
Date: 07/09/91
Client Work ID: FMC 142468 142468

IT ANALYTICAL SERVICES
CERRITOS, CA

Work Order: C1-07-014

	1834	1898	1892	
CLIENT SAMPLE ID	1,5831160	2,5831161	3,5831162	
LAB SAMPLE ID	C1-07-014-01	C1-07-014-02	C1-07-014-03	
SAMPLED	07/01/91	07/01/91	07/01/91	
TEST				UNITS
NUISANCE DUST(TOTAL)	70100	101000	77900	UG
	[100]	[100]	[100]	
	07/03/91	07/03/91	07/03/91	
MERCURY	0.15	0.16	0.23	UG
	[0.07]	[0.07]	[0.07]	
	07/08/91	07/08/91	07/08/91	
COPPER	51	200	28	UG
	[3]	[3]	[3]	
	07/03/91	07/03/91	07/03/91	

ND indicates the parameter was not detected.
Detection limits are specified in [].
NC indicates the parameter was not calculated.

Company: IT CORPORATION
Date: 07/09/91
Client Work ID: FMC 142468 142468

IT ANALYTICAL SERVICES
CERRITOS, CA

Work Order: C1-07-014

CLIENT SAMPLE ID	1784 4,5831163	1790 5,5831164	BLANK SPIKE	
LAB SAMPLE ID	C1-07-014-04	C1-07-014-05	C1-07-014-06	
SAMPLED	07/01/91	07/01/91	07/01/91	
TEST				UNITS
NUISANCE DUST(TOTAL)	84600	59800		UG
	[100]	[100]		
	07/03/91	07/03/91		
MERCURY	0.18	0.15	97	
	[0.07]	[0.07]	[--]	
	07/08/91	07/08/91	07/08/91	
	UG	UG	% REC.	
COPPER	30	10	93	
	[3]	[3]	[--]	
	07/03/91	07/03/91	07/03/91	
	UG	UG	% REC.	

ND indicates the parameter was not detected.
Detection limits are specified in [].
NC indicates the parameter was not calculated.

Company: IT CORPORATION
Date: 07/09/91
Client Work ID: FMC 142468 142468

IT ANALYTICAL SERVICES
CERRITOS, CA

Work Order: C1-07-014

CLIENT SAMPLE ID	METHOD BLANK	
LAB SAMPLE ID	C1-07-014-08	
SAMPLED	07/01/91	
TEST		UNITS
MERCURY	ND [0.07] 07/08/91	UG
COPPER	ND [3] 07/03/91	UG

ND indicates the parameter was not detected.
Detection limits are specified in [].
NC indicates the parameter was not calculated.

Company: IT CORPORATION
Date: 07/09/91
Client Work ID: FMC 142468

IT ANALYTICAL SERVICES
CERRITOS, CA

142468

Work Order: C1-07-014

TEST NAME **COPPER** TEST CODE **CU_ICP**

Copper was analyzed by inductively coupled argon plasma (ICP) spectroscopy according to USEPA method 6010.

TEST NAME **MERCURY** TEST CODE **HG_AA**

The sample was prepared and analyzed for mercury by cold-vapor atomic absorption (CVAA) spectroscopy according to USEPA method 7471 (solids) or method 7470 (liquids).

TEST NAME **NUISANCE DUST(TOTAL)** TEST CODE **HI_VOL**

The filters are weighed after allowing to stablize at room conditions for one hour. The relative humidity and temperature are recorded at the time of weighing. The difference in weight is reported in micrograms.

INTERNATIONAL TECHNOLOGY CORPORATION

REQUEST FOR ANALYSIS

R/A Control No. 206744
C/C Control No. 17/3/9

PROJECT NAME: FMC
PROJECT NUMBER: 142468
PROFIT CENTER NUMBER: 2221
PROJECT MANAGER: Gene ~~Murmyan~~ Lovett
BILL TO: ~~IT~~ IT Corp
4585 Pacheco Blvd
Martinez, CA
PURCHASE ORDER NO.: 2221

DATE SAMPLES SHIPPED: 7-2-91
LAB DESTINATION: IT Cerritos
LABORATORY CONTACT: Tracy Sidwell
SEND LAB REPORT TO: IT Corp C/O FMC
8891 Enterprise
Newark, CA
DATE REPORT REQUIRED:
PROJECT CONTACT: Sherri Williams
PROJECT CONTACT PHONE NO.: 415-795-4395

Sample No.	Sample Type	Sample Volume	Preservative	Requested Testing Program	Special Instructions
1, 5831160	Air	1834		Copper EPA 6010	
2, 5831161	↓	1898		Mercury EPA 7471	
3, 5831162	↓	1892		Particulate	
4, 5831163	↓	1784		Perform tests on all	
5, 5831164	↓	1790		samples	

COPY

TURNAROUND TIME REQUIRED: (Rush must be approved by the Laboratory Project Manager.)
Normal _____ Rush X (Subject to rush surcharge.)

QC LEVEL: (Levels II and III subject to surcharge; project-specific requirements must be submitted to lab before beginning work.)
I _____ II _____ III _____ Project Specific _____

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances.)
Non-hazard _____ Flammable _____ Skin Irritant _____ Highly Toxic _____ Other _____ (Please Specify)

SAMPLE DISPOSAL: (Please indicate disposition of sample following analysis. Lab will charge for packing, shipping, archive and disposal.)
Return to Client _____ Disposal by Lab _____ Archive _____ (Indicate number of months.)

FOR LAB USE ONLY
Received by _____ Date/Time _____

WHITE - Original, to accompany samples
YELLOW - Field copy

126A-10-85

INTERNATIONAL TECHNOLOGY CORPORATION

CHAIN-OF-CUSTODY RECORD

R/A Control No. 208744

C/C Control No. 171319

PROJECT NAME/NUMBER FMC / 149946

LAB DESTINATION IT Cerritos

SAMPLE TEAM MEMBERS Joe Williams

CARRIER/WAYBILL NO. 0493763884 Fed-X

Sample Number	Sample Location and Description	Date and Time Collected	Sample Type	Container Type	Condition on Receipt (Name and Date)	Disposal Record No.
1 58311160	Location 1 Air	7-1-91 0945	Air			
2 58311161	2	0900				
3 58311162	3	0850				
4 58311163	4	0855				
5 58311164	5	0855				

Special Instructions:

Possible Sample Hazards: Mercury, Copper

SIGNATURES: (Name, Company, Date and Time)

1. Relinquished By: Joe Williams, IT Corp, 7-2-91, 1030

   Received By:

2. Relinquished By:

   Received By:

3. Relinquished By:

   Received by:

4. Relinquished By:

   Received By:

WHITE - To [illegible]pany samples
YELLOW - F[illegible]py

INTERNATIONAL TECHNOLOGY CORPORATION

ANALYTICAL SERVICES

CERTIFICATE OF ANALYSIS

Date: 07/09/91

IT CORPORATION C/O FMC
8787 ENTERPRISE DR.
NEWARK, CA 94560
SHERRI WILLIAMS

Work Order: C1-07-031

Project/P.O.#: 142468
FMC

This is the Certificate of Analysis for the following samples:
Client Work ID: FMC 142468
Date Received: 07/04/91 142468
Number of Samples: 7
Sample Type: AIR

Samples were labeled as follows:

SAMPLE IDENTIFICATION	LABORATORY #
1,5831165	C1-07-031-01
2,5831166	C1-07-031-02
3,5831167	C1-07-031-03
4,5831168	C1-07-031-04
5,5831169	C1-07-031-05
BLANK SPIKE	C1-07-031-06
METHOD BLANK	C1-07-031-08

Reviewed and Approved:

Tracy Sidwell

Tracy Sidwell
Project Manager

Company: IT CORPORATION
Date: 07/09/91
Client Work ID: FMC 142468 142468

IT ANALYTICAL SERVICES
CERRITOS, CA

Work Order: C1-07-031

	1824	1822	1835	
CLIENT SAMPLE ID	1,5831165	2,5831166	3,5831167	
LAB SAMPLE ID	C1-07-031-01	C1-07-031-02	C1-07-031-03	
SAMPLED	07/02/91	07/02/91	07/02/91	
TEST				UNITS
NUISANCE DUST(TOTAL)	81200	118000	89400	UG
	[100]	[100]	[100]	
	07/05/91	07/05/91	07/05/91	
MERCURY	0.14	0.17	0.08	UG
	[0.07]	[0.07]	[0.07]	
	07/08/91	07/08/91	07/08/91	
COPPER	55	230	30	UG
	[3]	[3]	[3]	
	07/08/91	07/08/91	07/08/91	

ND indicates the parameter was not detected.
Detection limits are specified in [].
NC indicates the parameter was not calculated.

Company: IT CORPORATION
Date: 07/09/91
Client Work ID: FMC 142468 142468 Work Order: C1-07-031

IT ANALYTICAL SERVICES
CERRITOS, CA

	1860	1854		
CLIENT SAMPLE ID	4,5831168	5,5831169	BLANK SPIKE	
LAB SAMPLE ID	C1-07-031-04	C1-07-031-05	C1-07-031-06	
SAMPLED	07/02/91	07/02/91		
TEST				UNITS
NUISANCE DUST(TOTAL)	126000	80700		UG
	[100]	[100]		
	07/05/91	07/05/91		
MERCURY	0.18	0.14	85	
	[0.07]	[0.07]	[--]	
	07/08/91	07/08/91	07/08/91	
	UG	UG	% REC.	
COPPER	33	13	91	
	[3]	[3]	[--]	
	07/08/91	07/08/91	07/08/91	
	UG	UG	% REC.	

ND indicates the parameter was not detected.
Detection limits are specified in [].
NC indicates the parameter was not calculated.

Company: IT CORPORATION
Date: 07/09/91
Client Work ID: FMC 142468

IT ANALYTICAL SERVICES
CERRITOS, CA

142468

Work Order: C1-07-031

CLIENT SAMPLE ID	METHOD BLANK	
LAB SAMPLE ID	C1-07-031-08	
SAMPLED		
TEST		UNITS
MERCURY	ND [0.07] 07/08/91	UG
COPPER	ND [3] 07/08/91	UG

ND indicates the parameter was not detected.
Detection limits are specified in [].
NC indicates the parameter was not calculated.

Company: IT CORPORATION
Date: 07/09/91
Client Work ID: FMC 142468

142468

IT ANALYTICAL SERVICES
CERRITOS, CA

Work Order: C1-07-031

Nonconformance Summary

The samples numbers listed on the Chain of Custody and Request for Analysis did not coincide with the sample numbers on the filter. As per the client the samples will be reported according to the sample number on the filter.

Company: IT CORPORATION
Date: 07/09/91
Client Work ID: FMC 142468

142468

IT ANALYTICAL SERVICES
CERRITOS, CA
Work Order: C1-07-031

TEST NAME **COPPER** TEST CODE **CU_ICP**

Copper was analyzed by inductively coupled argon plasma (ICP) spectroscopy according to USEPA method 6010.

TEST NAME **MERCURY** TEST CODE **HG_AA**

The sample was prepared and analyzed for mercury by cold-vapor atomic absorption (CVAA) spectroscopy according to USEPA method 7471 (solids) or method 7470 (liquids).

TEST NAME **NUISANCE DUST(TOTAL)** TEST CODE **HI_VOL**

The filters are weighed after allowing to stablize at room conditions for one hour. The relative humidity and temperature are recorded at the time of weighing. The difference in weight is reported in micrograms.

INTERNATIONAL TECHNOLOGY CORPORATION

REQUEST FOR ANALYSIS

R/A Control No. 208751
C/C Control No. 159630

PROJECT NAME: FMC
PROJECT NUMBER: 142468
PROFIT CENTER NUMBER: 2221
PROJECT MANAGER: Gene Lovett
BILL TO: IT Corp
W585 ~~[illegible]~~ Pacheco Blvd
Martinez, CA
PURCHASE ORDER NO.: 2221

DATE SAMPLES SHIPPED: 7-10-91
LAB DESTINATION: Berrites
LABORATORY CONTACT: Tracy Sidwell
SEND LAB REPORT TO: IT Corp C/O FMC
8891 Enterprise
Newark, CA
DATE REPORT REQUIRED:
PROJECT CONTACT: Sherri Williams
PROJECT CONTACT PHONE NO.: 415-795-4395

Sample No.	Sample Type	Sample Volume (m^3)	Preservative	Requested Testing Program	Special Instructions
1 5831165	Air	1924		Copper EPA 6010	
2 5831166		1822		Mercury EPA 7471	
3 5831167		1835		Particulate	
4 5831168		1860		* Perform test on	
5 5831169		1854		all samples	

COPY

TURNAROUND TIME REQUIRED: (Rush must be approved by the Laboratory Project Manager.)
Normal _____ Rush X (Subject to rush surcharge.)

QC LEVEL: (Levels II and III subject to surcharge; project-specific requirements must be submitted to lab before beginning work.)
I _____ II _____ III _____ Project Specific _____

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances.)
Non-hazard _____ Flammable _____ Skin Irritant _____ Highly Toxic _____ Other _____ (Please Specify)

SAMPLE DISPOSAL: (Please indicate disposition of sample following analysis. Lab will charge for packing, shipping, archive and disposal.)
Return to Client _____ Disposal by Lab _____ Archive _____ (Indicate number of months.)

FOR LAB USE ONLY
Received by _____ Date/Time _____

WHITE - Original, to accompany samples
YELLOW - Field copy

126A-10-85

5

INTERNATIONAL TECHNOLOGY CORPORATION

7-2-91 samples

CHAIN-OF-CUSTODY RECORD

R/A Control No. 208751

C/C Control No. 159630

PROJECT NAME/NUMBER FMC / 142468

LAB DESTINATION Cerritos

SAMPLE TEAM MEMBERS Sherri Williams

CARRIER/WAYBILL NO. 0493703781 Fed-X

Sample Number	Sample Location and Description	Date and Time Collected	Sample Type	Container Type	Condition on Receipt (Name and Date)	Disposal Record No.
1 5831165	Location 1 Air	7-2-91 0650	Air			
2 5831166	2	0910				
3 5831167	3	0855				
4 5831168	4	0210				
5 5831169	5	0705				

COPY

Special Instructions: (Correct values for sample #5 5831165 - 5831169)

Possible Sample Hazards: Mercury, Copper

SIGNATURES: (Name, Company, Date and Time)

1. Relinquished By: Sherri Williams, IT Corp, 7-10-91 1330

Received By:

2. Relinquished By:

Received By:

3. Relinquished By:

Received by:

4. Relinquished By:

Received By:

WHITE - To accompany samples
YELLOW - F[illegible]py

INTERNATIONAL TECHNOLOGY CORPORATION

ANALYTICAL SERVICES

CERTIFICATE OF ANALYSIS

Date: 07/10/91

IT CORPORATION C/O FMC
8787 ENTERPRISE DR.
NEWARK, CA 94560
SHERRI WILLIAMS

Work Order: C1-07-039

Project/P.O.#: 142468
FMC

This is the Certificate of Analysis for the following samples:
Client Work ID: FMC 142468
Date Received: 07/08/91 142468
Number of Samples: 6
Sample Type: AIR

Samples were labeled as follows:

SAMPLE IDENTIFICATION	LABORATORY #
1,5831170	C1-07-039-01
2,5831171	C1-07-039-02
3,5831172	C1-07-039-03
5,5831174	C1-07-039-05
BLANK SPIKE	C1-07-039-06
METHOD BLANK	C1-07-039-08

Reviewed and Approved:

Tracy Sidwell

Tracy Sidwell
Project Manager

Company: IT CORPORATION
Date: 07/10/91
Client Work ID: FMC 142468 142468

IT ANALYTICAL SERVICES
CERRITOS, CA

Work Order: C1-07-039

	445	440	446	
CLIENT SAMPLE ID	1,5831170	2,5831171	3,5831172	
LAB SAMPLE ID	C1-07-039-01	C1-07-039-02	C1-07-039-03	
SAMPLED	07/03/91	07/03/91	07/03/91	
TEST				UNITS
NUISANCE DUST(TOTAL)	23300	35700	29600	UG
	[100]	[100]	[100]	
	07/08/91	07/08/91	07/08/91	
MERCURY	ND	ND	ND	UG
	[0.07]	[0.07]	[0.07]	
	07/10/91	07/10/91	07/10/91	
COPPER	12	26	7	UG
	[3]	[3]	[3]	
	07/09/91	07/09/91	07/09/91	

ND indicates the parameter was not detected.
Detection limits are specified in [].
NC indicates the parameter was not calculated.

Company: IT CORPORATION
Date: 07/10/91
Client Work ID: FMC 142468 142468

IT ANALYTICAL SERVICES
CERRITOS, CA

Work Order: C1-07-039

478

CLIENT SAMPLE ID	5,5831174	BLANK SPIKE	METHOD BLANK	
LAB SAMPLE ID	C1-07-039-05	C1-07-039-06	C1-07-039-08	
SAMPLED	07/03/91			
TEST				UNITS
NUISANCE DUST(TOTAL)	20000			UG
	[100]			
	07/08/91			
MERCURY	ND	77	ND	
	[0.07]	[---]	[0.07]	
	07/10/91	07/10/91	07/10/91	
	UG	% REC.	UG	
COPPER	4	94	ND	
	[3]	[---]	[3]	
	07/09/91	07/09/91	07/09/91	
	UG	% REC.	UG	

ND indicates the parameter was not detected.
Detection limits are specified in [].
NC indicates the parameter was not calculated.

Company: IT CORPORATION
Date: 07/10/91
Client Work ID: FMC 142468

IT ANALYTICAL SERVICES
CERRITOS, CA

142468

Work Order: C1-07-039

TEST NAME **COPPER** TEST CODE **CU_ICP**

Copper was analyzed by inductively coupled argon plasma (ICP) spectroscopy according to USEPA method 6010.

TEST NAME **MERCURY** TEST CODE **HG_AA**

The sample was prepared and analyzed for mercury by cold-vapor atomic absorption (CVAA) spectroscopy according to USEPA method 7471 (solids) or method 7470 (liquids).

TEST NAME **NUISANCE DUST(TOTAL)** TEST CODE **HI_VOL**

The filters are weighed after allowing to stablize at room conditions for one hour. The relative humidity and temperature are recorded at the time of weighing. The difference in weight is reported in micrograms.

INTERNATIONAL TECHNOLOGY CORPORATION

REQUEST FOR ANALYSIS

R/A Control No. 208459
C/C Control No. 171316

PROJECT NAME: FMC
PROJECT NUMBER: 142468
PROFIT CENTER NUMBER: 2221
PROJECT MANAGER: Gene Lovett
BILL TO: IT Corp
4585 Pacheco Blvd
Martinez, CA
PURCHASE ORDER NO.: 2221

DATE SAMPLES SHIPPED: 7-5-91
LAB DESTINATION: Cerritos
LABORATORY CONTACT: Tracy Sidwell
SEND LAB REPORT TO: IT Corp c/o FMC
8891 Enterprise
Newark, CA
DATE REPORT REQUIRED:
PROJECT CONTACT: Sherri Williams
PROJECT CONTACT PHONE NO.: 415-795-4359

Sample No.	Sample Type	Sample Volume	Preservative	Requested Testing Program	Special Instructions
1 5831170	Air	465		Mercury EPA 7471	
2 5831171	↓	440		Copper EPA 6010	
3 5831172	↓	446		Particulate	
4	↓	—		* Perform tests on all	
5 5831174	↓	478		samples	
* sample from location #4 destroyed					

TURNAROUND TIME REQUIRED: (Rush must be approved by the Laboratory Project Manager.)
Normal ____ Rush X (Subject to rush surcharge.)

QC LEVEL: (Levels II and III subject to surcharge; project-specific requirements must be submitted to lab before beginning work.)
I ____ II ____ III ____ Project Specific ____

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances.)
Non-hazard ____ Flammable ____ Skin Irritant ____ Highly Toxic ____ Other ____ (Please Specify)

SAMPLE DISPOSAL: (Please indicate disposition of sample following analysis. Lab will charge for packing, shipping, archive and disposal.)
Return to Client ____ Disposal by Lab ____ Archive ____ (Indicate number of months.)

FOR LAB USE ONLY
Received by ____ Date/Time ____

WHITE - Original, to accompany samples
YELLOW - Field copy

126A-10-85

4

INTERNATIONAL TECHNOLOGY CORPORATION

7-3-91 samples

CHAIN-OF-CUSTODY RECORD

R/A Control No. 208459

C/C Control No. 171316

PROJECT NAME/NUMBER FMC / 142468

LAB DESTINATION Cerritos

SAMPLE TEAM MEMBERS Sherri Williams

CARRIER/WAYBILL NO. 0493703766 Fed-X

Sample Number	Sample Location and Description	Date and Time Collected	Sample Type	Container Type	Condition on Receipt (Name and Date)	Disposal Record No.
1 5831170	Location 1 Air	7-3-91, 0805	Air			
2 5831171	2	0905				
3 5831172	3	0855				
4	sample destroyed					
5 5831174	location 5 Air	7-3-91, 0730				

Special Instructions:

Possible Sample Hazards: Mercury, Copper

SIGNATURES: (Name, Company, Date and Time)

1. Relinquished By: Sherri Williams, IT Corp 7-5-91,

Received By:

2. Relinquished By:

Received By:

3. Relinquished By:

Received by:

4. Relinquished By:

Received By:

WHITE - To [illegible] pany samples
YELLOW - F [illegible] py

INTERNATIONAL TECHNOLOGY CORPORATION

ANALYTICAL SERVICES

CERTIFICATE OF ANALYSIS

Date: 07/12/91

IT CORPORATION C/O FMC
8787 ENTERPRISE DR.
NEWARK, CA 94560
SHERRI WILLIAMS

Work Order: C1-07-055 Project/P.O.#: 142468
FMC

This is the Certificate of Analysis for the following samples:
Client Work ID: FMC 142468
Date Received: 07/10/91 142468
Number of Samples: 7
Sample Type: AIR

Samples were labeled as follows:

SAMPLE IDENTIFICATION	LABORATORY #
1,5831175	C1-07-055-01
2,5831176	C1-07-055-02
3,5831177	C1-07-055-03
4,5831178	C1-07-055-04
5,5831179	C1-07-055-05
BLANK SPIKE	C1-07-055-06
METHOD BLANK	C1-07-055-07

Reviewed and Approved:

Tracy Sidwell

Tracy Sidwell
Project Manager

Company: IT CORPORATION
Date: 07/12/91
Client Work ID: FMC 142468 142468

IT ANALYTICAL SERVICES
CERRITOS, CA

Work Order: C1-07-055

CLIENT SAMPLE ID	1,5831175	2,5831176	3,5831177	
LAB SAMPLE ID	C1-07-055-01	C1-07-055-02	C1-07-055-03	
SAMPLED	07/05/91	07/05/91	07/05/91	
TEST				UNITS
NUISANCE DUST(TOTAL)	13800	30600	27600	UG
	[100]	[100]	[100]	
	07/10/91	07/10/91	07/10/91	
MERCURY	ND	ND	ND	UG
	[0.07]	[0.07]	[0.07]	
	07/11/91	07/11/91	07/11/91	
COPPER	13	34	14	UG
	[3]	[3]	[3]	
	07/10/91	07/10/91	07/10/91	

ND indicates the parameter was not detected.
Detection limits are specified in [].
NC indicates the parameter was not calculated.

Company: IT CORPORATION
Date: 07/12/91
Client Work ID: FMC 142468 142468

IT ANALYTICAL SERVICES
CERRITOS, CA

Work Order: C1-07-055

CLIENT SAMPLE ID	4,5831178	5,5831179	BLANK SPIKE	
LAB SAMPLE ID	C1-07-055-04	C1-07-055-05	C1-07-055-06	
SAMPLED	07/05/91	07/05/91		
TEST				UNITS
NUISANCE DUST(TOTAL)	56300	21100		UG
	[100]	[100]		
	07/10/91	07/10/91		
MERCURY	ND	0.09	92	
	[0.07]	[0.07]	[--]	
	07/11/91	07/11/91	07/11/91	
	UG	UG	% REC.	
COPPER	10	4	83	
	[3]	[3]	[--]	
	07/10/91	07/10/91	07/10/91	
	UG	UG	% REC.	

ND indicates the parameter was not detected.
Detection limits are specified in [].
NC indicates the parameter was not calculated.

Company: IT CORPORATION
Date: 07/12/91
Client Work ID: FMC 142468 142468

IT ANALYTICAL SERVICES
CERRITOS, CA

Work Order: C1-07-055

CLIENT SAMPLE ID	METHOD BLANK	
LAB SAMPLE ID	C1-07-055-07	
SAMPLED		
TEST		UNITS
MERCURY	ND [0.07] 07/11/91	UG
COPPER	ND [3] 07/10/91	UG

ND indicates the parameter was not detected.
Detection limits are specified in [].
NC indicates the parameter was not calculated.

Company: IT CORPORATION
Date: 07/12/91
Client Work ID: FMC 142468

IT ANALYTICAL SERVICES
CERRITOS, CA

142468

Work Order: C1-07-055

TEST NAME **COPPER** TEST CODE **CU_ICP**

Copper was analyzed by inductively coupled argon plasma (ICP) spectroscopy according to USEPA method 6010.

TEST NAME **MERCURY** TEST CODE **HG_AA**

The sample was prepared and analyzed for mercury by cold-vapor atomic absorption (CVAA) spectroscopy according to USEPA method 7471 (solids) or method 7470 (liquids).

TEST NAME **NUISANCE DUST(TOTAL)** TEST CODE **HI_VOL**

The filters are weighed after allowing to stablize at room conditions for one hour. The relative humidity and temperature are recorded at the time of weighing. The difference in weight is reported in micrograms.

INTERNATIONAL TECHNOLOGY CORPORATION

07055

CHAIN-OF-CUSTODY RECORD

R/A Control No. 018075

C/C Control No. 159616

PROJECT NAME/NUMBER FMC/142468

LAB DESTINATION Cerritos

SAMPLE TEAM MEMBERS Sherri Williams

CARRIER/WAYBILL NO. 0493703770 - Fed-X

Sample Number	Sample Location and Description	Date and Time Collected	Sample Type	Container Type	Condition on Receipt (Name and Date)	Disposal Record No.
1 5831175	Location 1 Air	7-5-91 0755	Air		intact - room temp	
2 5831176	2	0635			7/10/91 - (PS)	
3 5831177	3	0645				
4 5831178	4	0735				
5 5831179	5	0730				

Special Instructions:

Possible Sample Hazards: Mercury, Copper

SIGNATURES: (Name, Company, Date and Time)

1. Relinquished By: S. Williams, IT Corp, 7-9-91, 1030

   Received By: Patty Snyder, ITAS, 7/10/91, 0900

2. Relinquished By:

   Received By:

3. Relinquished By:

   Received by:

4. Relinquished By:

   Received By:

WHITE - To accompany samples
YELLOW - Field copy

INTERNATIONAL TECHNOLOGY CORPORATION

C10 7055

REQUEST FOR ANALYSIS

R/A Control No. 018075
C/C Control No. 1596116

PROJECT NAME: FMC
PROJECT NUMBER: 142468
PROJECT MANAGER: Gene Lovett
BILL TO: IT Corp
4585 Pacheco Blvd
Martinez, CA
PURCHASE ORDER NO. 2221

DATE SAMPLES SHIPPED: 7-8-91
LAB DESTINATION: Cerritos
LABORATORY CONTACT: Tracy Sidwell
SEND LAB REPORT TO: IT Corp C/O FMC
8891 Enterprise
Newark, CA
DATE REPORT REQUIRED:
PROJECT CONTACT: Sherri Williams
PROJECT CONTACT PHONE NO. 415-795-4359

Sample No.	Sample Type	Sample Volume (m^3)	Preservative	Requested Testing Program	Special Instructions
1, 5831175	Air	408		Mercury EPA 7471	
2, 5831176		573		Copper EPA 6010	
3, 5831177		548		Particulate	
4, 5831178		522		* Perform tests on	
5, 5831179		516		all samples	

TURNAROUND TIME REQUIRED: (Rush must be approved by the Project Manager.)

Normal ____ Rush X (Subject to rush surcharge)

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances)

Nonhazard ____ Flammable ____ Skin irritant ____ Highly Toxic ____ Other ____ (Please Specify)

SAMPLE DISPOSAL: (Please indicate disposition of sample following analysis. Lab will charge for packing, shipping, and disposal.)

Return to Client ____ Disposal by Lab ____

FOR LAB USE ONLY

Received By Patty Snyder Date/Time 7/10/91, 0900

WHITE - Orig to accompany samples
YELLOW - Fi py

INTERNATIONAL TECHNOLOGY CORPORATION

REQUEST FOR ANALYSIS

R/A Control No. 018075
C/C Control No. 159616

PROJECT NAME: FMC
PROJECT NUMBER: 142468
PROJECT MANAGER: Gene Lovett
BILL TO: IT Corp
4585 Pacheco Blvd
Martinez, CA

PURCHASE ORDER NO. 2221

DATE SAMPLES SHIPPED: 7-9-91
LAB DESTINATION: Curritos
LABORATORY CONTACT: Tracy Sidwell
SEND LAB REPORT TO: IT Corp C/O FMC
3891 Enterprise
Newark, CA

DATE REPORT REQUIRED:
PROJECT CONTACT: Sherri Williams
PROJECT CONTACT PHONE NO. 415-795-4359

Sample No.	Sample Type	Sample Volume (m^3)	Preservative	Requested Testing Program	Special Instructions
1, 583175	Air	408		Mercury EPA 7471	
2, 5831176	↓	573		Copper EPA 6010	
3, 5831177		548		Particulate	
4, 5831178		522		* Perform tests on	
5, 5831179	↓	516		all samples	

COPY

TURNAROUND TIME REQUIRED: (Rush must be approved by the Project Manager.)

Normal ____ Rush X (Subject to rush surcharge)

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances)

Nonhazard ____ Flammable ____ Skin Irritant ____ Highly Toxic ____ Other ____ (Please Specify)

SAMPLE DISPOSAL: (Please indicate disposition of sample following analysis. Lab will charge for packing, shipping, and disposal.)

Return to Client ____ Disposal by Lab ____

FOR LAB USE ONLY

Received By ____ Date/Time ____

WHITE - Original, to accompany samples
YELLOW - copy

INTERNATIONAL TECHNOLOGY CORPORATION

CHAIN-OF-CUSTODY RECORD

R/A Control No. 016075

C/C Control No. 159616

PROJECT NAME/NUMBER FMC/142468

LAB DESTINATION Cerritos

SAMPLE TEAM MEMBERS Sherri Williams

CARRIER/WAYBILL NO. 0493703370 - Fed-X

Sample Number	Sample Location and Description	Date and Time Collected	Sample Type	Container Type	Condition on Receipt (Name and Date)	Disposal Record No.
1 5831175	Location 1 Air	7-5-91 0735	Air			
2 5831176	2	0635				
3 5831177	3	0645				
4 5831178	4	0735				
5 5831179	5	0730				

COPY

Special Instructions:

Possible Sample Hazards: Mercury, Copper

SIGNATURES: (Name, Company, Date and Time)

1. Relinquished By: S. Williams, IT Corp, 7-9-91, 1030

   Received By:

2. Relinquished By:

   Received By:

3. Relinquished By:

   Received by:

4. Relinquished By:

   Received By:

WHITE - To accompany samples
YELLOW - Field copy

INTERNATIONAL TECHNOLOGY CORPORATION

ANALYTICAL SERVICES

CERTIFICATE OF ANALYSIS

Date: 07/15/91

IT CORPORATION C/O FMC
8787 ENTERPRISE DR.
NEWARK, CA 94560
SHERRI WILLIAMS

Work Order: C1-07-063 Project/P.O.#: 142468
FMC

This is the Certificate of Analysis for the following samples:
Client Work ID: FMC 142468
Date Received: 07/11/91 142468
Number of Samples: 12
Sample Type: AIR

Samples were labeled as follows:

SAMPLE IDENTIFICATION	LABORATORY #
1,5831145	C1-07-063-01
2,5831146	C1-07-063-02
3,5831147	C1-07-063-03
4,5831148	C1-07-063-04
5,5831149	C1-07-063-05
1,5831140	C1-07-063-06
2,5831136	C1-07-063-07
3,5831138	C1-07-063-08
4,5831141	C1-07-063-09
5,5831142	C1-07-063-10
BLANK SPIKE	C1-07-063-11
METHOD BLANK	C1-07-063-12

Reviewed and Approved:

Tracy Sidwell

Tracy Sidwell
Project Manager

Company: IT CORPORATION
Date: 07/15/91
Client Work ID: FMC 142468 142468

IT ANALYTICAL SERVICES
CERRITOS, CA

Work Order: C1-07-063

	A94m3	196Tm3	1911	
CLIENT SAMPLE ID	1,5831145	2,5831146	3,5831147	
LAB SAMPLE ID	C1-07-063-01	C1-07-063-02	C1-07-063-03	
SAMPLED	07/08/91	07/08/91	07/08/91	
TEST				UNITS
NUISANCE DUST(TOTAL)	27400	77000	43700	UG
	[100]	[100]	[100]	
	07/11/91	07/11/91	07/11/91	
MERCURY	ND	0.14	0.07	UG
	[0.07]	[0.07]	[0.07]	
	07/13/91	07/13/91	07/13/91	
COPPER	24	130	22	UG
	[3]	[3]	[3]	
	07/11/91	07/11/91	07/11/91	

ND indicates the parameter was not detected.
Detection limits are specified in [].
NC indicates the parameter was not calculated.

Company: IT CORPORATION
Date: 07/15/91
Client Work ID: FMC 142468 142468 Work Order: C1-07-063

IT ANALYTICAL SERVICES
CERRITOS, CA

	1956	1962	1965	
CLIENT SAMPLE ID	4,5831148	5,5831149	1,5831140	
LAB SAMPLE ID	C1-07-063-04	C1-07-063-05	C1-07-063-06	
SAMPLED	07/08/91	07/08/91	07/09/91	
TEST				UNITS
NUISANCE DUST(TOTAL)	65500	43200	48400	UG
	[100]	[100]	[100]	
	07/11/91	07/11/91	07/11/91	
MERCURY	0.11	0.08	0.09	UG
	[0.07]	[0.07]	[0.07]	
	07/13/91	07/13/91	07/13/91	
COPPER	21	5	33	UG
	[3]	[3]	[3]	
	07/11/91	07/11/91	07/11/91	

ND indicates the parameter was not detected.
Detection limits are specified in [].
NC indicates the parameter was not calculated.

Company: IT CORPORATION
Date: 07/15/91
Client Work ID: FMC 142468 142468

IT ANALYTICAL SERVICES
CERRITOS, CA

Work Order: C1-07-063

	2013	1892	1663	
CLIENT SAMPLE ID	2,5831136	3,5831138	4,5831141	
LAB SAMPLE ID	C1-07-063-07	C1-07-063-08	C1-07-063-09	
SAMPLED	07/09/91	07/09/91	07/09/91	
TEST				UNITS
NUISANCE DUST(TOTAL)	126000	30200	68700	UG
	[100]	[100]	[100]	
	07/11/91	07/11/91	07/11/91	
MERCURY	0.08	ND	ND	UG
	[0.07]	[0.07]	[0.07]	
	07/13/91	07/13/91	07/13/91	
COPPER	230	10	24	UG
	[3]	[3]	[3]	
	07/11/91	07/11/91	07/11/91	

ND indicates the parameter was not detected.
Detection limits are specified in [].
NC indicates the parameter was not calculated.

Company: IT CORPORATION
Date: 07/15/91
Client Work ID: FMC 142468 142468 Work Order: C1-07-063

IT ANALYTICAL SERVICES
CERRITOS, CA

CLIENT SAMPLE ID	1675 5,5831142	BLANK SPIKE	METHOD BLANK	
LAB SAMPLE ID	C1-07-063-10	C1-07-063-11	C1-07-063-12	
SAMPLED	07/09/91			
TEST				UNITS
NUISANCE DUST(TOTAL)	3700			UG
	[100]			
	07/11/91			
MERCURY	ND	100	ND	
	[0.07]	[--]	[0.07]	
	07/13/91	07/13/91	07/13/91	
	UG	%REC	UG	
COPPER	ND	100	ND	
	[3]	[--]	[3]	
	07/11/91	07/11/91	07/11/91	
	UG	%REC	UG	

ND indicates the parameter was not detected.
Detection limits are specified in [].
NC indicates the parameter was not calculated.

Company: IT CORPORATION
Date: 07/15/91
Client Work ID: FMC 142468

IT ANALYTICAL SERVICES
CERRITOS, CA

142468

Work Order: C1-07-063

TEST NAME **COPPER** TEST CODE **CU_ICP**

Copper was analyzed by inductively coupled argon plasma (ICP) spectroscopy according to USEPA method 6010.

TEST NAME **MERCURY** TEST CODE **HG_AA**

The sample was prepared and analyzed for mercury by cold-vapor atomic absorption (CVAA) spectroscopy according to USEPA method 7471 (solids) or method 7470 (liquids).

TEST NAME **NUISANCE DUST(TOTAL)** TEST CODE **HI_VOL**

The filters are weighed after allowing to stablize at room conditions for one hour. The relative humidity and temperature are recorded at the time of weighing. The difference in weight is reported in micrograms.

INTERNATIONAL TECHNOLOGY CORPORATION

REQUEST FOR ANALYSIS

R/A Control No. 203750
C/C Control No. 159628

PROJECT NAME: FMC
PROJECT NUMBER: 142468
PROFIT CENTER NUMBER: 2221
PROJECT MANAGER: Gene Lovett
BILL TO: IT Corp
4585 Pacheco Blvd
Martinez, CA
PURCHASE ORDER NO.: 2221

DATE SAMPLES SHIPPED: 7-10-91
LAB DESTINATION: Cerritos
LABORATORY CONTACT: Tracy Sidwell
SEND LAB REPORT TO: IT Corp C/O FMC
8849 Enterprise
Newark, CA
DATE REPORT REQUIRED:
PROJECT CONTACT: Sherri Williams
PROJECT CONTACT PHONE NO.: 415-795-4359

Sample No.	Sample Type	Sample Volume (M3)	Preservative	Requested Testing Program	Special Instructions
1 5831145	Air	1994		Mercury EPA 7471	
2 5831146	↓	1968		Copper EPA 6010	
3 5831147		1911		Particulate	
4 5831148		1956		* Perform tests on	
5 5831149	↓	1962		all samples	

TURNAROUND TIME REQUIRED: (Rush must be approved by the Laboratory Project Manager.)
Normal ____ Rush X (Subject to rush surcharge.)

QC LEVEL: (Levels II and III subject to surcharge; project-specific requirements must be submitted to lab before beginning work.)
I ____ II ____ III ____ Project Specific ____

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances.)
Non-hazard ____ Flammable ____ Skin Irritant ____ Highly Toxic ____ Other ____ (Please Specify)

SAMPLE DISPOSAL: (Please indicate disposition of sample following analysis. Lab will charge for packing, shipping, archive and disposal.)
Return to Client ____ Disposal by Lab ____ Archive ____ (Indicate number of months.)

FOR LAB USE ONLY
Received by ____ Date/Time ____

WHITE - C[illegible]al, to accompany samples
YE[illegible] - Fie[illegible]

126A-10-85

7-9 91 samples

INTERNATIONAL TECHNOLOGY CORPORATION

CHAIN-OF-CUSTODY RECORD

R/A Control No. 2005750

C/C Control No. 159628

PROJECT NAME/NUMBER FMC / 142468

LAB DESTINATION Cerritos

SAMPLE TEAM MEMBERS Sherri Williams

CARRIER/WAYBILL NO. 0493703781 Fed-X

Sample Number	Sample Location and Description	Date and Time Collected	Sample Type	Container Type	Condition on Receipt (Name and Date)	Disposal Record No.
1, 5831145	Location 1 Air	7-8-91 0725	Air			
2, 5831146	2	0645				
3, 5831147	3	0725				
4, 5831148	4	0720				
5, 5831149	5	0715				

COPY

Special Instructions:

Possible Sample Hazards: Mercury, Copper

SIGNATURES: (Name, Company, Date and Time)

1. Relinquished By: Sherri Williams, ITCorp, 7-10-91, 1700

   Received By:

2. Relinquished By:

   Received By:

3. Relinquished By:

   Received by:

4. Relinquished By:

   Received By:

WHITE - To accompany samples
YELLOW - Field copy

INTERNATIONAL TECHNOLOGY CORPORATION

REQUEST FOR ANALYSIS

R/A Control No. 203752
C/C Control No. 159629

PROJECT NAME: FMC
PROJECT NUMBER: 142468
PROFIT CENTER NUMBER: 2221
PROJECT MANAGER: Gene Lovell
BILL TO: IT Corp
4585 Pacheco Blvd
Martinez, CA
PURCHASE ORDER NO.: 2221

DATE SAMPLES SHIPPED: 7-10-91
LAB DESTINATION: Cerritos
LABORATORY CONTACT: Tracy Sidwell
SEND LAB REPORT TO: IT Corp c/o FMC
8891 Enterprise
Newark, CA
DATE REPORT REQUIRED:
PROJECT CONTACT: Sherri Williams
PROJECT CONTACT PHONE NO.: 415-795-4359

Sample No.	Sample Type	Sample Volume m^3	Preservative	Requested Testing Program	Special Instructions
1 583140	Air	1605		Mercury EPA 7471	
2 583136	↓	2013		Copper EPA 6010	
3 583138		1892		Particulate	
4 583141		1663		* Perform tests on	
5 583142		1675		all samples	

COP

TURNAROUND TIME REQUIRED: (Rush must be approved by the Laboratory Project Manager.)
Normal _____ Rush X (Subject to rush surcharge.)

QC LEVEL: (Levels II and III subject to surcharge; project-specific requirements must be submitted to lab before beginning work.)
I _____ II _____ III _____ Project Specific _____

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances.)
Non-hazard _____ Flammable _____ Skin Irritant _____ Highly Toxic _____ Other _____ (Please Specify)

SAMPLE DISPOSAL: (Please indicate disposition of sample following analysis. Lab will charge for packing, shipping, archive and disposal.)
Return to Client _____ Disposal by Lab _____ Archive _____ (Indicate number of months.)

FOR LAB USE ONLY
Received by _____ Date/Time _____

WHITE - Original, to accompany samples
YELLOW - Field copy

126A-10-85

5 INTERNATIONAL TECHNOLOGY CORPORATION

7-91 samples

CHAIN-OF-CUSTODY RECORD

R/A Control No. 2007752

C/C Control No. 159629

PROJECT NAME/NUMBER FMC / 142468

LAB DESTINATION Cerritos

SAMPLE TEAM MEMBERS Sherri Williams

CARRIER/WAYBILL NO. 0493703781 Fed-X

Sample Number	Sample Location and Description	Date and Time Collected	Sample Type	Container Type	Condition on Receipt (Name and Date)	Disposal Record No.
1 5831140	Location 1 Air	7-9-91 0935	Air			
2 5831136	2	0835				
3 5631138	3	0830				
4 5831141	4	0905				
5 5831142	5	0900				

COPY

Special Instructions:

Possible Sample Hazards: Mercury, Copper

SIGNATURES: (Name, Company, Date and Time)

1. Relinquished By: S. Williams, IT Corp, 7-10-91, 1230

Received By:

2. Relinquished By:

Received By:

3. Relinquished By:

Received by:

4. Relinquished By:

Received By:

WHITE - To accompany samples
YELLOW - Field copy

INTERNATIONAL TECHNOLOGY CORPORATION

ANALYTICAL SERVICES

CERTIFICATE OF ANALYSIS

Date: 07/15/91

IT CORPORATION C/O FMC
8787 ENTERPRISE DR.
NEWARK, CA 94560
SHERRI WILLIAMS

Work Order: C1-07-073 Project/P.O.#: 142468
FMC

This is the Certificate of Analysis for the following samples:
Client Work ID: FMC/ 142468
Date Received: 07/12/91 142468-005
Number of Samples: 6
Sample Type: HI-VOLS

Samples were labeled as follows:

SAMPLE IDENTIFICATION	LABORATORY #
5831135	C1-07-073-01
5831137	C1-07-073-02
5831139	C1-07-073-03
5831143	C1-07-073-04
BLANK SPIKE	C1-07-073-05
METHOD BLANK	C1-07-073-08

Reviewed and Approved:

Tracy Sidwell

Tracy Sidwell
Project Manager

IT ANALYTICAL SERVICES
CERRITOS, CA

Company: IT CORPORATION
Date: 07/15/91
Client Work ID: FMC/ 142468 142468-005 Work Order: C1-07-073

	1835	1745	1745	
CLIENT SAMPLE ID	5831135	5831137	5831139	
LAB SAMPLE ID	C1-07-073-01	C1-07-073-02	C1-07-073-03	
SAMPLED	07/10/91	07/10/91	07/10/91	
TEST				UNITS
NUISANCE DUST(TOTAL)	74400	97700	143000	UG
	[100]	[100]	[100]	
	07/12/91	07/12/91	07/12/91	
MERCURY	0.07	0.08	ND	UG
	[0.07]	[0.07]	[0.07]	
	07/13/91	07/13/91	07/13/91	
COPPER	46	130	88	UG
	[3]	[3]	[3]	
	07/12/91	07/12/91	07/12/91	

ND indicates the parameter was not detected.
Detection limits are specified in [].
NC indicates the parameter was not calculated.

Company: IT CORPORATION
Date: 07/15/91
Client Work ID: FMC/ 142468

IT ANALYTICAL SERVICES
CERRITOS, CA

142468-005

Work Order: C1-07-073

1854

CLIENT SAMPLE ID	5831143	BLANK SPIKE	METHOD BLANK	
LAB SAMPLE ID	C1-07-073-04	C1-07-073-05	C1-07-073-08	
SAMPLED	07/10/91			
TEST				UNITS
NUISANCE DUST(TOTAL)	81700			UG
	[100]			
	07/12/91			
MERCURY	ND	98	ND	
	[0.07]	[--]	[0.07]	
	07/13/91	07/13/91	07/13/91	
	UG	%REC	UG	
COPPER	16	90	ND	
	[3]	[--]	[3]	
	07/12/91	07/12/91	07/12/91	
	UG	%REC	UG	

ND indicates the parameter was not detected.
Detection limits are specified in [].
NC indicates the parameter was not calculated.

Company: IT CORPORATION
Date: 07/15/91
Client Work ID: FMC/ 142468

IT ANALYTICAL SERVICES
CERRITOS, CA

142468-005

Work Order: C1-07-073

TEST NAME **COPPER** TEST CODE **CU_ICP**

Copper was analyzed by inductively coupled argon plasma (ICP) spectroscopy according to USEPA method 6010.

TEST NAME **MERCURY** TEST CODE **HG_AA**

The sample was prepared and analyzed for mercury by cold-vapor atomic absorption (CVAA) spectroscopy according to USEPA method 7471 (solids) or method 7470 (liquids).

TEST NAME **NUISANCE DUST(TOTAL)** TEST CODE **HI_VOL**

The filters are weighed after allowing to stablize at room conditions for one hour. The relative humidity and temperature are recorded at the time of weighing. The difference in weight is reported in micrograms.

INTERNATIONAL TECHNOLOGY CORPORATION

REQUEST FOR ANALYSIS

R/A Control No. 208753

C/C Control No. _____

PROJECT NAME: FMC

PROJECT NUMBER: 142468

PROFIT CENTER NUMBER: 2221

PROJECT MANAGER: Gene Lovett

BILL TO: IT Corp
4585 Pacheco Blvd
Martinez, CA

PURCHASE ORDER NO.: 2221

DATE SAMPLES SHIPPED: 7-11-91

LAB DESTINATION: Cerritos

LABORATORY CONTACT: Tracy Sidwell

SEND LAB REPORT TO: IT corp c/o FMC
8891 Enterprise
Newark, CA

DATE REPORT REQUIRED: _____

PROJECT CONTACT: Sherri Williams

PROJECT CONTACT PHONE NO.: 415-795-4359

Sample No.	Sample Type	Sample Volume m^3	Preservative	Requested Testing Program	Special Instructions
1,5831135	Air	1835		Mercury EPA 7471	
2,5831137	↓	1745		Copper EPA 6010	
3,5831139	↓	1745		Particulate	
4,5831143	↓	1854		* Percent tests on all samples	

COPY

TURNAROUND TIME REQUIRED: (Rush must be approved by the Laboratory Project Manager.)

Normal _____ Rush X (Subject to rush surcharge.)

QC LEVEL: (Levels II and III subject to surcharge; project-specific requirements must be submitted to lab before beginning work.)

I _____ II _____ III _____ Project Specific _____

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances.)

Non-hazard _____ Flammable _____ Skin Irritant _____ Highly Toxic _____ Other _____ (Please Specify)

SAMPLE DISPOSAL: (Please indicate disposition of sample following analysis. Lab will charge for packing, shipping, archive and disposal.)

Return to Client _____ Disposal by Lab _____ Archive _____ (Indicate number of months.)

FOR LAB USE ONLY

Received by _____ Date/Time _____

WHITE - C[illegible]l, to accompany samples
YELLOW - [illegible] copy

126A-10-85

INTERNATIONAL TECHNOLOGY CORPORATION

CHAIN-OF-CUSTODY RECORD

R/A Control No. 260753

C/C Control No. 159631

PROJECT NAME/NUMBER FMC / 142468

LAB DESTINATION Cerritos

SAMPLE TEAM MEMBERS Sherri Williams

CARRIER/WAYBILL NO. 0493703803 Fed-X

Sample Number	Sample Location and Description	Date and Time Collected	Sample Type	Container Type	Condition on Receipt (Name and Date)	Disposal Record No.
1 5831135	Location 1 Air	7-10-91 0640	Air			
2 5831137	2	0930				
3 5831139	3	0920				
4 5831143	4	0650				

COPY

Special Instructions:

Possible Sample Hazards: Mercury, Copper

SIGNATURES: (Name, Company, Date and Time)

1. Relinquished By: S. Williams ITcorp, 7-11-91, 0930

   Received By:

2. Relinquished By:

   Received By:

3. Relinquished By:

   Received by:

4. Relinquished By:

   Received By:

WHITE - To accompany samples
YELLOW - Field copy

INTERNATIONAL TECHNOLOGY CORPORATION

ANALYTICAL SERVICES

CERTIFICATE OF ANALYSIS

Date: 07/17/91

IT CORPORATION C/O FMC
8787 ENTERPRISE DR.
NEWARK, CA 94560
SHERRI WILLIAMS

Work Order: C1-07-088 Project/P.O.#: 142468
FMC

This is the Certificate of Analysis for the following samples:
Client Work ID: FMC/ 142468
Date Received: 07/15/91 142468
Number of Samples: 7
Sample Type: HI-VOLS

Samples were labeled as follows:

SAMPLE IDENTIFICATION	LABORATORY #
1,5831125	C1-07-088-01
2,5831126	C1-07-088-02
3,5831127	C1-07-088-03
4,5831128	C1-07-088-04
5,5831144	C1-07-088-05
BLANK SPIKE	C1-07-088-06
METHOD BLANK	C1-07-088-08

Reviewed and Approved:
Tracy Sidwell
Tracy Sidwell
Project Manager

Company: IT CORPORATION
Date: 07/17/91
Client Work ID: FMC/ 142468 142468 Work Order: C1-07-088

IT ANALYTICAL SERVICES
CERRITOS, CA

	1854	1854	1930	
CLIENT SAMPLE ID	1,5831125	2,5831126	3,5831127	
LAB SAMPLE ID	C1-07-088-01	C1-07-088-02	C1-07-088-03	
SAMPLED	07/11/91	07/11/91	07/11/91	
TEST				UNITS
NUISANCE DUST(TOTAL)	79600	123000	84400	UG
	[100]	[100]	[100]	
	07/15/91	07/15/91	07/15/91	
MERCURY	0.10	0.10	0.09	UG
	[0.07]	[0.07]	[0.07]	
	07/17/91	07/17/91	07/17/91	
COPPER	47	180	21	UG
	[3]	[3]	[3]	
	07/15/91	07/15/91	07/15/91	

ND indicates the parameter was not detected.
Detection limits are specified in [].
NC indicates the parameter was not calculated.

Company: IT CORPORATION
Date: 07/17/91
Client Work ID: FMC/ 142468 142468 Work Order: C1-07-088

IT ANALYTICAL SERVICES
CERRITOS, CA

CLIENT SAMPLE ID	1790 4,5831128	1803 5,5831144	BLANK SPIKE	
LAB SAMPLE ID	C1-07-088-04	C1-07-088-05	C1-07-088-06	
SAMPLED	07/11/91	07/11/91		
TEST				UNITS
NUISANCE DUST(TOTAL)	92100	83800		UG
	[100]	[100]		
	07/15/91	07/15/91		
MERCURY	0.12	0.11	110	
	[0.07]	[0.07]	[--]	
	07/17/91	07/17/91	07/17/91	
	UG	UG	%REC	
COPPER	23	9	91	
	[3]	[3]	[--]	
	07/15/91	07/15/91	07/15/91	
	UG	UG	%REC	

ND indicates the parameter was not detected.
Detection limits are specified in [].
NC indicates the parameter was not calculated.

Company: IT CORPORATION
Date: 07/17/91
Client Work ID: FMC/ 142468 142468

IT ANALYTICAL SERVICES
CERRITOS, CA

Work Order: C1-07-088

CLIENT SAMPLE ID	METHOD BLANK	
LAB SAMPLE ID	C1-07-088-08	
SAMPLED		
TEST		UNITS
MERCURY	ND [0.07] 07/17/91	UG
COPPER	ND [3] 07/15/91	UG

ND indicates the parameter was not detected.
Detection limits are specified in [].
NC indicates the parameter was not calculated.

Company: IT CORPORATION
Date: 07/17/91
Client Work ID: FMC/ 142468 142468

IT ANALYTICAL SERVICES
CERRITOS, CA

Work Order: C1-07-088

TEST NAME **COPPER** TEST CODE **CU_ICP**

Copper was analyzed by inductively coupled argon plasma (ICP) spectroscopy according to USEPA method 6010.

TEST NAME **MERCURY** TEST CODE **HG_AA**

The sample was prepared and analyzed for mercury by cold-vapor atomic absorption (CVAA) spectroscopy according to USEPA method 7471 (solids) or method 7470 (liquids).

TEST NAME **NUISANCE DUST(TOTAL)** TEST CODE **HI_VOL**

The filters are weighed after allowing to stablize at room conditions for one hour. The relative humidity and temperature are recorded at the time of weighing. The difference in weight is reported in micrograms.

INTERNATIONAL TECHNOLOGY CORPORATION

REQUEST FOR ANALYSIS

R/A Control No. 8007
C/C Control No. 109637

PROJECT NAME: FMC
PROJECT NUMBER: 142468
PROJECT MANAGER: Gene Lovett
BILL TO: IT Corp
4585 Pacheco Blvd
Martinez, CA
PURCHASE ORDER NO. 2221

DATE SAMPLES SHIPPED: 7-12-91
LAB DESTINATION: Cerritos
LABORATORY CONTACT: Tracy Sidwell
SEND LAB REPORT TO: IT Corp C/O FMC
8891 Enterprise
Newark, CA
DATE REPORT REQUIRED:
PROJECT CONTACT: Sherri Williams
PROJECT CONTACT PHONE NO. 415-795-4359

Sample No.	Sample Type	Sample Volume M^3	Preservative	Requested Testing Program	Special Instructions
1 5831125	Air	1854		Mercury EPA 7471	
2 5831126	↓	1854		Copper EPA 8010	
3 5831127		1930		Particulate	
4 5831128		1790		Perform tests on	
5 5831144	↓	1803		all samples	

COPY

TURNAROUND TIME REQUIRED: (Rush must be approved by the Project Manager.)

Normal _____ **Rush** X (Subject to rush surcharge)

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances)

Nonhazard _____ **Flammable** _____ **Skin irritant** _____ **Highly Toxic** _____ **Other** _____ **(Please Specify)**

SAMPLE DISPOSAL: (Please indicate disposition of sample following analysis. Lab will charge for packing, shipping, and disposal.)

Return to Client _____ **Disposal by Lab** _____

FOR LAB USE ONLY

Received By _____ **Date/Time** _____

WHITE - Original, to accompany samples
YELLOW - Field copy

INTERNATIONAL TECHNOLOGY CORPORATION

CHAIN-OF-CUSTODY RECORD

R/A Control No. 018007

C/C Control No. 159637

PROJECT NAME/NUMBER FMC / 142468

LAB DESTINATION Cerritos

SAMPLE TEAM MEMBERS Sherri Williams

CARRIER/WAYBILL NO. 0493703792 Fed-X

Sample Number	Sample Location and Description	Date and Time Collected	Sample Type	Container Type	Condition on Receipt (Name and Date)	Disposal Record No.
1 5831125	Location 1 Air	7-11-91	Air			
2 5831126	2					
3 5831127	3					
4 5831128	4					
5 5831144	5					

COPY

Special Instructions:

Possible Sample Hazards: Mercury, Copper

SIGNATURES: (Name, Company, Date and Time)

1. Relinquished By: [illegible] IT Corp, 7-12-91, 1350
   Received By:
2. Relinquished By:
   Received By:
3. Relinquished By:
   Received by:
4. Relinquished By:
   Received By:

WHITE - To e[illegible]pany samples
YELLOW - F[illegible]py

INTERNATIONAL TECHNOLOGY CORPORATION

ANALYTICAL SERVICES

CERTIFICATE OF ANALYSIS

Date: 07/17/91

IT CORPORATION C/O FMC
8787 ENTERPRISE DR.
NEWARK, CA 94560
SHERRI WILLIAMS

Work Order: C1-07-092 Project/P.O.#: 142468
FMC

This is the Certificate of Analysis for the following samples:
Client Work ID: FMC/ 142468
Date Received: 07/16/91 142468
Number of Samples: 7
Sample Type: HI-VOLS

Samples were labeled as follows:

SAMPLE IDENTIFICATION	LABORATORY #
1,5831129	C1-07-092-01
2,5831130	C1-07-092-02
3,5831131	C1-07-092-03
4,5831132	C1-07-092-04
5,5831133	C1-07-092-05
BLANK SPIKE	C1-07-092-06
METHOD BLANK	C1-07-092-08

Reviewed and Approved:
Tracy Sidwell
Tracy Sidwell
Project Manager

Company: IT CORPORATION
Date: 07/17/91
Client Work ID: FMC/ 142468 142468 Work Order: C1-07-092

IT ANALYTICAL SERVICES
CERRITOS, CA

	561	4104	357	
CLIENT SAMPLE ID	1,5831129	2,5831130	3,5831131	
LAB SAMPLE ID	C1-07-092-01	C1-07-092-02	C1-07-092-03	
SAMPLED	07/12/91	07/12/91	07/12/91	
TEST				UNITS
NUISANCE DUST(TOTAL)	11600	19700	19000	UG
	[100]	[100]	[100]	
	07/16/91	07/16/91	07/16/91	
MERCURY	ND	ND	ND	UG
	[0.07]	[0.07]	[0.07]	
	07/17/91	07/17/91	07/17/91	
COPPER	15	28	8	UG
	[3]	[3]	[3]	
	07/16/91	07/16/91	07/16/91	

ND indicates the parameter was not detected.
Detection limits are specified in [].
NC indicates the parameter was not calculated.

Company: IT CORPORATION
Date: 07/17/91
Client Work ID: FMC/ 142468 142468

IT ANALYTICAL SERVICES
CERRITOS, CA

Work Order: C1-07-092

CLIENT SAMPLE ID	554 4,5831132	573 5,5831133	BLANK SPIKE	
LAB SAMPLE ID	C1-07-092-04	C1-07-092-05	C1-07-092-06	
SAMPLED	07/12/91	07/12/91		
TEST				UNITS
NUISANCE DUST(TOTAL)	14100	8900		UG
	[100]	[100]		
	07/16/91	07/16/91		
MERCURY	ND	ND	96	
	[0.07]	[0.07]	[--]	
	07/17/91	07/17/91	07/17/91	
	UG	UG	%REC	
COPPER	11	ND	92	
	[3]	[3]	[--]	
	07/16/91	07/16/91	07/16/91	
	UG	UG	%REC	

ND indicates the parameter was not detected.
Detection limits are specified in [].
NC indicates the parameter was not calculated.

Company: IT CORPORATION
Date: 07/17/91
Client Work ID: FMC/ 142468 142468

IT ANALYTICAL SERVICES
CERRITOS, CA

Work Order: C1-07-092

CLIENT SAMPLE ID	METHOD BLANK	
LAB SAMPLE ID	C1-07-092-08	
SAMPLED		
TEST		UNITS
MERCURY	ND [0.07] 07/17/91	UG
COPPER	ND [3] 07/16/91	UG

ND indicates the parameter was not detected.
Detection limits are specified in [].
NC indicates the parameter was not calculated.

Company: IT CORPORATION
Date: 07/17/91
Client Work ID: FMC/ 142468 142468

IT ANALYTICAL SERVICES
CERRITOS, CA

Work Order: C1-07-092

TEST NAME **COPPER** TEST CODE **CU_ICP**

Copper was analyzed by inductively coupled argon plasma (ICP) spectroscopy according to USEPA method 6010.

TEST NAME **MERCURY** TEST CODE **HG_AA**

The sample was prepared and analyzed for mercury by cold-vapor atomic absorption (CVAA) spectroscopy according to USEPA method 7471 (solids) or method 7470 (liquids).

TEST NAME **NUISANCE DUST(TOTAL)** TEST CODE **HI_VOL**

The filters are weighed after allowing to stablize at room conditions for one hour. The relative humidity and temperature are recorded at the time of weighing. The difference in weight is reported in micrograms.

INTERNATIONAL TECHNOLOGY CORPORATION

REQUEST FOR ANALYSIS

R/A Control No. 203754
C/C Control No. 159635

PROJECT NAME: FMC
PROJECT NUMBER: 142468
PROFIT CENTER NUMBER: 2221
PROJECT MANAGER: Gene Lovett
BILL TO: IT Corp
4585 Pacheco Blvd
Martinez, CA

PURCHASE ORDER NO.: 2221

DATE SAMPLES SHIPPED: 7-15-91
LAB DESTINATION: Cerritos
LABORATORY CONTACT: Tracy Sidwell
SEND LAB REPORT TO: IT Corp c/o FMC
8891 Enterprise
Newark, CA

DATE REPORT REQUIRED:
PROJECT CONTACT: Sherri Williams
PROJECT CONTACT PHONE NO.: 415-795-4359

Sample No.	Sample Type	Sample Volume	Preservative	Requested Testing Program	Special Instructions
1 ~~[illegible]~~ 5831129	Air	564		Mercury EPA 7471	
2 5831130	↓	408		Copper EPA 6010	
3 5831131		357		Particulate	
4 5831132		554		Perform tests on all	
5 5831133	↓	573		samples	

COPY

TURNAROUND TIME REQUIRED: (Rush must be approved by the Laboratory Project Manager.)
Normal _____ Rush X (Subject to rush surcharge.)

QC LEVEL: (Levels II and III subject to surcharge; project-specific requirements must be submitted to lab before beginning work.)
I _____ II _____ III _____ Project Specific _____

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances.)
Non-hazard _____ Flammable _____ Skin Irritant _____ Highly Toxic _____ Other _____ (Please Specify)

SAMPLE DISPOSAL: (Please indicate disposition of sample following analysis. Lab will charge for packing, shipping, archive and disposal.)
Return to Client _____ Disposal by Lab _____ Archive _____ (Indicate number of months.)

FOR LAB USE ONLY
Received by _____ Date/Time _____

WHITE - C[illegible]al, to accompany samples
YELLOW - Field copy

126A-10-85

INTERNATIONAL TECHNOLOGY CORPORATION

CHAIN-OF-CUSTODY RECORD

R/A Control No. 206.54

C/C Control No. 159635

PROJECT NAME/NUMBER FMC/142468

LAB DESTINATION Cerritos

SAMPLE TEAM MEMBERS Sherri Williams

CARRIER/WAYBILL NO.

Sample Number	Sample Location and Description	Date and Time Collected	Sample Type	Container Type	Condition on Receipt (Name and Date)	Disposal Record No.
1 5831129	Location 1 Air	7-12-91 0740	Air			
2 5831130	2	0845				
3 5831131	3	0825				
4 5831132	4	0705				
5 5831133	5	0650				

COPY

Special Instructions:

Possible Sample Hazards: Mercury, Copper

SIGNATURES: (Name, Company, Date and Time)

1. Relinquished By: Sherri Williams, IT Corp, 7-15-91, 1330

   Received By:

2. Relinquished By:

   Received By:

3. Relinquished By:

   Received by:

4. Relinquished By:

   Received By:

WHITE - To accompany samples
YELLOW - Field copy

INTERNATIONAL TECHNOLOGY CORPORATION

ANALYTICAL SERVICES

CERTIFICATE OF ANALYSIS

Date: 07/22/91

IT CORPORATION C/O FMC
8787 ENTERPRISE DR.
NEWARK, CA 94560
SHERRI WILLIAMS

Work Order: C1-07-106 Project/P.O.#: 142468
FMC

This is the Certificate of Analysis for the following samples:
Client Work ID: FMC/ 142468
Date Received: 07/18/91 142468
Number of Samples: 12
Sample Type: HI-VOLS

Samples were labeled as follows:

SAMPLE IDENTIFICATION	LABORATORY #
1,5831134	C1-07-106-01
2,5831101	C1-07-106-02
3,5831102	C1-07-106-03
4,5831103	C1-07-106-04
5,5831104	C1-07-106-05
1,5831105	C1-07-106-06
2,5831106	C1-07-106-07
3,5831107	C1-07-106-08
4,5831108	C1-07-106-09
5,5831109	C1-07-106-10
BLANK SPIKE	C1-07-106-11
METHOD BLANK	C1-07-106-12

Reviewed and Approved:

Tracy Sidwell

Tracy Sidwell
Project Manager

Company: IT CORPORATION
Date: 07/22/91
Client Work ID: FMC/ 142468 142468 Work Order: C1-07-106

IT ANALYTICAL SERVICES
CERRITOS, CA

CLIENT SAMPLE ID	1,5831134 (1761)	2,5831101 (1968)	3,5831102 (1994)	
LAB SAMPLE ID	C1-07-106-01	C1-07-106-02	C1-07-106-03	
SAMPLED	07/15/91	07/15/91	07/15/91	
TEST				UNITS
NUISANCE DUST(TOTAL)	9700	47500	26700	UG
	[100]	[100]	[100]	
	07/18/91	07/18/91	07/18/91	
MERCURY	ND	ND	ND	UG
	[0.07]	[0.07]	[0.07]	
	07/19/91	07/19/91	07/19/91	
COPPER	23	160	28	UG
	[3]	[3]	[3]	
	07/18/91	07/18/91	07/18/91	

ND indicates the parameter was not detected.
Detection limits are specified in [].
NC indicates the parameter was not calculated.

Company: IT CORPORATION
Date: 07/22/91
Client Work ID: FMC/ 142468 142468

IT ANALYTICAL SERVICES
CERRITOS, CA

Work Order: C1-07-106

	1733	1752	15886	
CLIENT SAMPLE ID	4,5831103	5,5831104	1,5831105	
LAB SAMPLE ID	C1-07-106-04	C1-07-106-05	C1-07-106-06	
SAMPLED	07/15/91	07/15/91	07/16/91	
TEST				UNITS
NUISANCE DUST(TOTAL)	51100	37700	13400	UG
	[100]	[100]	[100]	
	07/18/91	07/18/91	07/18/91	
MERCURY	0.10	0.10	0.08	UG
	[0.07]	[0.07]	[0.07]	
	07/19/91	07/19/91	07/19/91	
COPPER	24	5	ND	UG
	[3]	[3]	[3]	
	07/18/91	07/18/91	07/18/91	

ND indicates the parameter was not detected.
Detection limits are specified in [].
NC indicates the parameter was not calculated.

Company: IT CORPORATION
Date: 07/22/91
Client Work ID: FMC/ 142468 142468

IT ANALYTICAL SERVICES
CERRITOS, CA

Work Order: C1-07-106

	1440	1612	1599	
CLIENT SAMPLE ID	2,5831106	4,5831108	5,5831109	
LAB SAMPLE ID	C1-07-106-07	C1-07-106-09	C1-07-106-10	
SAMPLED	07/16/91	07/16/91	07/16/91	
TEST				UNITS
NUISANCE DUST(TOTAL)	28700	47200	2400	UG
	[100]	[100]	[100]	
	07/18/91	07/18/91	07/18/91	
MERCURY	ND	0.07	ND	UG
	[0.07]	[0.07]	[0.07]	
	07/19/91	07/19/91	07/19/91	
COPPER	100	18	ND	UG
	[3]	[3]	[3]	
	07/18/91	07/18/91	07/18/91	

ND indicates the parameter was not detected.
Detection limits are specified in [].
NC indicates the parameter was not calculated.

Company: IT CORPORATION
Date: 07/22/91
Client Work ID: FMC/ 142468 142468

IT ANALYTICAL SERVICES
CERRITOS, CA

Work Order: C1-07-106

CLIENT SAMPLE ID	BLANK SPIKE	METHOD BLANK	
LAB SAMPLE ID	C1-07-106-11	C1-07-106-12	
SAMPLED			
TEST			UNITS
MERCURY	83	ND	MG/L
	[--]	[0.07]	
	07/19/91	07/19/91	
	%REC	UG	
COPPER	100	ND	MG/L
	[--]	[3]	
	07/18/91	07/18/91	
	%REC	UG	

ND indicates the parameter was not detected.
Detection limits are specified in [].
NC indicates the parameter was not calculated.

Company: IT CORPORATION
Date: 07/22/91
Client Work ID: FMC/ 142468

IT ANALYTICAL SERVICES
CERRITOS, CA

142468

Work Order: C1-07-106

TEST NAME **COPPER** TEST CODE **CU_ICP**

Copper was analyzed by inductively coupled argon plasma (ICP) spectroscopy according to USEPA method 6010.

TEST NAME **MERCURY** TEST CODE **HG_AA**

The sample was prepared and analyzed for mercury by cold-vapor atomic absorption (CVAA) spectroscopy according to USEPA method 7471 (solids) or method 7470 (liquids).

TEST NAME **NUISANCE DUST(TOTAL)** TEST CODE **HI_VOL**

The filters are weighed after allowing to stablize at room conditions for one hour. The relative humidity and temperature are recorded at the time of weighing. The difference in weight is reported in micrograms.

INTERNATIONAL TECHNOLOGY CORPORATION

REQUEST FOR ANALYSIS

R/A Control No. 018076
C/C Control No. 154619

PROJECT NAME: FMC
PROJECT NUMBER: 142468
PROJECT MANAGER: Gene Lovett
BILL TO: IT Corp
4585 Pacheco Blvd
Martinez, CA

PURCHASE ORDER NO.: 2221

7-15-91
7-16-91
samples

DATE SAMPLES SHIPPED: 7/17/91
LAB DESTINATION: Berrites
LABORATORY CONTACT: Tracy Cardwell
SEND LAB REPORT TO: IT Corp C/O FMC
33811 Enterprise
Newark, CA

DATE REPORT REQUIRED:
PROJECT CONTACT: Sherri Williams
PROJECT CONTACT PHONE NO.: 415-797-4359

Sample No.	Sample Type	Sample Volume	Preservative	Requested Testing Program	Special Instructions
1, 5831134	Air	1701		Mercury EPA 7471	
2, 5831101	↓	1968		Copper EPA 6010	
3, 5831102		1994		Particulate	
4, 5831103		1733		RCRA M tests on all	
5, 5831104		1752		samples	
1 5831105	Air	1526			
2 5831106	↓	1440			
4 5831108		1612			
5 5831109		1599			

COPY

TURNAROUND TIME REQUIRED: (Rush must be approved by the Project Manager.)

Normal _____ Rush X (Subject to rush surcharge)

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances)

Nonhazard _____ Flammable _____ Skin Irritant _____ Highly Toxic _____ Other _____ (Please Specify)

SAMPLE DISPOSAL: (Please indicate disposition of sample following analysis. Lab will charge for packing, shipping, and disposal.)

Return to Client _____ Disposal by Lab _____

FOR LAB USE ONLY

Received By _____ Date/Time _____

WHITE - Original, to accompany samples
YELLOW - copy

INTERNATIONAL TECHNOLOGY CORPORATION

CHAIN-OF-CUSTODY RECORD

R/A Control No. 010076

C/C Control No. 159619

PROJECT NAME/NUMBER FMC/142468

LAB DESTINATION Cerritos

SAMPLE TEAM MEMBERS Sherri Williams

CARRIER/WAYBILL NO. 7881358273 Fed-X

Sample Number	Sample Location and Description	Date and Time Collected	Sample Type	Container Type	Condition on Receipt (Name and Date)	Disposal Record No.
1 5831134	Location 1 Air	7-15-91 1225	Air			
2 5831101	2	1250				
3 5831102	3	1245				
4 5831103	4	1215				
5 5831104	5	1210				
1 5831105	Location 1 Air	7-16-91 1040	Air			
2 5831106	2	1440				
4 5831108	4	1055				
5 5831109	5	1105				

COPY

Special Instructions:

Possible Sample Hazards: Mercury, Copper

SIGNATURES: (Name, Company, Date and Time)

1. Relinquished By: S. Williams, IT Corp., 7-17-91, 1200

Received By:

2. Relinquished By:

Received By:

3. Relinquished By:

Received by:

4. Relinquished By:

Received By:

WHITE - To accompany samples
YELLOW - Field copy

INTERNATIONAL TECHNOLOGY CORPORATION

ANALYTICAL SERVICES

CERTIFICATE OF ANALYSIS

Date: 07/23/91

IT CORPORATION C/O FMC
8787 ENTERPRISE DR.
NEWARK, CA 94560
SHERRI WILLIAMS

Work Order: C1-07-116 Project/P.O.#: 142468
FMC

This is the Certificate of Analysis for the following samples:
Client Work ID: FMC/ 142468
Date Received: 07/19/91 142468
Number of Samples: 7
Sample Type: HI-VOLS

Samples were labeled as follows:

SAMPLE IDENTIFICATION	LABORATORY #
1,5831110	C1-07-116-01
2,5831111	C1-07-116-02
3,5831112	C1-07-116-03
4,5831113	C1-07-116-04
5,5831114	C1-07-116-05
BLANK SPIKE	C1-07-116-06
METHOD BLANK	C1-07-116-07

Reviewed and Approved:

Tracy Sidwell

Tracy Sidwell
Project Manager

Company: IT CORPORATION
Date: 07/23/91
Client Work ID: FMC/ 142468 142468

IT ANALYTICAL SERVICES
CERRITOS, CA

Work Order: C1-07-116

CLIENT SAMPLE ID	1790 1,5831110	1873 2,5831111	1860 3,5831112	
LAB SAMPLE ID	C1-07-116-01	C1-07-116-02	C1-07-116-03	
SAMPLED	07/17/91	07/17/91	07/17/91	
TEST				UNITS
NUISANCE DUST(TOTAL)	17800	38500	55100	UG
	[100]	[100]	[100]	
	07/19/91	07/19/91	07/19/91	
MERCURY	0.11	0.10	0.14	UG
	[0.07]	[0.07]	[0.07]	
	07/22/91	07/22/91	07/22/91	
COPPER	34	140	34	UG
	[3]	[3]	[3]	
	07/19/91	07/19/91	07/19/91	

ND indicates the parameter was not detected.
Detection limits are specified in [].
NC indicates the parameter was not calculated.

Company: IT CORPORATION
Date: 07/23/91
Client Work ID: FMC/ 142468 142468

IT ANALYTICAL SERVICES
CERRITOS, CA

Work Order: C1-07-116

CLIENT SAMPLE ID	1503 4,5831113	BLANK SPIKE	METHOD BLANK	
LAB SAMPLE ID	C1-07-116-04	C1-07-116-06	C1-07-116-07	
SAMPLED	07/17/91			
TEST				UNITS
NUISANCE DUST(TOTAL)	61100			UG
	[100]			
	07/19/91			
MERCURY	0.15	93	ND	
	[0.07]	[--]	[0.07]	
	07/22/91	07/22/91	07/22/91	
	UG	%REC	UG	
COPPER	21	98	ND	
	[3]	[--]	[3]	
	07/19/91	07/19/91	07/19/91	
	UG	%REC	UG	

ND indicates the parameter was not detected.
Detection limits are specified in [].
NC indicates the parameter was not calculated.

Company: IT CORPORATION
Date: 07/23/91
Client Work ID: FMC/ 142468

IT ANALYTICAL SERVICES
CERRITOS, CA

142468

Work Order: C1-07-116

Nonconformance Summary

Sample 5,5831114 was received by the laboratory but was not listed on the Chain of Custody and Request for Analysis. The sample was not analyzed as per the client's request.

Company: IT CORPORATION
Date: 07/23/91
Client Work ID: FMC/ 142468 142468

IT ANALYTICAL SERVICES
CERRITOS, CA

Work Order: C1-07-116

TEST NAME **COPPER** TEST CODE **CU_ICP**

Copper was analyzed by inductively coupled argon plasma (ICP) spectroscopy according to USEPA method 6010.

TEST NAME **MERCURY** TEST CODE **HG_AA**

The sample was prepared and analyzed for mercury by cold-vapor atomic absorption (CVAA) spectroscopy according to USEPA method 7471 (solids) or method 7470 (liquids).

TEST NAME **NUISANCE DUST(TOTAL)** TEST CODE **HI_VOL**

The filters are weighed after allowing to stablize at room conditions for one hour. The relative humidity and temperature are recorded at the time of weighing. The difference in weight is reported in micrograms.

INTERNATIONAL TECHNOLOGY CORPORATION

REQUEST FOR ANALYSIS

R/A Control No. 20 746
C/C Control No. 159641

PROJECT NAME: FMC
PROJECT NUMBER: 142468
PROFIT CENTER NUMBER: 2221
PROJECT MANAGER: Gene Lovett
BILL TO: 4585 Pacheco Blvd, Martinez, CA

PURCHASE ORDER NO.: 2221

DATE SAMPLES SHIPPED: 7-18-91
LAB DESTINATION: Cerritos
LABORATORY CONTACT: Tracy Sidwell
SEND LAB REPORT TO: IT Corp c/o FMC, 8891 Enterprise, Newark, CA

DATE REPORT REQUIRED:
PROJECT CONTACT: Sherri Williams
PROJECT CONTACT PHONE NO.: 415-795-4359

Sample No.	Sample Type	Sample Volume	Preservative	Requested Testing Program	Special Instructions
1 5831110	Air	1790		Mercury EPA 7471	
2 5831111	↓	1873		Copper EPA 6010	
3 5831112		1860		Particulate	
4 5831113		1503		Perform tests on all	
~~5 5831114~~				samples	

TURNAROUND TIME REQUIRED: (Rush must be approved by the Laboratory Project Manager.)
Normal _____ Rush X (Subject to rush surcharge.)

QC LEVEL: (Levels II and III subject to surcharge; project-specific requirements must be submitted to lab before beginning work.)
I _____ II _____ III _____ Project Specific _____

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances.)
Non-hazard _____ Flammable _____ Skin Irritant _____ Highly Toxic _____ Other _____ (Please Specify)

SAMPLE DISPOSAL: (Please indicate disposition of sample following analysis. Lab will charge for packing, shipping, archive and disposal.)
Return to Client _____ Disposal by Lab _____ Archive _____ (Indicate number of months.)

FOR LAB USE ONLY
Received by _____ Date/Time _____

WHITE - Original, to accompany samples
YELLOW - Field copy

126A-10-85

INTERNATIONAL TECHNOLOGY CORPORATION

CHAIN-OF-CUSTODY RECORD

R/A Control No. 2087416

C/C Control No. 159641

PROJECT NAME/NUMBER FMC / 142468

LAB DESTINATION Cerritos

SAMPLE TEAM MEMBERS Sherri Williams

CARRIER/WAYBILL NO. 0493703840

Sample Number	Sample Location and Description	Date and Time Collected	Sample Type	Container Type	Condition on Receipt (Name and Date)	Disposal Record No.
1 5831110	Location 1 Air	7-17-91 0930	Air			
2 5831111	2	0940				
3 5831112	3	0930				
4 5831113	4	1130				
~~5 5831114~~	~~5~~	~~1130~~				

COPY

Special Instructions:

Possible Sample Hazards: Mercury, Copper

SIGNATURES: (Name, Company, Date and Time)

1. Relinquished By: S. Williams, IT corp. 7-18-91, 1235

   Received By:

2. Relinquished By:

   Received By:

3. Relinquished By:

   Received by:

4. Relinquished By:

   Received By:

WHITE - To a[illegible]pany samples
YELLOW - F[illegible]py

INTERNATIONAL TECHNOLOGY CORPORATION

ANALYTICAL SERVICES

CERTIFICATE OF ANALYSIS

Date: 07/23/91

IT CORPORATION C/O FMC
8787 ENTERPRISE DR.
NEWARK, CA 94560
SHERRI WILLIAMS

Work Order: C1-07-133

Project/P.O.#: 142468
FMC

This is the Certificate of Analysis for the following samples:
Client Work ID: FMC/ 142468
Date Received: 07/22/91 142468
Number of Samples: 7
Sample Type: HI-VOLS

Samples were labeled as follows:

SAMPLE IDENTIFICATION	LABORATORY #
1,5831115	C1-07-133-01
2,5831116	C1-07-133-02
3,5831117	C1-07-133-03
4,5831118	C1-07-133-04
5,5831119	C1-07-133-05
BLANK SPIKE	C1-07-133-06
METHOD BLANK	C1-07-133-07

Reviewed and Approved:

Tracy Sidwell

Tracy Sidwell
Project Manager

Company: IT CORPORATION
Date: 07/23/91
Client Work ID: FMC/ 142468 142468 Work Order: C1-07-133

IT ANALYTICAL SERVICES
CERRITOS, CA

	1796	1694	1682	
CLIENT SAMPLE ID	1,5831115	2,5831116	3,5831117	
LAB SAMPLE ID	C1-07-133-01	C1-07-133-02	C1-07-133-03	
SAMPLED	07/18/91	07/18/91	07/18/91	
TEST				UNITS
NUISANCE DUST(TOTAL)	47500	81200	58800	UG
	[100]	[100]	[100]	
	07/22/91	07/22/91	07/22/91	
MERCURY	ND	ND	ND	UG
	[0.07]	[0.07]	[0.07]	
	07/23/91	07/23/91	07/23/91	
COPPER	46	120	28	UG
	[3]	[3]	[3]	
	07/22/91	07/22/91	07/22/91	

ND indicates the parameter was not detected.
Detection limits are specified in [].
NC indicates the parameter was not calculated.

Company: IT CORPORATION
Date: 07/23/91
Client Work ID: FMC/ 142468 142468

IT ANALYTICAL SERVICES
CERRITOS, CA

Work Order: C1-07-133

CLIENT SAMPLE ID	1784 4,5831118	1796 5,5831119	BLANK SPIKE	
LAB SAMPLE ID	C1-07-133-04	C1-07-133-05	C1-07-133-06	
SAMPLED	07/18/91	07/18/91		
TEST				UNITS
NUISANCE DUST(TOTAL)	31600	36900		UG
	[100]	[100]		
	07/22/91	07/22/91		
MERCURY	ND	ND	87	
	[0.07]	[0.07]	[--]	
	07/23/91	07/23/91	07/23/91	
	UG	UG	%REC	
COPPER	7	4	85	
	[3]	[3]	[--]	
	07/22/91	07/22/91	07/22/91	
	UG	UG	%REC	

ND indicates the parameter was not detected.
Detection limits are specified in [].
NC indicates the parameter was not calculated.

Company: IT CORPORATION
Date: 07/23/91
Client Work ID: FMC/ 142468

IT ANALYTICAL SERVICES
CERRITOS, CA

142468

Work Order: C1-07-133

CLIENT SAMPLE ID	METHOD BLANK	
LAB SAMPLE ID	C1-07-133-07	
SAMPLED		
TEST		UNITS
MERCURY	ND [0.07] 07/23/91	UG
COPPER	ND [3] 07/22/91	UG

ND indicates the parameter was not detected.
Detection limits are specified in [].
NC indicates the parameter was not calculated.

Company: IT CORPORATION
Date: 07/23/91
Client Work ID: FMC/ 142468

IT ANALYTICAL SERVICES
CERRITOS, CA

142468

Work Order: C1-07-133

TEST NAME **COPPER** TEST CODE **CU_ICP**

Copper was analyzed by inductively coupled argon plasma (ICP) spectroscopy according to USEPA method 6010.

TEST NAME **MERCURY** TEST CODE **HG_AA**

The sample was prepared and analyzed for mercury by cold-vapor atomic absorption (CVAA) spectroscopy according to USEPA method 7471 (solids) or method 7470 (liquids).

TEST NAME **NUISANCE DUST(TOTAL)** TEST CODE **HI_VOL**

The filters are weighed after allowing to stablize at room conditions for one hour. The relative humidity and temperature are recorded at the time of weighing. The difference in weight is reported in micrograms.

INTERNATIONAL TECHNOLOGY CORPORATION

REQUEST FOR ANALYSIS

R/A Control No. B 78064
C/C Control No. 159612

PROJECT NAME: FMC
PROJECT NUMBER: 142468
PROJECT MANAGER: Gene Lovett
BILL TO: 4585 Pacheco Blvd, Martinez, CA

PURCHASE ORDER NO.: 2221

DATE SAMPLES SHIPPED: 7-19-91
LAB DESTINATION: Cerritos
LABORATORY CONTACT: Tracy Sidwell
SEND LAB REPORT TO: IT Corp C/O FMC, 8891 Enterprise, Newark, CA
DATE REPORT REQUIRED: 415-795-4359
PROJECT CONTACT: Sherri Williams
PROJECT CONTACT PHONE NO.:

Sample No.	Sample Type	Sample Volume	Preservative	Requested Testing Program	Special Instructions
1 5831115	Air	1796		Mercury EPA 7471	
2 5831116	↓	1694		Copper EPA 6010	
3 5831117	↓	1682		Particulate	
4 5831118	↓	1784		Perform tests on all	
5 5831119	↓	1796		samples	

COPY

TURNAROUND TIME REQUIRED: (Rush must be approved by the Project Manager.)

Normal _____ **Rush** X (Subject to rush surcharge)

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances)

Nonhazard _____ **Flammable** _____ **Skin Irritant** _____ **Highly Toxic** _____ **Other** _____ **(Please Specify)**

SAMPLE DISPOSAL: (Please indicate disposition of sample following analysis. Lab will charge for packing, shipping, and disposal.)

Return to Client _____ **Disposal by Lab** _____

FOR LAB USE ONLY

Received By _____ **Date/Time** _____

WHITE - O[illegible]al, to accompany samples
YELLOW - [illegible] copy

INTERNATIONAL TECHNOLOGY CORPORATION

CHAIN-OF-CUSTODY RECORD

R/A Control No. B7-1204

C/C Control No. 159612

PROJECT NAME/NUMBER FMC / 1424168

LAB DESTINATION Cerritos

SAMPLE TEAM MEMBERS Sherri Williams

CARRIER/WAYBILL NO. 0493763851

Sample Number	Sample Location and Description	Date and Time Collected	Sample Type	Container Type	Condition on Receipt (Name and Date)	Disposal Record No.
1 5831115	Location 1 Air	7/8-91	Air			
2 5831116	2					
3 5831117	3					
4 5831118	4					
5 5831119	5					

COPY

Special Instructions:

Possible Sample Hazards: Mercury, Copper

SIGNATURES: (Name, Company, Date and Time)

1. Relinquished By: Sherri Williams, ITCorp., 7-19, 1991, 1280 Relinquished By:

Received By: Received by:

2. Relinquished By: 4. Relinquished By:

Received By: Received By:

WHITE - To accompany samples
YELLOW - Field copy

INTERNATIONAL TECHNOLOGY CORPORATION

ANALYTICAL SERVICES

CERTIFICATE OF ANALYSIS

Date: 07/25/91

IT CORPORATION C/O FMC
8787 ENTERPRISE DR.
NEWARK, CA 94560
SHERRI WILLIAMS

Work Order: C1-07-139 Project/P.O.#: 142468
FMC

This is the Certificate of Analysis for the following samples:
Client Work ID: FMC/ 142468
Date Received: 07/23/91 142468
Number of Samples: 7
Sample Type: HI-VOLS

Samples were labeled as follows:

SAMPLE IDENTIFICATION	LABORATORY #
1,5831120	C1-07-139-01
2,5831121	C1-07-139-02
3,5831122	C1-07-139-03
4,5831123	C1-07-139-04
5,5831124	C1-07-139-05
BLANK SPIKE	C1-07-139-06
METHOD BLANK	C1-07-139-07

Reviewed and Approved:

Tracy Sidwell

Tracy Sidwell
Project Manager

Company: IT CORPORATION
Date: 07/25/91
Client Work ID: FMC/ 142468 142468

IT ANALYTICAL SERVICES
CERRITOS, CA

Work Order: C1-07-139

	567	465	478	
CLIENT SAMPLE ID	1,5831120	2,5831121	3,5831122	
LAB SAMPLE ID	C1-07-139-01	C1-07-139-02	C1-07-139-03	
SAMPLED	07/19/91	07/19/91	07/19/91	
TEST				UNITS
HI:VOL NUISANCE DUST	47200	21700	14300	UG
	[100]	[100]	[100]	
	07/23/91	07/23/91	07/23/91	
MERCURY	0.07	0.08	ND	UG
	[0.07]	[0.07]	[0.07]	
	07/24/91	07/24/91	07/24/91	
COPPER	20	72	ND	UG
	[3]	[3]	[3]	
	07/24/91	07/24/91	07/24/91	

ND indicates the parameter was not detected.
Detection limits are specified in [].
NC indicates the parameter was not calculated.

Company: IT CORPORATION
Date: 07/25/91
Client Work ID: FMC/ 142468 142468

IT ANALYTICAL SERVICES
CERRITOS, CA

Work Order: C1-07-139

CLIENT SAMPLE ID	554 4,5831123	541 5,5831124	BLANK SPIKE	
LAB SAMPLE ID	C1-07-139-04	C1-07-139-05	C1-07-139-06	
SAMPLED	07/19/91	07/19/91		
TEST				UNITS
HI:VOL NUISANCE DUST	12100	800		UG
	[100]	[100]		
	07/23/91	07/23/91		
MERCURY	ND	ND	91	
	[0.07]	[0.07]	[--]	
	07/24/91	07/24/91	07/24/91	
	UG	UG	%REC	
COPPER	ND	ND	99	
	[3]	[3]	[--]	
	07/24/91	07/24/91	07/24/91	
	UG	UG	%REC	

ND indicates the parameter was not detected.
Detection limits are specified in [].
NC indicates the parameter was not calculated.

Company: IT CORPORATION
Date: 07/25/91
Client Work ID: FMC/ 142468

IT ANALYTICAL SERVICES
CERRITOS, CA

142468

Work Order: C1-07-139

CLIENT SAMPLE ID	METHOD BLANK	
LAB SAMPLE ID	C1-07-139-07	
SAMPLED		
TEST		UNITS
MERCURY	ND [0.07] 07/24/91	UG
COPPER	ND [3] 07/24/91	UG

ND indicates the parameter was not detected.
Detection limits are specified in [].
NC indicates the parameter was not calculated.

Company: IT CORPORATION
Date: 07/25/91
Client Work ID: FMC/ 142468 142468

IT ANALYTICAL SERVICES
CERRITOS, CA

Work Order: C1-07-139

TEST NAME **COPPER** TEST CODE **CU_ICP**

Copper was analyzed by inductively coupled argon plasma (ICP) spectroscopy according to USEPA method 6010.

TEST NAME **MERCURY** TEST CODE **HG_AA**

The sample was prepared and analyzed for mercury by cold-vapor atomic absorption (CVAA) spectroscopy according to USEPA method 7471 (solids) or method 7470 (liquids).

TEST NAME **HI:VOL NUISANCE DUST** TEST CODE **HI_VOL**

The filters are weighed after allowing to stablize at room conditions for one hour. The relative humidity and temperature are recorded at the time of weighing. The difference in weight is reported in micrograms.

INTERNATIONAL TECHNOLOGY CORPORATION

REQUEST FOR ANALYSIS

R/A Control No. B 8063
C/C Control No. 159644

PROJECT NAME: FMC
PROJECT NUMBER: 142468
PROJECT MANAGER: Gene Lovett
BILL TO: 4585 Pacheco Blvd, Martinez, CA

PURCHASE ORDER NO.: 7221

DATE SAMPLES SHIPPED: 7-22-91
LAB DESTINATION: Cerritos
LABORATORY CONTACT: Tracy Sidwell
SEND LAB REPORT TO: IT Corp c/o FMC, 8891 Enterprise, Newark, CA

DATE REPORT REQUIRED:
PROJECT CONTACT: Sherri Williams
PROJECT CONTACT PHONE NO.: 415-795-4359

Sample No.	Sample Type	Sample Volume	Preservative	Requested Testing Program	Special Instructions
1 5831120	Air	567		Mercury EPA 7471	
2 5831121	↓	465		Copper EPA 6010	
3 5831122		478		Particulate	
4 5831123		554		Perform tests on	
5 5831124		541		all samples	

COPY

TURNAROUND TIME REQUIRED: (Rush must be approved by the Project Manager.)

Normal _____ Rush X (Subject to rush surcharge)

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances)

Nonhazard _____ Flammable _____ Skin Irritant _____ Highly Toxic _____ Other _____ (Please Specify)

SAMPLE DISPOSAL: (Please indicate disposition of sample following analysis. Lab will charge for packing, shipping, and disposal.)

Return to Client _____ Disposal by Lab _____

FOR LAB USE ONLY

Received By _____ Date/Time _____

WHITE - Original, to accompany samples
YELLOW - Field copy

INTERNATIONAL TECHNOLOGY CORPORATION

CHAIN-OF-CUSTODY RECORD

R/A Control No. B-78063

C/C Control No. 159644

PROJECT NAME/NUMBER FMC/142468

LAB DESTINATION Cerritos

SAMPLE TEAM MEMBERS Sherri Williams

CARRIER/WAYBILL NO. 0493703862

Sample Number	Sample Location and Description	Date and Time Collected	Sample Type	Container Type	Condition on Receipt (Name and Date)	Disposal Record No.
1 5831120	Location 1 Air	7-19-91 0635	Air			
2 5831121	2	0820				
3 5831122	3	0805				
4 5831123	4	0650				
5 5831124	5	0700				

COPY

Special Instructions:

Possible Sample Hazards: Mercury, Copper

SIGNATURES: (Name, Company, Date and Time)

1. Relinquished By: B. Williams, IT Corp, 7-22-91, 1400
   Received By:
2. Relinquished By:
   Received By:
3. Relinquished By:
   Received by:
4. Relinquished By:
   Received By:

WHITE - To accompany samples
YELLOW - Field copy

INTERNATIONAL TECHNOLOGY CORPORATION

ANALYTICAL SERVICES

CERTIFICATE OF ANALYSIS

Date: 07/26/91

IT CORPORATION C/O FMC
8787 ENTERPRISE DR.
NEWARK, CA 94560
SHERRI WILLIAMS

Work Order: C1-07-151 Project/P.O.#: 142468
FMC

This is the Certificate of Analysis for the following samples:
Client Work ID: FMC/ 142468
Date Received: 07/24/91 142468
Number of Samples: 7
Sample Type: HI-VOLS

Samples were labeled as follows:

SAMPLE IDENTIFICATION	LABORATORY #
1,5833823	C1-07-151-01
2,5833824	C1-07-151-02
3,5833825	C1-07-151-03
4,5833826	C1-07-151-04
5,5833827	C1-07-151-05
BLANK SPIKE	C1-07-151-06
METHOD BLANK	C1-07-151-07

Reviewed and Approved:

Tracy Sidwell

Tracy Sidwell
Project Manager

Company: IT CORPORATION
Date: 07/26/91
Client Work ID: FMC/ 142468 142468

IT ANALYTICAL SERVICES
CERRITOS, CA

Work Order: C1-07-151

CLIENT SAMPLE ID	1,5833823 (1335)	2,5833824 (1320)	3,5833825 (1310)	
LAB SAMPLE ID	C1-07-151-01	C1-07-151-02	C1-07-151-03	
SAMPLED	07/22/91	07/22/91	07/22/91	
TEST				UNITS
HI:VOL NUISANCE DUST	45400	86900	59400*	UG
	[100]	[100]	[100]	
	07/24/91	07/24/91	07/24/91	
MERCURY	0.08	ND	ND	UG
	[0.07]	[0.07]	[0.07]	
	07/25/91	07/25/91	07/25/91	
COPPER	50	160	50	UG
	[3]	[3]	[3]	
	07/24/91	07/24/91	07/24/91	

ND indicates the parameter was not detected.
Detection limits are specified in [].
NC indicates the parameter was not calculated.

Company: IT CORPORATION
Date: 07/26/91
Client Work ID: FMC/ 142468 142468

IT ANALYTICAL SERVICES
CERRITOS, CA

Work Order: C1-07-151

CLIENT SAMPLE ID	1275 4,5833826	1220 5,5833827	BLANK SPIKE	
LAB SAMPLE ID	C1-07-151-04	C1-07-151-05	C1-07-151-06	
SAMPLED	07/22/91	07/22/91		
TEST				UNITS
HI:VOL NUISANCE DUST	89500	45300		UG
	[100]	[100]		
	07/24/91	07/24/91		
MERCURY	0.08	ND	99	
	[0.07]	[0.07]	[--]	
	07/25/91	07/25/91	07/25/91	
	UG	UG	%REC	
COPPER	17	8	96	
	[3]	[3]	[--]	
	07/24/91	07/24/91	07/24/91	
	UG	UG	%REC	

ND indicates the parameter was not detected.
Detection limits are specified in [].
NC indicates the parameter was not calculated.

Company: IT CORPORATION
Date: 07/26/91
Client Work ID: FMC/ 142468

IT ANALYTICAL SERVICES
CERRITOS, CA

142468

Work Order: C1-07-151

CLIENT SAMPLE ID	METHOD BLANK	
LAB SAMPLE ID	C1-07-151-07	
SAMPLED		
TEST		UNITS
MERCURY	ND [0.07] 07/25/91	UG
COPPER	ND [3] 07/24/91	UG

ND indicates the parameter was not detected.
Detection limits are specified in [].
NC indicates the parameter was not calculated.

Company: IT CORPORATION
Date: 07/26/91
Client Work ID: FMC/ 142468

IT ANALYTICAL SERVICES
CERRITOS, CA

142468

Work Order: C1-07-151

Nonconformance Summary

*- Sample 3,5833825 was received by the laboratory damaged (a piece of the filter was missing). The sample amount reported is therefore only an estimated amount. The sample was analyzed and reported as is.

Company: IT CORPORATION
Date: 07/26/91
Client Work ID: FMC/ 142468

IT ANALYTICAL SERVICES
CERRITOS, CA

142468

Work Order: C1-07-151

TEST NAME **COPPER** TEST CODE **CU_ICP**

Copper was analyzed by inductively coupled argon plasma (ICP) spectroscopy according to USEPA method 6010.

TEST NAME **MERCURY** TEST CODE **HG_AA**

The sample was prepared and analyzed for mercury by cold-vapor atomic absorption (CVAA) spectroscopy according to USEPA method 7471 (solids) or method 7470 (liquids).

TEST NAME **HI:VOL NUISANCE DUST** TEST CODE **HI_VOL**

The filters are weighed after allowing to stablize at room conditions for one hour. The relative humidity and temperature are recorded at the time of weighing. The difference in weight is reported in micrograms.

INTERNATIONAL TECHNOLOGY CORPORATION

REQUEST FOR ANALYSIS

R/A Control No. B 3066
C/C Control No. 159645

PROJECT NAME: FMC
PROJECT NUMBER: 142468
PROJECT MANAGER: Gene Lovett
BILL TO: IT Corp Pacheco
4585 Pacheco Blvd
Martinez CA
PURCHASE ORDER NO. 2221

DATE SAMPLES SHIPPED: 7-23-91
LAB DESTINATION: Cerritos
LABORATORY CONTACT: Tracy Sidwell
SEND LAB REPORT TO: IT Corp C/O FMC
8891 Enterprise
Newark, CA
DATE REPORT REQUIRED:
PROJECT CONTACT: Sherri Williams
PROJECT CONTACT PHONE NO. 415-795-4359

Sample No.	Sample Type	Sample Volume M3	Preservative	Requested Testing Program	Special Instructions
1 5833823	Air	1624		Mercury EPA 7471	
2 5833824	↓	1733		Copper EPA 6010	
3 5833825		1726		Particulate	
4 5833826		1560		Perform tests on	
5 5833827		1573		all samples	

COPY

TURNAROUND TIME REQUIRED: (Rush must be approved by the Project Manager.)

Normal _____ Rush X (Subject to rush surcharge)

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances)

Nonhazard _____ Flammable _____ Skin Irritant _____ Highly Toxic _____ Other _____ (Please Specify)

SAMPLE DISPOSAL: (Please indicate disposition of sample following analysis. Lab will charge for packing, shipping, and disposal.)

Return to Client _____ Disposal by Lab _____

FOR LAB USE ONLY

Received By _____ Date/Time _____

WHITE - Original, to accompany samples
YELLOW - Field copy

INTERNATIONAL TECHNOLOGY CORPORATION

CHAIN-OF-CUSTODY RECORD

R/A Control No. B-780166

C/C Control No. 159645

PROJECT NAME/NUMBER FMC / 442468

LAB DESTINATION Cerritos

SAMPLE TEAM MEMBERS Sherri Williams

CARRIER/WAYBILL NO. 7881358295

Sample Number	Sample Location and Description	Date and Time Collected	Sample Type	Container Type	Condition on Receipt (Name and Date)	Disposal Record No.
1 5833823	Location 1 Air	7-22-91 1235	Air			
2 5833824	2	1320				
3 5833825	3	1310				
4 5833826	4	1225				
5 5833827	5	1220				

COPY

Special Instructions:

Possible Sample Hazards: Mercury, Copper

SIGNATURES: (Name, Company, Date and Time)

1. Relinquished By: Si Williams, IT Corp, 7-23-91 1330
   Received By:
2. Relinquished By:
   Received By:
3. Relinquished By:
   Received by:
4. Relinquished By:
   Received By:

WHITE - To accompany samples
YELLOW - File copy

INTERNATIONAL TECHNOLOGY CORPORATION

ANALYTICAL SERVICES

CERTIFICATE OF ANALYSIS

Date: 07/29/91

IT CORPORATION C/O FMC
8787 ENTERPRISE DR.
NEWARK, CA 94560
SHERRI WILLIAMS

Work Order: C1-07-165 Project/P.O.#: 142468
FMC

This is the Certificate of Analysis for the following samples:
Client Work ID: FMC/ 142468
Date Received: 07/25/91 142468
Number of Samples: 7
Sample Type: HI-VOLS

Samples were labeled as follows:

SAMPLE IDENTIFICATION	LABORATORY #
1,5833828	C1-07-165-01
2,5833829	C1-07-165-02
3,5833830	C1-07-165-03
4,5833831	C1-07-165-04
5,5833832	C1-07-165-05
BLANK SPIKE	C1-07-165-06
METHOD BLANK	C1-07-165-07

Reviewed and Approved:
Tracy Sidwell
Tracy Sidwell
Project Manager

Company: IT CORPORATION
Date: 07/29/91
Client Work ID: FMC/ 142468 142468

IT ANALYTICAL SERVICES
CERRITOS, CA

Work Order: C1-07-165

	1675	1560	1573	
CLIENT SAMPLE ID	1,5833828	2,5833829	3,5833830	
LAB SAMPLE ID	C1-07-165-01	C1-07-165-02	C1-07-165-03	
SAMPLED	07/23/91	07/23/91	07/23/91	
TEST				UNITS
HI:VOL NUISANC E DUST	31500	56100	27800	UG
	[100]	[100]	[100]	
	07/25/91	07/25/91	07/25/91	
MERCURY	ND	ND	ND	UG
	[0.07]	[0.07]	[0.07]	
	07/27/91	07/27/91	07/27/91	
COPPER	42	120	33	UG
	[3]	[3]	[3]	
	07/25/91	07/25/91	07/25/91	

ND indicates the parameter was not detected.
Detection limits are specified in [].
NC indicates the parameter was not calculated.

IT ANALYTICAL SERVICES
CERRITOS, CA

Company: IT CORPORATION
Date: 07/29/91
Client Work ID: FMC/ 142468 142468 Work Order: C1-07-165

	1673	1682		
CLIENT SAMPLE ID	4,5833831	5,5833832	BLANK SPIKE	
LAB SAMPLE ID	C1-07-165-04	C1-07-165-05	C1-07-165-06	
SAMPLED	07/23/91	07/23/91		
TEST				UNITS
HI:VOL NUISANCE DUST	27700	25600		UG
	[100]	[100]		
	07/25/91	07/25/91		
MERCURY	ND	0.08	105	
	[0.07]	[0.07]	[--]	
	07/27/91	07/27/91	07/27/91	
	UG	UG	%REC	
COPPER	10	6	100	
	[3]	[3]	[--]	
	07/25/91	07/25/91	07/25/91	
	UG	UG	%REC	

ND indicates the parameter was not detected.
Detection limits are specified in [].
NC indicates the parameter was not calculated.

Company: IT CORPORATION
Date: 07/29/91
Client Work ID: FMC/ 142468 142468

IT ANALYTICAL SERVICES
CERRITOS, CA

Work Order: C1-07-165

CLIENT SAMPLE ID	METHOD BLANK	
LAB SAMPLE ID	C1-07-165-07	
SAMPLED		
TEST		UNITS
MERCURY	ND [0.07] 07/27/91	UG
COPPER	ND [3] 07/25/91	UG

ND indicates the parameter was not detected.
Detection limits are specified in [].
NC indicates the parameter was not calculated.

Company: IT CORPORATION
Date: 07/29/91
Client Work ID: FMC/ 142468 142468

IT ANALYTICAL SERVICES
CERRITOS, CA

Work Order: C1-07-165

TEST NAME **COPPER** TEST CODE **CU_ICP**

Copper was analyzed by inductively coupled argon plasma (ICP) spectroscopy according to USEPA method 6010.

TEST NAME **MERCURY** TEST CODE **HG_AA**

The sample was prepared and analyzed for mercury by cold-vapor atomic absorption (CVAA) spectroscopy according to USEPA method 7471 (solids) or method 7470 (liquids).

TEST NAME **HI:VOL NUISANCE DUST** TEST CODE **HI_VOL**

The filters are weighed after allowing to stablize at room conditions for one hour. The relative humidity and temperature are recorded at the time of weighing. The difference in weight is reported in micrograms.

INTERNATIONAL TECHNOLOGY CORPORATION

REQUEST FOR ANALYSIS

R/A Control No. B 78068
C/C Control No. 159639

PROJECT NAME	FMC	DATE SAMPLES SHIPPED	7-24-91
PROJECT NUMBER	142468	LAB DESTINATION	Cerritos
PROJECT MANAGER	Gene Lovett	LABORATORY CONTACT	Tracy Sidwell
BILL TO	IT Corp	SEND LAB REPORT TO	IT Corp c/o FMC
	4585 Pacheco Blvd		8891 Enterprise Drive
	Martinez, CA		Newark, CA
PURCHASE ORDER NO.	2221	DATE REPORT REQUIRED	
		PROJECT CONTACT	Sherri Williams
		PROJECT CONTACT PHONE NO.	415-795-4359

Sample No.	Sample Type	Sample Volume M^3	Preservative	Requested Testing Program	Special Instructions
15833828	AIR	1675		Mercury EPA 7471	
25833829	↓	1580		Copper EPA 6010	
35833830		1573		Particulate	
45833831		1673		Perform tests on all	
55833832		1682		all samples	

COPY

TURNAROUND TIME REQUIRED: (Rush must be approved by the Project Manager.)

Normal _____ **Rush** X (Subject to rush surcharge)

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances)

Nonhazard _____ **Flammable** _____ **Skin Irritant** _____ **Highly Toxic** _____ **Other** _____ **(Please Specify)**

SAMPLE DISPOSAL: (Please indicate disposition of sample following analysis. Lab will charge for packing, shipping, and disposal.)

Return to Client _____ **Disposal by Lab** _____

FOR LAB USE ONLY

Received By _____ **Date/Time** _____

WHITE - Or[illegible], to accompany samples
YELLOW - [illegible] copy

INTERNATIONAL TECHNOLOGY CORPORATION

CHAIN-OF-CUSTODY RECORD

R/A Control No. B 15068

C/C Control No. 159639

PROJECT NAME/NUMBER FMC/142468

LAB DESTINATION Cerritos

SAMPLE TEAM MEMBERS Linda Weaver / Sherri Williams

CARRIER/WAYBILL NO. 7881358306

Sample Number	Sample Location and Description	Date and Time Collected	Sample Type	Container Type	Condition on Receipt (Name and Date)	Disposal Record No.
1 5833828	Location 1 AIR	7-23-91 0955	AIR			
2 5833829	Location 2	7-23-91 1205				
3 5833830	3	7-23-91 1150				
4 5833831	4	7-23-91 0920				
5 583332	5	7-23-91 0915				

COPY

Special Instructions:

Possible Sample Hazards: Mercury, Copper

SIGNATURES: (Name, Company, Date and Time)

1. Relinquished By: Linda Weaver, IT Corp. Linda Weaver IT Corp

Received By:

2. Relinquished By:

Received By:

3. Relinquished By:

Received by:

4. Relinquished By:

Received By:

WHITE - To accompany samples
YELLOW - Field copy

INTERNATIONAL TECHNOLOGY CORPORATION

ANALYTICAL SERVICES

CERTIFICATE OF ANALYSIS

Date: 07/30/91

IT CORPORATION C/O FMC
8787 ENTERPRISE DR.
NEWARK, CA 94560
SHERRI WILLIAMS

Work Order: C1-07-182 Project/P.O.#: 142468
FMC

This is the Certificate of Analysis for the following samples:
Client Work ID: FMC/ 142468
Date Received: 07/26/91 142468
Number of Samples: 7
Sample Type: HI-VOLS

Samples were labeled as follows:

SAMPLE IDENTIFICATION	LABORATORY #
1,5833833	C1-07-182-01
2,5833834	C1-07-182-02
3,5833835	C1-07-182-03
4,5833836	C1-07-182-04
5,5833837	C1-07-182-05
BLANK SPIKE	C1-07-182-06
METHOD BLANK	C1-07-182-07

Reviewed and Approved:
Tracy Sidwell
Tracy Sidwell
Project Manager

Company: IT CORPORATION
Date: 07/30/91
Client Work ID: FMC/ 142468 142468

IT ANALYTICAL SERVICES
CERRITOS, CA

Work Order: C1-07-182

	1791	1778	1784	
CLIENT SAMPLE ID	1,5833833	2,5833834	3,5833835	
LAB SAMPLE ID	C1-07-182-01	C1-07-182-02	C1-07-182-03	
SAMPLED	07/24/91	07/24/91	07/24/91	
TEST				UNITS
HI:VOL NUISANCE DUST	36100	77000	58200	UG
	[100]	[100]	[100]	
	07/26/91	07/26/91	07/26/91	
MERCURY	0.09	0.12	0.07	UG
	[0.07]	[0.07]	[0.07]	
	07/27/91	07/27/91	07/27/91	
COPPER	31	190	43	UG
	[3]	[3]	[3]	
	07/26/91	07/26/91	07/26/91	

ND indicates the parameter was not detected.
Detection limits are specified in [].
NC indicates the parameter was not calculated.

Company: IT CORPORATION
Date: 07/30/91
Client Work ID: FMC/ 142468 142468 Work Order: C1-07-182

IT ANALYTICAL SERVICES
CERRITOS, CA

CLIENT SAMPLE ID	1810 4,5833836	BLANK SPIKE	METHOD BLANK	
LAB SAMPLE ID	C1-07-182-04	C1-07-182-06	C1-07-182-07	
SAMPLED	07/24/91			
TEST				UNITS
HI:VOL NUISANCE DUST	82700			UG
	[100]			
	07/26/91			
MERCURY	0.11	92	ND	
	[0.07]	[--]	[0.07]	
	07/27/91	07/27/91	07/27/91	
	UG	%REC	UG	
COPPER	25	95	ND	
	[3]	[--]	[3]	
	07/26/91	07/26/91	07/26/91	
	UG	%REC	UG	

ND indicates the parameter was not detected.
Detection limits are specified in [].
NC indicates the parameter was not calculated.

Company: IT CORPORATION
Date: 07/30/91
Client Work ID: FMC/ 142468

IT ANALYTICAL SERVICES
CERRITOS, CA

142468

Work Order: C1-07-182

TEST NAME **COPPER** TEST CODE **CU_ICP**

Copper was analyzed by inductively coupled argon plasma (ICP) spectroscopy according to USEPA method 6010.

TEST NAME **MERCURY** TEST CODE **HG_AA**

The sample was prepared and analyzed for mercury by cold-vapor atomic absorption (CVAA) spectroscopy according to USEPA method 7471 (solids) or method 7470 (liquids).

TEST NAME **HI:VOL NUISANCE DUST** TEST CODE **HI_VOL**

The filters are weighed after allowing to stablize at room conditions for one hour. The relative humidity and temperature are recorded at the time of weighing. The difference in weight is reported in micrograms.

INTERNATIONAL TECHNOLOGY CORPORATION

REQUEST FOR ANALYSIS

R/A Control No. B 78046
C/C Control No. 159646

PROJECT NAME: FMC
PROJECT NUMBER: 142468
PROJECT MANAGER: Gene Lovett
BILL TO: IT Corp
4585 Pacheco Blvd
Martinez, CA
PURCHASE ORDER NO. 2221

DATE SAMPLES SHIPPED: 7-25-91
LAB DESTINATION: Cerritos
LABORATORY CONTACT: Tracy Sidwell
SEND LAB REPORT TO: IT Corp c/o FMC
8891 Enterprise Drive
Newark, CA
DATE REPORT REQUIRED:
PROJECT CONTACT: Sherri Williams
PROJECT CONTACT PHONE NO. 415-795-4359

Sample No.	Sample Type	Sample Volume M^3	Preservative	Requested Testing Program	Special Instructions
1 5833833	AIR			Mercury EPA 7471	
2 5833834				Copper EPA 6010	
3 5833835				Particulate	
4 5833836				*Perform tests on all	
5				samples	

COPY

TURNAROUND TIME REQUIRED: (Rush must be approved by the Project Manager.)

Normal _____ **Rush** X (Subject to rush surcharge)

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances)

Nonhazard _____ **Flammable** _____ **Skin irritant** _____ **Highly Toxic** _____ **Other** _____ **(Please Specify)**

SAMPLE DISPOSAL: (Please indicate disposition of sample following analysis. Lab will charge for packing, shipping, and disposal.)

Return to Client _____ **Disposal by Lab** _____

FOR LAB USE ONLY

Received By _____ **Date/Time** _____

WHITE - O al, to accompany samples
YELLOW - copy

INTERNATIONAL TECHNOLOGY CORPORATION

CHAIN-OF-CUSTODY RECORD

R/A Control No. B-, 16

C/C Control No. 159646

PROJECT NAME/NUMBER FMC

LAB DESTINATION Cerritos

SAMPLE TEAM MEMBERS Linda Weaver

CARRIER/WAYBILL NO. 7881358376

Sample Number	Sample Location and Description	Date and Time Collected	Sample Type	Container Type	Condition on Receipt (Name and Date)	Disposal Record No.
15833833	Location 1 AIR		AIR			
25833834	2					
35833835	3					
45833836	4					
5	5					

COPY

Special Instructions:

Possible Sample Hazards: Mercury, Copper

SIGNATURES: (Name, Company, Date and Time)

1. Relinquished By: Linda Weaver, IT Corp.
   Received By: Linda Weaver IT Corp 7-25-91

2. Relinquished By:
   Received By:

3. Relinquished By:
   Received by:

4. Relinquished By:
   Received By:

WHITE - To accompany samples
YELLOW - Field copy

INTERNATIONAL TECHNOLOGY CORPORATION

ANALYTICAL SERVICES

CERTIFICATE OF ANALYSIS

Date: 07/30/91

IT CORPORATION C/O FMC
8787 ENTERPRISE DR.
NEWARK, CA 94560
SHERRI WILLIAMS

Work Order: C1-07-200 Project/P.O.#: 142468
FMC

This is the Certificate of Analysis for the following samples:
Client Work ID: FMC/ 142468
Date Received: 07/29/91 142468
Number of Samples: 7
Sample Type: HI-VOLS

Samples were labeled as follows:

SAMPLE IDENTIFICATION	LABORATORY #
1,5833838	C1-07-200-01
2,5833839	C1-07-200-02
3,5833840	C1-07-200-03
4,5833841	C1-07-200-04
5,5833842	C1-07-200-05
BLANK SPIKE	C1-07-200-06
METHOD BLANK	C1-07-200-07

Reviewed and Approved:

Tracy Sidwell

Tracy Sidwell
Project Manager

Company: IT CORPORATION
Date: 07/30/91
Client Work ID: FMC/ 142468 142468

IT ANALYTICAL SERVICES
CERRITOS, CA

Work Order: C1-07-200

CLIENT SAMPLE ID	1,5833838 (1504)	2,5833839 (1506)	3,5833840 (1781)	
LAB SAMPLE ID	C1-07-200-01	C1-07-200-02	C1-07-200-03	
SAMPLED	07/25/91	07/25/91	07/25/91	
TEST				UNITS
HI:VOL NUISANCE DUST	118000	110000	97400	UG
	[100]	[100]	[100]	
	07/29/91	07/29/91	07/29/91	
MERCURY	0.09	0.09	0.12	UG
	[0.07]	[0.07]	[0.07]	
	07/30/91	07/30/91	07/30/91	
COPPER	48	170	27	UG
	[3]	[3]	[3]	
	07/29/91	07/29/91	07/29/91	

ND indicates the parameter was not detected.
Detection limits are specified in [].
NC indicates the parameter was not calculated.

Company: IT CORPORATION
Date: 07/30/91
Client Work ID: FMC/ 142468 142468

IT ANALYTICAL SERVICES
CERRITOS, CA

Work Order: C1-07-200

CLIENT SAMPLE ID	4,5833841 (1073)	5,5833842 (1085)	BLANK SPIKE	
LAB SAMPLE ID	C1-07-200-04	C1-07-200-05	C1-07-200-06	
SAMPLED	07/25/91	07/25/91		
TEST				UNITS
HI:VOL NUISANCE DUST	85500	66000		UG
	[100]	[100]		
	07/29/91	07/29/91		
MERCURY	0.10	0.07	88	
	[0.07]	[0.07]	[--]	
	07/30/91	07/30/91	07/30/91	
	UG	UG	%REC	
COPPER	13	5	95	
	[3]	[3]	[--]	
	07/29/91	07/29/91	07/29/91	
	UG	UG	%REC	

ND indicates the parameter was not detected.
Detection limits are specified in [].
NC indicates the parameter was not calculated.

Company: IT CORPORATION
Date: 07/30/91
Client Work ID: FMC/ 142468 142468

IT ANALYTICAL SERVICES
CERRITOS, CA

Work Order: C1-07-200

CLIENT SAMPLE ID	METHOD BLANK	
LAB SAMPLE ID	C1-07-200-07	
SAMPLED		
TEST		UNITS
MERCURY	ND [0.07] 07/30/91	UG
COPPER	ND [3] 07/29/91	UG

ND indicates the parameter was not detected.
Detection limits are specified in [].
NC indicates the parameter was not calculated.

Company: IT CORPORATION
Date: 07/30/91
Client Work ID: FMC/ 142468 142468

IT ANALYTICAL SERVICES
CERRITOS, CA

Work Order: C1-07-200

TEST NAME **COPPER** TEST CODE **CU_ICP**

Copper was analyzed by inductively coupled argon plasma (ICP) spectroscopy according to USEPA method 6010.

TEST NAME **MERCURY** TEST CODE **HG_AA**

The sample was prepared and analyzed for mercury by cold-vapor atomic absorption (CVAA) spectroscopy according to USEPA method 7471 (solids) or method 7470 (liquids).

TEST NAME **HI:VOL NUISANCE DUST** TEST CODE **HI_VOL**

The filters are weighed after allowing to stablize at room conditions for one hour. The relative humidity and temperature are recorded at the time of weighing. The difference in weight is reported in micrograms.

INTERNATIONAL TECHNOLOGY CORPORATION

REQUEST FOR ANALYSIS

R/A Control No. B 3044
C/C Control No. 159647

PROJECT NAME	FMC	DATE SAMPLES SHIPPED	7-26-91
PROJECT NUMBER	142468	LAB DESTINATION	Cerritos
PROJECT MANAGER	Gene Lovett	LABORATORY CONTACT	Tracy Sidwell
BILL TO	IT Corp	SEND LAB REPORT TO	IT Corp c/o FMC
	4585 Pacheco Blvd		8891 Enterprise Drive
	Martinez, CA		Newark, CA
PURCHASE ORDER NO.	2221	DATE REPORT REQUIRED	
		PROJECT CONTACT	Sherri Williams
		PROJECT CONTACT PHONE NO.	415-795-4359

Sample No.	Sample Type	Sample Volume M^3	Preservative	Requested Testing Program	Special Instructions
1 58338 38	AIR	1878		Mercury EPA 7471	
2 58338 39		1806		Copper EPA 6010	
3 58338 40		1781		Particulate	
4 58338 41		1873		*Perform tests on all	
5 58338 42		1885		samples	

COPY

TURNAROUND TIME REQUIRED: (Rush must be approved by the Project Manager.)

Normal _____ **Rush** X (Subject to rush surcharge)

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances)

Nonhazard _____ **Flammable** _____ **Skin Irritant** _____ **Highly Toxic** _____ **Other** _____ **(Please Specify)**

SAMPLE DISPOSAL: (Please indicate disposition of sample following analysis. Lab will charge for packing, shipping, and disposal.)

Return to Client _____ **Disposal by Lab** _____

FOR LAB USE ONLY

Received By _____ **Date/Time** _____

WHITE - Original, to accompany samples
YELLOW - Field copy

INTERNATIONAL TECHNOLOGY CORPORATION

CHAIN-OF-CUSTODY RECORD

R/A Control No. B-78044

C/C Control No. 159647

PROJECT NAME/NUMBER: FMC/142468

LAB DESTINATION: Cerritos

SAMPLE TEAM MEMBERS: Linda Weaver

CARRIER/WAYBILL NO.: 7881358310

Sample Number	Sample Location and Description	Date and Time Collected	Sample Type	Container Type	Condition on Receipt (Name and Date)	Disposal Record No.
1 5833838	Location 1 AIR	7-25-91 0743	AIR			
2 5833839	2	7-25-91 0807				
3 5833840	3	7-25-91 0817				
4 5833841	4	7-25-91 0735				
5 5833842	5	7-25-91 0725				

COPY

Special Instructions:

Possible Sample Hazards: Mercury, Copper

SIGNATURES: (Name, Company, Date and Time)

1. Relinquished By: Linda Weaver, IT Corp. Linda Weaver IT Corp 7-26 91

   Received By:

2. Relinquished By:

   Received By:

3. Relinquished By:

   Received by:

4. Relinquished By:

   Received By:

WHITE - To a[illegible]pany samples
YELLOW - Fi[illegible]y

INTERNATIONAL TECHNOLOGY CORPORATION

ANALYTICAL SERVICES

CERTIFICATE OF ANALYSIS

IT CORPORATION
4585 PACHECO BLVD
MARTINEZ CA 94553
GENE LOVETT

Date: 08/01/91

Work Order: C1-07-209

Project/P.O.#: 142468
FMC

This is the Certificate of Analysis for the following samples:
Client Work ID: FMC\ 142468
Date Received: 07/30/91 142468
Number of Samples: 7
Sample Type: HI-VOLS

Samples were labeled as follows:

SAMPLE IDENTIFICATION	LABORATORY #
1,5833843	C1-07-209-01
2,5833844	C1-07-209-02
3,5833845	C1-07-209-03
4,5833846	C1-07-209-04
5,5833848	C1-07-209-05
BLANK SPIKE	C1-07-209-06
METHOD BLANK	C1-07-209-07

Reviewed and Approved:

Tracy Sidwell

Tracy Sidwell
Project Manager

Company: IT CORPORATION
Date: 08/01/91
Client Work ID: FMC\ 142468 142468 Work Order: C1-07-209

IT ANALYTICAL SERVICES
CERRITOS, CA

CLIENT SAMPLE ID	331 1,5833843	BLANK SPIKE	METHOD BLANK	
LAB SAMPLE ID	C1-07-209-01	C1-07-209-06	C1-07-209-07	
SAMPLED	07/26/91			
TEST				UNITS
HI:VOL NUISANCE DUST	51300			UG
	[100]			
	07/30/91			
MERCURY	ND	99	ND	
	[0.07]	[--]	[0.07]	
	08/01/91	08/01/91	08/01/91	
	UG	%REC	UG	
COPPER	19	89	ND	
	[3]	[--]	[3]	
	07/30/91	07/30/91	07/30/91	
	UG	%REC	UG	

ND indicates the parameter was not detected.
Detection limits are specified in [].
NC indicates the parameter was not calculated.

Company: IT CORPORATION
Date: 08/01/91
Client Work ID: FMC\ 142468 142468

IT ANALYTICAL SERVICES
CERRITOS, CA

Work Order: C1-07-209

Additional Information

Samples 2,5833844, 3,5833845, 4,5833846 and 5,5833848 were cancelled as per the client's request on July 30, 1991.

Company: IT CORPORATION
Date: 08/01/91
Client Work ID: FMC\ 142468 142468

IT ANALYTICAL SERVICES
CERRITOS, CA

Work Order: C1-07-209

TEST NAME **COPPER** TEST CODE **CU_ICP**

Copper was analyzed by inductively coupled argon plasma (ICP) spectroscopy according to USEPA method 6010.

TEST NAME **MERCURY** TEST CODE **HG_AA**

The sample was prepared and analyzed for mercury by cold-vapor atomic absorption (CVAA) spectroscopy according to USEPA method 7471 (solids) or method 7470 (liquids).

TEST NAME **HI:VOL NUISANCE DUST** TEST CODE **HI_VOL**

The filters are weighed after allowing to stablize at room conditions for one hour. The relative humidity and temperature are recorded at the time of weighing. The difference in weight is reported in micrograms.

INTERNATIONAL TECHNOLOGY CORPORATION

REQUEST FOR ANALYSIS

R/A Control No. B 3069
C/C Control No. 159652

PROJECT NAME	FMC	DATE SAMPLES SHIPPED	7-28
PROJECT NUMBER	142468	LAB DESTINATION	Cerritos
PROJECT MANAGER	Gene Lovett	LABORATORY CONTACT	Tracy Sidwell
BILL TO	IT Corp	SEND LAB REPORT TO	IT Corp c/o FMC
	4585 Pacheco Blvd		8891 Enterprise Drive
	Martinez, CA		Newark, CA
PURCHASE ORDER NO.	2221	DATE REPORT REQUIRED	
		PROJECT CONTACT	Sherri Williams
		PROJECT CONTACT PHONE NO.	415-795-4359

Sample No.	Sample Type	Sample Volume M^3	Preservative	Requested Testing Program	Special Instructions
15833843	AIR	331		Mercury EPA 7471	
25833844		222		Copper EPA 6010	
35833845		318		Particulate	
45833846		329		*Perform tests on all	
55833848		331		samples	

COPY

TURNAROUND TIME REQUIRED: (Rush must be approved by the Project Manager.)

Normal _____ **Rush** X _____ (Subject to rush surcharge)

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances)

Nonhazard _____ **Flammable** _____ **Skin Irritant** _____ **Highly Toxic** _____ **Other** _____ **(Please Specify)**

SAMPLE DISPOSAL: (Please indicate disposition of sample following analysis. Lab will charge for packing, shipping, and disposal.)

Return to Client _____ **Disposal by Lab** _____

FOR LAB USE ONLY

Received By _____ **Date/Time** _____

WHITE - Original, to accompany samples
YELLOW - Field copy

INTERNATIONAL TECHNOLOGY CORPORATION

CHAIN-OF-CUSTODY RECORD

R/A Control No. B-78069

C/C Control No. 159652

PROJECT NAME/NUMBER FMC/ 142468

LAB DESTINATION Cerritos

SAMPLE TEAM MEMBERS Linda Weaver

CARRIER/WAYBILL NO. 7881358391

Sample Number	Sample Location and Description	Date and Time Collected	Sample Type	Container Type	Condition on Receipt (Name and Date)	Disposal Record No.
1 5833843	Location 1 AIR	7-26-91 0820	AIR			
2 5833844	2	7-26-91 0847				
3 5833845	3	7-26-91 0840				
4 5833846	4	7-26-91 0812				
5 5833848	5	7-26-91 0810				

COPY

Special Instructions:

Possible Sample Hazards: Mercury, Copper

SIGNATURES: (Name, Company, Date and Time)

1. Relinquished By: Linda Weaver, IT Corp. Linda Weaver IT Corp 7-29-91

   Received By:

2. Relinquished By:

   Received By:

3. Relinquished By:

   Received by:

4. Relinquished By:

   Received By:

WHITE - To a[illegible]mpany samples
YELLOW - F[illegible]py

INTERNATIONAL TECHNOLOGY CORPORATION

ANALYTICAL SERVICES

CERTIFICATE OF ANALYSIS

IT CORPORATION
4585 PACHECO BLVD
MARTINEZ CA 94553
GENE LOVETT

Date: 08/01/91

Work Order: C1-07-230

Project/P.O.#: 142468
FMC

This is the Certificate of Analysis for the following samples:
Client Work ID: FMC/ 142468
Date Received: 07/31/91 142468
Number of Samples: 3
Sample Type: HI-VOLS

Samples were labeled as follows:

SAMPLE IDENTIFICATION	LABORATORY #
1,5887356	C1-07-230-01
BLANK SPIKE	C1-07-230-02
METHOD BLANK	C1-07-230-03

Reviewed and Approved:

Tracy Sidwell
Project Manager

Company: IT CORPORATION
Date: 08/01/91
Client Work ID: FMC/ 142468 142468

IT ANALYTICAL SERVICES
CERRITOS, CA

Work Order: C1-07-230

CLIENT SAMPLE ID	1,5887356 (1824)	BLANK SPIKE	METHOD BLANK	
LAB SAMPLE ID	C1-07-230-01	C1-07-230-02	C1-07-230-03	
SAMPLED	07/30/91			
TEST				UNITS
HI:VOL NUISANCE DUST	55100			UG
	[100]			
	07/31/91			
MERCURY	0.10	87	ND	
	[0.07]	[--]	[0.07]	
	08/01/91	08/01/91	08/01/91	
	UG	%REC	UG	
COPPER	50	88	ND	
	[3]	[--]	[3]	
	07/31/91	07/31/91	07/31/91	
	UG	%REC	UG	

ND indicates the parameter was not detected.
Detection limits are specified in [].
NC indicates the parameter was not calculated.

Company: IT CORPORATION
Date: 08/01/91
Client Work ID: FMC/ 142468 142468

IT ANALYTICAL SERVICES
CERRITOS, CA

Work Order: C1-07-230

TEST NAME **COPPER** TEST CODE **CU_ICP**

Copper was analyzed by inductively coupled argon plasma (ICP) spectroscopy according to USEPA method 6010.

TEST NAME **MERCURY** TEST CODE **HG_AA**

The sample was prepared and analyzed for mercury by cold-vapor atomic absorption (CVAA) spectroscopy according to USEPA method 7471 (solids) or method 7470 (liquids).

TEST NAME **HI:VOL NUISANCE DUST** TEST CODE **HI_VOL**

The filters are weighed after allowing to stablize at room conditions for one hour. The relative humidity and temperature are recorded at the time of weighing. The difference in weight is reported in micrograms.

INTERNATIONAL TECHNOLOGY CORPORATION

REQUEST FOR ANALYSIS

R/A Control No. B 78049
C/C Control No. 171303

PROJECT NAME: FMC
PROJECT NUMBER: 142468
PROJECT MANAGER: Gene Lovett
BILL TO: ~~IT Corp~~
4585 Pacheco Blvd
Martinez, CA

PURCHASE ORDER NO.: 2221

DATE SAMPLES SHIPPED: 7-30-91
LAB DESTINATION: Cerritos
LABORATORY CONTACT: Tracy Sidwell
SEND LAB REPORT TO: ~~IT Corp~~
8891 Enterprise Dr
Newark, CA

DATE REPORT REQUIRED:
PROJECT CONTACT: Sherri Williams
PROJECT CONTACT PHONE NO.: 415-795-4359

Sample No.	Sample Type	Sample Volume M^3	Preservative	Requested Testing Program	Special Instructions
1 ~~58673~~	AIR	1828		Mercury EPA 7471	
2				Copper EPA 6010	
3				Particulate	
4				*Perform tests on all	
5				Samples	

COPY

TURNAROUND TIME REQUIRED: (Rush must be approved by the Project Manager.)

Normal _____ **Rush** X (Subject to rush surcharge)

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances)

Nonhazard _____ **Flammable** _____ **Skin Irritant** _____ **Highly Toxic** _____ **Other** _____ **(Please Specify)**

SAMPLE DISPOSAL: (Please indicate disposition of sample following analysis. Lab will charge for packing, shipping, and disposal.)

Return to Client _____ **Disposal by Lab** _____

FOR LAB USE ONLY

Received By _____ **Date/Time** _____

WHITE - O[illegible]l, to accompany samples
YELLOW - [illegible] copy

INTERNATIONAL TECHNOLOGY CORPORATION

CHAIN-OF-CUSTODY RECORD

R/A Control No. B-[illegible]49

C/C Control No. 171303

PROJECT NAME/NUMBER FMC/142468

LAB DESTINATION Cerritos

SAMPLE TEAM MEMBERS Linda C. Weaver / Sherri Williams

CARRIER/WAYBILL NO. 7881358365

Sample Number	Sample Location and Description	Date and Time Collected	Sample Type	Container Type	Condition on Receipt (Name and Date)	Disposal Record No.
15887356	Location 1 AIR	7-29-91, 0900	AIR			
[redacted]						
[redacted]						
[redacted]						
[redacted]						

COPY

Special Instructions:

Possible Sample Hazards: [redacted], Mercury, Copper

SIGNATURES: (Name, Company, Date and Time)

1. Relinquished By: Sherri Williams, ITCorp, 7-29-91, 1300

   Received By:

2. Relinquished By:

   Received By:

3. Relinquished By:

   Received by:

4. Relinquished By:

   Received By:

WHITE - To accompany samples
YELLOW - Field copy

INTERNATIONAL TECHNOLOGY CORPORATION

ANALYTICAL SERVICES

CERTIFICATE OF ANALYSIS

IT CORPORATION
4585 PACHECO BLVD
MARTINEZ CA 94553
GENE LOVETT

Date: 08/08/91

Work Order: C1-08-026

Project/P.O.#: 142468
FMC

This is the Certificate of Analysis for the following samples:
Client Work ID: FMC/ 142468
Date Received: 08/05/91 142468
Number of Samples: 3
Sample Type: HI-VOLS

Samples were labeled as follows:

SAMPLE IDENTIFICATION	LABORATORY #
1,5887350	C1-08-026-01
BLANK SPIKE	C1-08-026-02
METHOD BLANK	C1-08-026-03

Reviewed and Approved:

Tracy Sidwell

Tracy Sidwell
Project Manager

Company: IT CORPORATION
Date: 08/08/91
Client Work ID: FMC/ 142468 142468

IT ANALYTICAL SERVICES
CERRITOS, CA

Work Order: C1-08-026

1035

CLIENT SAMPLE ID	1,5887350	BLANK SPIKE	METHOD BLANK	
LAB SAMPLE ID	C1-08-026-01	C1-08-026-02	C1-08-026-03	
SAMPLED	08/01/91			
TEST				UNITS
HI:VOL NUISANCE DUST	50600			UG
	[100]			
	08/05/91			
MERCURY	0.25	85	ND	
	[0.07]	[--]	[0.07]	
	08/07/91	08/07/91	08/07/91	
	UG	%REC	UG	
COPPER	44	102	ND	
	[3]	[--]	[3]	
	08/05/91	08/05/91	08/05/91	
	UG	%REC	UG	

ND indicates the parameter was not detected.
Detection limits are specified in [].
NC indicates the parameter was not calculated.

Company: IT CORPORATION
Date: 08/08/91
Client Work ID: FMC/ 142468

IT ANALYTICAL SERVICES
CERRITOS, CA

142468

Work Order: C1-08-026

Nonconformance Summary

Sample 1,5887350 was received by the laboratory with the paperwork for sample 1,5887353. The client was notified and sample was analyzed and reported as 1,5887350.

Company: IT CORPORATION
Date: 08/08/91
Client Work ID: FMC/ 142468 142468

IT ANALYTICAL SERVICES
CERRITOS, CA

Work Order: C1-08-026

TEST NAME **COPPER** TEST CODE **CU_ICP**

Copper was analyzed by inductively coupled argon plasma (ICP) spectroscopy according to USEPA method 6010.

TEST NAME **MERCURY** TEST CODE **HG_AA**

The sample was prepared and analyzed for mercury by cold-vapor atomic absorption (CVAA) spectroscopy according to USEPA method 7471 (solids) or method 7470 (liquids).

TEST NAME **HI:VOL NUISANCE DUST** TEST CODE **HI_VOL**

The filters are weighed after allowing to stablize at room conditions for one hour. The relative humidity and temperature are recorded at the time of weighing. The difference in weight is reported in micrograms.

INTERNATIONAL TECHNOLOGY CORPORATION

REQUEST FOR ANALYSIS

R/A Control No. B 78070
C/C Control No. 159650

PROJECT NAME	FMC	DATE SAMPLES SHIPPED	8/2/91
PROJECT NUMBER	142468	LAB DESTINATION	Cerritos
PROJECT MANAGER	Gene Lovett	LABORATORY CONTACT	Tracy Sidwell
BILL TO	IT Corp	SEND LAB REPORT TO	IT Corp c/o FMC
	4585 Pacheco Blvd		8891 Enterprise Drive
	Martinez, CA		Newark, CA
PURCHASE ORDER NO.	2221	DATE REPORT REQUIRED	
		PROJECT CONTACT	Sherri Williams
		PROJECT CONTACT PHONE NO.	415-795-4359

Sample No.	Sample Type	Sample Volume M³	Preservative	Requested Testing Program	Special Instructions
15887350	AIR	1835		Mercury EPA 7471	
2				Copper EPA 6010	
3				Particulate	
4				*Perform tests on all	
5				samples	

COPY

TURNAROUND TIME REQUIRED: (Rush must be approved by the Project Manager.)

Normal _____ **Rush** X _____ (Subject to rush surcharge)

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances)

Nonhazard _____ **Flammable** _____ **Skin irritant** _____ **Highly Toxic** _____ **Other** _____ **(Please Specify)**

SAMPLE DISPOSAL: (Please indicate disposition of sample following analysis. Lab will charge for packing, shipping, and disposal.)

Return to Client _____ **Disposal by Lab** _____

FOR LAB USE ONLY

Received By _____ **Date/Time** _____

WHITE - C[illegible]nal, to accompany samples
YELLOW [illegible] copy

INTERNATIONAL TECHNOLOGY CORPORATION

CHAIN-OF-CUSTODY RECORD

R/A Control No. B-78070

C/C Control No. 159650

PROJECT NAME/NUMBER FMC/ 142468

LAB DESTINATION Cerritos

SAMPLE TEAM MEMBERS Linda Weaver

CARRIER/WAYBILL NO. 7881358~~3354~~ 58380

Sample Number	Sample Location and Description	Date and Time Collected	Sample Type	Container Type	Condition on Receipt (Name and Date)	Disposal Record No.
15887350	Location 1 AIR	0801-91 / 1145	AIR			
2	2					
3	3					
4	4					
5	5					

COPY

Special Instructions:

Possible Sample Hazards: Mercury, Copper

SIGNATURES: (Name, Company, Date and Time)

1. Relinquished By: Linda Weaver, IT Corp. Linda Weaver IT Corp 8-1-91
   Received By:

2. Relinquished By:
   Received By:

3. Relinquished By:
   Received by:

4. Relinquished By:
   Received By:

WHITE - To accompany samples
YELLOW - Field copy

INTERNATIONAL TECHNOLOGY CORPORATION

ANALYTICAL SERVICES

CERTIFICATE OF ANALYSIS

IT CORPORATION
4585 PACHECO BLVD
MARTINEZ CA 94553
GENE LOVETT

Date: 08/05/91

Work Order: C1-08-007

Project/P.O.#: 142468
FMC

This is the Certificate of Analysis for the following samples:
Client Work ID: FMC/ 142468
Date Received: 08/01/91
Number of Samples: 3
Sample Type: HI-VOLS

Samples were labeled as follows:

SAMPLE IDENTIFICATION	LABORATORY #
1,5887353	C1-08-007-01
BLANK SPIKE	C1-08-007-02
METHOD BLANK	C1-08-007-03

Reviewed and Approved:

Tracy Sidwell

Tracy Sidwell
Project Manager

Company: IT CORPORATION
Date: 08/05/91
Client Work ID: FMC/ 142468

IT ANALYTICAL SERVICES
CERRITOS, CA

Work Order: C1-08-007

CLIENT SAMPLE ID	1,5887353	BLANK SPIKE	METHOD BLANK	
LAB SAMPLE ID	C1-08-007-01	C1-08-007-02	C1-08-007-03	
SAMPLED	07/31/91			
TEST				UNITS
HI:VOL NUISANC E DUST	67500			UG
	[100]			
	08/01/91			
MERCURY	0.14	97	ND	
	[0.07]	[---]	[0.07]	
	08/02/91	08/02/91	08/02/91	
	UG	%REC	UG	
COPPER	66	96	ND	
	[3]		[3]	
	08/01/91	08/01/91	08/01/91	
	UG	%REC	UG	

ND indicates the parameter was not detected.
Detection limits are specified in [].
NC indicates the parameter was not calculated.

Company: IT CORPORATION
Date: 08/05/91
Client Work ID: FMC/ 142468

IT ANALYTICAL SERVICES
CERRITOS, CA

Work Order: C1-08-007

TEST NAME **COPPER** TEST CODE **CU_ICP**

Copper was analyzed by inductively coupled argon plasma (ICP) spectroscopy according to USEPA method 6010.

TEST NAME **MERCURY** TEST CODE **HG_AA**

The sample was prepared and analyzed for mercury by cold-vapor atomic absorption (CVAA) spectroscopy according to USEPA method 7471 (solids) or method 7470 (liquids).

TEST NAME **HI:VOL NUISANCE DUST** TEST CODE **HI_VOL**

The filters are weighed after allowing to stablize at room conditions for one hour. The relative humidity and temperature are recorded at the time of weighing. The difference in weight is reported in micrograms.

INTERNATIONAL TECHNOLOGY CORPORATION

REQUEST FOR ANALYSIS

R/A Control No. B 78071
C/C Control No. 159639

PROJECT NAME	FMC	DATE SAMPLES SHIPPED	7/31/91
PROJECT NUMBER	142468	LAB DESTINATION	Cerritos
PROJECT MANAGER	Gene Lovett	LABORATORY CONTACT	Tracy Sidwell
BILL TO	IT Corp	SEND LAB REPORT TO	IT Corp c/o FMC
	4585 Pacheco Blvd		8891 Enterprise Dr
	Martinez, CA		Newark, CA
PURCHASE ORDER NO.	2221	DATE REPORT REQUIRED	
		PROJECT CONTACT	Sherri Williams
		PROJECT CONTACT PHONE NO.	415-795-4359

Sample No.	Sample Type	Sample Volume M³	Preservative	Requested Testing Program	Special Instructions
1 5887353	AIR			Mercury EPA 7471	
2				Copper EPA 6010	
3				Particulate	
4				*Perform tests on all	
5				samples	

Note Discontinued Sample 23

Note, Discontinued Sample #2345

COPY

TURNAROUND TIME REQUIRED: (Rush must be approved by the Project Manager.)

Normal _____ **Rush** X (Subject to rush surcharge)

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances)

Nonhazard _____ **Flammable** _____ **Skin Irritant** _____ **Highly Toxic** _____ **Other** _____ **(Please Specify)**

SAMPLE DISPOSAL: (Please indicate disposition of sample following analysis. Lab will charge for packing, shipping, and disposal.)

Return to Client _____ **Disposal by Lab** _____

FOR LAB USE ONLY

Received By _____ **Date/Time** _____

WHITE - Original, to accompany samples
YELLOW - Field copy

INTERNATIONAL TECHNOLOGY CORPORATION

CHAIN-OF-CUSTODY RECORD

R/A Control No. B-78071

C/C Control No. 159649

PROJECT NAME/NUMBER FMC/142468

LAB DESTINATION Cerritos

SAMPLE TEAM MEMBERS Linda Weaver

CARRIER/WAYBILL NO. 7881358332

Sample Number	Sample Location and Description	Date and Time Collected	Sample Type	Container Type	Condition on Receipt (Name and Date)	Disposal Record No.
1588 7353	Location 1 AIR	7-30-91	AIR			
2	2					
3	3					
4	4					
5	5					
	Note: Discontinued sample #2,3,4,5					

COPY

Special Instructions:

Possible Sample Hazards: Mercury, Copper

SIGNATURES: (Name, Company, Date and Time)

1. Relinquished By: Linda Weaver, IT Corp
   Linda Weaver IT Corp 7-31-91
   Received By:

2. Relinquished By:
   Received By:

3. Relinquished By:
   Received by:

4. Relinquished By:
   Received By:

WHITE - To accompany samples
YELLOW - Field copy

INTERNATIONAL TECHNOLOGY CORPORATION

ANALYTICAL SERVICES

CERTIFICATE OF ANALYSIS

IT CORPORATION
4585 PACHECO BLVD
MARTINEZ CA 94553
GENE LOVETT

Date: 08/05/91

Work Order: C1-08-012

Project/P.O.#: 142468
FMC

This is the Certificate of Analysis for the following samples:
Client Work ID: FMC/ 142468
Date Received: 08/02/91 142468
Number of Samples: 3
Sample Type: HI-VOLS

Samples were labeled as follows:

SAMPLE IDENTIFICATION	LABORATORY #
1,5887361	C1-08-012-01
BLANK SPIKE	C1-08-012-02
METHOD BLANK	C1-08-012-03

Reviewed and Approved:

Tracy Sidwell

Tracy Sidwell
Project Manager

Company: IT CORPORATION
Date: 08/05/91
Client Work ID: FMC/ 142468 142468

IT ANALYTICAL SERVICES
CERRITOS, CA

Work Order: C1-08-012

CLIENT SAMPLE ID	1,5887361	BLANK SPIKE	METHOD BLANK	
LAB SAMPLE ID	C1-08-012-01	C1-08-012-02	C1-08-012-03	
SAMPLED	07/31/91			
TEST				UNITS
HI:VOL NUISANCE DUST	63500			UG
	[100]			
	08/02/91			
MERCURY	ND	89	ND	
	[0.07]	[--]	[0.07]	
	08/05/91	08/05/91	08/05/91	
	UG	%REC	UG	
COPPER	49	101	ND	
	[3]	[--]	[3]	
	08/02/91	08/02/91	08/02/91	
	UG	%REC	UG	

ND indicates the parameter was not detected.
Detection limits are specified in [].
NC indicates the parameter was not calculated.

Company: IT CORPORATION
Date: 08/05/91
Client Work ID: FMC/ 142468

IT ANALYTICAL SERVICES
CERRITOS, CA

142468

Work Order: C1-08-012

Nonconformance Summary

Sample 1.5887361 was received by the laboratory with the wrong paperwork. A FAX of the paperwork was sent prior to the actual paperwork.

Company: IT CORPORATION
Date: 08/05/91
Client Work ID: FMC/ 142468 142468

IT ANALYTICAL SERVICES
CERRITOS, CA

Work Order: C1-08-012

TEST NAME **COPPER** TEST CODE **CU_ICP**

Copper was analyzed by inductively coupled argon plasma (ICP) spectroscopy according to USEPA method 6010.

TEST NAME **MERCURY** TEST CODE **HG_AA**

The sample was prepared and analyzed for mercury by cold-vapor atomic absorption (CVAA) spectroscopy according to USEPA method 7471 (solids) or method 7470 (liquids).

TEST NAME **HI:VOL NUISANCE DUST** TEST CODE **HI_VOL**

The filters are weighed after allowing to stablize at room conditions for one hour. The relative humidity and temperature are recorded at the time of weighing. The difference in weight is reported in micrograms.

INTERNATIONAL TECHNOLOGY CORPORATION

REQUEST FOR ANALYSIS

R/A Control No. B 8059

C/C Control No. 159654

PROJECT NAME	FMC	DATE SAMPLES SHIPPED	8/1/91
PROJECT NUMBER	142468	LAB DESTINATION	Cerritos
PROJECT MANAGER	Gene Lovett	LABORATORY CONTACT	Tracy Sidwell
BILL TO	IT Corp	SEND LAB REPORT TO	IT Corp c/o FMC
	4585 Pacheco Blvd		8891 Enterprise Dr.
	Martinez, CA		Newark, CA
PURCHASE ORDER NO.	2221	DATE REPORT REQUIRED	
		PROJECT CONTACT	Sherri Williams
		PROJECT CONTACT PHONE NO.	4150795-4359

Sample No.	Sample Type	Sample Volume M^3	Preservative	Requested Testing Program	Special Instructions
1.5887361	AIR	1835		Mercury EPA 7471	
				Copper EPA 6010	
				Particulate	
				*Perform tests on all samples	

COPY

TURNAROUND TIME REQUIRED: (Rush must be approved by the Project Manager.)

Normal _____ **Rush** X _____ (Subject to rush surcharge)

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances)

Nonhazard _____ **Flammable** _____ **Skin irritant** _____ **Highly Toxic** _____ **Other** _____ **(Please Specify)**

SAMPLE DISPOSAL: (Please indicate disposition of sample following analysis. Lab will charge for packing, shipping, and disposal.)

Return to Client _____ **Disposal by Lab** _____

FOR LAB USE ONLY

Received By _____ **Date/Time** _____

WHITE - Original, to accompany samples
YELLOW - Field copy

INTERNATIONAL TECHNOLOGY CORPORATION

CHAIN-OF-CUSTODY RECORD

R/A Control No. B-78047

C/C Control No. 159654

PROJECT NAME/NUMBER FMC/142468

LAB DESTINATION Cerritos

SAMPLE TEAM MEMBERS Linda C. Weaver

CARRIER/WAYBILL NO.* 7881358354 (sample sent 7/31)
*0080186966 (paperwork sent 8/5)

Sample Number	Sample Location and Description	Date and Time Collected	Sample Type	Container Type	Condition on Receipt (Name and Date)	Disposal Record No.
1.5887361	Location 1 AIR	7/31/91 1145	AIR			

COPY

Special Instructions:

Possible Sample Hazards: Mercury, Copper

SIGNATURES: (Name, Company, Date and Time)

1. Relinquished By: L J Cap Linda C Weaver 7-31-91
   Received By:
2. Relinquished By:
   Received By:
3. Relinquished By:
   Received by:
4. Relinquished By:
   Received By:

WHITE - To[illegible]mpany samples
YELLOW - [illegible]opy

INTERNATIONAL TECHNOLOGY CORPORATION

ANALYTICAL SERVICES

CERTIFICATE OF ANALYSIS

IT CORPORATION
4585 PACHECO BLVD
MARTINEZ CA 94553
GENE LOVETT

Date: 08/09/91

Work Order: C1-08-040

Project/P.O.#: 142468
FMC

This is the Certificate of Analysis for the following samples:
Client Work ID: FMC/ 142468
Date Received: 08/07/91 142468
Number of Samples: 3
Sample Type: HI-VOLS

Samples were labeled as follows:

SAMPLE IDENTIFICATION	LABORATORY #
1,5887349	C1-08-040-01
BLANK SPIKE	C1-08-040-02
METHOD BLANK	C1-08-040-03

Reviewed and Approved:

Tracy Sidwell
Project Manager

Company: IT CORPORATION
Date: 08/09/91
Client Work ID: FMC/ 142468 142468

IT ANALYTICAL SERVICES
CERRITOS, CA

Work Order: C1-08-040

CLIENT SAMPLE ID	1,5887349	BLANK SPIKE	METHOD BLANK	
LAB SAMPLE ID	C1-08-040-01	C1-08-040-02	C1-08-040-03	
SAMPLED	08/05/91			
TEST				UNITS
HI:VOL NUISANCE DUST	109000			UG
	[100]			
	08/07/91			
MERCURY	0.18	84	ND	
	[0.07]	[--]	[0.07]	
	08/09/91	08/09/91	08/09/91	
	UG	%REC	UG	
COPPER	38	102	ND	
	[3]	[--]	[3]	
	08/07/91	08/07/91	08/07/91	
	UG	%REC	UG	

ND indicates the parameter was not detected.
Detection limits are specified in [].
NC indicates the parameter was not calculated.

Company: IT CORPORATION
Date: 08/09/91
Client Work ID: FMC/ 142468 142468

IT ANALYTICAL SERVICES
CERRITOS, CA

Work Order: C1-08-040

TEST NAME **COPPER** TEST CODE **CU_ICP**

Copper was analyzed by inductively coupled argon plasma (ICP) spectroscopy according to USEPA method 6010.

TEST NAME **MERCURY** TEST CODE **HG_AA**

The sample was prepared and analyzed for mercury by cold-vapor atomic absorption (CVAA) spectroscopy according to USEPA method 7471 (solids) or method 7470 (liquids).

TEST NAME **HI:VOL NUISANCE DUST** TEST CODE **HI_VOL**

The filters are weighed after allowing to stablize at room conditions for one hour. The relative humidity and temperature are recorded at the time of weighing. The difference in weight is reported in micrograms.

INTERNATIONAL TECHNOLOGY CORPORATION

REQUEST FOR ANALYSIS

R/A Control No. B 78060
C/C Control No. 159653

PROJECT NAME	FMC	DATE SAMPLES SHIPPED	8/6/91
PROJECT NUMBER	142468	LAB DESTINATION	Cerritos
PROJECT MANAGER	Gene Lovett	LABORATORY CONTACT	Tracy Sidwell
BILL TO	IT Corp 4585 Pacheco Blvd Martinez, CA	SEND LAB REPORT TO	IT Corp c/o FMC 4585 Pacheco Blvd Martinez
PURCHASE ORDER NO.	2221	DATE REPORT REQUIRED	
		PROJECT CONTACT	~~Sherri Williams~~
		PROJECT CONTACT PHONE NO.	415-795-4350

Sample No.	Sample Type	Sample Volume M^3	Preservative	Requested Testing Program	Special Instructions
1.5887349	AIR	1828		Mercury EPA 7471	
				Copper EPA 6010	
				Particulate	
				Perform tests on all samples	

COPY

TURNAROUND TIME REQUIRED: (Rush must be approved by the Project Manager.)

Normal _____ **Rush** X _____ (Subject to rush surcharge)

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances)

Nonhazard _____ **Flammable** _____ **Skin Irritant** _____ **Highly Toxic** _____ **Other** _____ **(Please Specify)**

SAMPLE DISPOSAL: (Please indicate disposition of sample following analysis. Lab will charge for packing, shipping, and disposal.)

Return to Client _____ **Disposal by Lab** _____

FOR LAB USE ONLY

Received By _____ **Date/Time** _____

WHITE - O[illegible]nal, to accompany samples
YELLOW [illegible]d copy

INTERNATIONAL TECHNOLOGY CORPORATION

CHAIN-OF-CUSTODY RECORD

R/A Control No. B-7. 0

C/C Control No. 159653

PROJECT NAME/NUMBER FMC/142468

LAB DESTINATION Cerritos

SAMPLE TEAM MEMBERS Linda C. Weaver

CARRIER/WAYBILL NO. 0070186970

Sample Number	Sample Location and Description	Date and Time Collected	Sample Type	Container Type	Condition on Receipt (Name and Date)	Disposal Record No.
1.5887349	Location 1 AIR	8-5-91	AIR			

COPY

Special Instructions:

Possible Sample Hazards: Mercury, Copper

SIGNATURES: (Name, Company, Date and Time)

1. Relinquished By: [illegible] IT Corp, [illegible]
   Received By:
2. Relinquished By:
   Received By:
3. Relinquished By:
   Received by:
4. Relinquished By:
   Received By:

WHITE - To accompany samples
YELLOW - Field copy

APPENDIX B

PERSONNEL AIR MONITORING CERTIFICATES OF ANALYSIS AND CHAIN OF CUSTODY FORMS

INTERNATIONAL TECHNOLOGY CORPORATION

ANALYTICAL SERVICES

CERTIFICATE OF ANALYSIS

IT CORPORATION
4585 PACHECO BLVD
MARTINEZ CA 94553
SHERRI WILLIAMS

Date: 06/03/91

Work Order: C1-05-232

Project/P.O.#: 142468
FMC

This is the Certificate of Analysis for the following samples:
Client Work ID: FMC 142468
Date Received: 05/30/91 142468
Number of Samples: 5
Sample Type: CASSETTE, TUBE

Samples were labeled as follows:

SAMPLE IDENTIFICATION	LABORATORY #
FMCTD04	C1-05-232-01
FMCCU05	C1-05-232-02
FMCHG06	C1-05-232-03
BLANK SPIKE	C1-05-232-04
METHOD BLANK	C1-05-232-06

Reviewed and Approved:

Tracy Sidwell
Project Manager

American Council of Independent Laboratories
International Association of Environmental Testing Laboratories
American Association for Laboratory Accreditation

IT ANALYTICAL SERVICES
CERRITOS, CA

Company: IT CORPORATION
Date: 06/03/91
Client Work ID: FMC 142468 142468 Work Order: C1-05-232

CLIENT SAMPLE ID	FMCTD04	FMCCU05	FMCHG06	
LAB SAMPLE ID	C1-05-232-01	C1-05-232-02	C1-05-232-03	
SAMPLED	05/28/91	05/28/91	05/28/91	
TEST				UNITS
NUISANCE DUST(TOTAL)	**0.8** [**0.4]** 06/01/91			mg/m3
MERCURY BY CVAA			**ND** [**0.002]** 06/01/91	mg/m3
COPPER by ICP		**ND** [**0.0006]** 05/31/91		mg/m3

ND indicates the parameter was not detected.
Detection limits are specified in [].
NC indicates the parameter was not calculated.

IT ANALYTICAL SERVICES
CERRITOS, CA

Company: IT CORPORATION
Date: 06/03/91
Client Work ID: FMC 142468 142468 Work Order: C1-05-232

CLIENT SAMPLE ID	BLANK SPIKE	METHOD BLANK	
LAB SAMPLE ID	C1-05-232-04	C1-05-232-06	
SAMPLED			
TEST			UNITS
MERCURY BY CVAA	103	ND	mg/L
	[--]	[0.05]	
	06/01/91	06/01/91	
	% Rec.	ug	
COPPER by ICP	109	ND	mg/L
	[--]	[0.3]	
	05/31/91	05/31/91	
	% Rec.	ug	

ND indicates the parameter was not detected.
Detection limits are specified in [].
NC indicates the parameter was not calculated.

IT ANALYTICAL SERVICES
CERRITOS, CA

Company: IT CORPORATION
Date: 06/03/91
Client Work ID: FMC 142468 142468 Work Order: C1-05-232

TEST NAME **NUISANCE DUST(TOTAL)** TEST CODE **500**

Nuisance dust was analyzed using gravimetric technique according to a modified NIOSH method 0500. Matched weight filters were supplied to the laboratory and analyzed per client's request.

TEST NAME **COPPER by ICP** TEST CODE **CU_ICP**

Copper was analyzed by inductively coupled argon plasma (ICP) spectroscopy according to NIOSH method 7300.

TEST NAME **MERCURY BY CVAA** TEST CODE **HG_AA**

The sample was prepared and analyzed for mercury by cold-vapor atomic absorption (CVAA) spectroscopy according to NIOSH method 6009.

INTERNATIONAL TECHNOLOGY CORPORATION

REQUEST FOR ANALYSIS

R/A Control No. 208733
C/C Control No. 15485 1

PROJECT NAME: FMC
PROJECT NUMBER: 14.468
PROFIT CENTER NUMBER: 2221
PROJECT MANAGER: Gene Lovett
BILL TO: 4285 Pacheco Blvd
Martinez, CA
Attn:

PURCHASE ORDER NO.:

DATE SAMPLES SHIPPED: 5-29-91
LAB DESTINATION: Cerritos Lab
LABORATORY CONTACT: Tracy Inglewell
SEND LAB REPORT TO: Sherri Williams
IT Corp C/O FMC
8427 Enterprise Dr.
DATE REPORT REQUIRED: 6-1-91
PROJECT CONTACT: Sherri Williams
PROJECT CONTACT PHONE NO.: 415-795-1595

Sample No.	Sample Type	Sample Volume	Preservative	Requested Testing Program	Special Instructions
FMCTD04	Air	510L		NIOSH 0500	
FMC [illegible]05	Air	510L		NIOSH 7029	
FMC Hg06	Air	36L		NIOSH 6000	

TURNAROUND TIME REQUIRED: (Rush must be approved by the Laboratory Project Manager.)

Normal _____ **Rush** X (Subject to rush surcharge.)

QC LEVEL: (Levels II and III subject to surcharge; project-specific requirements must be submitted to lab before beginning work.)

I _____ **II** _____ **III** _____ **Project Specific** _____

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances.)

Non-hazard _____ **Flammable** _____ **Skin Irritant** _____ **Highly Toxic** _____ **Other** _____ **(Please Specify)**

SAMPLE DISPOSAL: (Please indicate disposition of sample following analysis. Lab will charge for packing, shipping, archive and disposal.)

Return to Client _____ **Disposal by Lab** _____ **Archive** _____ **(Indicate number of months.)**

FOR LAB USE ONLY

Received by _____ **Date/Time** _____

WHITE - Original, to accompany samples
YELLOW - Field copy

126A-10-85

5/28 samples

INTERNATIONAL TECHNOLOGY CORPORATION

CHAIN-OF-CUSTODY RECORD

R/A Control No. [illegible]

C/C Control No. 159851

PROJECT NAME/NUMBER FMC / 142463

LAB DESTINATION Cerritos

SAMPLE TEAM MEMBERS Sherri Williams

CARRIER/WAYBILL NO. Fed-X

Sample Number	Sample Location and Description	Date and Time Collected	Sample Type	Container Type	Condition on Receipt (Name and Date)	Disposal Record No.
FMCTD01	trench 6,7	5/28/91,	Air	filter		
FMCcu05	trench 3,8	5/28/91,	Air	filter		
FMCHg06	trench 3,8	5/28/91,	Air	Solid sorbent tube		

COPY

Special Instructions:

Possible Sample Hazards: Copper, Mercury

SIGNATURES: (Name, Company, Date and Time)

1. Relinquished By: [signature] 5/28/91, 1545

   Received By: [signature] 5/28/91 1546

2. Relinquished By:

   Received By:

3. Relinquished By:

   Received by:

4. Relinquished By:

   Received By:

WHITE - To a[illegible] any samples
YELLOW - Fi[illegible] y

INTERNATIONAL TECHNOLOGY CORPORATION

ANALYTICAL SERVICES

CERTIFICATE OF ANALYSIS

IT CORPORATION
4585 PACHECO BLVD
MARTINEZ CA 94553
SHERRI WILLIAMS

Date: 06/03/91

Work Order: C1-05-240

Project/P.O.#: 142468
FMC

This is the Certificate of Analysis for the following samples:
Client Work ID: FMC 142468
Date Received: 05/31/91 142468
Number of Samples: 11
Sample Type: CASSETTE, TUBE

Samples were labeled as follows:

SAMPLE IDENTIFICATION	LABORATORY #
FMCTD07	C1-05-240-01
FMCCU08	C1-05-240-02
FMCHG09	C1-05-240-03
FMCTD10	C1-05-240-04
FMCCU11	C1-05-240-05
FMCHG12	C1-05-240-06
FMCB13-BLANK	C1-05-240-07
FMCB14-BLANK	C1-05-240-08
FMCB15-BLANK	C1-05-240-09
BLANK SPIKE	C1-05-240-10
METHOD BLANK	C1-05-240-12

Reviewed and Approved:

Tracy Sidwell
Project Manager

IT ANALYTICAL SERVICES
CERRITOS, CA

Company: IT CORPORATION
Date: 06/03/91
Client Work ID: FMC 142468 142468 Work Order: C1-05-240

CLIENT SAMPLE ID	FMCTD07	FMCCU08	FMCHG09	
LAB SAMPLE ID	C1-05-240-01	C1-05-240-02	C1-05-240-03	
SAMPLED	05/29/91	05/29/91	05/29/91	
TEST				UNITS
NUISANCE DUST(TOTAL)	**ND** [**3]** 06/01/91			mg/m3
MERCURY BY CVAA			**0.00009** [**0.00006]** 06/01/91	mg/m3
COPPER by ICP		**ND** [**0.0004]** 05/31/91		mg/m3

ND indicates the parameter was not detected.
Detection limits are specified in [].
NC indicates the parameter was not calculated.

IT ANALYTICAL SERVICES
CERRITOS, CA

Company: IT CORPORATION
Date: 06/03/91
Client Work ID: FMC 142468 142468 Work Order: C1-05-240

CLIENT SAMPLE ID	FMCTD10	FMCCU11	FMCHG12	
LAB SAMPLE ID	C1-05-240-04	C1-05-240-05	C1-05-240-06	
SAMPLED	05/30/91	05/30/91	05/30/91	
TEST				UNITS
NUISANCE DUST(TOTAL)	0.6 [0.5] 06/01/91			mg/m3
MERCURY BY CVAA			ND [0.002] 06/01/91	mg/m3
COPPER by ICP		ND [0.0009] 05/31/91		mg/m3

ND indicates the parameter was not detected.
Detection limits are specified in [].
NC indicates the parameter was not calculated.

IT ANALYTICAL SERVICES
CERRITOS, CA

Company: IT CORPORATION
Date: 06/03/91
Client Work ID: FMC 142468 142468 Work Order: C1-05-240

CLIENT SAMPLE ID	FMCB13-BLANK	FMCB14-BLANK	FMCB15-BLANK	
LAB SAMPLE ID	C1-05-240-07	C1-05-240-08	C1-05-240-09	
SAMPLED	05/30/91	05/30/91	05/30/91	
TEST				UNITS
NUISANCE DUST(TOTAL)	ND [0.2] 06/01/91			mg
MERCURY BY CVAA			ND [0.05] 06/01/91	ug
COPPER by ICP		ND [0.3] 05/31/91		ug

ND indicates the parameter was not detected.
Detection limits are specified in [].
NC indicates the parameter was not calculated.

IT ANALYTICAL SERVICES
CERRITOS, CA

Company: IT CORPORATION
Date: 06/03/91
Client Work ID: FMC 142468 142468 Work Order: C1-05-240

CLIENT SAMPLE ID	BLANK SPIKE	METHOD BLANK	
LAB SAMPLE ID	C1-05-240-10	C1-05-240-12	
SAMPLED			
TEST			UNITS
MERCURY BY CVAA	103 [--] 06/01/91 % Rec.	ND [0.05] 06/01/91 ug	mg/L
COPPER by ICP	109 [--] 05/31/91 % Rec.	ND [0.3] 05/31/91 ug	mg/L

ND indicates the parameter was not detected.
Detection limits are specified in [].
NC indicates the parameter was not calculated.

IT ANALYTICAL SERVICES
CERRITOS, CA

Company: IT CORPORATION
Date: 06/03/91
Client Work ID: FMC 142468 142468 **Work Order:** C1-05-240

TEST NAME **NUISANCE DUST(TOTAL)** TEST CODE **500**

Nuisance dust was analyzed using gravimetric technique according to a modified NIOSH method 0500. Matched weight filters were supplied to the laboratory and analyzed per client's request.

TEST NAME **COPPER by ICP** TEST CODE **CU_ICP**

Copper was analyzed by inductively coupled argon plasma (ICP) spectroscopy according to NIOSH method 7300.

TEST NAME **MERCURY BY CVAA** TEST CODE **HG_AA**

The sample was prepared and analyzed for mercury by cold-vapor atomic absorption (CVAA) spectroscopy according to NIOSH method 6009.

INTERNATIONAL TECHNOLOGY CORPORATION

REQUEST FOR ANALYSIS

R/A Control No. B 133
C/C Control No. 425431

PROJECT NAME: FMC
PROJECT NUMBER: 142468
PROJECT MANAGER: Gene Lovett
BILL TO: 4585 Pacheco Blvd
Martinez CA

PURCHASE ORDER NO.

DATE SAMPLES SHIPPED: 5-30-91
LAB DESTINATION: IT Corp.
LABORATORY CONTACT: Tracy Caldwell
SEND LAB REPORT TO: IT Corp. c/o FMC
6127 Enterprise Dr
Newark, CA

DATE REPORT REQUIRED: 6-3-91
PROJECT CONTACT: Sherri Williams
PROJECT CONTACT PHONE NO.: 415-715-4345

Sample No.	Sample Type	Sample Volume	Preservative	Requested Testing Program	Special Instructions
FMC TD07	Air	68.25L		NIOSH 0500	
FMC CH08	Air	930L		NIOSH 7029	
FMC Hg09	Air	920L		NIOSH 6000	

COPY

TURNAROUND TIME REQUIRED: (Rush must be approved by the Project Manager.) (48 hours) Note: Rush charge to be waived per Thomas Trimble

Normal _____ Rush X (Subject to rush surcharge)

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances)

Nonhazard _____ Flammable _____ Skin Irritant _____ Highly Toxic _____ Other _____ (Please Specify)

SAMPLE DISPOSAL: (Please indicate disposition of sample following analysis. Lab will charge for packing, shipping, and disposal.)

Return to Client _____ Disposal by Lab _____

FOR LAB USE ONLY

Received By _____ Date/Time _____

WHITE - Original, to accompany samples
YELLOW - Field copy

5/29 Samples

INTERNATIONAL TECHNOLOGY CORPORATION

CHAIN-OF-CUSTODY RECORD

R/A Control No. [illegible]451

C/C Control No.

PROJECT NAME/NUMBER FMC/142468

LAB DESTINATION IT - Cerritos

SAMPLE TEAM MEMBERS Sherri Williams

CARRIER/WAYBILL NO. 0070157143 - Fed X

Sample Number	Sample Location and Description	Date and Time Collected	Sample Type	Container Type	Condition on Receipt (Name and Date)	Disposal Record No.
FMCTD07	Trench 6,7, Air	5-29-91, 0635	Air	[illegible]		
FMCC408	Trench 6,7, Air	5-29-91, 0630	Air	Clear filter cassette		
FMCHg09	Trench C, D, Air	5-29-91, 0640	Air	Clear solid [illegible] tube		

COPY

Special Instructions:

Possible Sample Hazards: Copper, Mercury

SIGNATURES: (Name, Company, Date and Time)

1. Relinquished By: Sherri Williams, IT Corp, 5/29/91, 1620

   Received By:

2. Relinquished By:

   Received By:

3. Relinquished By:

   Received by:

4. Relinquished By:

   Received By:

WHITE - Accompanies sample
Yellow - Field copy

INTERNATIONAL TECHNOLOGY CORPORATION

5-30 Samples

REQUEST FOR ANALYSIS

R/A Control No. 0[illegible]071

C/C Control No. [illegible]

PROJECT NAME	FMC	DATE SAMPLES SHIPPED	[illegible]
PROJECT NUMBER	142468	LAB DESTINATION	IT [illegible]
PROJECT MANAGER	Gene Lovett	LABORATORY CONTACT	Tracy [illegible]
BILL TO	4585 Pacheco Blvd Martinez, CA	SEND LAB REPORT TO	IT Corp. c/o FMC 5787 Interprise Dr Newark, CA
PURCHASE ORDER NO.	2221	DATE REPORT REQUIRED	
		PROJECT CONTACT	Sherri Williams
		PROJECT CONTACT PHONE NO.	415-415-4345

Sample No.	Sample Type	Sample Volume	Preservative	Requested Testing Program	Special Instructions
FMC T010	Air	470L		NIOSH 0500	
FMC C411	↓	460L		NIOSH 7029	
FMC 11,12	↓	35.25L		NIOSH 6000	
FMC B13	Blank	—		NIOSH 0500	
FMC B14	↓	—		NIOSH 7029	
FMC B15	↓	—		NIOSH 6000	

COPY

TURNAROUND TIME REQUIRED: (Rush must be approved by the Project Manager) → Rush charges to be waived per [illegible]

Normal ____ Rush X (Subject to rush surcharge)

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances)

Nonhazard ____ Flammable ____ Skin Irritant ____ Highly Toxic ____ Other ____ (Please Specify)

SAMPLE DISPOSAL: (Please indicate disposition of sample following analysis. Lab will charge for packing, shipping, and disposal.)

Return to Client ____ Disposal by Lab ____

FOR LAB USE ONLY

Received By ____ Date/Time ____

WHITE - Original, to accompany samples
YELLOW - Field copy

INTERNATIONAL TECHNOLOGY CORPORATION

CHAIN-OF-CUSTODY RECORD

R/A Control No. 018011

C/C Control No. 171311

PROJECT NAME/NUMBER FMC/1424168

LAB DESTINATION IT Cerritos

SAMPLE TEAM MEMBERS Sherri Williams

CARRIER/WAYBILL NO. [illegible] 0070187132

Sample Number	Sample Location and Description	Date and Time Collected	Sample Type	Container Type	Condition on Receipt (Name and Date)	Disposal Record No.
FMCTD10	Trench 8,3 - Air	5-30-91, 0635	Air	Clear cassette		
FMCCu11	Trench 8,3 - Air	5-30-91, 0640	↓	Clear cassette		
FMC Hg12	Trench 6,7 - Air	5-30-91, 0635	↓	Clear solid sorbent tube		
FMC B13	Blank	5-30,91 —	Blank	Clear cassette		
FMC B14	—	5-30,91 —	↓	↓		
FMC B15	—	5-30,91 —	↓	Clear solid sorbent tube		

Special Instructions:

Possible Sample Hazards: Copper, mercury

SIGNATURES: (Name, Company, Date and Time)

1. Relinquished By: Sherri Williams, IT Corp, 5-30-91, 1325

   Received By:

2. Relinquished By:

   Received By:

3. Relinquished By:

   Received by:

4. Relinquished By:

   Received By:

WHITE - To [illegible] pany samples
YELLOW - Fi[illegible] py

INTERNATIONAL TECHNOLOGY CORPORATION

ANALYTICAL SERVICES

CERTIFICATE OF ANALYSIS

Date: 06/12/91

IT CORPORATION C/O FMC
8787 ENTERPRISE DR.
NEWARK, CA 94560
SHERRI WILLIAMS

Work Order: C1-06-035 Project/P.O.#: 142468
FMC

This is the Certificate of Analysis for the following samples:
Client Work ID: FMC 142468
Date Received: 06/07/91 142468
Number of Samples: 8
Sample Type: AIR

Samples were labeled as follows:

SAMPLE IDENTIFICATION	LABORATORY #
FMC TD16	C1-06-035-01
FMC CU17	C1-06-035-02
FMC HG18	C1-06-035-03
FMC B19 - BLANK	C1-06-035-04
FMC B20 - BLANK	C1-06-035-05
FMC B21 - BLANK	C1-06-035-06
BLANK SPIKE	C1-06-035-10
METHOD BLANK	C1-06-035-12

Reviewed and Approved:

Tracy Sidwell

Tracy Sidwell
Project Manager

Company: IT CORPORATION
Date: 06/12/91
Client Work ID: FMC 142468 142468

IT ANALYTICAL SERVICES
CERRITOS, CA

Work Order: C1-06-035

CLIENT SAMPLE ID	FMC TD16	FMC CU17	FMC HG18	
LAB SAMPLE ID	C1-06-035-01	C1-06-035-02	C1-06-035-03	
SAMPLED	06/05/91	06/05/91	06/05/91	
TEST				UNITS
NUISANCE DUST(TOTAL)	0.4 [0.3] 06/11/91			mg/m3
MERCURY BY CVAA			ND [0.0007] 06/10/91	mg/m3
COPPER by ICP		ND [0.0004] 06/07/91		mg/m3

ND indicates the parameter was not detected.
Detection limits are specified in [].
NC indicates the parameter was not calculated.

IT ANALYTICAL SERVICES
CERRITOS, CA

Company: IT CORPORATION
Date: 06/12/91
Client Work ID: FMC 142468 142468 Work Order: C1-06-035

CLIENT SAMPLE ID	FMC B19 - BLANK	FMC B20 - BLANK	FMC B21 - BLANK	
LAB SAMPLE ID	C1-06-035-04	C1-06-035-05	C1-06-035-06	
SAMPLED	06/05/91	06/05/91	06/05/91	
TEST				UNITS
NUISANCE DUST(TOTAL)	ND [0.2] 06/11/91			mg
MERCURY BY CVAA			ND [0.05] 06/10/91	ug
COPPER by ICP		ND [0.3] 06/07/91		ug

ND indicates the parameter was not detected.
Detection limits are specified in [].
NC indicates the parameter was not calculated.

Company: IT CORPORATION
Date: 06/12/91
Client Work ID: FMC 142468 142468

IT ANALYTICAL SERVICES
CERRITOS, CA

Work Order: C1-06-035

CLIENT SAMPLE ID	BLANK SPIKE	METHOD BLANK	
LAB SAMPLE ID	C1-06-035-10	C1-06-035-12	
SAMPLED			
TEST			UNITS
MERCURY BY CVAA	102 [--] 06/10/91 % Rec.	ND [0.05] 06/10/91 ug	mg/L
COPPER by ICP	121 [--] 06/07/91 % Rec.	ND [0.3] 06/07/91 ug	mg/L

ND indicates the parameter was not detected.
Detection limits are specified in [].
NC indicates the parameter was not calculated.

IT ANALYTICAL SERVICES
CERRITOS, CA

Company: IT CORPORATION
Date: 06/12/91
Client Work ID: FMC 142468 142468 Work Order: C1-06-035

TEST NAME **NUISANCE DUST(TOTAL)** TEST CODE **500**

Nuisance dust was analyzed using gravimetric technique according to a modified NIOSH method 0500. Matched weight filters were supplied to the laboratory and analyzed per client's request.

TEST NAME **COPPER by ICP** TEST CODE **CU_ICP**

Copper was analyzed by inductively coupled argon plasma (ICP) spectroscopy according to NIOSH method 7300.

TEST NAME **MERCURY BY CVAA** TEST CODE **HG_AA**

The sample was prepared and analyzed for mercury by cold-vapor atomic absorption (CVAA) spectroscopy according to NIOSH method 6009.

INTERNATIONAL TECHNOLOGY CORPORATION

REQUEST FOR ANALYSIS

R/A Control No. 208739
C/C Control No. 159854

PROJECT NAME: FMC
PROJECT NUMBER: 142468
PROFIT CENTER NUMBER: 2221
PROJECT MANAGER: Gene Lovett
BILL TO: 4585 Pacheco Blvd
Martinez, CA
IT Corp
PURCHASE ORDER NO.: 2221

DATE SAMPLES SHIPPED: 6-5-91
LAB DESTINATION: IT Cerritos
LABORATORY CONTACT: Tracey Sidwell
SEND LAB REPORT TO: IT Corp C/O FMC
8787 Enterprise Dr
Newark, CA
DATE REPORT REQUIRED:
PROJECT CONTACT: Sherri Williams
PROJECT CONTACT PHONE NO.: 415-795-4395

Sample No.	Sample Type	Sample Volume	Preservative	Requested Testing Program	Special Instructions
FMC TD16	Air	960L		NIOSH 0500	
FMC Cu17	↓	960L		NIOSH 7029	
FMC Hg18	↓	~~970L~~ 73L		NIOSH 6000	
FMC B19	Blank			NIOSH 0500	
FMC B20	↓			NIOSH 7029	
FMC B21	↓			NIOSH 6000	

TURNAROUND TIME REQUIRED: (Rush must be approved by the Laboratory Project Manager.)
Normal _____ **Rush** X (Subject to rush surcharge.)

QC LEVEL: (Levels II and III subject to surcharge; project-specific requirements must be submitted to lab before beginning work.)
I _____ **II** _____ **III** _____ **Project Specific** _____

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances.)
Non-hazard _____ **Flammable** _____ **Skin Irritant** _____ **Highly Toxic** _____ **Other** _____ **(Please Specify)**

SAMPLE DISPOSAL: (Please indicate disposition of sample following analysis. Lab will charge for packing, shipping, archive and disposal.)
Return to Client _____ **Disposal by Lab** _____ **Archive** _____ **(Indicate number of months.)**

FOR LAB USE ONLY
Received by _____ **Date/Time** _____

WHITE - Original, to accompany samples
YELLOW - Field

126A-10-85

INTERNATIONAL TECHNOLOGY CORPORATION

CHAIN-OF-CUSTODY RECORD

R/A Control No. 208434

C/C Control No. 159854

PROJECT NAME/NUMBER FMC / 142468

LAB DESTINATION IT Cerritos

SAMPLE TEAM MEMBERS Sherri Williams

CARRIER/WAYBILL NO. [illegible]

Sample Number	Sample Location and Description	Date and Time Collected	Sample Type	Container Type	Condition on Receipt (Name and Date)	Disposal Record No.
FMC TD16	Decon Pad, waste Pile - Air	6-5-91 0630	Air	Clear cassette		
FMC TD17	Trench 5, 6, 7	0630		clear cassette		
FMC Hg18	Trench 5, 6, 7	0625		clear solid sorbent tube		
FMC B19			Blank	clear cassette		
FMC B20						
FMC B21				clear solid sorbent tube		

Special Instructions:

Possible Sample Hazards: Copper, Mercury

SIGNATURES: (Name, Company, Date and Time)

1. Relinquished By:

   Received By:

2. Relinquished By:

   Received By:

3. Relinquished By:

   Received by:

4. Relinquished By:

   Received By:

WHITE - To accompany samples
YELLOW - Field copy

INTERNATIONAL TECHNOLOGY CORPORATION

ANALYTICAL SERVICES

CERTIFICATE OF ANALYSIS

Date: 06/12/91

IT CORPORATION C/O FMC
8787 ENTERPRISE DR.
NEWARK, CA 94560
SHERRI WILLIAMS

Work Order: C1-06-048 Project/P.O.#: 142468
FMC

This is the Certificate of Analysis for the following samples:
Client Work ID: FMC 142468
Date Received: 06/10/91 142468
Number of Samples: 8
Sample Type: AIR

Samples were labeled as follows:

SAMPLE IDENTIFICATION	LABORATORY #
FMC TD22	C1-06-048-01
FMC CU23	C1-06-048-02
FMC HG24	C1-06-048-03
FMC B25 - BLANK	C1-06-048-04
FMC B26 - BLANK	C1-06-048-05
FMC B27 - BLANK	C1-06-048-06
BLANK SPIKE	C1-06-048-10
METHOD BLANK	C1-06-048-12

Reviewed and Approved:
Tracy Sidwell
Tracy Sidwell
Project Manager

IT ANALYTICAL SERVICES
CERRITOS, CA

Company: IT CORPORATION
Date: 06/12/91
Client Work ID: FMC 142468 142468 Work Order: C1-06-048

CLIENT SAMPLE ID	FMC TD22	FMC CU23	FMC HG24	
LAB SAMPLE ID	C1-06-048-01	C1-06-048-02	C1-06-048-03	
SAMPLED	06/06/91	06/06/91	06/06/91	
TEST				UNITS
NUISANCE DUST(TOTAL)	**0.6** [**0.3]** 06/11/91			mg/m3
MERCURY BY CVAA			**0.0008** [**0.0008]** 06/10/91	mg/m3
COPPER by ICP		**ND** [**0.0004]** 06/10/91		mg/m3

ND indicates the parameter was not detected.
Detection limits are specified in [].
NC indicates the parameter was not calculated.

IT ANALYTICAL SERVICES
CERRITOS, CA

Company: IT CORPORATION
Date: 06/12/91
Client Work ID: FMC 142468 142468 Work Order: C1-06-048

CLIENT SAMPLE ID	FMC B25 - BLANK	FMC B26 - BLANK	FMC B27 - BLANK	
LAB SAMPLE ID	C1-06-048-04	C1-06-048-05	C1-06-048-06	
SAMPLED	06/06/91	06/06/91	06/06/91	
TEST				UNITS
NUISANCE DUST(TOTAL)	ND [0.2] 06/11/91			mg
MERCURY BY CVAA			ND [0.05] 06/10/91	ug
COPPER by ICP		ND [0.3] 06/10/91		ug

ND indicates the parameter was not detected.
Detection limits are specified in [].
NC indicates the parameter was not calculated.

IT ANALYTICAL SERVICES
CERRITOS, CA

Company: IT CORPORATION
Date: 06/12/91
Client Work ID: FMC 142468 142468 Work Order: C1-06-048

CLIENT SAMPLE ID	BLANK SPIKE	METHOD BLANK	
LAB SAMPLE ID	C1-06-048-10	C1-06-048-12	
SAMPLED			
TEST			UNITS
MERCURY BY CVAA	102	ND	mg/L
	[--]	[0.05]	
	06/10/91	06/10/91	
	% Rec.	ug	
COPPER by ICP	106	ND	mg/L
	[--]	[0.3]	
	06/10/91	06/10/91	
	% Rec.	ug	

ND indicates the parameter was not detected.
Detection limits are specified in [].
NC indicates the parameter was not calculated.

IT ANALYTICAL SERVICES
CERRITOS, CA

Company: IT CORPORATION
Date: 06/12/91
Client Work ID: FMC 142468 142468 Work Order: C1-06-048

TEST NAME **NUISANCE DUST(TOTAL)** TEST CODE **500**

Nuisance dust was analyzed using gravimetric technique according to a modified NIOSH method 0500. Matched weight filters were supplied to the laboratory and analyzed per client's request.

TEST NAME **COPPER by ICP** TEST CODE **CU_ICP**

Copper was analyzed by inductively coupled argon plasma (ICP) spectroscopy according to NIOSH method 7300.

TEST NAME **MERCURY BY CVAA** TEST CODE **HG_AA**

The sample was prepared and analyzed for mercury by cold-vapor atomic absorption (CVAA) spectroscopy according to NIOSH method 6009.

INTERNATIONAL TECHNOLOGY CORPORATION

7-6-91 Samples

CHAIN-OF-CUSTODY RECORD

R/A Control No. B-10132

C/C Control No. 159682

PROJECT NAME/NUMBER FMC / 142468

LAB DESTINATION IT Lenexa

SAMPLE TEAM MEMBERS Sherri Williams

CARRIER/WAYBILL NO. 00 70187 040

Sample Number	Sample Location and Description	Date and Time Collected	Sample Type	Container Type	Condition on Receipt (Name and Date)	Disposal Record No.
FMC TD22	Trench 30. Air	6-6-91 0630	Air	Clear cassette		
FMC CU23	Loading Pile	0630		Clear cassette		
FMC Hg24	Trench 30	0630		Clear solid sorbent tube		
FMC B-25						
FMC B-26						
FMC B-27						

COPY

Special Instructions: 8940 0630

Possible Sample Hazards: Mercury, Copper

SIGNATURES: (Name, Company, Date and Time)

1. Relinquished By: S. Williams ITCORP, 6-7-91, 1300

   Received By:

2. Relinquished By:

   Received By:

3. Relinquished By:

   Received by:

4. Relinquished By:

   Received By:

WHITE - To accompany samples
YELLOW - Field copy

INTERNATIONAL TECHNOLOGY CORPORATION

ANALYTICAL SERVICES

CERTIFICATE OF ANALYSIS

Date: 06/24/91

IT CORPORATION C/O FMC
8787 ENTERPRISE DR.
NEWARK, CA 94560
SHERRI WILLIAMS

Work Order: C1-06-126

Project/P.O.#: 142468
FMC

This is the Certificate of Analysis for the following samples:
Client Work ID: FMC 142468
Date Received: 06/20/91 142468
Number of Samples: 5
Sample Type: AIR

Samples were labeled as follows:

SAMPLE IDENTIFICATION	LABORATORY #
FMC HG28	C1-06-126-01
FMC HG29	C1-06-126-02
FMC B30	C1-06-126-03
MATRIX SPIKE	C1-06-126-04
METHOD BLANK	C1-06-126-06

Reviewed and Approved:

Tracy Sidwell

Tracy Sidwell
Project Manager

IT ANALYTICAL SERVICES
CERRITOS, CA

Company: IT CORPORATION
Date: 06/24/91
Client Work ID: FMC 142468 142468 Work Order: C1-06-126

CLIENT SAMPLE ID	FMC HG28	FMC HG29	FMC B30	
LAB SAMPLE ID	C1-06-126-01	C1-06-126-02	C1-06-126-03	
SAMPLED	06/19/91	06/19/91	06/19/91	
TEST				UNITS
MERCURY BY CVAA	0.012	0.007	0.12	
	[0.002]	[0.002]	[0.05]	
	06/21/91	06/21/91	06/21/91	
	mg/m3	mg/m3	ug	

ND indicates the parameter was not detected.
Detection limits are specified in [].
NC indicates the parameter was not calculated.

Company: IT CORPORATION
Date: 06/24/91
Client Work ID: FMC 142468

142468

IT ANALYTICAL SERVICES
CERRITOS, CA

Work Order: C1-06-126

CLIENT SAMPLE ID	MATRIX SPIKE	METHOD BLANK	
LAB SAMPLE ID	C1-06-126-04	C1-06-126-06	
SAMPLED			
TEST			UNITS
MERCURY BY CVAA	81 [--] 06/21/91 % Rec.	ND [0.05] 06/21/91 ug	mg/L

ND indicates the parameter was not detected.
Detection limits are specified in [].
NC indicates the parameter was not calculated.

Company: IT CORPORATION
Date: 06/24/91
Client Work ID: FMC 142468

IT ANALYTICAL SERVICES
CERRITOS, CA

142468

Work Order: C1-06-126

TEST NAME **MERCURY BY CVAA** TEST CODE **HG_AA**

The sample was prepared and analyzed for mercury by cold-vapor atomic absorption (CVAA) spectroscopy according to USEPA method 7471 (solids) or method 7470 (liquids).

INTERNATIONAL TECHNOLOGY CORPORATION

6-19-91

REQUEST FOR ANALYSIS

R/A Control No. B 78126
C/C Control No. _____

PROJECT NAME: BMC
PROJECT NUMBER: 142468
PROJECT MANAGER: Irene Lovett
BILL TO: IT Corp
4585 Pacheco Blvd
Martinez CA
PURCHASE ORDER NO. 2221

DATE SAMPLES SHIPPED: _____
LAB DESTINATION: IT Cerritos
LABORATORY CONTACT: Tracy Schwell
SEND LAB REPORT TO: IT Corp C/O FMC
Newark Enterprise Dr
DATE REPORT REQUIRED: _____
PROJECT CONTACT: Sherri Williams
PROJECT CONTACT PHONE NO. 415 795-4395

Sample No.	Sample Type	Sample Volume (L)	Preservative	Requested Testing Program	Special Instructions
FMC Hg28	Air	34.5		NIOSH 6000	
FMC Hg29	↓	45		↓	
FMC B30	↓	—		↓	

COPY

TURNAROUND TIME REQUIRED: (Rush must be approved by the Project Manager.)

Normal _____ **Rush** X (Subject to rush surcharge)

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances)

Nonhazard _____ **Flammable** _____ **Skin irritant** _____ **Highly Toxic** _____ **Other** _____ **(Please Specify)**

SAMPLE DISPOSAL: (Please indicate disposition of sample following analysis. Lab will charge for packing, shipping, and disposal.)

Return to Client _____ **Disposal by Lab** _____

FOR LAB USE ONLY

Received By _____ **Date/Time** _____

WHITE - C[illegible]al, to accompany samples
YELLOW - [illegible] copy

INTERNATIONAL TECHNOLOGY CORPORATION

CHAIN-OF-CUSTODY RECORD

R/A Control No. B-10126

C/C Control No. 159676

PROJECT NAME/NUMBER FMC / 142468

LAB DESTINATION IT Cerritos

SAMPLE TEAM MEMBERS Sherri Williams

CARRIER/WAYBILL NO. 0493703991

Sample Number	Sample Location and Description	Date and Time Collected	Sample Type	Container Type	Condition on Receipt (Name and Date)	Disposal Record No.
FMC Hg28	Trench 26,30 Air	6-19-91 0625	Air	Clear solid sorbent tube		
FMC Hg29	Trench 26,30 ↓	↓ 0630	↓	↓		
FMC B30	—	—		" "		

Special Instructions:

Possible Sample Hazards: Mercury

SIGNATURES: (Name, Company, Date and Time)

1. Relinquished By: Sherri Williams, IT Corp, 6-19-91, 1300

   Received By:

2. Relinquished By:

   Received By:

3. Relinquished By:

   Received by:

4. Relinquished By:

   Received By:

WHITE - To accompany samples
YELLOW - Field copy

INTERNATIONAL TECHNOLOGY CORPORATION

ANALYTICAL SERVICES

CERTIFICATE OF ANALYSIS

Date: 07/05/91

IT CORPORATION C/O FMC
8787 ENTERPRISE DR.
NEWARK, CA 94560
SHERRI WILLIAMS

Work Order: C1-07-011 Project/P.O.#: 142468
FMC

This is the Certificate of Analysis for the following samples:
Client Work ID: FMC 142468
Date Received: 07/02/91 142468
Number of Samples: 6
Sample Type: AIR

Samples were labeled as follows:

SAMPLE IDENTIFICATION	LABORATORY #
FMC HG31	C1-07-011-01
FMC B34	C1-07-011-02
FMC CU32	C1-07-011-03
FMC B33	C1-07-011-04
BLANK SPIKE	C1-07-011-05
METHOD BLANK	C1-07-011-06

Reviewed and Approved:
Tracy Sidwell
Tracy Sidwell
Project Manager

Company: IT CORPORATION
Date: 07/05/91
Client Work ID: FMC 142468 142468

IT ANALYTICAL SERVICES
CERRITOS, CA

Work Order: C1-07-011

CLIENT SAMPLE ID	FMC HG31	FMC B34	FMC CU32	
LAB SAMPLE ID	C1-07-011-01	C1-07-011-02	C1-07-011-03	
SAMPLED	06/28/91	06/28/91	06/28/91	
TEST				UNITS
MERCURY BY CVAA	ND [0.0008] 07/03/91 mg/m3	ND [0.05] 07/03/91 ug		mg/L
COPPER by ICP			ND [0.0004] 07/03/91	mg/m3

ND indicates the parameter was not detected.
Detection limits are specified in [].
NC indicates the parameter was not calculated.

Company: IT CORPORATION
Date: 07/05/91
Client Work ID: FMC 142468

IT ANALYTICAL SERVICES
CERRITOS, CA

142468

Work Order: C1-07-011

CLIENT SAMPLE ID	FMC B33	BLANK SPIKE	METHOD BLANK	
LAB SAMPLE ID	C1-07-011-04	C1-07-011-05	C1-07-011-06	
SAMPLED	06/28/91			
TEST				UNITS
MERCURY BY CVAA		121	ND	mg/L
		[--]	[0.05]	
		07/03/91	07/03/91	
		% Rec.	ug	
COPPER by ICP	ND	102	ND	
	[0.3]	[--]	[0.3]	
	07/03/91	07/03/91	07/03/91	
	ug	% Rec.	ug	

ND indicates the parameter was not detected.
Detection limits are specified in [].
NC indicates the parameter was not calculated.

Company: IT CORPORATION
Date: 07/05/91
Client Work ID: FMC 142468

IT ANALYTICAL SERVICES
CERRITOS, CA

142468

Work Order: C1-07-011

TEST NAME **COPPER by ICP** TEST CODE **CU_ICP**

Copper was analyzed by inductively coupled argon plasma (ICP) spectroscopy according to NIOSH method 7300.

TEST NAME **MERCURY BY CVAA** TEST CODE **HG_AA**

The sample was prepared and analyzed for mercury by cold-vapor atomic absorption (CVAA) spectroscopy according to NIOSH method 6009.

INTERNATIONAL TECHNOLOGY CORPORATION

REQUEST FOR ANALYSIS

R/A Control No. 018074
C/C Control No. _____

PROJECT NAME: FMC
PROJECT NUMBER: 162466
PROJECT MANAGER: Gene Lovett
BILL TO: 4585 Pacheco Blvd, Martinez, CA

PURCHASE ORDER NO.: 2221

DATE SAMPLES SHIPPED: 7-1-91
LAB DESTINATION: IT Corporation
LABORATORY CONTACT: Tracy Lidwell
SEND LAB REPORT TO: IT Corp C/O FMC, 6891 Enterprise Dr, Newark, CA

DATE REPORT REQUIRED: _____
PROJECT CONTACT: Sherri Williams
PROJECT CONTACT PHONE NO.: 415-795-4395

Sample No.	Sample Type	Sample Volume L/min	Preservative	Requested Testing Program	Special Instructions
FMC Hg31	Air	675		NIOSH 6000	
FMC Cu32	↓	900		NIOSH 7029	
FMC B33	Blank	—		↓	
FMC B31	↓	—		NIOSH 6000	

COPY

TURNAROUND TIME REQUIRED: (Rush must be approved by the Project Manager.)

Normal _____ **Rush** X (Subject to rush surcharge)

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances)

Nonhazard _____ **Flammable** _____ **Skin Irritant** _____ **Highly Toxic** _____ **Other** _____ **(Please Specify)**

SAMPLE DISPOSAL: (Please indicate disposition of sample following analysis. Lab will charge for packing, shipping, and disposal.)

Return to Client _____ **Disposal by Lab** _____

FOR LAB USE ONLY

Received By _____ **Date/Time** _____

WHITE - O !, to accompany samples
YELLOW - copy

INTERNATIONAL TECHNOLOGY CORPORATION

CHAIN-OF-CUSTODY RECORD

R/A Control No. 018074

C/C Control No. 171314

PROJECT NAME/NUMBER FMC / 142468

LAB DESTINATION IT Cerritos

SAMPLE TEAM MEMBERS Sherri Williams

CARRIER/WAYBILL NO. 049 3703 9106

Sample Number	Sample Location and Description	Date and Time Collected	Sample Type	Container Type	Condition on Receipt (Name and Date)	Disposal Record No.
FMC H93	Trench 26 Air	6-28-91	Air	clear solid sorbent tube		
FMC C43	Trench 9+10			clear cassette		
FMC B33						
FMC B34				clear solid sorbent tube		

Special Instructions:

Possible Sample Hazards: Mercury + Copper

SIGNATURES: (Name, Company, Date and Time)

1. Relinquished By: S. Williams, IT Corp, 7-1-91, 0920

   Received By:

2. Relinquished By:

   Received By:

3. Relinquished By:

   Received by:

4. Relinquished By:

   Received By:

WHITE - To accompany samples
YELLOW - Field copy

INTERNATIONAL TECHNOLOGY CORPORATION

ANALYTICAL SERVICES

CERTIFICATE OF ANALYSIS

Date: 07/26/91

IT CORPORATION C/O FMC
8787 ENTERPRISE DR.
NEWARK, CA 94560
SHERRI WILLIAMS

Work Order: C1-07-152 Project/P.O.#: 142468
FMC

This is the Certificate of Analysis for the following samples:
Client Work ID: FMC 142468
Date Received: 07/24/91 142468
Number of Samples: 8
Sample Type: AIR

Samples were labeled as follows:

SAMPLE IDENTIFICATION	LABORATORY #
FMC TD 35	C1-07-152-01
FMC CU 36	C1-07-152-02
FMC HG 37	C1-07-152-03
FMC BTD 38	C1-07-152-04
FMC BCU 39	C1-07-152-05
FMC BHG 40	C1-07-152-06
BLANK SPIKE	C1-07-152-07
METHOD BLANK	C1-07-152-08

Reviewed and Approved:
Tracy Sidwell
Tracy Sidwell
Project Manager

Company: IT CORPORATION
Date: 07/26/91
Client Work ID: FMC 142468 142468

IT ANALYTICAL SERVICES
CERRITOS, CA

Work Order: C1-07-152

CLIENT SAMPLE ID	FMC CU 36	FMC HG 37	FMC BCU 39	
LAB SAMPLE ID	C1-07-152-02	C1-07-152-03	C1-07-152-05	
SAMPLED	07/22/91	07/22/91	07/22/91	
TEST				UNITS
MERCURY		ND [0.0007] 07/25/91		MG/M3
COPPER	ND [0.0003] 07/24/91 MG/M3		ND [0.3] 07/24/91 UG	MG/L

ND indicates the parameter was not detected.
Detection limits are specified in [].
NC indicates the parameter was not calculated.

Company: IT CORPORATION
Date: 07/26/91
Client Work ID: FMC 142468 142468

IT ANALYTICAL SERVICES
CERRITOS, CA

Work Order: C1-07-152

CLIENT SAMPLE ID	FMC BHG 40	BLANK SPIKE	METHOD BLANK	
LAB SAMPLE ID	C1-07-152-06	C1-07-152-07	C1-07-152-08	
SAMPLED	07/22/91			
TEST				UNITS
MERCURY	ND	130	ND	
	[0.05]	[--]	[0.05]	
	07/25/91	07/25/91	07/25/91	
	UG	%REC	UG	
COPPER		95	ND	MG/L
		[--]	[0.3]	
		07/24/91	07/24/91	
		%REC	UG	

ND indicates the parameter was not detected.
Detection limits are specified in [].
NC indicates the parameter was not calculated.

Company: IT CORPORATION
Date: 07/26/91
Client Work ID: FMC 142468

142468

IT ANALYTICAL SERVICES
CERRITOS, CA

Work Order: C1-07-152

Nonconformance Summary

The Chain of Custody was not relinquished by the client. Samples were analyzed and reported as is.

Sample FMC TD 35 did not have a matched weight filter in the cassette which is necessary to analyze method 0500. Therefore, the sample was not analyzed along with sample FMC BTD 38 (sample blank) for nuisance dust.

Company: IT CORPORATION
Date: 07/26/91
Client Work ID: FMC 142468

142468

IT ANALYTICAL SERVICES
CERRITOS, CA

Work Order: C1-07-152

TEST NAME **COPPER** TEST CODE **CU_ICP**

Copper was analyzed by inductively coupled argon plasma (ICP) spectroscopy according to NIOSH method 7300.

TEST NAME **MERCURY** TEST CODE **HG_AA**

The sample was prepared and analyzed for mercury by cold-vapor atomic absorption (CVAA) spectroscopy according to NIOSH method 6009.

INTERNATIONAL TECHNOLOGY CORPORATION

REQUEST FOR ANALYSIS

R/A Control No. B 067
C/C Control No. 159610

PROJECT NAME: FMC
PROJECT NUMBER: 142468
PROJECT MANAGER: Gene Lovett
BILL TO: IT Corp
4585 Pacheco Blvd
Martinez, CA
PURCHASE ORDER NO.: 7221

DATE SAMPLES SHIPPED:
LAB DESTINATION: Centros
LABORATORY CONTACT: Tracy Sidwell
SEND LAB REPORT TO: IT corp C/O FMC
8891 Enterprise
Newark, CA
DATE REPORT REQUIRED:
PROJECT CONTACT: Sherri Williams
PROJECT CONTACT PHONE NO.: 415-795-4357

Sample No.	Sample Type	Sample Volume	Preservative	Requested Testing Program	Special Instructions
FMC TD35	Air	870L		NIOSH 0500	
FMC Cu 36	↓	1070L		NIOSH 7029	
FMC Hg 37	↓	79.5L		NIOSH 6000	
FMC B TD38	Blank			NIOSH 0500	
FMC B Cu 39	↓			NIOSH 7029	
FMC B Hg 40	↓			NIOSH 6000	

TURNAROUND TIME REQUIRED: (Rush must be approved by the Project Manager.)

Normal ____ **Rush** X (Subject to rush surcharge)

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances)

Nonhazard ____ **Flammable** ____ **Skin Irritant** ____ **Highly Toxic** ____ **Other** ____ **(Please Specify)**

SAMPLE DISPOSAL: (Please indicate disposition of sample following analysis. Lab will charge for packing, shipping, and disposal.)

Return to Client ____ **Disposal by Lab** ____

FOR LAB USE ONLY

Received By ____ **Date/Time** ____

WHITE - Original, to accompany samples
YELLOW - Field copy

INTERNATIONAL TECHNOLOGY CORPORATION

CHAIN-OF-CUSTODY RECORD

R/A Control No. B-78067

C/C Control No. 159640

PROJECT NAME/NUMBER FMC / 1424168

LAB DESTINATION Cerritos

SAMPLE TEAM MEMBERS Sherri Williams

CARRIER/WAYBILL NO. 7881358295

Sample Number	Sample Location and Description	Date and Time Collected	Sample Type	Container Type	Condition on Receipt (Name and Date)	Disposal Record No.
FMC TD35	Trench 3, 6, 7 Air	7-22-91 0700	Air	Clear cassette		
FMC CU36	Trench 5, 6, 7 + stockpile	0620		"	"	
FMC Hg37	Stockpile	0625		Clear solid sorbent tube		
FMC B TD 38	—	—	Blank	Clear cassette		
FMC B CU39	—	—		"	"	
FMC B Hg40	—	—		Clear solid sorbent tube		

Special Instructions:

Possible Sample Hazards: Mercury, Copper, Particulate

SIGNATURES: (Name, Company, Date and Time)

1. Relinquished By:

Received By:

2. Relinquished By:

Received By:

3. Relinquished By:

Received by:

4. Relinquished By:

Received By:

WHITE - To [illegible] pany samples
YELLOW - Fi[illegible] py

INTERNATIONAL TECHNOLOGY CORPORATION

ANALYTICAL SERVICES

CERTIFICATE OF ANALYSIS

IT CORPORATION
4585 PACHECO BLVD
MARTINEZ CA 94553
GENE LOVETT

Date: 08/01/91

Work Order: C1-07-231 Project/P.O.#: 142468

This is the Certificate of Analysis for the following samples:
Client Work ID: FMC 142468
Date Received: 07/31/91
Number of Samples: 4
Sample Type: AIR

Samples were labeled as follows:

SAMPLE IDENTIFICATION	LABORATORY #
FMC CU 42	C1-07-231-01
FMC B 43	C1-07-231-02
BLANK SPIKE	C1-07-231-03
METHOD BLANK	C1-07-231-04

Reviewed and Approved:

Tracy Sidwell

Tracy Sidwell
Project Manager

Company: IT CORPORATION
Date: 08/01/91
Client Work ID: FMC 142468

IT ANALYTICAL SERVICES
CERRITOS, CA

Work Order: C1-07-231

CLIENT SAMPLE ID	FMC CU 42	FMC B 43	BLANK SPIKE	
LAB SAMPLE ID	C1-07-231-01	C1-07-231-02	C1-07-231-03	
SAMPLED	07/30/91	07/30/91		
TEST				UNITS
COPPER	ND	ND	88	
	[0.002]	[0.3]	[--]	
	07/31/91	07/31/91	07/31/91	
	MG/M3	UG	%REC	

ND indicates the parameter was not detected.
Detection limits are specified in [].
NC indicates the parameter was not calculated.

Company: IT CORPORATION
Date: 08/01/91
Client Work ID: FMC 142468

IT ANALYTICAL SERVICES
CERRITOS, CA

Work Order: C1-07-231

CLIENT SAMPLE ID	METHOD BLANK	
LAB SAMPLE ID	C1-07-231-04	
SAMPLED		
TEST		UNITS
COPPER	ND [0.3] 07/31/91	UG

ND indicates the parameter was not detected.
Detection limits are specified in [].
NC indicates the parameter was not calculated.

Company: IT CORPORATION
Date: 08/01/91
Client Work ID: FMC 142468

IT ANALYTICAL SERVICES
CERRITOS, CA

Work Order: C1-07-231

TEST NAME **COPPER** TEST CODE **CU_ICP**

Copper was analyzed by inductively coupled argon plasma (ICP) spectroscopy according to NIOSH method 7029.

INTERNATIONAL TECHNOLOGY CORPORATION

REQUEST FOR ANALYSIS

R/A Control No. B 103
C/C Control No. 159657

PROJECT NAME: FMC
PROJECT NUMBER: 142468
PROJECT MANAGER: Gene Lovett
BILL TO: IT Corp
4585 Pacheco Blvd
Martinez, CA

PURCHASE ORDER NO. 2221

DATE SAMPLES SHIPPED: 7-30-91
LAB DESTINATION: Cerritos
LABORATORY CONTACT: Tracy Sidwell
SEND LAB REPORT TO: IT Corp
8891 Enterprise Dr
Newark, CA

DATE REPORT REQUIRED:
PROJECT CONTACT: Sherri Williams
PROJECT CONTACT PHONE NO. 415-795-4359

Sample No.	Sample Type	Sample Volume	Preservative	Requested Testing Program	Special Instructions
FMC CU42	Air	240L		NIOSH 7029	
FMC B43	↓	—		↓	

COPY

TURNAROUND TIME REQUIRED: (Rush must be approved by the Project Manager.)

Normal _____ **Rush** X (Subject to rush surcharge)

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances)

Nonhazard _____ **Flammable** _____ **Skin irritant** _____ **Highly Toxic** _____ **Other** _____ **(Please Specify)**

SAMPLE DISPOSAL: (Please indicate disposition of sample following analysis. Lab will charge for packing, shipping, and disposal.)

Return to Client _____ **Disposal by Lab** _____

FOR LAB USE ONLY

Received By _____ **Date/Time** _____

WHITE - Original, to accompany samples
YELLOW - Field copy

INTERNATIONAL TECHNOLOGY CORPORATION

CHAIN-OF-CUSTODY RECORD

R/A Control No. B-Ta103

C/C Control No. 159657

PROJECT NAME/NUMBER FMC / 412468 LAB DESTINATION Cerritos

SAMPLE TEAM MEMBERS Sherri Williams / Linda Weaver CARRIER/WAYBILL NO. 7881358 3165

Sample Number	Sample Location and Description	Date and Time Collected	Sample Type	Container Type	Condition on Receipt (Name and Date)	Disposal Record No.
FMC CU42	Stockpile Air	7-30-91, 0940	Air	Cassette		
FMC B43	Blank		↓	↓		
[redacted]						
				Mount	7-29	
				↓		

COPY

Special Instructions:

Possible Sample Hazards: Copper

SIGNATURES: (Name, Company, Date and Time)

1. Relinquished By: Sherri Williams, IT Corp, 7-30-91, 1300
   Received By:
2. Relinquished By:
   Received By:
3. Relinquished By:
   Received by:
4. Relinquished By:
   Received By:

WHITE - To a[illegible] any samples
YELLOW - Fi[illegible]y

INTERNATIONAL TECHNOLOGY CORPORATION

REQUEST FOR ANALYSIS

R/A Control No. B - 132
C/C Control No. 159682

PROJECT NAME: FMC
PROJECT NUMBER: 142468
PROJECT MANAGER: Gene Lovett
TO: 4585 Pacheco Blvd
Martinez, CA

PURCHASE ORDER NO. 2221

DATE SAMPLES SHIPPED:
LAB DESTINATION: IT Cerritos
LABORATORY CONTACT: Tracy Sidwell
SEND LAB REPORT TO: IT Corp. C/O FMC
8787 Enterprise Dr
Newark, CA

DATE REPORT REQUIRED:
PROJECT CONTACT: Sherri Williams
PROJECT CONTACT PHONE NO. 415-795-4395

Sample No.	Sample Type	Sample Volume	Preservative	Requested Testing Program	Special Instructions
FMC TD22	Air	840L		NIOSH 0500	
FMC Cu23	↓	840L		NIOSH 7029	
FMC Hg24		63L		NIOSH 6000	
FMC B-25		—		NIOSH 0500	
FMC B-26		—		NIOSH 7029	
FMC B-27		—		NIOSH 6000	
				~~NIOSH~~	

TURNAROUND TIME REQUIRED: (Rush must be approved by the Project Manager.)

Normal _____ **Rush** X (Subject to rush surcharge)

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances)

Nonhazard _____ **Flammable** _____ **Skin Irritant** _____ **Highly Toxic** _____ **Other** _____ **(Please Specify)**

SAMPLE DISPOSAL: (Please indicate disposition of sample following analysis. Lab will charge for packing, shipping, and disposal.)

Return to Client _____ **Disposal by Lab** _____

FOR LAB USE ONLY

Received By _____ **Date/Time** _____

WHITE - Original, to accompany samples
YELLOW - Field copy

INTERNATIONAL TECHNOLOGY CORPORATION

ANALYTICAL SERVICES

CERTIFICATE OF ANALYSIS

IT CORPORATION
4585 PACHECO BLVD
MARTINEZ CA 94553
GENE LOVETT

Date: 08/08/91

Work Order: C1-08-041

Project/P.O.#: 142468
FMC

This is the Certificate of Analysis for the following samples:
Client Work ID: FMC/ 142468
Date Received: 08/07/91 142468
Number of Samples: 4
Sample Type: AIR

Samples were labeled as follows:

SAMPLE IDENTIFICATION	LABORATORY #
FMC CU 44	C1-08-041-01
FMC B 45	C1-08-041-02
BLANK SPIKE	C1-08-041-03
METHOD BLANK	C1-08-041-04

Reviewed and Approved:

Tracy Sidwell

Tracy Sidwell
Project Manager

Company: IT CORPORATION
Date: 08/08/91
Client Work ID: FMC/ 142468 142468

IT ANALYTICAL SERVICES
CERRITOS, CA

Work Order: C1-08-041

CLIENT SAMPLE ID	FMC CU 44	FMC B 45	BLANK SPIKE	
LAB SAMPLE ID	C1-08-041-01	C1-08-041-02	C1-08-041-03	
SAMPLED	08/05/91	08/05/91		
TEST				UNITS
COPPER	ND	ND	106	
	[0.0006]	[0.5]	[--]	
	08/07/91	08/07/91	08/07/91	
	MG/M3	UG	%REC	

ND indicates the parameter was not detected.
Detection limits are specified in [].
NC indicates the parameter was not calculated.

Company: IT CORPORATION
Date: 08/08/91
Client Work ID: FMC/ 142468 142468

IT ANALYTICAL SERVICES
CERRITOS, CA

Work Order: C1-08-041

CLIENT SAMPLE ID	METHOD BLANK	
LAB SAMPLE ID	C1-08-041-04	
SAMPLED		
TEST		UNITS
COPPER	ND [0.5] 08/07/91	UG

ND indicates the parameter was not detected.
Detection limits are specified in [].
NC indicates the parameter was not calculated.

Company: IT CORPORATION
Date: 08/08/91
Client Work ID: FMC/ 142468

IT ANALYTICAL SERVICES
CERRITOS, CA

142468

Work Order: C1-08-041

TEST NAME **COPPER**

TEST CODE **CU_ICP**

Copper was analyzed by inductively coupled argon plasma (ICP) spectroscopy according to NIOSH method 7029.

INTERNATIONAL TECHNOLOGY CORPORATION

CHAIN-OF-CUSTODY RECORD

R/A Control No. 67806

C/C Control No. 159655

PROJECT NAME/NUMBER FMC / 142468

LAB DESTINATION Cerritos

SAMPLE TEAM MEMBERS Linda Weaver

CARRIER/WAYBILL NO.

Sample Number	Sample Location and Description	Date and Time Collected	Sample Type	Container Type	Condition on Receipt (Name and Date)	Disposal Record No.
FMC C444	Stockpile Air	8-5-91, 0630	Air	Cassette		
FMC B45	— —		Blank	↓		

Special Instructions:

Possible Sample Hazards: Copper

SIGNATURES: (Name, Company, Date and Time)

1. Relinquished By: Shirin Williams, IT Corp, 8-6-91, 1135

   Received By:

2. Relinquished By:

   Received By:

3. Relinquished By:

   Received by:

4. Relinquished By:

   Received By:

WHITE - To a[illegible] any samples
YELLOW - Fie[illegible] y

INTERNATIONAL TECHNOLOGY CORPORATION

REQUEST FOR ANALYSIS

R/A Control No. B 062
C/C Control No. _____

PROJECT NAME: FMC
PROJECT NUMBER: 142468
PROJECT MANAGER: Gene Lovett
BILL TO: IT Corp, 4585 Pacheco Blvd, Martinez, CA
PURCHASE ORDER NO.: 2221

DATE SAMPLES SHIPPED: 8-6-91
LAB DESTINATION: Cerritos
LABORATORY CONTACT: Tracy Sidwell
SEND LAB REPORT TO: IT Corp, 4585 Pacheco Blvd, Martinez, CA
DATE REPORT REQUIRED: _____
PROJECT CONTACT: Sherri Williams
PROJECT CONTACT PHONE NO.: 415-372-9100

Sample No.	Sample Type	Sample Volume	Preservative	Requested Testing Program	Special Instructions
FMC CU 44	Air	840L		NIOSH 7029	
FMC B-45	↓	—		↓	

COPY

TURNAROUND TIME REQUIRED: (Rush must be approved by the Project Manager.)

Normal _____ **Rush** X (Subject to rush surcharge)

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances)

Nonhazard _____ **Flammable** _____ **Skin Irritant** _____ **Highly Toxic** _____ **Other** _____ **(Please Specify)**

SAMPLE DISPOSAL: (Please indicate disposition of sample following analysis. Lab will charge for packing, shipping, and disposal.)

Return to Client _____ **Disposal by Lab** _____

FOR LAB USE ONLY

Received By _____ **Date/Time** _____

WHITE - Original, to accompany samples
YELLOW - Field copy

APPENDIX C

VERIFICATION AND WASTE SAMPLING CERTIFICATES OF ANALYSIS AND CHAIN OF CUSTODY FORMS

STATE OF CALIFORNIA - ENVIRONMENTAL PROTECTION AGENCY PETE WILSON, Governor

DEPARTMENT OF TOXIC SUBSTANCES CONTROL
700 HEINZ AVENUE, SUITE 200
BERKELEY, CALIFORNIA 94710

October 28, 1991

Ms. Barbara Ransom
Environmental Project Manager
The Leslie Salt Company
P.O. Box 344
Newark, California 94650

Dear Ms. Ransom:

CERTIFICATION OF COMPLETION: REMEDIAL ACTION PLAN

The Department has reviewed the final report for implementation of remedial actions at the Leslie Salt/FMC Magnesia Waste Pile Site. We find that the remedial actions, as detailed in the report, have addressed all the concerns expressed in the Remedial Action Plan. Therefore, the Department certifies that the Site has been adequately remediated. Enclosed with this letter is a copy of the certification form which have been filed.

There is one portion of the final report, however, that needs to be edited. In the title of the report and in several places in the text, you refer to the actions taken as "Final Closure". Please be aware that the actions taken did not achieve the standards as prescribed in 40 CFR 264.258, nor did they include the requirements of 40 CFR 264, Subpart G. Therefore, the Department cannot approve the "certification of site closure" or the "final closure report". Please remove all mention of "Closure" from the report.

If you have any questions or comments, you can contact Frank Gaunce at (510) 540-3834 or myself at (415) 540-3749.

Sincerely,

Robert Feather
Waste Management Engineer
Region 2

Enclosed

REMEDIAL ACTION CERTIFICATION FORM
TRANSMITTAL SHEET

The Leslie Salt/FMC Magnesia Waste Pile Site
Name of Hazardous Waste Site or RCRA facility

Regional Project Manager	October 18, 1991 Date
Senior Project Manager, Site Mitigation	Oct 21, 1991 Date
Regional Site Mitigation Unit Chief	Oct 24, 1991 Date
Regional Section Chief	10/25/91 Date

Please return completed Certification Form to:

XXXXX Chief, HQ Site Mitigation Planning and Policy Unit

REMEDIAL ACTION CERTIFICATION FORM
(Please type or print in black ink only)

---

1. Site Name and Location: (Street address, County, City and Assessor's parcel number):

   Leslie Salt/FMC Magnesia Waste Pile
   West of Enterprise Drive in the City of Newark
   Alameda County, California (see attached map)

   A. List any other names that have been used to identify sites: Leslie Salt Company Site; Magnesia Pile Site

   B. Address of site if different from above: _____

   C. Assessor's Parcel Numbers: _____

2. Responsible Parties: (Use extra pages if necessary.)

Name:	Peter Olenkiewicz	Name:	Barbara Ransom
Title:	Environ. Engineer	Title:	Envir. Proj. Manager
Firm:	FMC Corporation	Firm:	The Leslie Salt Co.
Address:	~~2000~~ 1735 Market Street	Address:	72~~00~~ 20 Central Drive P.O. Box 364
City:	Philadelphia, PA	City:	Newark, CA
Zip Code:	19103	Zip Code:	94560
Telephone:	(215) 299-6572	Telephone:	(510) 790-8182

Relationship to Site: (such as generator, hauler, etc.): FMC generated wastes which were disposed of on Leslie Salt prop.

Current Landowner/~~Operator~~: The Leslie Salt Company

3. Brief Description and History of the Site: From 1929 to 1968 the Site was used for the disposal of process waste from the adjacent FMC facility. The wastes were mostly magnesium oxides and related by-products. Some copper and mercury contaminated material and trash was included in the wastes. Approximately 550 cubic yard of copper contaminated material was removed from the Site in 1985. Post removal sampling indicated the presence of additional copper and mercury contaminated material. Approximately 6600 cubic yards of contaminated material was removed from the Site in the spring and summer of 1991. Post removal sampling indicate that pre-determined clean-up standards have been met.

4. Type of Site:

Is the Site included in the Bond Expenditure Plan?

Yes XXXXX No _____

RCRA-Permitted Facility _____ Bond-funded _____

RCRA Facility Closure _____ RP-funded XXXXX

Federal Facility _____ NPL* _____

Other (i.e., walk-in) _____ Explain Briefly: _____

5. Size of the Site:

Small _____ Medium XXXXX Large _____ Extra-Large _____

6. Dates of Remedial Action:

a. Initiated: Phase I: 6-85 b. Completed: Phase I: 10-85

Phase II: 5-91 Phase II: 8-91

* Per SARA, any NPL site that is not permanently cleaned must be scheduled for a follow-up visit after 5 years to verify that clean-up measures are still satisfactory.

7. Response Action Taken on Site: (check appropriate action)

_____ Initial Removal or Remedial Action (site inspection/sampling)
XXXXX Final Remedial Action
_____ RCRA enforcement/closure action
_____ No action, further investigation verified that no clean-up action at the site was needed.

A. Type of Remedial Action (e.g. Excavation and redisposal, on-site treatment, etc.):

Excavation of material contaminated with copper, napthalene and oily wastes; redisposal at the USPCI Class I landfill in Clive Utah.

B. Estimated quantity of waste associated with the site (i.e., tons/gallons/cubic yards) which was:

1. _____ treated Amount: _____
2. _____ untreated (capped sites) Amount: _____
3. XXXXX removed Amount: 6585 cubic yds (9800 tons)

8. Cleanup Levels/Standards:

a. What were the cleanup standards established by DHS pursuant to the final remedial action plan (RAP) or workplan (if cleanup occurred as the result of a removal action (RA) or interim remedial measures (IRM) prior to development of a RAP)?:

20 ppm total mercury; 2,500 ppm total copper (TTLCs)

b. Were the specified cleanup standards met? Yes XXX No ___

c. If "no", why not: _____

9. DHS Involvement in the Remedial Action:

A. Did the Department order the Remedial Action?
Yes XXXXX No _____ Date of Order: July 25, 1988

B. Did the Department review and approve (check appropriate action and indicate date of review/approval, if done):

XXXXX	Sampling Analysis Procedures	Date: 5-88
XXXXX	Health & Safety Protections	Date: 3-91
XXXXX	Removal/Disposal Procedures	Date: 3-91
XXXXX	Removal Action Plan	Date: 3-91

C. If site was abated by a responsible party, did the Department receive a signed statement from a licensed professional on all Remedial Actions?
Yes XXXXX No _____ Dates (from): **4-91 to 10-91**

D. Did a registered engineer or geologist verify that acceptable engineering practices were implemented?
Yes XXXXX No _____ Dates (from): **4-91 to 10-91**

E. Did the Department confirm completion of all Remedial Action?
Yes XXXXX No _____ Dates (from): **October 1991**

F. Did the Department (directly of through a contractor) actually perform the Remedial Action?
Yes _____ No XXXXX Dates (from):

G. Was there a community relations plan in place?
Yes XXXXX No _____

H. Was a remedial action plan developed for this site?
Yes XXXXX No _____

I. Did DHS hold a public meeting regarding the draft RAP?
Yes XXXXX No _____

J. Were public comments addressed? Yes XXXXX No _____
Date of DHS analysis/response: **10-90**

K. Are all of the facts cited above adequately documented in the DHS files? Yes XXXXX No _____

If no, identify areas where documentation is lacking:

10. EPA Involvement in the Remedial Action:

A. Was the EPA involved in the site cleanup?
Yes XXXXX No _____

B. If yes, did EPA concur with all remedial actions?
Yes _____ No _____

C. EPA comments: _____

_____

EPA staff involved in cleanup: (name, title, address,

and phone number): _____

_____

11. Other Regulatory Agency Involvement in the Cleanup Action:

Agency:	Activity:
XXXXX RWQCB	Concurrence
_____ ARB	_____
_____ CHP	_____
_____ Caltrans	_____
XXXXX Other	Concurrence from Alameda County; Newark

Name of contact persons and agency:

Rafat Shahid, Alameda County Health: (510) 271-4320
Jacqueline Bretschneider, City of Newark: (510) 790-7254

12. Post Closure Activities:

A. Will there be post-closure activities at this site? (e.g. Operations and Maintenance) Yes _____ No XXXXX

If yes, describe: _____

_____

B. Have post-closure plans been prepared and approved by the Department? Yes _____ No XXXXX

C. What is the estimated duration of post-closure (including Operations and Maintenance) activities? _____ years.

D. Are deed restrictions proposed or in place? Yes _____ No XXXXX

If "yes", have deed restrictions been recorded with the County recorder? Yes _____ No _____
If "no", who is responsible for assuring that the deed restrictions are recorded? _____

Who is the Division contact? _____
name/phone number

E. Has cost recovery been initiated? Yes XXXXX No _____

If yes, amount received $ _____; _____% of DHS costs.

F. Were local planning agencies notified of the cleanup actions? Yes XXXXX No _____

If yes, the name and address of the agency:

Ken Buck, Director of Development Services
Newark City Hall
37101 Newark Boulevard
Newark, California 94560
(510) 790-7206

13. Expenditure of Funds and Sources: (Information to be supplied by Toxic Accounting Unit.)
Funding Source and amount expended:

_____HWCA $ _____ _____HSA $ _____

_____HSCF $ _____ _____RCRA $ _____

XXXXXRP $ 3,000,000.00___ _____Other $ _____

_____Federal Cooperative Agreement $ _____

14. Certification Statement: Based upon the information which is currently and actually known to the Department,

XXXXX The Department has determined that all appropriate response actions have been completed, that all acceptable engineering practices were implemented and that no further removal/remedial action is necessary.

_____ The Department has determined, based upon a remedial investigation or site characterization that the site poses no significant threat to public health, welfare, or the environment and therefore implementation of removal/remedial measures is not necessary.

_____ The Department has determined that all appropriate removal/remedial actions have been completed and that all acceptable engineering practices were implemented: however, the site requires ongoing operation and maintenance (O&M) and monitoring efforts. The site will be deleted from the "active" site list following (1) a trial operation and maintenance period and (2) execution of a formal written settlement between the Department and the responsible parties, if appropriate. However, the site will be placed on the Department's list of sites undergoing O&M to ensure proper monitoring of long-term clean-up efforts.

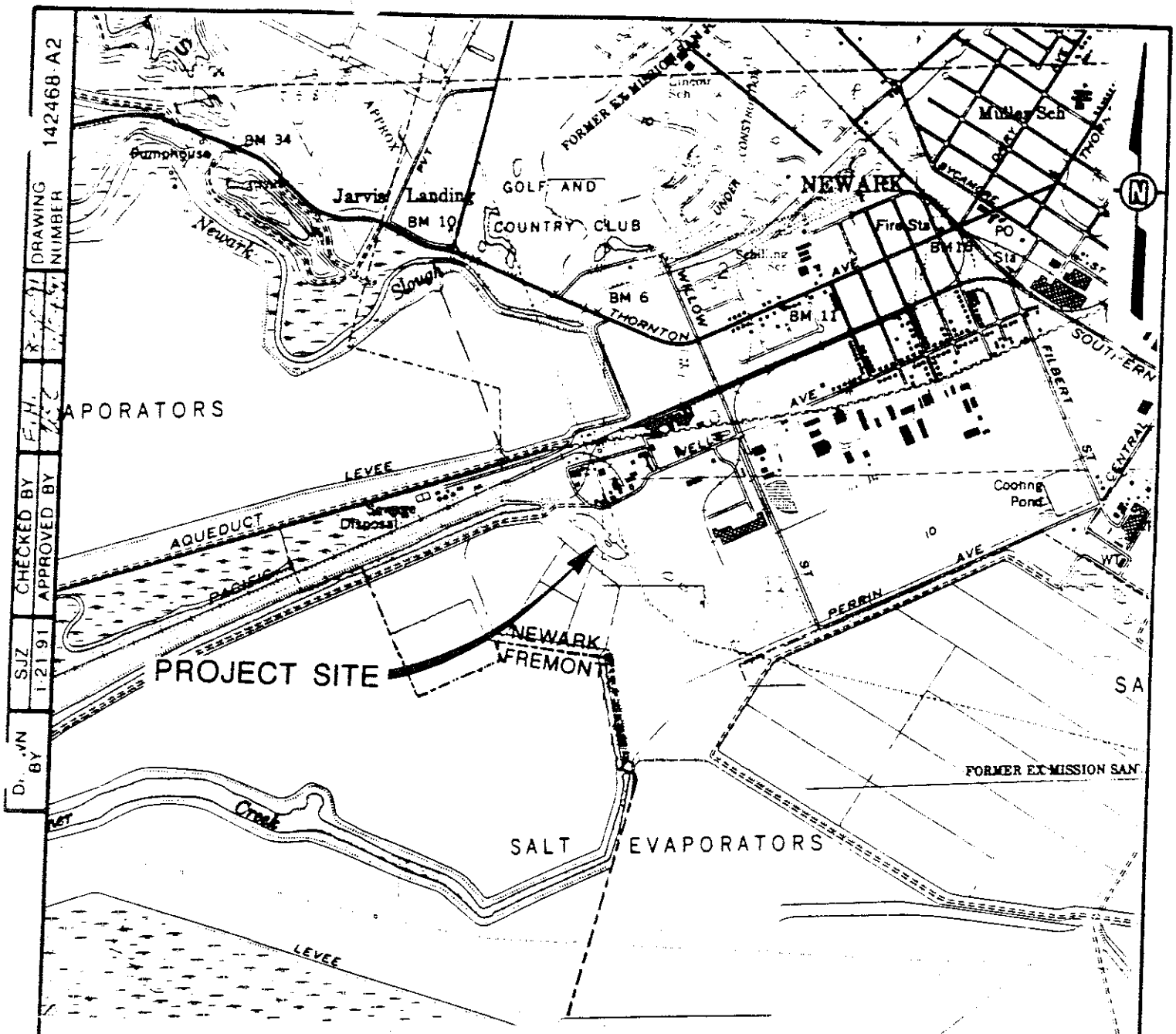
15. Additional Comments: _____

_____

16. <u>Certification of Remedial Action</u>:

I hereby certify that the foregoing information is true and correct to the best of my knowledge.

1.	Project Manager	October 18, 1991 Date
2.	Sr. Project Manager, Site Mitigation	Oct. 21/91 Date
3.	Unit Chief	Oct 24, 1991 Date
4.	Regional Section Chief	10/25/91 Date
5.	Registered Engineer/Geologist C40255	Oct 24, 1991 Date



SCALE

0 2000 4000 FEET

FIGURE 2

SITE VICINITY MAP
MAGNESIA WASTE PILE SITE

PREPARED FOR

LESLIE SALT/FMC
NEWARK CALIFORNIA

REFERENCE
USGS 7.5 TOPOGRAPHIC QUADRANGE OF NEWARK CA
DATED 1959 PHOTOREVISED 1980 SCALE: 1:24 000

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ALL COPYRIGHTS RESERVED

INTERNATIONAL TECHNOLOGY CORPORATION

Phase II
Cargill Site
June 19, 2001

Complete Copy

(based on Ph I dated Oct. 1988)

PHASE II SOIL AND GROUNDWATER INVESTIGATION PROPOSED OHLONE COLLEGE CAMPUS AREA 2 Newark, California

City of Newark
Newark, California

19 June 2001
Project No. 3085.01

Treadwell&Rollo
Environmental and Geotechnical Consultants

Treadwell&Rollo

19 June 2001
Project 3085.01

Mr. Jim Reese
Community Development Director
37101 Newark Boulevard
Newark, California 94028-7592

Subject: Phase II Soil and Groundwater Investigation at Area 2
Newark, California 94560-3796

Dear Mr. Reese:

Our Phase II Soil and Groundwater Investigation report for the Cargill Salt Area 2 property located in Newark, California is attached.

Our scope of services for this project included completing a Phase II Soil and Groundwater Investigation at the site in accordance with our proposal with the City of Newark, dated 7 December 2000, and our additional sampling proposal dated 9 May 2001. All proposed work was approved prior to execution. In performing this site investigation, we have endeavored to observe that degree of care and skill generally exercised by other consultants undertaking similar studies at the same time, under similar circumstances and conditions, and in the same geographical area.

We appreciate the opportunity of assisting you with this project.

If you have any questions, please contact us.

Sincerely yours,
TREADWELL & ROLLO, INC.

David G. Dixon, R.G.
Senior Project Manager

REGISTERED GEOLOGIST
DAVID G. DIXON
No. 7066
STATE OF CALIFORNIA

Philip G. Smith, REA II
Principal Geologist

30850102.JDG

Attachment

Treadwell & Rollo, Inc. *Environmental & Geotechnical Consultants*
555 Montgomery Street, Suite 1300, San Francisco, CA 94111
Telephone (415) 955-9040 Facsimile (415) 955-9041

PHASE II SOIL AND GROUNDWATER INVESTIGATION PROPOSED OHLONE COLLEGE CAMPUS AREA 2 Newark, California

City of Newark
Newark, California

19 June 2001
Project No. 3085.01

Treadwell&Rollo
Environmental and Geotechnical Consultants

Treadwell&Rollo

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Treadwell&Rollo

PHASE II SOIL AND GROUNDWATER INVESTIGATION
Proposed Ohlone College Campus
Area 2
Newark, California

EXECUTIVE SUMMARY

Treadwell & Rollo, Inc. (Treadwell & Rollo) completed a soil and groundwater investigation for the City of Newark at the proposed Ohlone Community College campus, in Area 2, Newark, California (Project Site). Treadwell & Rollo previously prepared an October 1998 report titled *Hazardous Materials and Geotechnical Evaluation* (Treadwell & Rollo, 1998) which identified potential and recognized environmental conditions at the site. The October 1998 report was prepared for the City of Newark as part of the Specific Plan study for the area. This investigation was designed to address hazardous materials identified in the October 1998 report. To assess the possible presence of hazardous materials at the site we completed the following tasks: 1) reviewed the site history and previous investigations conducted at the site, 2) collected grab groundwater samples from the site for chemical analysis, 3) collected surface soil samples, in the areas of the pistol range and the former skeet shooting range, for chemical analysis, 4) evaluated groundwater and soil chemical results, and 5) estimated potential impacted soil excavation volumes.

Results of our assessment indicate the following:

- Groundwater at the project site has been found in two distinct water-bearing zones, the shallow zone, extending from about 2 to 20 feet below ground surface (bgs), and the Newark aquifer, extending from approximately 50 to 70 feet bgs. The two water-bearing zones are separated by the approximately 30-foot thick Newark aquitard (FMC, 2001a).
- Groundwater at two sampling locations of the project site had detectable concentrations of volatile organic compounds (VOCs).

- Polycyclic aromatic hydrocarbons (PAHs) and total lead were found at concentrations exceeding industrial Preliminary Remedial Goals (PRGs), established by the Environmental Protection Agency (EPA), in shallow soil in the vicinity of the former skeet shooting range and in the soil and debris stockpiles. In some areas total and soluble concentrations of lead exceed state and federal hazardous waste criteria.
- Total lead concentrations exceeded industrial PRGs in shallow soil samples taken from the pistol range berm. Total lead concentrations in the berm area exceed state hazardous waste criteria.
- Because lead contamination is limited to the shallow soil at the skeet and pistol ranges, we recommend soil excavation and removal as the most economical and effective remedial method. Estimated soil excavation volumes are presented in this report.

1.0 INTRODUCTION AND BACKGROUND

This report presents the results of our Phase II Soil and Groundwater Investigation (investigation) for the proposed Ohlone Community College campus in Newark, California (Project Site) (Figure 1). The project site is comprised of a portion of Area 2, owned by Cargill Salt. The 63-acre project site is bounded by Hickory Street to the east, the former FMC Corporation (FMC) land to the north, brine retention ponds to the west and portions of the Don Edwards San Francisco Bay National Wildlife Refuge to the south (Figure 2). The City of Newark proposes to purchase the project site.

The following sections describe the significant environmental issues identified in the 1998 Treadwell & Rollo report.

1.1 Magnesia Pile

From 1929 to 1969, FMC disposed of waste materials, including unrecoverable magnesia, dolomite, and gypsum by-product at the magnesia waste pile located in the northern portion of the project site (Figure 2). The magnesia waste pile, reportedly comprised of up to several

hundred thousand cubic yards of magnesia waste material, is known to be corrosive, but has been classified as non-hazardous by the Department of Toxic Substances Control (Spangle Associates, 1998). FMC and Cargill began removing the material and disposing of it at a landfill in September 1998. The City of Newark Fire Department Hazardous Materials (NFD) coordinator reviewed the removal action and subsequent soil sampling and analyses to confirm that all hazardous materials were removed (Treadwell & Rollo, 2001).

According to FMC approximately 140,000 cubic yards of magnesia materials were removed in 1998 and 1999. The materials were reused at Waste Management Inc. at their Altamont and Tri-City landfills. On 16 November 2000 Miguel Trujillo, Hazardous Materials Specialist, of NFD issued a letter to FMC stating that removal actions at the magnesia pile were complete (Appendix A) (City of Newark, 2000).

1.2 Pistol and Former Skeet Shooting Ranges

The Newark Sportsman Club (club) leased a portion of the project site starting in 1969 and the lease was carried through May 1995. During this time the Newark Sportsman Club used a portion of the site, shown of Figure 2, as a skeet shooting range. In April 1994, the Regional Water Quality Control Board (RWQCB), San Francisco Bay Region issued order number 94-096 requiring the potential lead contamination be investigated by the club and a remedial action plan be developed and implemented. Due to lack of compliance with the RWQCB's letter the club's tenancy at the site expired on May 31, 1995. The extent of potential lead contamination around the former club location was not evaluated

The former club site was subsequently rented by the Witmer-Tyson Police Dog School and the Menlo Park Schutzhund Club, both German shepherd training facilities. Various Bay Area police departments as well as private dog trainers utilize the facility. According to long-time occupants of the dog training facility, surficial soil and debris (i.e. lead shot and clay pigeons) located west-southwest of the clubhouse had been excavated and stockpiled. Depth of this excavation was estimated to be approximately 0.5 feet bgs. Imported soil, comprised mostly of

clay, was imported from an adjacent area to the south and a pad was developed to train the dogs on. The surface of the imported pad lies approximately 0.5 feet above the original ground surface. The locations of the imported pad and the soil and debris stockpiles are shown in Figure 3.

The City of Newark has leased a portion of the project site north of the former skeet shooting range since July 1975. The City of Newark has and continues to use the property as a pistol firing range for local police departments. The pistol range consists of five firing areas and a soil berm with five target areas. The soil berm lies between two serpentinite rock outcrops and extends approximately 15 feet above ground surface. No previous investigations have been conducted at the pistol range to evaluate potential lead contamination.

1.3 4-Parties Groundwater Plume

Several phases of soil and groundwater investigations and remediation have been completed by others at properties adjacent to the project site. A regional groundwater contamination plume, which has affected the shallow aquifer at properties to the north and west, has been identified by the RWQCB. Four offsite facilities (Ashland Chemical, FMC Corporation, Romic Chemical, and Jones-Hamilton) have been named by the RWQCB as the responsible parties and are referred to as the "4-Parties". The shallow aquifer at these facilities plus portions of the aquifer at the Cargill and Turian parcels (Figure 2) is affected predominantly with pentachlorophenol and 1,2-dichloroethane (1,2-DCA). Additionally, relatively low concentrations of 1,2-DCA have been found in some areas of the deeper Newark Aquifer. Each of the 4-Parties sites is currently operating a groundwater remediation system, and conducting quarterly groundwater monitoring. The western edge of the 4-Parties plume extends into the northern portion of the project site where it is monitored by seven groundwater wells (B-26, B-27, B-28, B-30, W-21, W-22, and W-25). Figure 2 shows the monitoring well locations and Table 1 summarizes the analytical results of recent samples collected from the wells.

1.4 Asbestos Containing Serpentinite

Serpentinite rock is present at the outcrops by the pistol range, and reportedly below the former magnesia pile location. Serpentinite has naturally occurring concentrations of asbestos, and occasionally nickel and chromium, which can exceed hazardous waste criteria. These naturally occurring substances are not regulated as a hazard if left in place. If the proposed development requires that the serpentinite outcrops be removed, the material could be managed as non-hazardous fill if left onsite and managed appropriately. Offsite disposal would require sampling and characterization as a potentially hazardous waste.

2.0 PURPOSE AND SCOPE OF SERVICES

The purpose of this investigation was to evaluate environmental issues identified in Treadwell & Rollo's October 1998 report for the project site (Treadwell & Rollo, 1998). These environmental issues include potential lead and PAH contamination at the pistol and skeet shooting ranges, contaminated groundwater from the 4-Parties plume, magnesia pile residue, and asbestos-containing serpentine bedrock outcrops near the shooting ranges and below the former magnesia pile location. In order to address these issues we established baseline groundwater quality levels at the project site and sampled and analyzed soil around the former shooting ranges. This investigation was performed to determine if remedial measures may be required at the project site, and to provide data to develop and implement appropriate soil and groundwater management procedures for potential site development. The scope of work for this assessment included:

- Reviewing soil and groundwater data collected by others
- Collecting groundwater samples from 5 borings for chemical analyses to evaluate water quality;
- Collecting 215 soil samples from 118 locations for chemical analyses to evaluate soil quality in the area of the former firing ranges.

- Reviewing soil and groundwater conditions and chemical analytical results to develop recommendations for soil remediation, evaluate soil and groundwater management procedures for potential site development, and make recommendations for additional work if required;
- Preparing this report.

3.0 GEOLOGY AND HYDROGEOLOGY

Geology

Ground surface elevations at the project site vary from about 4 to 10 feet above mean sea level (MSL) except at the serpentine outcrops at the former magnesia waste pile and pistol range which reach approximately 40 and 20 feet above MSL, respectively. According to investigations conducted in the vicinity of the project site, the native surface clay/silt is underlain by loose to medium dense silty sand/sand approximately 8 to 12 feet thick. The sand beneath some portions of the site is underlain by soft to medium stiff clay known as Bay Mud. The Bay Mud at the site is about 2 to 9 feet thick. Below the Bay Mud or sand are interbedded layers of medium stiff to hard silt and clay and medium dense to very dense sand with gravel. These soils extend to the maximum depths explored (about 51 feet).

The serpentine outcrops are southerly outliers of a north-south trending chain of outcrops known as the Coyote Hills (Geosystem, 1997). The alluvium in this area is reported to be up to 350 feet deep and rests atop Franciscan Formation bedrock.

Hydrogeology

Groundwater was reportedly encountered during previous geotechnical and environmental investigations at the site and vicinity at depths ranging from 3 to 9 feet bgs. Periodic fluctuations in groundwater elevations may occur because of natural processes such as the infiltration of rainfall and tidal influences within the Bay.

A shallow aquifer at the site vicinity has been reported to extend from approximately 3 to 20 feet bgs and consists of silty clay and clayey sand. The Newark Aquifer, comprised of interbedded sand and silt layers extends from approximately 50 to 70 feet bgs and is separated from the shallow aquifer by the 30 foot thick Newark Aquitard.

Based on previous investigations that we have reviewed and the regional topography, we estimate that groundwater flow direction over most of the site is likely west towards San Francisco Bay, and in the northern portion of the site likely shifts northwesterly towards the Newark Slough drainage area. There are local variations in the groundwater flow direction in the vicinity of the Jones Hamilton, Romic, Ashland, and FMC facilities (Figure 2) caused by the groundwater extraction systems operating at these facilities. These systems are designed to: (1) depress the groundwater elevation of the shallow aquifer at each facility to prevent offsite migration of contaminants; (2) to recapture some contaminants that have migrated just offsite, and; (3) to extract and treat contaminated groundwater in activated carbon filtration systems prior to discharge to the sanitary sewer (Treadwell & Rollo, 1998).

Groundwater Usage

Other than the groundwater remediation operations described above, there is no evidence of groundwater use at the site or vicinity.

4.0 PHASE II SOIL AND GROUNDWATER INVESTIGATION

The soil and groundwater sampling and analysis program was formulated to assess the potential presence of VOCs and petroleum hydrocarbons in groundwater and to characterize potential shallow soil contamination at the pistol and skeet shooting ranges.

The sampling program included the following tasks:

- Contacted Underground Services Alert (USA) to help establish the approximate location of subsurface utilities within the area to be explored;

- Performed a subsurface survey by California Utility Surveys, an underground utility locator, to clear each boring location for underground utilities;
- Collected hydropunch groundwater samples from five borings and submitted them to an analytical laboratory to be analyzed for Total Petroleum Hydrocarbons (TPH) as gasoline (TPHg), diesel (TPHd) and motor oil (TPHmo) by EPA Method 8015M and volatile organic compounds (VOCs) by EPA Method 8260, as detailed in Table 2; and
- Collected 215 soil samples from 118 sampling locations and submitted them to an analytical laboratory where selected samples were analyzed for total lead, total copper, and/or PAHs as detailed in Tables 3 and 4;

4.1 Groundwater Investigation

In order to establish baseline groundwater quality characteristics, five sample locations were selected by Treadwell & Rollo to provide spatial coverage of areas previously not investigated across the site. On March 15, 2001, Vironex Inc. (Vironex), of San Leandro, California, used a Geoprobe 5400 drill rig utilizing direct-push sampling technology to collect 5 grab groundwater samples from locations across the site (Figure 2). Groundwater samples at locations GW-1, GW-3, GW-4, and GW-5 were collected by pushing a solid two-inch casing to a depth of eight feet below ground surface (bgs) then placing a new, clean 1-inch diameter screened section of polyvinyl chloride (PVC) casing into the open borehole. Once the casing was in place new, disposable bailer was used to collect the sample volume to be analyzed for VOCs. Groundwater collected in the bailer was immediately transferred into appropriate laboratory-supplied containers for analysis. A peristaltic pump with new, clean polyethylene tubing was used to pump groundwater from the PVC casing directly into the appropriate laboratory-supplied containers for TPHg, TPHd and TPHmo analysis. The sample containers were sealed, labeled, and placed in a cooler with ice (water-based) and maintained at an EPA prescribed temperature of 4 degrees Celsius until delivery to McCampbell Analytical, Inc. (McCampbell), a California certified analytical laboratory, of Pacheco, California. Groundwater samples were labeled

according to the boring from which they were collected (i.e. groundwater sample GW-1 was collected from boring GW-1).

4.2 Soil Investigation

On 21-23 March 2001, Treadwell & Rollo collected surface and shallow soil samples at the pistol range and the skeet shooting range and its associated soil and debris stockpiles. On March 21, 2001, a surveyed sampling grid, consisting of rows A through F (Figure 3), was established with equidistant sampling points placed on 75-foot centers in the area of the former skeet shooting range. A second grid, on 50-foot centers, in the area of the pistol range was established and sampled on 23 March 2001. The sampling grids were set up to evaluate lead contamination up to 360 feet away from the historic firing areas. In addition to the sampling grids, five stockpile sampling locations were identified at four stockpiles located in the area of the former skeet shooting range (Figure 3). The stockpiles appeared to be a mixture of soil and clay pigeon debris.

Due to elevated levels of lead in the F row of samples, Treadwell & Rollo returned to the site on three additional occasions, 12 April, 7 May and 17 May 2001, to expand the sampling grid at the former skeet shooting range and collect additional samples. Additional rows were added to the sampling grid (i.e. rows G through N) and additional samples were collected in an effort to characterize lead contamination extending westward across the subject site. Lead shot and shotgun shells were observed in the H row area (Figure 3), which indicates skeet shooting may have been taking place up to 400 feet west of the historic shooting area.

One hundred and eighteen sampling locations were established in the areas of the former shooting ranges and debris and soil stockpiles. Two hundred and fifteen surface soil samples were collected using a hand auger, a slide hammer with a 2-inch sampling spoon or a sampling trowel. At the desired sampling location a clean hand auger was used to remove any surface vegetation from the sampling location. Once the sampling location was clear of vegetation, a decontaminated slide hammer or sampling trowel was used to sample surface soil within the

interval of 0 to 0.5 feet below ground surface (bgs). All deeper samples, 0.5 to 1.0 feet bgs, 1.0 to 1.5 feet bgs, and 1.5 to 2.0 feet bgs were collected with the slide hammer. When sampling with the slide hammer, soil samples were collected in 2-inch diameter by 6-inch long stainless, steel sampling tubes. Following collection, sample tubes were immediately covered with Teflon™ sheets, capped with tight-fitting plastic end caps, labeled, sealed in plastic bags, then placed in an ice-cooled chest until delivery to the analytical laboratory. When sampling with the sampling trowel, soil samples were transferred with a decontaminated sampling trowel directly into a laboratory-supplied 4-ounce glass-sampling jar with a Teflon lined cap. Glass sampling jars were immediately capped, labeled, sealed in plastic bags, then placed in an ice-cooled chest until delivery to the analytical laboratory. Soil samples were labeled according to their location and depth (i.e. soil collected from location A1 at the intervals 0 to 0.5 and 0.5 to 1.0 feet bgs were labeled A1-0.5 and A1-1.0, respectively). All soil sampling equipment was decontaminated by scrubbing with an Alconox™ detergent solution and triple-rinsing it with potable water prior to sampling.

4.2.1 Skeet Shooting Range

A surface soil sampling grid, comprised of 94 sample locations on 75 foot centers, was laid out to provide spatial coverage of the former skeet shooting range and delineate lead and PAH contamination associated with former skeet shooting activities. The surface soil grid was plotted using land-surveying equipment. Shallow soil was collected from each of the locations and selected samples were analyzed for total lead, soluble lead, total copper and/or PAHs.

4.2.2 Pistol Range

Nineteen surface soil sample locations were laid out to provide spatial coverage of the pistol range. Seven sampling locations were established within the pistol range berm (PR1 through PR7) and seven locations were placed within the firing area (PR8 through PR14). Due to the presence of lead bullets on the surface, only 1-foot samples were collected from the sample locations associated with the berm. The remaining five locations (D9, D10, E9, E10, and F11)

were selected to delineate lead contamination outside of the pistol range. The surface soil grid was plotted using land-surveying equipment. Surface soil was collected from each of the 19 locations and selected samples were analyzed for total lead and/or total copper.

4.2.3 Soil and Debris Stockpiles

Five stockpile sampling locations were selected from the four soil and clay pigeon stockpiles located in the area of the former skeet shooting range during this investigation. The stockpile locations, contents and sampling locations are described in Figure 3. Sample depths of corresponding samples relate to depth from the surface of the pile at the sampling location (i.e. stockpile sample SP1-1.0 was taken from Stockpile 1 at a depth of 1.0 foot from the surface). The locations of soil and debris Stockpiles 1 and 3, as described in Figure 2, has changed since the sampling of these stockpiles took place in March 2001. Stockpiles 1 and 3 appear to have been graded together in the area of former Stockpile 3.

5.0 CHEMICAL ANALYTICAL PROGRAM AND RESULTS

Following is a summary of soil and groundwater sample analytical results by types of compounds. Within each section is a data comparison with applicable regulatory action levels such as MCLs and residential PRGs, established by the United States EPA Region 9 as a conservative cleanup number for residential sites. The analytical laboratory reports are provided in Appendix B.

The groundwater samples were submitted to McCambell for chemical analysis on 16 March 2001 using chain of custody protocols. Table 2 summarizes the chemical analytical results for the five groundwater samples. The following analytical program was implemented to assess the presence of VOCs and petroleum hydrocarbons in the groundwater based on the site history and previous groundwater sampling results at the project site and adjacent sites.

Groundwater samples were analyzed for the following compounds:

- TPHg, TPHd, and TPHmo by EPA Method 8015M and;
- VOCs by EPA Method 8260; including benzene, toluene, ethylbenzene and xylenes (BTEX) compounds.

Soil samples were submitted to McCambell for chemical analysis on 26 March, 13 April, 8 May, and 18 May 2001. Tables 3 and 4 summarize the chemical analytical results for the 163 surface soil and stockpile samples analyzed. The following analytical program was implemented to assess the presence of hazardous materials in the soil based on the site history.

- PAHs by EPA Method 8270
- Total lead and total copper by EPA Method 6010
- Soluble lead by EPA Method 1311 using the Synthetic Precipitation Leachate Procedure (SPLP)
- Soluble lead by EPA Method 1310 using the Federal Toxicity Characteristic Leaching Potential (TCLP) analysis

5.1 Groundwater Analytical Results

Groundwater sample GW-1, located in the eastern central portion of the project site, did not contain detectable concentrations of petroleum hydrocarbons or VOCs. The following sections describe the petroleum hydrocarbons and VOC detected in the other samples. A complete list of groundwater analytical results can be found in Table 2.

5.1.1 Petroleum Hydrocarbons in Groundwater

TPHg was detected in groundwater samples GW-2 and GW-4 at concentrations of 63 and 50 micrograms per liter (µg/L), respectively. TPHd concentrations were 93 and 1,800 µg/L in

samples GW-4 and GW-5, respectively. TPHmo was detected at 330 µg/L in groundwater sample GW-3 and at 4,500 µg/L in sample GW-5.

Benzene, toluene, and total xylenes were detected in groundwater sample GW-4 at concentrations of 2.4, 1.9, and 0.68 µg/L, respectively. Benzene was detected above its MCL of 1.0 µg/L in groundwater sample GW-4. GW-2 contained 1.9 µg/L of ethylbenzene and 14 µg/L of xylenes. No other TPHg, TPHd, TPHmo or BTEX compounds were detected above laboratory reporting limits in other samples.

5.1.2 VOCs in Groundwater

Chlorinated solvents and related compounds were detected in samples GW-2 and GW-3. GW-3 contained carbon tetrachloride and chloroform concentrations of 1.9 µg/L and 5.1 µg/L respectively. The concentration of carbon tetrachloride in GW-3, 1.9 µg/L, exceeded its respective MCL of 0.5 µg/L. GW-3 is located in the northeastern portion of the site along the western edge of the 4-Parties Plume, and concentrations are similar to those detected in monitoring wells in this portion of the project site.

GW-2 contained concentrations of carbon tetrachloride, chloroform, 1,1-dichloroethane, 1,2-dichloroethane, and 1,1-dichloroethene, were detected in groundwater sample GW-2 at concentrations of 6.2, 17, 2.5, 18, and 1.1, µg/L, respectively. Detected concentrations of carbon tetrachloride exceeded its respective MCL of 0.5 µg/L. The detected concentration of 1,2-dichloroethane in GW-2, 18 µg/L, exceeded its respective MCL of 0.5 µg/L. GW-2 is located in the southeastern portion of the site in an area where no known use of chlorinated hydrocarbons have occurred.

5.2 Skeet Shooting Range Analytical Results

5.2.1 Lead and Copper Analyses

There are 94 sampling locations associated with the skeet shooting range and 184 samples were collected at these locations. The general analytical rationale was that all surface samples were initially analyzed, and deeper samples were analyzed if the corresponding surface sample contained total lead concentrations greater than the residential PRG of 400 milligrams per kilogram (mg/kg). Samples collected but not initially analyzed were submitted to the laboratory and placed on hold. Consequently, 139 samples were analyzed for lead and selected ones were also analyzed for total copper and/or PAHs. Table 3 summarizes the analytical results for lead and copper in soil.

Of the 134 samples analyzed for total lead, all of them had concentrations above laboratory detection limits. Twenty-seven of the samples analyzed had detected levels of total lead exceeding the EPA's November 2000 residential PRG of 400 mg/kg for lead. These samples had concentrations ranging from 460 mg/kg in sample H4-1.0 to 24,000 mg/kg in sample F4-0.5. The remaining 107 samples had total lead concentrations ranging from 4.7 to 390 mg/kg in samples.

Soil samples F1-0.5, F4-1.0, F5-1.0, and F6-1.0, were analyzed for soluble lead by the SPLP method to help evaluate lead leaching potential in soil. Samples F4-1.0, F5-1.0, and F6-1.0, which were collected directly below samples with high total lead concentrations, did not contain soluble lead above laboratory reporting limits. Sample F1-0.5, which contained a total lead concentration just below the residential PRG (390 mg/kg), had a soluble lead concentration of 1.6 mg/L.

Soil samples H2-0.5, H2-1.0, H3-0.5, and H3-1.0, with high total lead concentrations were analyzed for soluble lead by the TCLP method for waste characterization purposes. Concentrations of TCLP soluble lead ranged from 0.36 to 58 mg/L in soil samples H3-1.0 and

H2-1.0, respectively. Soil samples H2-0.5 and H3-0.5 each had TCLP soluble lead concentrations of 3.9 mg/L.

Five samples, B2-0.5, B2-1.0, B4-0.5, B4-1.0, and B5-0.5, from the skeet shooting range were analyzed for total copper to evaluate possible soil contamination from copper shell casings. Total copper was detected in all samples at concentrations ranging from 24 to 33 mg/kg. Total copper did not exceed its residential PRG of 2,900 mg/kg in any of the skeet shooting range samples for which it was analyzed.

5.2.2 PAH Analyses

Twenty-one soil samples within the skeet shooting range were analyzed for PAHs. Three of these samples, E5-1.5, E6-1.5, and E7-0.5, had levels of PAHs above laboratory reporting limits. Sample locations E5, E6, and E7 are located in the area of Stockpile 4 (Figure 3). Benzo(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(g,h,i)perylene, benzo(a)pyrene, chrysene, fluoranthene, and ideno(1,2,3-cd)pyrene were detected in sample E5-1.5 at concentrations ranging from 52 to 100 mg/kg, and in sample E6-1.5 at concentrations ranging from 84 to 130 mg/kg. Pyrene was detected in samples E5-1.5, E6-1.5, and E7-0.5 at concentrations of 80, 130, and 40 mg/kg, respectively. All samples with detectable concentrations of PAHs had some PAHs which exceeded residential PRGs. No other PAHs were detected in any of the other samples analyzed. Table 4 summarizes analytical results for PAHs in soil.

5.3 Pistol Range Analytical Results

There are 19 sampling locations associated with the pistol range. The same rational for selecting samples for analyses used at the skeet shooting range was used at the pistol range. The one exception is that visible lead bullets were present in the soil berm behind the target area, and only deeper samples were collected. Eighteen surface soil samples were analyzed for total lead and/or total copper (Figure 3). Samples collected but not analyzed were submitted to the laboratory and

placed on hold pending analytical results. Table 3 summarizes the analytical results for lead and copper in soil.

Total lead was detected in all 18 soil samples analyzed. Of the samples collected at 1-foot bgs in the berm (PR1 through PR7) all but two exceeded the residential PRG for lead of 400 mg/kg. Soil samples PR1-1.0 and PR3-1.0 each had lead concentrations of 2,200 mg/kg. Samples PR5-1.0, PR6-1.0, and PR7-1.0 had lead concentrations of 670, 11,000, and 5,900 mg/kg, respectively. Lead was detected below residential PRGs in samples PR2-1.0 and PR4-1.0 at concentrations of 370 and 290 mg/kg, respectively. Surface soil samples collected from the firing area had concentrations of lead ranging from 8 to 190 mg/kg in samples PR10-0.5 and PR8-0.5, respectively. The outlying soil samples, located west of the berm had lead concentrations ranging from 14 to 180 mg/kg in samples D9-0.5 and D10-0.5, respectively. No samples collected from the firing area or the outlying areas had lead concentrations in excess of the residential PRG.

All samples collected in the berm and firing areas were analyzed for total copper. Copper was detected in the berm at concentrations ranging from 20 to 270 mg/kg in samples PR4-1.0 and PR6-1.0, respectively. Total copper was detected in the firing area samples at concentrations ranging from 28 to 44 mg/kg in samples PR11-0.5 and PR14-0.5, respectively. Total copper did not exceed its residential PRG of 2,900 mg/kg in any of the pistol range samples for which it was analyzed.

5.4 Stockpile Samples Analytical Results

Five samples were collected from the four soil and clay pigeon debris stockpiles located in the area of the former skeet shooting range and analyzed for total lead and PAHs. (Figure 3). Total lead concentrations ranged from 13 to 360 mg/kg, below the residential PRG of 400 mg/kg. PAHs were not detected in samples SP3-1.0, SP4-0.5, EP-0.5 and EP-1.0 above the laboratory reporting limit. Table 4 summarizes analytical results for PAHs in soil.

Stockpile samples SP1-1.0 and SP2-0.5 contained PAH concentrations exceeding their respective residential PRGs. Seven PAHs, benzo(a)anthracene benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(g,h,i)perylene, fluoranthene Indeno(1,2,3-cd)pyrene and pyrene, were detected in both samples at concentrations ranging from 200 to 420 mg/kg.

Samples E5-1.5 and E6-1.5, located within the Stockpile 4 area, had detected levels of PAHs exceeding their respective PRGs. Concentrations of PAHs detected in samples E5-1.5 and E6-1.5 are detailed in Section 6.2 of this report.

6.0 FINDINGS AND RECOMMENDATIONS

6.1 Magnesia Pile

Remediation operations conducted by FMC included the removal and disposal of an estimated 140,000 cubic yards of magnesia waste materials. On 16 November 2000, the NFD issued a letter to FMC stating that removal actions at the magnesia pile were complete (Appendix A) (City of Newark, 2000). During our site visit we observed that small, scattered piles of the white magnesia waste were still present in some areas, amounting to approximately 500 to 1,000 cubic yards. This residual waste will likely need to be removed for site development.

6.2 Groundwater

According to the RWQCB, groundwater cleanup concentrations for areas impacted by the 4-Parties Plume will be maximum contaminate levels (MCLs) for drinking water. Groundwater extraction and treatment is currently being performed at facilities adjacent to the project site to address groundwater contamination.

The quarterly groundwater monitoring being conducted for the 4-Parties groundwater plume, and our groundwater investigation, confirm that the western edge of the 4-Parties Plume extends on to the northeastern portion of the project site. During recent monitoring, VOC concentrations in the plume on the project site exceeded MCLs for 6 chemicals (Figure 2 and Tables 1 and 2). This

includes EDB along the northern edge of the site adjacent to the FMC facilities groundwater extraction system for EDB.

Chlorinated solvents and related compounds were detected in sample GW-2 located in the southeastern corner of the site. GW-2 contained carbon tetrachloride and 1,2-dichloroethane concentrations exceeding their respective MCLs. The contaminants detected at this location indicate that a release of chlorinated solvents has occurred east of the site in the upgradient direction. On the basis of sample GW-2's location and a review of monitoring reports for the 4-Parties Plume, the VOCs detected likely originate from a currently unidentified source to the east.

Relatively low concentrations of petroleum hydrocarbons have been detected in groundwater at three locations at the site (Figure 2 and Table 2). We do not believe that the concentrations are high enough to warrant further investigation.

6.3 Skeet and Pistol Range

Significant concentrations of lead have been found around the former skeet and pistol range, with concentrations exceeding California and federal hazardous criteria in some areas (Figure 4 and Table 3). Because of the limited vertical extent of contamination, we recommend excavation and removal as the most economical and effective remedial method. This method can include limited onsite treatment such as sieving to remove lead bullets. We also recommend using the US EPA's residential PRG of 400 mg/kg for lead as the cleanup criteria for remedial actions at the former skeet and pistol range. This is a conservative cleanup criteria that should allow unrestricted use of these areas.

We have prepared volume estimates for soil with lead exceeding residential PRGs. Our assumptions and calculations are presented in Section 7.0, and our volume estimates are summarized below:

- Approximately 4,600 tons of soil in the area of the former skeet shooting range contain concentrations of lead exceeding residential PRGs (Figure 4 and Table 5).
- Approximately 405 tons of soil, contained in the pistol range berm is contaminated with concentrations of lead exceeding the residential PRG (Table 6).

Three soil and clay pigeon debris stockpiles are present at the skeet range. Stockpiles 1, 2 and 4 (Figure 3) contain PAHs exceeding residential PRGs. Because levels of PAHs were detected above residential PRGs in Stockpile 1 but not Stockpile 3, and Stockpile 1 and 3 were graded together after our sampling, additional sampling of the graded stockpiles should be conducted prior to determining final disposal volumes. In addition, Stockpile 4 had varying levels of PAHs detected throughout. Prior to excavation the four stockpiles should be segregated into like materials and composite samples collected and analyzed in an effort to reduce disposal volumes and costs. We have prepared volume estimates for soil with PAHs and/or lead exceeding residential PRGs. Our assumptions and calculations are presented in Section 7.0, and our volume estimate is summarized below:

- Approximately 1,665 tons of soil associated with the soil and clay pigeon debris stockpiles, Stockpiles 1, 2, and 4, contain PAHs exceeding their respective residential PRGs (Table 7).

A Soil Mitigation Plan (SMP) should be prepared prior to site development that details proper soil handling, characterization and disposal procedures. The SMP will also outline worker health and safety requirements for the excavation tasks. A detailed health and safety plan should be prepared by the site contractor to implement during excavation tasks.

6.4 Asbestos Containing Serpentinite

Serpentinite rock is present at the outcrops by the pistol range, and reportedly below the former magnesia pile location. Serpentinite has naturally occurring concentrations of asbestos, and occasionally nickel and chromium, which can exceed hazardous waste criteria. These naturally occurring substances are not regulated as a hazard if left in place.

If the proposed development requires that the serpentinite outcrops be removed, the material could be managed as non-hazardous fill if left onsite. Generally, serpentinite derived fill material should be covered with other fill or pavement to prevent potential release of asbestos fibers. Since proposed development would involve raising the site 1 to 3 feet, this is a likely way to deal with this material. Offsite disposal would require sampling and characterization as a potentially hazardous waste.

The serpentinite derived fill handing requirements should be addressed in the SMP. We do not recommend that sampling and characterization be performed on the serpentine until the site development plans are known.

7.0 POTENTIAL SOIL EXCAVATION VOLUMES

The following volume calculations are approximate and based on the results of our surface soil sampling and field observations. Confirmation sampling should be conducted after all the excavations have been completed, to determine the effectiveness of the removal action.

7.1 Skeet Shooting Range Excavation Volumes

Using the surface soil sampling grid and the analytical results collected at the former skeet shooting range, potential excavation areas were plotted and volumes of soil determined (Figure 4). The surface soil sampling grid was broken into cells, 75 feet wide by 75 feet long, with each sample location situated in the center of the cell. Each cell takes the name of the sampling location from which it is centered on. Sample locations with concentrations of lead

exceeding the residential PRG of 400 mg/kg were grouped by depth of lead contamination and plotted on Figure 4. All cells are vertically defined by the deepest detection of lead above its residential PRGs. For example, sample location H4 had lead concentrations of 4,200, 460, and 200 mg/kg at 0.5, 1.0, and 2.0 feet bgs, respectively. Lead, at location H4, was detected above the residential PRG in the 0.5 and 1.0 samples; therefore, the cell H4 is 1 foot deep. The corresponding cell H4 is a 75-foot wide by 75-foot long square with a depth of 1.0 feet bgs. The corresponding cell volume and weight is described in Table 5.

Table 5 describes cell locations, depth of the cells, surface area of the cells, the volume and the total tons of soil associated with each cell. The totals of these calculations are summed at the bottom of Table 5. The weight of soils, exceeding residential PRGs, to be excavated from the former skeet shooting range is approximately 4,600 tons.

7.2 Pistol Range Excavation Volumes

Based on analytical results and sample locations, the amount of contaminated soil, with concentrations exceeding residential PRGs, present within the berm to be excavated was calculated in Table 6. For calculating purposes, the depth of the berm to be excavated was estimated at 3 feet. The berm was estimated to be 150 feet long by 15 feet high. The weight of the berm, exceeding residential PRGs, to be removed is approximately 405 tons.

7.3 Stockpile Volumes

Based on initial size observations regarding the four soil and debris stockpiles, excavation volumes and weights were calculated and are described in Table 7. Stockpile 1, prior to being regraded, was approximately 20 feet long by 15 feet wide by 5 feet high. The estimated tonnage for Stockpile 1 is approximately 90 tons. Stockpile 2 is approximately 25 feet long by 15 feet wide by 6 feet high. Stockpile 2 is approximately 135 tons in weight. Stockpile 3, prior to regrading, was approximately 40 feet long by 20 feet wide by 10 feet high. The former Stockpile 3 was approximately 296 cubic yards and 480 tons. Stockpile 4 extends up to 1 foot into the subsurface and rises 0.5 to 2.0 feet above ground surface. Stockpile 4 was estimated to be

160' long by 60' wide by 2.5' (average) high. Estimated tonnage for Stockpile 4 is approximately 1,440 tons.

Based on the initial stockpile analytical results Stockpiles 1, 2, and 4 contain levels of PAHs exceeding residential PRGs. Since, Stockpile 3 was graded with Stockpile 1, the weights and volumes of former Stockpiles 1 and 3 have been combined. The combined weight of Stockpiles 1, 2, 3, and 4 is approximately 2,150 tons.

8.0 LIMITATIONS

Activities undertaken as part of this assessment were conducted on behalf of the City of Newark, involved in the development of the project site, and they are the only intended beneficiaries of our work. The work was performed to assess the possible presence of VOC and petroleum hydrocarbon contamination in groundwater and hazardous materials in soil at the subject site, based on the scope of services performed. No other party should rely on the information contained in this report without the written consent of Treadwell & Rollo, Inc. The findings and discussions presented in this report are professional opinions based on the specific activities conducted.

Opinions presented herein apply to site conditions existing at the time of our assessment, and cannot necessarily be taken to apply to site changes or conditions of which we are not aware and have not had the opportunity to evaluate.

The assessment did not include testing for the presence of naturally occurring environmental hazards (e.g., radon and asbestos). The assessment did not address non-chemical hazards, such as the potential for seismic hazards at the site.

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TABLES

Table 1 [1]
Summary of Area 2 Monitoring Well Analytical Results
Proposed Ohlone Community College Campus
Newark, California

Analyte	W-2	W-19		W-21	W-22		W-24			W-25		MCL
Date of Sample	1/10/00	1/10/00	7/7/00	1/12/00	1/10/00	7/7/00	1/13/00	1/13/00 Dup	7/13/00	1/10/00	7/13/00	
Benzene	<0.5	<0.5	<0.5	<0.5	<0.5	**1.3**	<0.5	<0.5	<0.5	<0.5	<0.5	1
Carbon Tetrachloride	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.5
Chloroform	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	80
Ethylene Dibromide	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**1.7**	<0.5	**8.7**	0.05
1,1-Dichloroethane	<0.5	<0.5	<0.5	1.6	<0.5	4.4	<0.5	<0.5	<0.5	<0.5	<0.5	5
1,2-Dichloroethane	<0.5	<0.5	<0.5	**15**	**10**	**0.79**	**40**	**43**	**33**	**45**	**35**	0.5
1,1-Dichloroethene	<0.5	<0.5	<0.5	<0.5	<0.5	3.1	<0.5	<0.5	<0.5	<0.5	<0.5	6
1,2-Dichloropropane	<0.5	<0.5	<0.5	<0.5	<0.5	1.8	<0.5	<0.5	<0.5	<0.5	<0.5	5
cis 1,2-Dichloroethene	<0.5	<0.5	<0.5	<0.5	<0.5	**8.4**	<0.5	<0.5	0.79	<0.5	<0.5	6
Trichloroethene	<0.5	<0.5	<0.5	<0.5	<0.5	**15**	3.2	3.1	4.3	<0.5	<0.5	5
Vinyl Chloride	<0.5	<0.5	<0.5	<0.5	<0.5	**11**	<0.5	<0.5	<0.5	<0.5	<0.5	0.5

Notes:
All concentrations are in micrograms per liter (µg/L).
MCL - Maximum Contaminant Level as specified by the US EPA.
Bold concentrations indicate detected levels exceeded respective MCLs.
ND - Not detected above laboratory limits
<0.5 - Constituent not detected above specified laboratory limit

1 - Groundwater data taken from "England Geosystem, 2001. Ground Water and Extraction Treatment System Monitoring, FMC Corporation. January."

Table 2
Summary of Groundwater Sample Analytical Results
Proposed Ohlone Community College Campus
Newark, California

Analyte	GW-1	GW-2	GW-3	GW-4	GW-5	Trip Blank	MCL
TPH by EPA Method 8015 Modified							
TPH as gasoline	<50	63	<50	50	<50	--	NE
TPH as diesel	<50	<50 d	<50 g	93 b,d	1,800 g	--	NE
TPH as motor oil	<250	<250	330	<250	4,500	--	NE
VOCs by EPA Method 8260							
Benzene	<0.5	<0.5	<0.5	**2.4**	<0.5	<1.0	1
Carbon Tetrachloride	<1.0	**6.2**	**1.9**	<1.0	<1.0	<1.0	0.5
Chloroform	<1.0	17	5.1	<1.0	<1.0	<1.0	80
Ethylene Dibromide	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
1,1-Dichloroethane	<1.0	2.5	<1.0	<1.0	<1.0	<1.0	5
1,2-Dichloroethane	<1.0	**18**	<1.0	<1.0	<1.0	<1.0	0.5
1,1-Dichloroethene	<1.0	1.1	<1.0	<1.0	<1.0	<1.0	6
Ethylbenzene	<0.5	1.9	<0.5	<0.5	<0.5	<1.0	300
MTBE	<5.0	<5.0	<5.0	<5.0	<5.0	--	13
Toluene	<0.5	<0.5	<0.5	1.9	<0.5	<1.0	150
Xylenes	<0.5	14	<0.5	0.68	<0.5	<1.0	1,750
All other VOCs	ND	ND	ND	ND	ND	ND	--

Notes:
All concentrations are in micrograms per liter (µg/L).
MCL - Maximum Contaminant Level as specified by the US EPA.
Bold concentrations indicate detected levels exceeded respective MCLs.
ND - Not detected above laboratory limits
MTBE - Methyl tertiary-Butyl Ether
Laboratory notes are included in the analytical data reports.
b - diesel range compounds are significant; no recognizable pattern
d - gasoline range compounds are significant
g - oil range compounds are significant
<1.0 - Constituent not detected above specified laboratory limit

Table 3
Summary of Lead and Copper Analytical Results for Soil Samples
Former Skeet Shooting Range
Area 2, Newark, CA

Sample ID	Sample Depth (Feet)	Sample Date	Lead TTLC Extraction (mg/kg)	Lead SPLP Extraction (mg/L)	Lead TCLP Extraction (mg/L)	Total Copper (mg/kg)
Shotgun Shooting Range Sample Results						
A1-0.5	0.5	3/21/01	39	NA	NA	NA
A2-0.5	0.5	3/21/01	23	NA	NA	NA
B1-0.5	0.5	3/21/01	9.9	NA	NA	NA
B1-1.0	1.0	3/21/01	7.3	NA	NA	NA
B2-0.5	0.5	3/21/01	NA	NA	NA	25
B2-1.0	1.0	3/21/01	NA	NA	NA	25
B4-0.5	0.5	3/21/01	31	NA	NA	30
B4-1.0	1.0	3/21/01	8.9	NA	NA	33
B5-0.5	0.5	3/21/01	NA	NA	NA	24
C1-0.5	0.5	3/22/01	19	NA	NA	NA
C1-1.0	1.0	3/22/01	14	NA	NA	NA
C3-0.5	0.5	3/22/01	21	NA	NA	NA
C3-1.0	1.0	3/22/01	11	NA	NA	NA
C5-0.5	0.5	3/22/01	11	NA	NA	NA
C5-1.0	1.0	3/22/01	9.4	NA	NA	NA
C6-0.5	0.5	3/22/01	13	NA	NA	NA
C7-0.5	0.5	3/22/01	20	NA	NA	NA
D1-0.5	0.5	3/22/01	16	NA	NA	NA
D1-1.0	1.0	3/22/01	11	NA	NA	NA
D3-0.5	0.5	3/22/01	15	NA	NA	NA
D3-1.0	1.0	3/22/01	24	NA	NA	NA
D5-0.5	0.5	3/22/01	14	NA	NA	NA
D5-1.0	1.0	3/22/01	14	NA	NA	NA
E1-0.5	0.5	3/22/01	16	NA	NA	NA
E2-0.5	0.5	3/22/01	13	NA	NA	NA
E3-0.5	0.5	3/22/01	53	NA	NA	NA

Table 3
Summary of Lead and Copper Analytical Results for Soil Samples
Former Skeet Shooting Range
Area 2, Newark, CA

Sample ID	Sample Depth (Feet)	Sample Date	Lead TTLC Extraction (mg/kg)	Lead SPLP Extraction (mg/L)	Lead TCLP Extraction (mg/L)	Total Copper (mg/kg)
E4-0.5	0.5	3/22/01	210	NA	NA	NA
E4-1.0	1.0	3/22/01	8.9	NA	NA	NA
E5-1.5	1.5	3/22/01	78	NA	NA	NA
E6-1.5	1.5	3/22/01	96	NA	NA	NA
E7-0.5	0.5	3/22/01	83	NA	NA	NA
E8-0.5	0.5	3/22/01	30	NA	NA	NA
F1-0.5	0.5	3/22/01	390	1.6	NA	NA
F1-1.0	1	3/22/01	320	NA	NA	NA
F2-0.5	0.5	3/22/01	80	NA	NA	NA
F3-0.5	0.5	3/22/01	12	NA	NA	NA
F4-0.5	0.5	3/22/01	24,000	NA	NA	NA
F4-1.0	1.0	3/22/01	8.3	<0.2	NA	NA
F5-0.5	0.5	3/22/01	1,000	NA	NA	NA
F5-1.0	1.0	3/22/01	8.8	<0.2	NA	NA
F6-0.5	0.5	3/22/01	1,200	NA	NA	NA
F6-1.0	1.0	3/22/01	19	<0.2	NA	NA
F7-0.5	0.5	3/22/01	360	NA	NA	NA
F8-0.5	0.5	3/22/01	180	NA	NA	NA
F8-1.0	1.0	3/22/01	250	NA	NA	NA
F9-0.5	0.5	3/22/01	80	NA	NA	NA
F10-0.5	0.5	3/22/01	24	NA	NA	NA
G0-0.5	0.5	4/12/01	7.4	NA	NA	NA
G1A-0.5	0.5	5/7/01	75	NA	NA	NA
G1-0.5	0.5	4/12/01	4.7	NA	NA	NA
G2-0.5	0.5	4/12/01	1100	NA	NA	NA
G2-1.0	1.0	4/12/01	8.2	NA	NA	NA

Table 3
Summary of Lead and Copper Analytical Results for Soil Samples
Former Skeet Shooting Range
Area 2, Newark, CA

Sample ID	Sample Depth (Feet)	Sample Date	Lead TTLC Extraction (mg/kg)	Lead SPLP Extraction (mg/L)	Lead TCLP Extraction (mg/L)	Total Copper (mg/kg)
G3-0.5	0.5	4/12/01	110	NA	NA	NA
G4-0.5	0.5	4/12/01	1600	NA	NA	NA
G4-1.0	1.0	4/12/01	7.7	NA	NA	NA
G5-0.5	0.5	4/12/01	380	NA	NA	NA
G5-1.0	1.0	4/12/01	11	NA	NA	NA
G6-0.5	0.5	4/12/01	7.8	NA	NA	NA
G7-0.5	0.5	5/7/01	11	NA	NA	NA
G8-0.5	0.5	5/17/01	240	NA	NA	NA
H0A-0.5	0.5	5/7/01	16	NA	NA	NA
H0-0.5	0.5	4/12/01	510	NA	NA	NA
H0-1.0	1.0	4/12/01	14	NA	NA	NA
H1A-0.5	0.5	5/7/01	8.9	NA	NA	NA
H1B-0.5	0.5	5/7/01	6.0	NA	NA	NA
H1-0.5	0.5	4/12/01	190	NA	NA	NA
H2-0.5	0.5	4/12/01	3300	NA	3.9	NA
H2-1.0	1.0	4/12/01	2800	NA	58	NA
H2-1.5	1.5	5/7/01	47	NA	NA	NA
H2-2.0	2.0	5/7/01	54	NA	NA	NA
H3-0.5	0.5	4/12/01	3400	NA	3.9	NA
H3-1.0	1.0	4/12/01	4000	NA	0.36	NA
H3-2.0	2.0	5/7/01	590	NA	NA	NA
H4-0.5	0.5	4/12/01	4200	NA	NA	NA
H4-1.0	1.0	4/12/01	460	NA	NA	NA
H4-2.0	2.0	5/7/01	200	NA	NA	NA
H5-0.5	0.5	5/7/01	660	NA	NA	NA
H5-1.5	1.5	5/7/01	85	NA	NA	NA
H6-0.5	0.5	5/7/01	1600	NA	NA	NA
H6-1.5	1.5	5/7/01	3.9	NA	NA	NA

Table 3
Summary of Lead and Copper Analytical Results for Soil Samples
Former Skeet Shooting Range
Area 2, Newark, CA

Sample ID	Sample Depth (Feet)	Sample Date	Lead TTLC Extraction (mg/kg)	Lead SPLP Extraction (mg/L)	Lead TCLP Extraction (mg/L)	Total Copper (mg/kg)
H7-0.5	0.5	5/17/01	19,000	NA	NA	NA
H8-0.5	0.5	5/17/01	110	NA	NA	NA
J0-0.5	0.5	5/17/01	110	NA	NA	NA
J1-0.5	0.5	5/7/01	580	NA	NA	NA
J1-1.5	1.5	5/7/01	11	NA	NA	NA
J2-0.5	0.5	5/7/01	1600	NA	NA	NA
J2-1.5	1.5	5/7/01	11	NA	NA	NA
J3-0.5	0.5	5/7/01	2200	NA	NA	NA
J3-1.5	1.5	5/7/01	33	NA	NA	NA
J4-0.5	0.5	5/7/01	2900	NA	NA	NA
J4-1.0	1.0	5/7/01	17	NA	NA	NA
J5-0.5	0.5	5/7/01	12	NA	NA	NA
J5-1.0	1.0	5/7/01	13	NA	NA	NA
J6-0.5	0.5	5/7/01	10	NA	NA	NA
J6-1.0	1.0	5/7/01	14	NA	NA	NA
J7-0.5	0.5	5/7/01	5.9	NA	NA	NA
J7-1.0	1.0	5/7/01	360	NA	NA	NA
J7-2.0	2.0	5/7/01	34	NA	NA	NA
J8-0.5	0.5	5/7/01	7.9	NA	NA	NA
J9-0.5	0.5	5/17/01	500	NA	NA	NA
J10-0.5	0.5	5/17/01	850	NA	NA	NA
K1-0.5	0.5	5/17/01	59	NA	NA	NA
K2-0.5	0.5	5/17/01	30	NA	NA	NA
K3-0.5	0.5	5/7/01	710	NA	NA	NA
K3-1.5	1.5	5/7/01	72	NA	NA	NA
K4-0.5	0.5	5/7/01	970	NA	NA	NA

Table 3
Summary of Lead and Copper Analytical Results for Soil Samples
Former Skeet Shooting Range
Area 2, Newark, CA

Sample ID	Sample Depth (Feet)	Sample Date	Lead TTLC Extraction (mg/kg)	Lead SPLP Extraction (mg/L)	Lead TCLP Extraction (mg/L)	Total Copper (mg/kg)
K4-1.0	1.0	5/7/01	5.7	NA	NA	NA
K5-0.5	0.5	5/7/01	1300	NA	NA	NA
K5-1.0	1.0	5/7/01	29	NA	NA	NA
K6-0.5	0.5	5/7/01	8.8	NA	NA	NA
K6-1.0	1.0	5/7/01	78	NA	NA	NA
K7-0.5	0.5	5/7/01	8700	NA	NA	NA
K7-1.0	1.0	5/7/01	9.6	NA	NA	NA
K8-0.5	0.5	5/7/01	380	NA	NA	NA
K8-1.5	1.5	5/7/01	15	NA	NA	NA
K9-0.5	0.5	5/17/01	83	NA	NA	NA
L3-0.5	0.5	5/17/01	10	NA	NA	NA
L3-1.0	1.0	5/17/01	8.6	NA	NA	NA
L4-0.5	0.5	5/17/01	20	NA	NA	NA
L4-1.0	1.0	5/17/01	6.2	NA	NA	NA
L5-0.5	0.5	5/17/01	140	NA	NA	NA
L5-1.0	1.0	5/17/01	11	NA	NA	NA
L6-0.5	0.5	5/17/01	11	NA	NA	NA
L6-1.0	1.0	5/17/01	7.3	NA	NA	NA
L7-0.5	0.5	5/17/01	19	NA	NA	NA
L7-1.0	1.0	5/17/01	7.4	NA	NA	NA
L8-0.5	0.5	5/17/01	8.2	NA	NA	NA
L8-1.0	1.0	5/17/01	14	NA	NA	NA
L9-0.5	0.5	5/17/01	1200	NA	NA	NA
M4-0.5	0.5	5/17/01	19	NA	NA	NA
M6-0.5	0.5	5/17/01	55	NA	NA	NA
M8-0.5	0.5	5/17/01	36	NA	NA	NA
N5-0.5	0.5	5/17/01	51	NA	NA	NA
N7-0.5	0.5	5/17/01	16	NA	NA	NA

Table 3
Summary of Lead and Copper Analytical Results for Soil Samples
Former Skeet Shooting Range
Area 2, Newark, CA

Sample ID	Sample Depth (Feet)	Sample Date	Lead TTLC Extraction (mg/kg)	Lead SPLP Extraction (mg/L)	Lead TCLP Extraction (mg/L)	Total Copper (mg/kg)
Pistol Range Sample Results						
D9-0.5	0.5	3/22/01	14	NA	NA	NA
D10-0.5	0.5	3/22/01	180	NA	NA	NA
E9-0.5	0.5	3/22/01	30	NA	NA	NA
F11-0.5	0.5	3/22/01	98	NA	NA	NA
PR1-1.0	1.0	3/23/01	**2,200**	NA	NA	100
PR2-1.0	1.0	3/23/01	370	NA	NA	44
PR3-1.0	1.0	3/23/01	**2,200**	NA	NA	39
PR4-1.0	1.0	3/23/01	290	NA	NA	20
PR5-1.0	1.0	3/23/01	**670**	NA	NA	56
PR6-1.0	1.0	3/23/01	**11,000**	NA	NA	270
PR7-1.0	1.0	3/23/01	**5,900**	NA	NA	120
PR8-0.5	0.5	3/23/01	190	NA	NA	42
PR9-0.5	0.5	3/23/01	40	NA	NA	43
PR10-0.5	0.5	3/23/01	8	NA	NA	38
PR11-0.5	0.5	3/23/01	11	NA	NA	28
PR12-0.5	0.5	3/23/01	10	NA	NA	33
PR13-0.5	0.5	3/23/01	110	NA	NA	34
PR14-0.5	1.0	3/23/01	33	NA	NA	44
Stockpile Sample Results						
EP-0.5	0.5	3/23/01	18	NA	NA	NA
EP-1.0	1.0	3/23/01	13	NA	NA	NA
SP1-1.0	1.0	3/23/01	360	NA	NA	NA
SP2-1.0	1.0	3/23/01	310	NA	NA	NA

Table 3
Summary of Lead and Copper Analytical Results for Soil Samples
Former Skeet Shooting Range
Area 2, Newark, CA

Sample ID	Sample Depth (Feet)	Sample Date	Lead TTLC Extraction (mg/kg)	Lead SPLP Extraction (mg/L)	Lead TCLP Extraction (mg/L)	Total Copper (mg/kg)
SP3-1.0	1.0	3/23/01	110	NA	NA	NA
SP4-1.0	1.0	3/23/01	60	NA	NA	NA
PRGs Residential			400			2,900
PRGs Industrial			750			76,000

Notes:
All concentrations are in milligrams per kilogram (mg/kg).
SPLP - Synthetic Precipitation Leachate Procedure by EPA Method 1311
TTLC - California Total Threshold Limit Concentration - State hazardous waste criterion
TCLP - Federal Toxicity Characteristic Leaching Potential Analysis - Federal hazardous waste criterion
PRG - EPA Preliminary Remedial Goals for residential soil (November 2000)
NA - Not Analyzed
Bold indicates a detected value that exceeds the PRG.
<0.2 - Not detected at or above laboratory reporting limits.
NA - Not Analyzed

Sample Information				
Sample ID	Sample Depth	Sample Date	Phenanthrene	Pyrene
Sample Grid Results				
D6-0.5	0.5	3/22/01	<1.7	<1.7
D7-0.5	0.5	3/22/01	<1.7	<1.7
D8-0.5	0.5	3/22/01	<1.7	<1.7
E1-0.5	0.5	3/22/01	<0.33	<0.33
E2-0.5	0.5	3/22/01	<0.33	<0.33
E3-0.5	0.5	3/22/01	<3.5	<3.5
E4-0.5	1.0	3/22/01	<40	<40
E5-1.5	1.5	3/22/01	<40	80
E5-2.0	2.0	3/22/01	<0.33	<0.33
E6-1.5	1.5	3/22/01	<40	130
E7-0.5	0.5	3/22/01	<40	40
E7-1.0	1.0	3/22/01	<1.7	<1.7
E8-0.5	1.0	3/22/01	<0.33	<0.33
F1-0.5	0.5	3/22/01	<0.33	<0.33
F2-0.5	0.5	3/22/01	<0.33	<0.33
F3-0.5	0.5	3/22/01	<1	<1
F4-0.5	1.0	3/22/01	<1.0	<1.0
F5-0.5	0.5	3/22/01	<1.0	<1.0
F6-0.5	0.5	3/22/01	<1.0	<1.0
F7-0.5	0.5	3/22/01	<0.33	<0.33
F8-0.5	0.5	3/22/01	<0.33	<0.33
Stockpile Sample Results				
SP1-1.0	1.0	3/23/01	<200	360
SP2-0.5	0.5	3/23/01	<200	300
SP-3-1.0	1.0	3/23/01	<20	<20
SP4-1.0	1.0	3/23/01	<20	<20
EP-0.5	0.5	3/23/01	<0.33	<0.33
EP-1.0	1.0	3/23/01	<0.33	<0.33
PRGs Residential		--	NE	2,300

Notes:

All concentrations are in milligrams p
PAH - Polycyclic Aromatic Hydrocar
PRG - EPA Preliminary Remedial Go
NE - Not Established
Bold indicates a detected value that e:
<0.33 - Not detected at or above labo

Table 5
Summary of Shotgun Shooting Range Soil Excavation Volumes
Proposed Ohlone Community College Campus
Newark, California

Cell Excavations [1]	Depth [2] (feet)	Surface Area (square feet)	Volume (cubic feet)	Volume (cubic yards)	Tons [4] (pounds)
Surface to 0.5 feet					
F4	0.5	5625	2,813	104.17	169
F5	0.5	5625	2,813	104.17	169
F6	0.5	5625	2,813	104.17	169
G2	0.5	5625	2,813	104.17	169
G4	0.5	5625	2,813	104.17	169
H0	0.5	3563	1,781	65.97	107
H5	0.5	5625	2,813	104.17	169
H6	0.5	5625	2,813	104.17	169
H7	0.5	5625	2,813	104.17	169
J1	0.5	3563	1,781	65.97	107
J2	0.5	5625	2,813	104.17	169
J3	0.5	5625	2,813	104.17	169
J4	0.5	5625	2,813	104.17	169
J9	0.5	5625	2,813	104.17	169
J10	0.5	5625	2,813	104.17	169
K3	0.5	5625	2,813	104.17	169
K4	0.5	5625	2,813	104.17	169
K5	0.5	5625	2,813	104.17	169
K7	0.5	5625	2,813	104.17	169
L9	0.5	5625	2,813	104.17	169
Surface to 1.0 feet					
H2	1.0	5625	5,625	208.33	338
H4	1.0	5625	5,625	208.33	338
Surface to 2.0 feet					
H3	2.0	5625	11,250	416.67	675
Totals [3]		125250	76687.5	2840.3	4601.3
Rounded Total		**125,250**	**76,688**	**2,840**	**4,600**

Notes:

1) Sample location, depicted as the cell midpoint on Figure 4, has lead concentrations exceeding 400 milligrams per kilogram (mg/kg).
2) Assumes excavating to depth of sample collection will effectively remove contamination to levels below 400 mg/kg.
3) Soil volumes and weights are approximate.
4) Assumes 1.62 tons per each cubic yard of soil.

Table 6
Summary of Pistol Range Excavation Volumes
Proposed Ohlone Community College Campus
Newark, California

	Berm Dimensions [1]	Volume (cubic feet)	Volume (cubic yards)	Tons [3] (pounds)
Totals [2]	150' X 3' X15'	6,750	250	405

Notes:

1) Assumes lead contamination extends 3 feet into the berm from the surface.
   Assumes the berm has not been resurfaced or reengineered since its inception.
   Berm dimensions are approximate.
2) Soil volumes and weights are approximate.
3) Assumes 1.62 tons per each cubic yard of soil.

Table 7
Summary of Stockpile Volumes
Proposed Ohlone Community College Campus
Newark, California

Stockpile Name	Approximate Stockpile Dimensions [1]	Volume (cubic feet)	Volume (cubic yards)	Tons [3] (pounds)
Stockpile 1	20' X 15' X 5'	1,500	55.56	90
Stockpile 2	15' X 25' X 6'	2,250	83.33	135
Stockpile 3	40' X 20' X10'	8,000	296.30	480
Stockpile 4	160' X 60' X 2.5'	24,000	888.89	1,440
	Totals [2]	35,750	1324.07	2,145
	Rounded Total [2]			**2,150**

Notes:
1) Stockpile dimensions are approximate and based on field observations.
2) Soil volumes and weights are approximate.
3) Assumes 1.62 tons per each cubic yard of soil.

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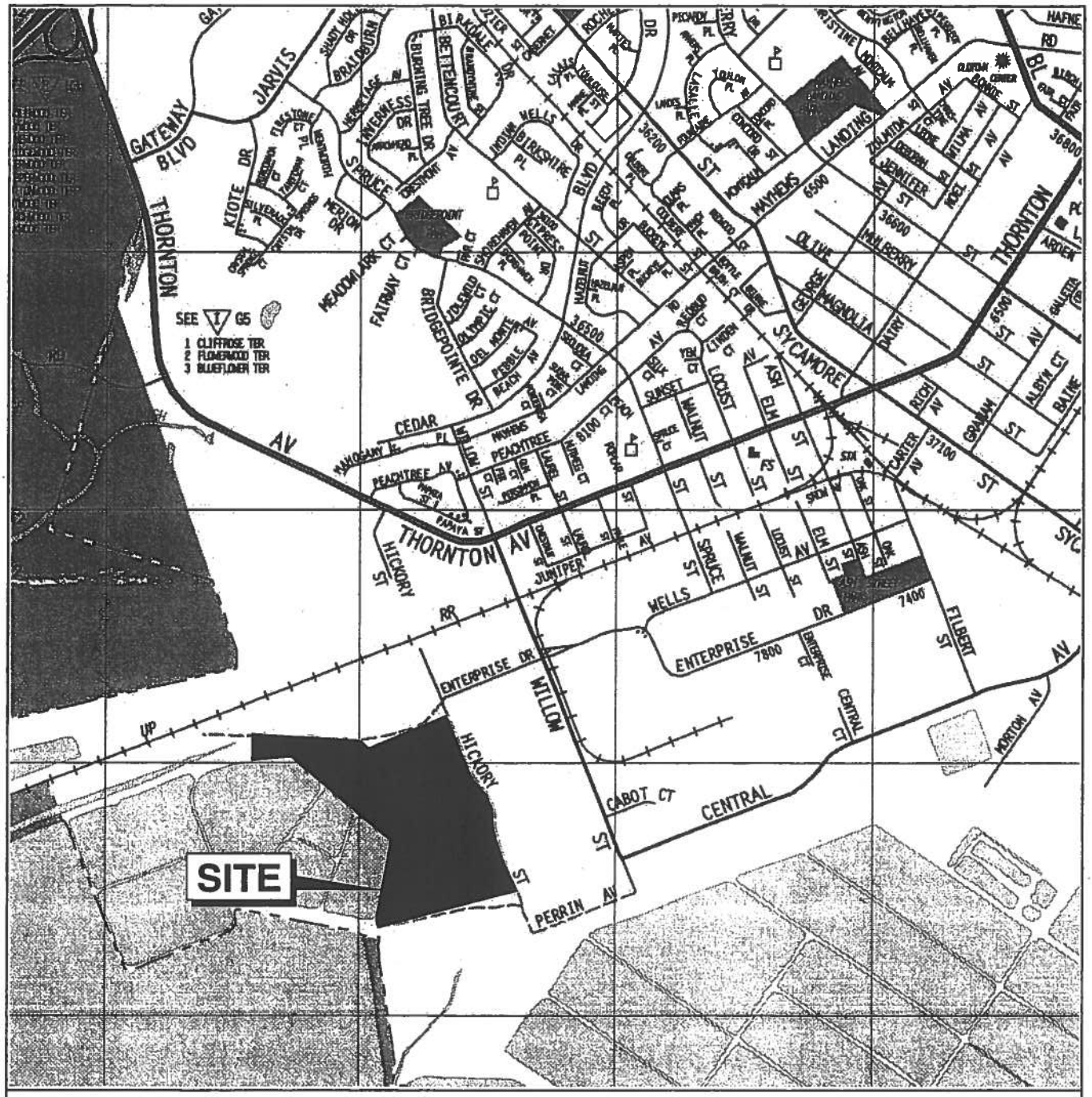
FIGURES



Base map: The Thomas Guide
Alameda County
1999

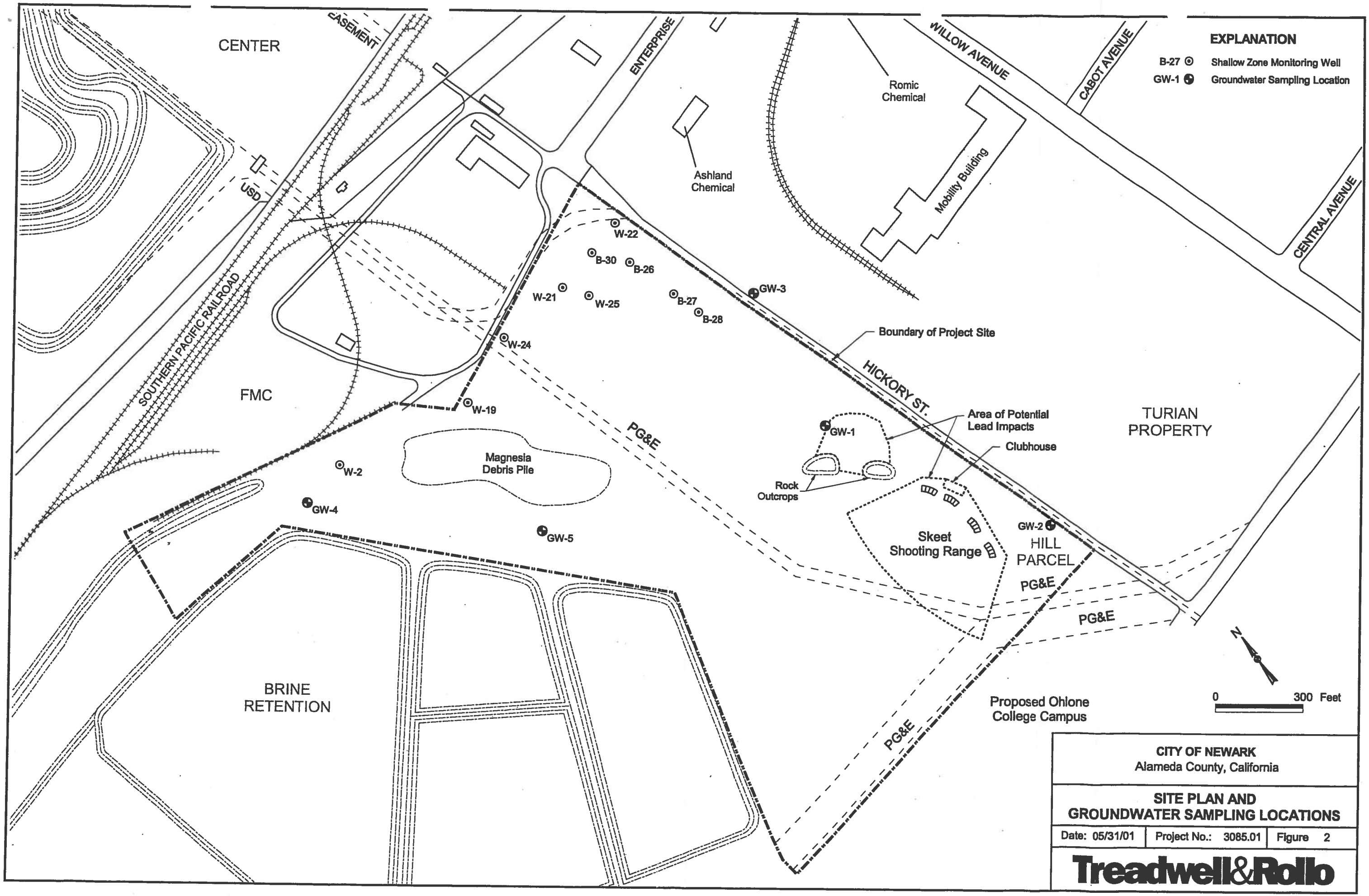
No scale

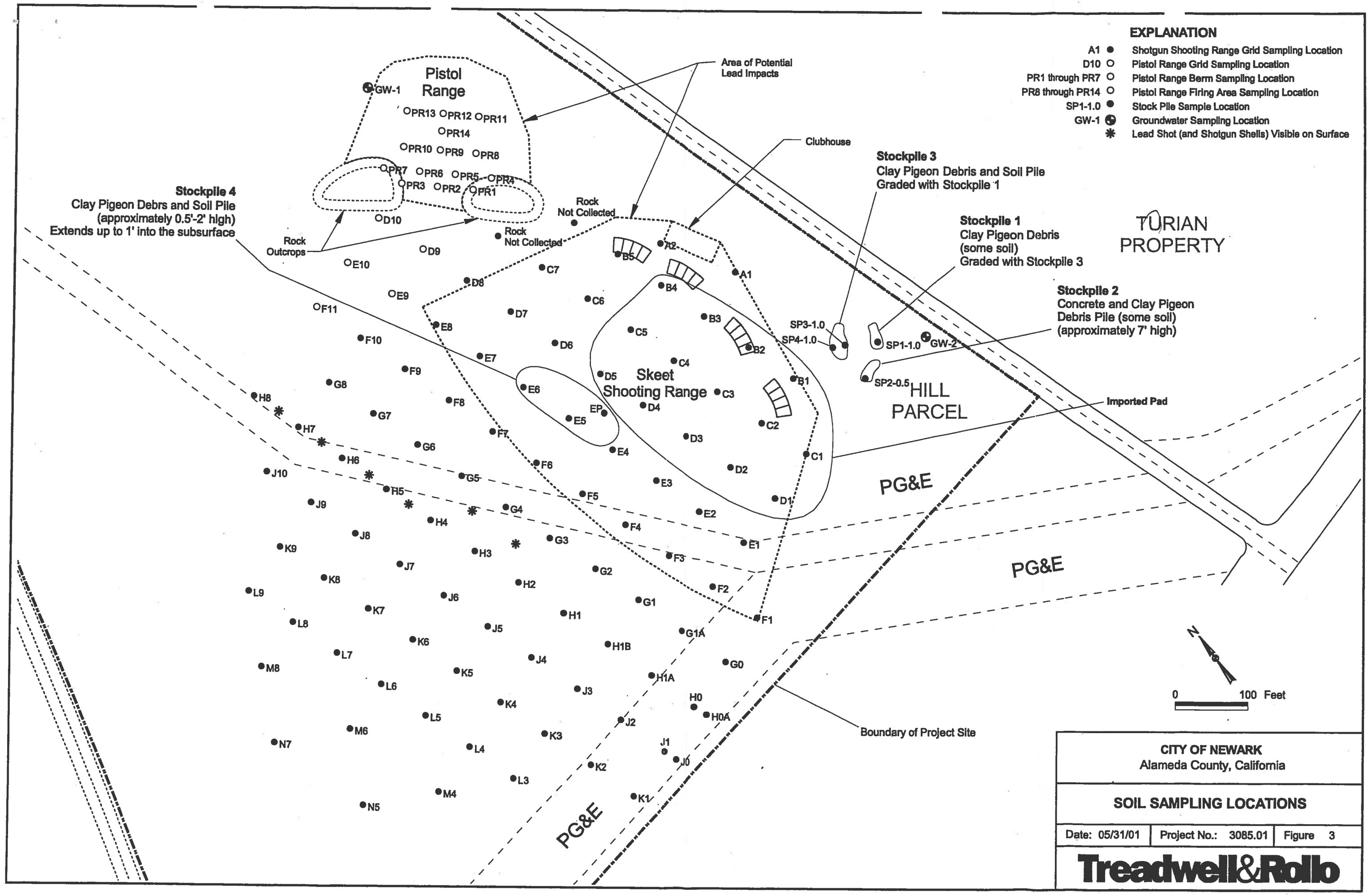
CITY OF NEWARK Alameda, California	**SITE LOCATION MAP**		
Treadwell&Rollo	Date 03/16/01	Project No. 2335.02	Figure 1

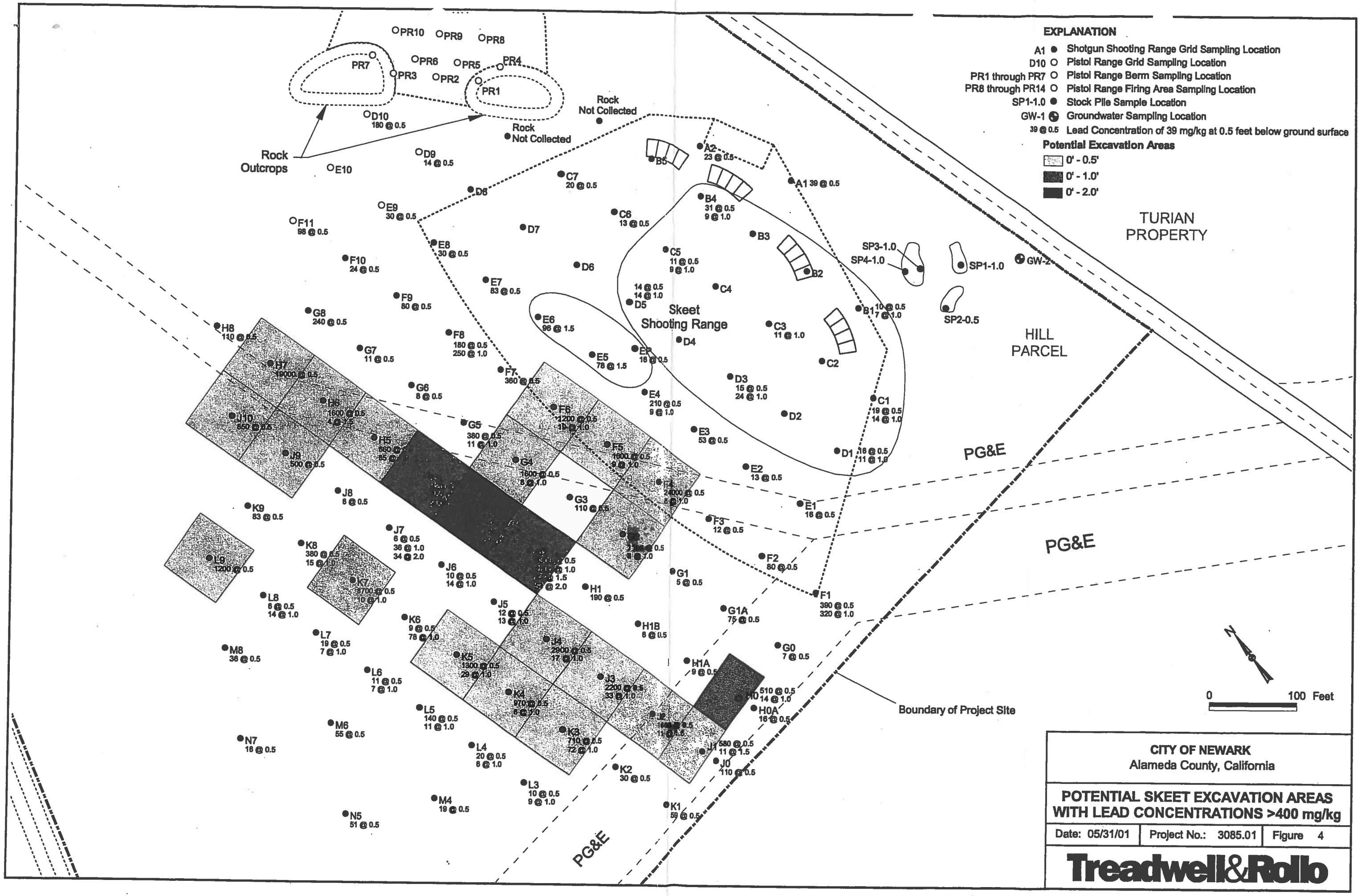
APPENDIX B
McCambell Analytical Laboratory Reports

Treadwell&Rollo

APPENDIX A
Previous Environmental Documents


EXPLANATION
B-27 Shallow Zone Monitoring Well
GW-1 Groundwater Sampling Location
CENTER
EASEMENT
ENTERPRISE
WILLOW AVENUE
CABOT AVENUE
CENTRAL AVENUE
Romic Chemical
Ashland Chemical
Mobility Building
USD
SOUTHERN PACIFIC RAILROAD
W-22
B-30
B-26
W-21
W-25
B-27
B-28
GW-3
W-24
W-19
Boundary of Project Site
HICKORY ST.
FMC
PG&E
Area of Potential Lead Impacts
Clubhouse
GW-1
TURIAN PROPERTY
Magnesia Debris Pile
W-2
Rock Outcrops
GW-4
GW-5
GW-2
Skeet Shooting Range
HILL PARCEL
PG&E
PG&E
BRINE RETENTION
Proposed Ohlone College Campus
PG&E
N
0
300 Feet
CITY OF NEWARK
Alameda County, California
SITE PLAN AND GROUNDWATER SAMPLING LOCATIONS
Date: 05/31/01
Project No.: 3085.01
Figure 2
Treadwell&Rollo


EXPLANATION
A1 Shotgun Shooting Range Grid Sampling Location
D10 Pistol Range Grid Sampling Location
PR1 through PR7 Pistol Range Berm Sampling Location
PR8 through PR14 Pistol Range Firing Area Sampling Location
SP1-1.0 Stock Pile Sample Location
GW-1 Groundwater Sampling Location
Lead Shot (and Shotgun Shells) Visible on Surface
Pistol Range
Skeet Shooting Range
Area of Potential Lead Impacts
Clubhouse
Stockpile 3
Clay Pigeon Debris and Soil Pile
Graded with Stockpile 1
Stockpile 1
Clay Pigeon Debris
(some soil)
Graded with Stockpile 3
Stockpile 2
Concrete and Clay Pigeon
Debris Pile (some soil)
(approximately 7' high)
Stockpile 4
Clay Pigeon Debrs and Soil Pile
(approximately 0.5'-2' high)
Extends up to 1' into the subsurface
Rock Outcrops
Rock Not Collected
Rock Not Collected
TURIAN PROPERTY
HILL PARCEL
PG&E
PG&E
PG&E
Imported Pad
Boundary of Project Site
GW-1
GW-2
SP1-1.0
SP2-0.5
SP3-1.0
SP4-1.0
EP
0
100 Feet
N
CITY OF NEWARK
Alameda County, California
SOIL SAMPLING LOCATIONS
Date: 05/31/01
Project No.: 3085.01
Figure 3
Treadwell&Rollo


EXPLANATION
A1 Shotgun Shooting Range Grid Sampling Location
D10 Pistol Range Grid Sampling Location
PR1 through PR7 Pistol Range Berm Sampling Location
PR8 through PR14 Pistol Range Firing Area Sampling Location
SP1-1.0 Stock Pile Sample Location
GW-1 Groundwater Sampling Location
39 @ 0.5 Lead Concentration of 39 mg/kg at 0.5 feet below ground surface
Potential Excavation Areas
0' - 0.5'
0' - 1.0'
0' - 2.0'
TURIAN PROPERTY
HILL PARCEL
PG&E
Skeet Shooting Range
Rock Outcrops
Rock Not Collected
Boundary of Project Site
0
100 Feet
CITY OF NEWARK
Alameda County, California
POTENTIAL SKEET EXCAVATION AREAS WITH LEAD CONCENTRATIONS >400 mg/kg
Date: 05/31/01
Project No.: 3085.01
Figure 4
Treadwell&Rollo

FINAL CHARACTERIZATION REPORT
FORMER NEWARK SPORTSMAN'S CLUB
Newark, California

Cargill Salt Company
Newark, California

28 September 2001
Project No. 3194.01

Treadwell&Rollo
Environmental and Geotechnical Consultants

Treadwell&Rollo

28 September 2001
Project 3194.01

Mr. Thomas Butler
Regional Water Quality Control Board
1515 Clay Street, Suite 1400
Oakland, California 94612

Subject: File Number 2199.9303
Final Characterization Report
Former Newark Sportsman's Club
Newark, California

Dear Mr. Butler:

Enclosed please find one copy of the referenced document. This document has been prepared on behalf of Cargill Salt Company in response to the 27 August 2001 letter from the Regional Water Quality Control Board (RWQCB) to Cargill Salt Company, requesting that a Final Characterization Report "...delineating the vertical and lateral distribution of lead and PAHs in soil and the identification of any local sensitive receptors..." be submitted by 28 September 2001.

Please call with any questions.

Sincerely yours,
TREADWELL & ROLLO, INC.

David G. Dixon, R.G.
Senior Project Manager

REGISTERED GEOLOGIST
DAVID G. DIXON
No. 7066
STATE OF CALIFORNIA

Philip G. Smith, REA II
Principal

31940102.PGS

Attachment

cc: Ms. Teri Peterson – Cargill Salt Company

Treadwell & Rollo, Inc. *Environmental & Geotechnical Consultants*
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Telephone (415) 955-9040 Facsimile (415) 955-9041

FINAL CHARACTERIZATION REPORT
FORMER NEWARK SPORTSMAN'S CLUB
Newark, California

Cargill Salt Company
Newark, California

28 September 2001
Project No. 3194.01

Treadwell&Rollo
Environmental and Geotechnical Consultants

Treadwell&Rollo

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Appendix B	Analytical Results

1.0 INTRODUCTION

This report presents the results of Treadwell & Rollo, Inc.'s final characterization of the Soil and Stockpile Areas (Site) used by the Former Newark Sportsman's Club (NSC) in Newark, California (Figure 1). Treadwell & Rollo, Inc. has prepared this report on behalf of Cargill Salt Company (Cargill) to meet the requirements of the San Francisco Bay Regional Water Quality Control Board (RWQCB) as documented in their letter of 27 August 2001. The purpose of this characterization was to determine the lateral and vertical distribution of residual lead and potential polynuclear aromatic hydrocarbons (PAH) compounds in soil at the Site and to characterize the soil stockpiles in anticipation of offsite disposal.

2.0 BACKGROUND

Between 1969 and May 1995, the NSC leased property at the Site from Cargill to operate a recreational outdoor shooting range (Figure 2). As a result of these activities, lead pellets from shotguns and PAH compounds from clay pigeon debris were scattered on the ground surface at the Site. It has been reported that the NSC periodically excavated the lead pellets and clay pigeon debris and placed them into stockpiles. The lead pellets were then separated from the clay pigeon debris and recycled.

The Witmer-Tyson Police Dog School and the Menlo Park Schutzhund Club, both German shepherd training facilities, subsequently rented the Site. Various Bay Area police departments as well as private dog trainers utilize the facility. According to long-time occupants of the dog training facility, surficial soil and debris (i.e. lead shot and clay pigeon fragments) located west-southwest of the clubhouse had been excavated and stockpiled. The depth of this excavation was estimated to be approximately 0.5 feet below ground surface (bgs). Imported soil, comprised mostly of silty clay and imported from an adjacent area to the south, was used to form a pad for the dog training ground. The surface of the imported pad lies approximately 0.5 to 1.0 foot above the original ground surface. The locations of the imported pad and the stockpiles are shown on Figure 3.

Between March and May 2001, Treadwell & Rollo conducted several sampling events at the Site. The results of these investigations were presented in the *Characterization Report and Additional Sampling Workplan* (July 2001 Workplan) (T&R, 2001) submitted to the RWQCB in July 2001. The report also presented a workplan for additional characterization at the site that was approved by the RWQCB in August 2001 (RWQCB, 2001b).

This report summarizes the results of the previous Treadwell & Rollo sampling, sampling conducted by Cargill in April 2001 and the sampling which was conduced by Treadwell & Rollo in August and September 2001.

3.0 GEOLOGY AND HYDROGEOLOGY

3.1 Geology

Ground surface elevations at the Site vary from approximately 4 to 10 feet above mean sea level (MSL). According to investigations conducted in the vicinity of the Site, the native surface clay/silt is underlain by loose to medium dense silty sand approximately 8 to 12 feet thick. The sand is likely underlain by soft to medium stiff clay known as Bay Mud. The Bay Mud at the Site may vary from 0 to 9 feet thick. Interbedded layers of medium stiff to hard silt and clay and medium dense to very dense sand with gravel underlay the Bay Mud or sand at adjacent sites. These soils extend to the maximum depths explored in the site vicinity (about 51 feet).

The serpentine outcrops are southerly outliers of a north-south trending chain of outcrops know as the Coyote Hills (Geosystem, 1997). The alluvium in this area is reported to be up to 350 feet deep and rests atop Franciscan Formation bedrock.

3.2 Hydrogeology

Groundwater was reportedly encountered during previous geotechnical and environmental investigations in the vicinity of the Site at depths ranging from 4 to 9 feet bgs. Periodic fluctuations in groundwater elevations may occur because of natural processes such as the infiltration of rainfall and tidal influences within the Bay.

A shallow aquifer in the Site vicinity has been reported to extend from approximately 4 to 20 feet bgs and consists of silty clay and clayey sand. The Newark Aquifer, comprised of interbedded sand and silt layers, extends from approximately 50 to 70 feet bgs and is separated from the shallow aquifer by the approximately 30-foot thick Newark Aquitard.

Based on the previous investigations that we reviewed and the regional topography, we estimate that groundwater flow direction over most of the Site is likely west towards San Francisco Bay. There are local variations in the groundwater flow direction in the vicinity of the Jones Hamilton, Romic, Ashland, and FMC facilities caused by the groundwater extraction systems operating at these facilities. These facilities are located just north of the Site and the owners of these facilities are the responsible parties mitigating the 4-Parties Plume under the RWQCB oversight. These groundwater extraction systems are designed to: (1) depress the groundwater elevation of the shallow aquifer at each facility to prevent offsite migration of contaminants; (2) recapture some contaminants that have migrated just offsite; and (3) extract and treat contaminated groundwater in activated carbon filtration systems prior to discharge to the sanitary sewer (Treadwell & Rollo, 1998).

3.3 Groundwater Usage

Other than the groundwater remediation operations described above, there is no evidence of groundwater use at the Site or vicinity.

4.0 WETLAND DELINEATION AND SENSITIVE RECEPTOR SURVEY

4.1 Wetland Delineation

Wetlands Research Associates, Inc., (WRA) was requested by Cargill, Incorporated to make an assessment for the presence of wetlands and waters that meet the criteria used in the 1987 U.S. Army Corps of Engineers Manual on the Newark Sportsman's Club site. A summary of the results of that assessment is included in this section.

4.1.1 Wetland Delineation Criteria

The three criteria used to delineate wetlands are the presence of: (1) hydrophytic vegetation, (2) wetland hydrology, and (3) hydric soils. The methods used in this study to make an assessment of potential jurisdictional wetlands and waters of the U.S. are based on the *U.S. Army Corps of Engineers Wetland Delineation Manual* (Environmental Laboratory 1987). Data on vegetation, hydrology, and soil was recorded on standard forms used in Army Corps of Engineers delineations.

Portions of the Site had positive indicators of hydric soils, wetland hydrology, and wetland classified plants. Potential wetland areas are described in the following sections and shown in a figure prepared by WRA and attached in Appendix A.

4.1.2 Vegetation

Portions of the Site are dominated by halophytic and ruderal species. In the western portion species such as alkali heath (*Frankenia salina,* FACW), sickle grass (*Parapholis incurva*, OBL), annual pickleweed (*Salicornia europaea*, OBL), perennial pickleweed (*Salicornia virginica*, OBL), and rabbit's foot grass (*Polypognon monspeliensis*, OBL) were the dominant plants. Italian ryegrass (*Lolium multiflorum*, FAC) and Mediterranean barley (*Hordeum marinum*, NL) were found in both wetland and upland areas. Rip-gut brome (*Bromus diandrus*, NL) was found only in upland portions of the site.

Within the eastern and east section of the northern portions of the Site, Italian ryegrass, a cool winter annual grass that has an indicator status of facultative (FAC), was dominant. For purposes of this study, the association of ryegrass with more FACW and OBL wetland species was used to indicate wetland conditions. In particular, rabbitsfoot grass (FACW), perennial pickleweed (OBL), and curly dock (FACW) were considered to be stronger indicators of wetland conditions in these portions of the site.

4.1.3 Hydrology

The primary differentiating characteristic of the Site that affects hydrology is elevation. Most of the site is level and drains poorly, especially the western portion and west section of the northern portion. Areas observed to be saturated and inundated by tidal flooding were determined to be a temporary construction related condition due to replacement of the tide gate associated with the Plummer Creek Wetland Mitigation site which is located south and east of the Site. Hydrology indicators in areas not affected by temporary tidal activity (slightly higher topographically) included sediment deposits[1] and matted vegetation[2]. Depressions in the eastern and northern portions that had wetland classified plants had wetland indicators that also included sediment deposits and matted vegetation.

4.1.4 Soils

Soils within the Site are representative of the mapped soil unit (Pescadero clay, drained). All of the soils on the site had low-chroma[3], including areas determined to be uplands. This is because the berms and upland areas have been constructed with local soils. As noted in the soil survey,

---

1 Sediment deposits are thin coatings of fine clay on surfaces (such as plant stems and leaves) that indicates that ponding occurred during the winter/spring such that suspended sediment settled on the growing vegetation.

2 Matted vegetation is dead plant leaves that are held together with algal and fungal filaments indicative of ponding that allowed for algal growth to occur.

3 Low chroma soils are those which lack color due to leaching of minerals from the soil under reducing conditions. Hue, value, and chroma describe the soil color notation of a soil which is determined from a standard Munsell color chart. Hydric soils also often are darker in color. The dark color is often due to the accumulation of organic matter which persist under hydric conditions.

the Soil Conservation Service maps this soil as a drained phase which indicates that it no longer has the same hydrologic conditions that formed this soil (USDA, 1981). However, if wetland hydrology reoccurs (due to subsidence or limited drainage), the soil will support wetland vegetation. Under these conditions, those portions with wetland hydrology and vegetation are considered to be wetlands under the "Atypical" condition section of the Corps Manual.

4.1.5 Summary of Wetland Assessment

There are areas that meet the wetland criteria in the Corps Manual at the Newark Gun Club Study Area, and the total area covered by these wetlands is 8.97 acres. These wetlands are depicted on the figure in Appendix A and areas for each are given in the table below.

Wetland Number on Map	Wetland Area (acres)
1	0.09
2	8.74
3	0.14
Total	8.97

4.2 Special Status Species Habitat Assessment

On 4 July 2001, WRA conducted a special status species habitat assessment of the Site to determine whether significant impacts to protected wildlife and plants (sensitive receptors) will result from the proposed removal of contaminated soils from the parcel. This section summarizes the conclusions of Wetlands Research Associates, Inc.

According to WRA no sensitive receptors were observed at the site, and based on existing habitat conditions and past and present disturbance, it is unlikely that any can occur on the site. The study area has a history of habitat disturbance and degradation that have resulted in conditions that are unsuitable for most special status plants and animals that occur in the region. In addition to being used as a shooting range, the site was also used as a decant area for the

adjacent Magnesia pile area, and is adjacent to a brine loading facility. Pickleweed cover is sparse over much of the site, suggesting that 1) hydrologic conditions on the site are marginal, or 2) pickleweed on the site was removed in the past due to human activity and is now slowly returning. Only three special status birds and three special status plants potentially could occur on the Site. Potential impacts to these species resulting from the proposed project can be avoided through project timing and pre-project surveys. The Federal- and State-listed salt marsh harvest mouse is of interest due to its documented occurrence in the region. Although this assessment found that conditions on the Site are not typical of habitat occupied by the species, its presence cannot be ruled out. Therefore, the implementation of measures to reduce potential impacts to the mouse and its habitat are recommended.

4.2.1 Special Status Species

Several special status animal and plant species have been documented to occur, or potentially occur, in southern Alameda County. A search of the CDFG Natural Diversity Data Base found no documented occurrences of special status wildlife on the site. No special status wildlife or plants were observed during the July 4 assessment. Based on the habitat assessment, there is moderate to high potential for occurrence on the site for three special status wildlife and three plant species. These species and their potential for occurrence are discussed below.

Burrowing Owl (*Athene cunicularia*), CDFG Species of Special Concern. Burrowing owls depend largely on the excavations of California ground squirrels (*Spermophilus beecheyi*) for roosting and breeding habitat. Ground squirrel activity was observed on the site; however, evidence of burrowing owl presence was not observed. If burrowing owls were to use the site, the proposed project could result in temporary significant impacts to dispersing burrowing owls and their habitat. Pre-construction surveys (30 days prior to remediation activities) are normally required by CDFG to determine the status (breeding or wintering) of owls on a site.

California Horned Lark (*Eremophila alpestris actia*), CDFG Species of Special Concern. This ground-nesting songbird prefers open, sparsely-vegetated grasslands. The California horned lark has not been observed on the Site, however, the site provides suitable foraging and breeding habitat for this species. Potential impacts to this species could result from implementation of the proposed soil removal. These temporary impacts could be avoided by conducting the work after the breeding season (April through August), or conducting breeding bird surveys to determine presence/absence on the site.

Loggerhead Shrike (Lanius ludovicianus), CDFG Species of Special Concern). Suitable loggerhead shrike nesting habitat includes trees and shrubs near open areas; foraging habitat includes grasslands and wetlands with perches. Although this species has not been observed on the Site, scattered shrubs in the area could provide suitable nest sites for the shrike. Noise and activity associated with soil removal could result in significant impacts during the breeding season. These temporary impacts could be avoided by conducting the work after the breeding season (April through August), or conducting breeding bird surveys to determine presence/absence on the site.

Salt Marsh Harvest Mouse (*Reithrodontomys raviventris*), Federal Endangered Species, California Endangered Species. Although the salt marsh harvest mouse has a low potential for occurrence, the presence of pickleweed on the site prompted a more detailed habitat assessment for this species (Habitat Suitability Index). The salt marsh harvest mouse is considered a "cover dependent species"; thick vegetation is necessary for their survival (Shellhammer 1998). The HSI considers the height of the plants, the amount of cover, and amount of pickleweed in the area. An HSI of 1.0 represents excellent habitat conditions. For example, at Coyote Hills Regional Park, an HSI value of 0.78 was calculated during the Fremont-Coyote study. Salt marsh harvest mouse habitat at Coyote Hills consisted of seasonal wetlands dominated by pickleweed. Plant cover ranged from 70 to 100 percent, average plant height was 20 inches, and percent cover of pickleweed ranged from 75 to 100 percent. The mouse has been documented to occur at Coyote Hills.

Calculated HSI values at NSC ranged from 0.012 to 0.040. The HSI is assumed to be high if the coverage and height of the vegetation are adequate to provide suitable structure, and if pickleweed cover is good. At the Site, average plant cover was less than 50 percent, and the average height of vegetation was less than 10 inches; these low variables result in low habitat suitability indices.

Special Status Plants. Three special status plant species typically associated with alkaline soils and grasslands could potentially occur on the Site. During the site inspection, they were not observed on the Site. The proposed removal of contaminated soils could result in significant impacts to the alkali milk-vetch (*Astragalus tener* var *tener*), San Joaquin spearscale (*Atriplex joaquiniana*), and Congdon's tarplant (*Hemizonia parryi* ssp. *congdonii*), if they were present. Such surveys would be conducted in April, and again between July and August.

4.2.2 Summary of Special Status Species Habitat Assessment

It is likely that a few special status species are seasonally present on or adjacent to the Site parcel; however, no observations of sensitive receptors were made during the assessment. Potentially significant impacts to only three bird species and three plants were identified. Significant noise and human presence impacts to breeding birds associated with removal of contaminated soils could result in the abandonment of eggs and/or young. This potential impact can be reduced to a less than significant level by 1) conducting a breeding bird survey prior to breaking ground and avoiding nests, or 2) initiate soil removal after the breeding season (September through January). Potential impacts to special status plants can be reduced by conducting rare plant surveys during the appropriate season (typically spring and mid-summer).

The salt marsh harvest mouse is unlikely to occur on the Newark Gun Club site because 1) results of habitat suitability index analysis strongly suggest that the site does not provide suitable habitat for the species, 2) isolation from more suitable habitat reduces the probability of salt marsh harvest mouse dispersal to the site from the nearest known population approximately one mile north of the parcel (CDFG 2001), 3) surrounding areas, including an adjacent brine

loading facility, have a history of severe habitat conversion and disturbance, and 4) the Newark Gun Club site is a former decant area for the adjacent Mag pile.

Although the results of the assessment determined there is low potential for the salt marsh harvest mouse to occur on the property, it is possible that a remnant, isolated population exists within the densest stands of pickleweed. To reduce potential impacts to the mouse and its habitat, the following measures were recommended by WRA:

- Conduct initial soil removal from areas with little or no vegetative cover.
- A biologist will flag poor habitat areas (less than 40 percent pickleweed cover) prior to removing soils. Immediately prior to soil removal, the biologist will manually remove pickleweed in the flagged areas. It is anticipated that any mice in these low-cover areas will quickly disperse to more dense pickleweed stands.
- Moderate to dense pickleweed cover (40-100 percent cover) should be avoided if possible. If soil removal from areas of dense pickleweed is necessary, a qualified biologist should remove vegetation by hand and be present when any equipment is on the site.

5.0 SITE CHARACTERIZATION

The Site is divided into two areas: the Soil Area and the Stockpile Areas. The Soil Area is the "fan-shaped" area generally west of the shooting positions shown on Figure 2. Depending on the amount of gunpowder in the shotgun shell, the type of shot, the angle at which the shooter fires, the slope of the ground, the wind, and other factors, typical lead skeet loads fall roughly 375 to 600 feet from the shooter (National Shooting Sports Foundation, 1997). The furthermost shot may land up to 780 feet from the shooter (Baldwin, 1994).

The Stockpile Areas consist of four soil stockpiles with lead shot and clay pigeon debris. These stockpiles were created as a result of periodic lead shot harvesting operations. Three of the stockpiles (Stockpiles 1, 2, and 3) reside south of the Soil Area. Since the original sampling event, Stockpiles 1 and 2 have been graded together. Stockpile 4 resides on top of the Soil Area west of the shooting positions.

5.1 Soil Area

In accordance with the approved July 2001 Workplan, additional soil samples were collected to delineate the lateral and vertical extent of lead and PAH impacted soil. For this report, impacted soil is defined as soil with lead or PAH concentrations exceeding the residential Preliminary Remedial Goals (PRGs) for the respective compounds (EPA, 2000). In addition, composite samples were prepared by the laboratory from discrete lead-impacted soil samples and analyzed for waste characterization purposes.

Two samples were collected from each of the 11 new sampling locations identified in the July 2001 Workplan to delineate the lateral extent of lead concentrations exceeding the residential PRG of 400 milligrams per kilogram (mg/kg). The new sample locations were added to the existing sample grid using a Garmin™ Global Positioning System 76 (GPS) unit. The GPS is a Wide Area Augmentation System (WAAS) enabled unit which provides accuracy of approximately ± 10 feet. Samples from the six innermost sample locations were initially analyzed for lead, while the outermost samples were placed on hold to be analyzed only if the lead concentration in one of the initial samples exceeded the residential PRG for lead.

Six existing locations were sampled to delineate the vertical extent of lead impacted soil. Five of these locations (H7, H8, J9, J10, and L9) were on the northwestern portion of the sampling grid while one location (K3) was on the southwestern side of the sampling grid. One sample collected from location E6 at 2.0 feet bgs was analyzed for PAH compounds because the sample from this location at 1.25 feet bgs had detectable concentrations of PAH compounds exceeding the residential PRGs.

5.2 Stockpile Areas

In April 2001, Cargill collected samples from the four stockpiles. The Treadwell & Rollo and Cargill sampling events were conducted independent of each other and stockpiles were labeled differently for both events. Cargills samples CP-2S and CP-2D were collected from the stockpile Treadwell & Rollo labeled as Stockpile 1. Cargills samples CP-1S and CP-1D were collected from the stockpile Treadwell & Rollo labeled as Stockpile 2. Samples from Stockpile 3 were labeled CP-3S and CP-3D and samples from Stockpile 4 were labeled CP-4S and CP-4D by Cargill. These samples were analyzed for CAM 17 metals and semi-volatile organic compounds. The samples were then composited by stockpile and analyzed for soluble antimony, arsenic, chromium, and lead using the Toxic Characteristic Leaching Procedure (TCLP).

Treadwell & Rollo collected 8 additional samples from the stockpiles in September 2001. These samples were grouped by stockpie, composited by the laboratory and analyzed for chromium and lead using the Soluble Threshold Limit Concentration (STLC).

5.3 Sample Collection

All soil samples were collected by Treadwell & Rollo using a hand auger, a slide hammer with a 2-inch sampling spoon, and/or a sampling trowel. At the desired sampling location, a clean hand trowel was used to remove any surficial vegetation from the sampling location. Once the sampling location was clear of vegetation, a decontaminated slide hammer or a sampling trowel was used to collect samples between the surface and 6-inches bgs. All deeper samples were collected with the slide hammer.

When sampling with the slide hammer, soil samples were collected in 2-inch diameter stainless steel sampling tubes. When sampling with the sampling trowel, soil samples were transferred with a clean sampling trowel directly into laboratory-supplied 4-ounce glass-sampling jars with Teflon-lined caps.

5.3.1 Site Characterization Soil Sampling

Soil samples collected by Treadwell & Rollo during the initial sampling events were collected over a 6-inch interval (i.e., 0 to 0.5 feet bgs, 0.5 to 1.0 feet bgs, 1.0 to 1.5 feet bgs, and 1.5 to 2.0 feet bgs). Soil samples collected from a depth of 0 to 0.5 feet bgs were collected in either a 6-inch sampling tube or a glass jar. All samples collected from depths greater than 6-inches bgs were collected in 6-inch sampling tubes. All the soil samples collected were labeled according to their location and bottom depth (i.e. soil collected from location A1 at the intervals 0 to 0.5 and 0.5 to 1.0 feet bgs were labeled A1-0.5 and A1-1.0, respectively). The laboratory was directed to analyze the soil from the middle of the sample tube; therefore, results from the sample collected from 0.5 to 1.0 feet bgs are indicative of soil at 0.75 feet bgs.

During the most recent sampling event, discrete and composite samples were collected using 3-inch long sampling tubes for greater depth control. Additional discrete sampling was conducted to determine the lateral and vertical distribution of lead and PAH compounds. These samples were collected at three different depth intervals: 0.125 to 0.375 feet bgs, 0.625 to 0.875 feet bgs, and 1.625 to 1.875 feet bgs. The laboratory was directed to analyze the soil from the middle of the sample tube; therefore, results from the samples collected are at 0.25 feet bgs, 0.75 feet bgs, and 1.75 feet bgs, respectively. These depths were selected to remain consistent with the previous discrete results sampled over a six-inch interval.

5.3.2 Waste Characterization Soil Sampling

During this sampling event, 12 composited samples were prepared from up to four discrete samples from locations where lead impacted soil was previously encountered. Discrete samples were chosen for composites based on the following factors:

- The locations being in close proximity to each other;
- The soil at equivalent depths was impacted with lead but below the State hazardous waste criteria of 1,000 ppm; and
- The soil at equivalent depths was above the state hazardous waste criteria of 1,000 ppm.

Where there were not at least three locations that met the above criteria that could be composited together, additional samples were collected from the locations to obtain a volumetrically significant sample. For example, two samples each were collected from H2 and H3 from the interval between 0.75 and 1.0 and the four samples were composited together. Likewise, four samples from location H3 were collected at the depth interval 1.75 to 2.0 and were composited together.

Surface soil samples were collected using a clean sampling trowel to remove the top 1-inch of soil and place it in a glass jar. Deeper samples were collected in 3-inch long, stainless steel tubes, using a slide hammer. The laboratory was directed to select the aliquot from the middle of the sample tubes and to composite specific aliquots together. The results of these samples are recorded at the midpoint of the sample interval. The composite aliquot was of a suitable size to perform all potential analyses from the one aliquot.

All soil sampling equipment was decontaminated by scrubbing with an Alconox™ detergent solution and triple-rinsing it with potable water prior to sampling. All samples collected in glass sampling jars were immediately capped, labeled, sealed in plastic bags, and then placed in an ice-cooled chest until delivery to the analytical laboratory. All samples collected in 3-inch sample tubes were immediately covered with Teflon™ sheets, capped with tight-fitting plastic end caps, labeled, sealed in plastic bags, then placed in an ice-cooled chest until delivery to the analytical laboratory.

6.0 ANALYTICAL RESULTS

The results from previous Treadwell & Rollo sampling events are described in the July 2001 Workplan. This section will summarize the analytical results from the Treadwell & Rollo sampling events that were conducted in conformance with the July 2001 Workplan and the previous Cargill sampling event conducted in April 2001.

6.1 Soil Area Delineation

6.1.1 Delineation of Lateral and Vertical Extents of Lead

During the August 2001 sampling, 28 soil samples were collected from 17 locations to complete the lateral and vertical delineation of lead at the Site. Sixteen of the sample locations were in the northwest portion of the Site while one sample for vertical delineation (K3) was in the southwest portion of the Site. The analytical laboratory analyzed 18 samples from 12 locations and placed the remaining 10 contingency samples on hold. The contingency samples would be analyzed if an initial sample had a total lead concentration greater than the residential PRG. Total lead in the 18 samples ranged from 6.1 to 49 mg/kg. Based on these results, no contingency samples were analyzed. Total lead results from all the sampling events are presented on Figure 3 and summarized in Table 1.

6.1.2 Delineation of the Vertical Extents of PAH compounds

Previous sampling results for PAH compounds delineated the lateral and vertical extent of PAH compounds exceeding the residential PRGs, with the exception of the vertical extent at location E6. One additional sample, E6-1.75, was collected approximately 0.5 feet beneath the previous sample location at E6. No PAH compounds were detected in sample E6-1.75. PAH results from all sampling events conducted at the Site are presented in Table 2.

6.2 Waste Characterization within the Lead Impacted Area

In August 2001, 46 discrete samples were collected and composited into 12 samples for waste characterization. These samples were collected from lead impacted areas.

6.2.1 Total Lead

Total lead results from the composite samples ranged from 6.4 mg/kg in the J2, J3, J4, J5 composite collected at 0.25 to 0.5 feet bgs (0.25-0.5) to 100,000 mg/kg in the G4, H2, H3, H4 (0) composite which was collected at the surface. Lead concentrations for several of the composite

samples were significantly below the lead concentrations detected in previous descrete samples in the same areas.

To help verify the composite results, samples used to form two of the composited samples were analyzed as discrete samples. The composite sample J2, J3, J4, J5 (0.25-0.5) had 6.4 mg/kg of total lead while the discrete samples comprising this sample had total lead ranging from 7.1 to 9.0 mg/kg. The sample H0, J1, K3, K4 (0.25-0.5) had a total lead result of 9.1 mg/kg in the composite sample while the discrete samples comprising this sample ranged from 5.4 to 9.1 mg/kg.

Total lead concentrations generally decrease rapidly with depth as evidenced by the 23 locations where soil in the upper 0.5 feet are lead impacted while only three of these locations had lead impacted soil at depths greater than 0.5 feet.

6.2.2 Soluble Lead

All 12 composited samples were analyzed for soluble lead by the TCLP method for waste characterization. Concentrations of TCLP soluble lead were below detection limits in eight samples with the lowest detection of total lead. Concentrations of TCLP soluble lead in the other four samples ranged from 0.58 to 99 milligrams per liter (mg/L), with 3 of the samples exceeding the Resource Conservation and Recovery Act (RCRA) waste classification concentration of 5 mg/L.

All nine composited samples that had concentrations of TCLP soluble lead below the RCRA waste classification concentration were then analyzed for soluble lead by the STLC method for waste classification. Concentrations of STLC soluble lead were below detection limits in the same eight samples where TCLP concentrations were not detectable. The concentration of STLC soluble lead was 0.36 mg/L in sample H2, H3, H4, G4 (0.25-0.5), which had a TCLP soluble lead concentration at 0.58 mg/L.

6.3 Soil Stockpiles with Lead and Clay Pigeon Debris

Samples from the stockpiles collected by Cargill in April 2001 were analyzed for CAM 17 metals. Only one sample had concentrations exceeding the California hazardous criteria threshold for metals. Sample CP-4D exceeded the state total threshold for antimony with a concentration of 960 mg/kg and lead with a concentration of 85,000 mg/kg. Table 3 summarizes the stockpile analytical results for metals.

The discrete samples composited by stockpile were analyzed for soluble antimony, arsenic, chromium, and lead by the TCLP method for waste characterization. All TCLP concentrations were below detection limits with the exception of lead in samples CP-3S, 3D where a concentration of 2.1 mg/L was detected. TCLP results are presented on Table 4.

Additional samples were collected in September 2001 and analyzed for soluble chromium and lead using STLC extraction procedure. Detectable concentrations of STLC soluble lead were detected in stockpiles No. 1, No. 2, and No. 3 at concentrations of 12, 5.7, and 9.3 mg/L. Soluble chromium was not detected in any of the stockpile samples. STLC results are presented on Table 4.

Twelve PAH compounds have been detected in stockpile samples. None of the concentrations detected exceed California or Federal hazardous criteria. PAH results are presented on Table 5.

7.0 CONCLUSIONS

Based on the analytical results presented above and in previous reports, the delineation of lateral and vertical distribution of lead and PAH in the soil above the residential PRG has been completed. The majority of lead contamination resides in an area that fans out westward from the shooting positions with highest areas of shot falling within the band between 360 and 600 feet from the firing line. Within this band, lead shot is visible on the surface and high concentrations of lead were observed in the shallow soil.

Lead concentrations generally decrease rapidly with depth as evidenced by the 23 locations where soil in the upper 0.5 feet exceed the residential PRG for lead while only three of these locations exceeded the residential PRG at depths greater than 0.5 feet.

Discrete samples collected in areas where the previous lead concentrations were greater than the residential PRG were composited by the laboratory into 3:1 and 4:1 composites samples and analyzed for TCLP lead. Three of the 12 locations had TCLP concentrations that exceed the Federal hazardous waste criteria. The nine samples with TCLP concentrations below the Federal hazardous waste criteria were also analyzed for STLC lead concentration. All the STLC lead results were below the State hazardous waste criteria.

All 12 composite samples were also analyzed for total lead. The total lead results in the composite samples were considerably lower than the average concentrations of the previous samples with the same grouping and similar depths. This may be attributable to better depth control during the most recent sampling event. Composite samples of soil from the top one inch at the surface showed very high concentrations of total lead, likely due to the number of pieces of lead shot lying on the ground surface. Previous sampling events submitted this surface lead shot to the laboratory in the 6-inch sample container. The most recent sampling event separated the top 3-inches of soil from the bottom 3-inches in separate tubes. This separation may have kept lead shot from the surface from being analyzed with deeper samples during the most recent sampling event.

Recommended remedial actions and cleanup goals for the Site will be prepared and presented in a Remedial Action Workplan (RAW). The RAW will be submitted to the RWQCB by 31 December 2001.

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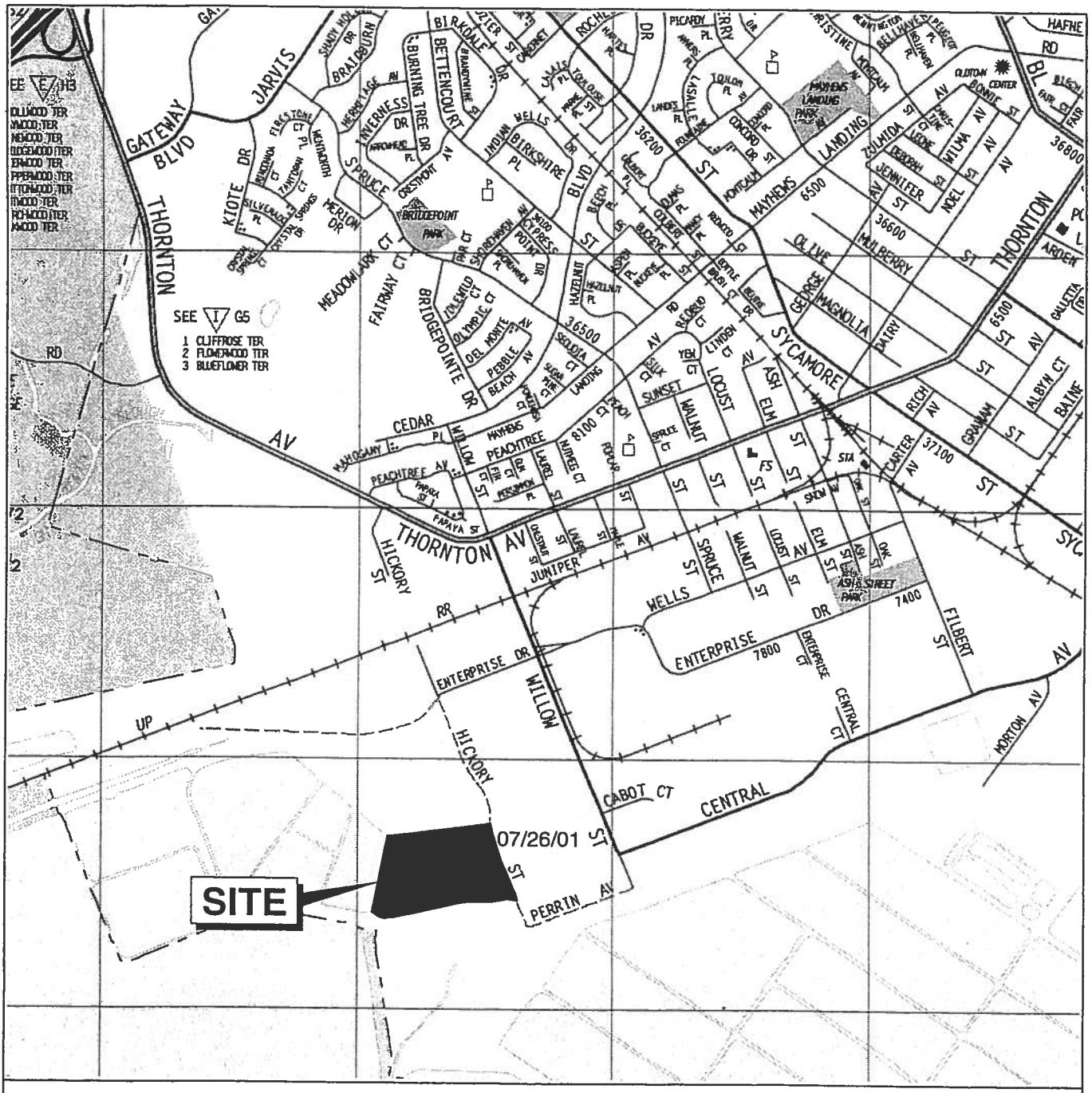
Treadwell&Rollo

FIGURES



Base map: The Thomas Guide
Alameda County
1999

No scale

FORMER NEWARK SPORTSMAN'S CLUB
Newark, California

SITE LOCATION MAP

Treadwell&Rollo

Date 09/28/01	Project No. 3194.01	Figure 1

Treadwell&Rollo

TABLES

Table 1
Summary of Lead and Copper Analytical Results for Soil Samples
Former Newark Sportsman's Club
Newark, California

Sample Location	Sample Depth (Feet)	Sample Date	Lead TTLC Extraction (mg/kg)	Lead SPLP Extraction (mg/L)	Lead TCLP Extraction (mg/L)	Lead STLC Extraction (mg/L)
Soil Area Sample Results						
A1	0.25	3/21/01	39	—	—	—
A2	0.25	3/21/01	23	—	—	—
B1	0.25	3/21/01	9.9	—	—	—
B1	0.75	3/21/01	7.3	—	—	—
B2	0.25	3/21/01	—	—	—	—
B2	0.75	3/21/01	—	—	—	—
B4	0.25	3/21/01	31	—	—	—
B4	0.75	3/21/01	8.9	—	—	—
B5	0.25	3/21/01	—	—	—	—
C1	0.25	3/22/01	19	—	—	—
C1	0.75	3/22/01	14	—	—	—
C3	0.25	3/22/01	21	—	—	—
C3	0.75	3/22/01	11	—	—	—
C5	0.25	3/22/01	11	—	—	—
C5	0.75	3/22/01	9.4	—	—	—
C6	0.25	3/22/01	13	—	—	—
C7	0.25	3/22/01	20	—	—	—
D1	0.25	3/22/01	16	—	—	—
D1	0.75	3/22/01	11	—	—	—
D3	0.25	3/22/01	15	—	—	—
D3	0.75	3/22/01	24	—	—	—
D5	0.25	3/22/01	14	—	—	—
D5	0.75	3/22/01	14	—	—	—
E1	0.25	3/22/01	16	—	—	—
E2	0.25	3/22/01	13	—	—	—
E3	0.25	3/22/01	53	—	—	—
E4	0.25	3/22/01	210	—	—	—
E4	0.75	3/22/01	8.9	—	—	—
E5	1.25	3/22/01	78	—	—	—
E6	1.25	3/22/01	96	—	—	—
E7	0.25	3/22/01	83	—	—	—
E8	0.25	3/22/01	30	—	—	—

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Sample Location	Sample Depth (Feet)	Sample Date	Lead TTLC Extraction (mg/kg)	Lead SPLP Extraction (mg/L)	Lead TCLP Extraction (mg/L)	Lead STLC Extraction (mg/L)
F1	0.25	3/22/01	390	1.6	—	—
F1	0.75	3/22/01	320	—	—	—
F2	0.25	3/22/01	80	—	—	—
F3	0.25	3/22/01	12	—	—	—
F4	0.25	3/22/01	**24,000**	—	—	—
F4	0.75	3/22/01	8.3	<0.2	—	—
F5	0.25	3/22/01	**1,000**	—	—	—
F5	0.75	3/22/01	8.8	<0.2	—	—
F6	0.25	3/22/01	**1,200**	—	—	—
F6	0.75	3/22/01	19	<0.2	—	—
F7	0.25	3/22/01	360	—	—	—
F8	0.25	3/22/01	180	—	—	—
F8	0.75	3/22/01	250	—	—	—
F9	0.25	3/22/01	80	—	—	—
F10	0.25	3/22/01	24	—	—	—
F11	0.25	3/22/01	98	—	—	—
G0	0.25	4/12/01	7.4	—	—	—
G1A	0.25	5/7/01	75	—	—	—
G1	0.25	4/12/01	4.7	—	—	—
G2	0.25	4/12/01	**1,100**	—	—	—
G2	0.75	4/12/01	8.2	—	—	—
G3	0.25	4/12/01	110	—	—	—
G3	0.75	4/12/01	12	—	—	—
G4	0.25	4/12/01	**1,600**	—	—	—
G4	0.75	4/12/01	7.7	—	—	—
G5	0.25	4/12/01	380	—	—	—
G5	0.75	4/12/01	11	—	—	—
G6	0.25	4/12/01	7.8	—	—	—
G7	0.25	5/7/01	11	—	—	—
G8	0.25	5/17/01	240	—	—	—
H0A	0.25	5/7/01	16	—	—	—
H0	0.25	4/12/01	**510**	—	—	—
H0	0.375	8/23/01	9.1	—	—	—
H0	0.75	4/12/01	14	—	—	—

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Sample Location	Sample Depth (Feet)	Sample Date	Lead TTLC Extraction (mg/kg)	Lead SPLP Extraction (mg/L)	Lead TCLP Extraction (mg/L)	Lead STLC Extraction (mg/L)
H1A	0.25	5/7/01	8.9	—	—	—
H1B	0.25	5/7/01	6.0	—	—	—
H1	0.25	4/12/01	190	—	—	—
H1	0.75	4/12/01	29	—	—	—
H2	0.25	4/12/01	**3,300**	—	3.9	—
H2	0.75	4/12/01	**2,800**	—	**58**	—
H2	1.25	5/7/01	47	—	—	—
H2	1.75	5/7/01	54	—	—	—
H3	0.25	4/12/01	**3,400**	—	3.9	—
H3	0.75	4/12/01	**4,000**	—	0.36	—
H3	1.75	5/7/01	**590/100**	—	—	—
H4	0.25	4/12/01	**4,200**	—	—	—
H4	0.75	4/12/01	**460**	—	—	—
H4	1.75	5/7/01	200	—	—	—
H5	0.25	5/7/01	**660**	—	—	—
H5	1.25	5/7/01	85	—	—	—
H6	0.25	5/7/01	**1,600**	—	—	—
H6	1.25	5/7/01	3.9	—	—	—
H7	0.25	5/17/01	**19,000**	—	—	—
H7	0.75	8/24/01	11	—	—	—
H8	0.25	5/17/01	110	—	—	—
H8	0.75	8/24/01	83	—	—	—
J0	0.25	5/17/01	110	—	—	—
J1	0.25	5/7/01	**580**	—	—	—
J1	0.375	8/23/01	78	—	—	—
J1	1.25	5/7/01	11	—	—	—
J2	0.25	5/7/01	**1,600**	—	—	—
J2	0.375	8/23/01	71	—	—	—
J2	1.25	5/7/01	11	—	—	—
J3	0.25	5/7/01	**2,200**	—	—	—
J3	0.375	8/23/01	90	—	—	—
J3	1.25	5/7/01	33	—	—	—

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Former Newark Sportsman's Club
Newark, California

Sample Location	Sample Depth (Feet)	Sample Date	Lead TTLC Extraction (mg/kg)	Lead SPLP Extraction (mg/L)	Lead TCLP Extraction (mg/L)	Lead STLC Extraction (mg/L)
J4	0.25	5/7/01	**2,900**	—	—	—
J4	0.75	5/7/01	17	—	—	—
J4	0.375	8/23/01	7.7	—	—	—
J5	0.25	5/7/01	12	—	—	—
J5	0.75	5/7/01	13	—	—	—
J6	0.25	5/7/01	10	—	—	—
J6	0.75	5/7/01	14	—	—	—
J7	0.25	5/7/01	5.9	—	—	—
J7	0.75	5/7/01	360	—	—	—
J7	1.75	5/7/01	34	—	—	—
J8	0.25	5/7/01	7.9	—	—	—
J9	0.25	5/17/01	**500**	—	—	—
J9	0.75	8/24/01	8.4	—	—	—
J10	0.25	5/17/01	**850**	—	—	—
J10	0.75	8/24/01	11	—	—	—
J11	0.25	8/24/01	12	—	—	—
J11	0.75	8/24/01	11	—	—	—
K1	0.25	5/17/01	59	—	—	—
K2	0.25	5/17/01	30	—	—	—
K3	0.25	5/7/01	**710**	—	—	—
K3	0.375	8/23/01	8.6	—	—	—
K3	1.25	5/7/01	72 / **2,600**	—	—	—
K3	1.75	8/24/01	9.3	—	<3.0	—
K4	0.25	5/7/01	**970**	—	—	—
K4	0.375	8/23/01	5.4	—	—	—
K4	0.75	5/7/01	5.7	—	—	—
K5	0.25	5/7/01	**1,300**	—	—	—
K5	0.375	8/23/01	8.3	—	—	—
K5	0.75	5/7/01	29	—	—	—
K6	0.25	5/7/01	8.8	—	—	—
K6	0.75	5/7/01	78	—	—	—
K6	1.75	5/7/01	27	—	—	—

Table 1
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Former Newark Sportsman's Club
Newark, California

Sample Location	Sample Depth (Feet)	Sample Date	Lead TTLC Extraction (mg/kg)	Lead SPLP Extraction (mg/L)	Lead TCLP Extraction (mg/L)	Lead STLC Extraction (mg/L)
K7	0.25	5/7/01	**8,700**	—	—	—
K7	0.75	5/7/01	9.6	—	—	—
K8	0.25	5/7/01	380	—	—	—
K8	1.25	5/7/01	15	—	—	—
K9	0.25	5/17/01	83	—	—	—
K10	0.25	8/24/01	22	—	—	—
K10	0.75	8/24/01	8	—	—	—
K11	0.25	8/24/01	16	—	—	—
K11	0.75	8/24/01	9.8	—	—	—
L3	0.25	5/17/01	10	—	—	—
L3	0.75	5/17/01	8.6	—	—	—
L4	0.25	5/17/01	20	—	—	—
L4	0.75	5/17/01	6.2	—	—	—
L5	0.25	5/17/01	140	—	—	—
L5	0.75	5/17/01	11	—	—	—
L6	0.25	5/17/01	11	—	—	—
L6	0.75	5/17/01	7.3	—	—	—
L7	0.25	5/17/01	19	—	—	—
L7	0.75	5/17/01	7.4	—	—	—
L8	0.25	5/17/01	8.2	—	—	—
L8	0.75	5/17/01	14	—	—	—
L9	0.25	5/17/01	**1,200**	—	—	—
L9	0.75	8/24/01	6.5	—	—	—
L10	0.25	8/24/01	25	—	—	—
L10	0.75	8/24/01	6.1	—	—	—
M4	0.25	5/17/01	19	—	—	—
M6	0.25	5/17/01	55	—	—	—
M8	0.25	5/17/01	36	—	—	—
M9	0.25	8/24/01	26	—	—	—
M9	0.75	8/24/01	8.5	—	—	—
M10	0.25	8/24/01	49	—	—	—
M10	0.75	8/24/01	16	—	—	—
N5	0.25	5/17/01	51	—	—	—
N7	0.25	5/17/01	16	—	—	—

Table 1
Summary of Lead and Copper Analytical Results for Soil Samples
Former Newark Sportsman's Club
Newark, California

Sample Location	Sample Depth (Feet)	Sample Date	Lead TTLC Extraction (mg/kg)	Lead SPLP Extraction (mg/L)	Lead TCLP Extraction (mg/L)	Lead STLC Extraction (mg/L)
Composite Sample Results						
F4, F5, F6, G2	0.375	8/23/01	150	—	13	—
G4, H2, H3, H4	Surface	8/23/01	**100,000**	—	99	—
G4, H2, H3, H4	0.375	8/23/01	**840**	—	0.58	0.36
H5, H6, H7	Surface	8/23/01	**2,200**	—	48	—
H2, H3	0.875	8/23/01	9.9	—	<0.2	<0.2
H4	0.875	8/23/01	10	—	<0.2	<0.2
H3	1.875	8/23/01	14	—	<0.2	<0.2
H6, H7	0.375	8/23/01	18	—	<0.2	<0.2
H0, J1, K3, K4	0.375	8/23/01	9.1	—	<0.2	<0.2
H5, J9, J10	0.375	8/23/01	9.9	—	<0.2	<0.2
J2, J3, J4, K5	0.375	8/23/01	6.4	—	<0.2	<0.2
K7, L9	0.375	8/24/01	8.7	—	<0.2	<0.2
PRG						
Residential			400	—	—	—
Industrial			750	—	—	—
California State						
Title 22 TTLC			1,000	—	—	—
Title 22 STLC (mg/L)			—	—	—	5.0
Federal						
TCLP Hazardous Waste Criteria (mg/L)			—	—	5.0	—

Notes:

mg/kg = milligrams per kilogram

mg/L = milligrams per liter

SPLP = Synthetic Precipitation Leachate Procedure by EPA Method 1311

TTLC = California Total Threshold Limit Concentration - State hazardous waste criterion

TCLP = Federal Toxicity Characteristic Leaching Potential Analysis - Federal hazardous waste criterion

STLC = Soluble Threshold Limit Concentration

PRG = EPA Preliminary Remedial Goals for residential soil (November 2000)

RCRA = Resource Conservation and Recovery Act

— = Not Analyzed

Bold indicates a detected value that exceeds the residential PRG, State waste criteria, or Federal waste criteria.

Shading indicates new analytical results added to the table for the August 2001 sampling event.

<0.2 = Not detected at or above laboratory reporting limits.

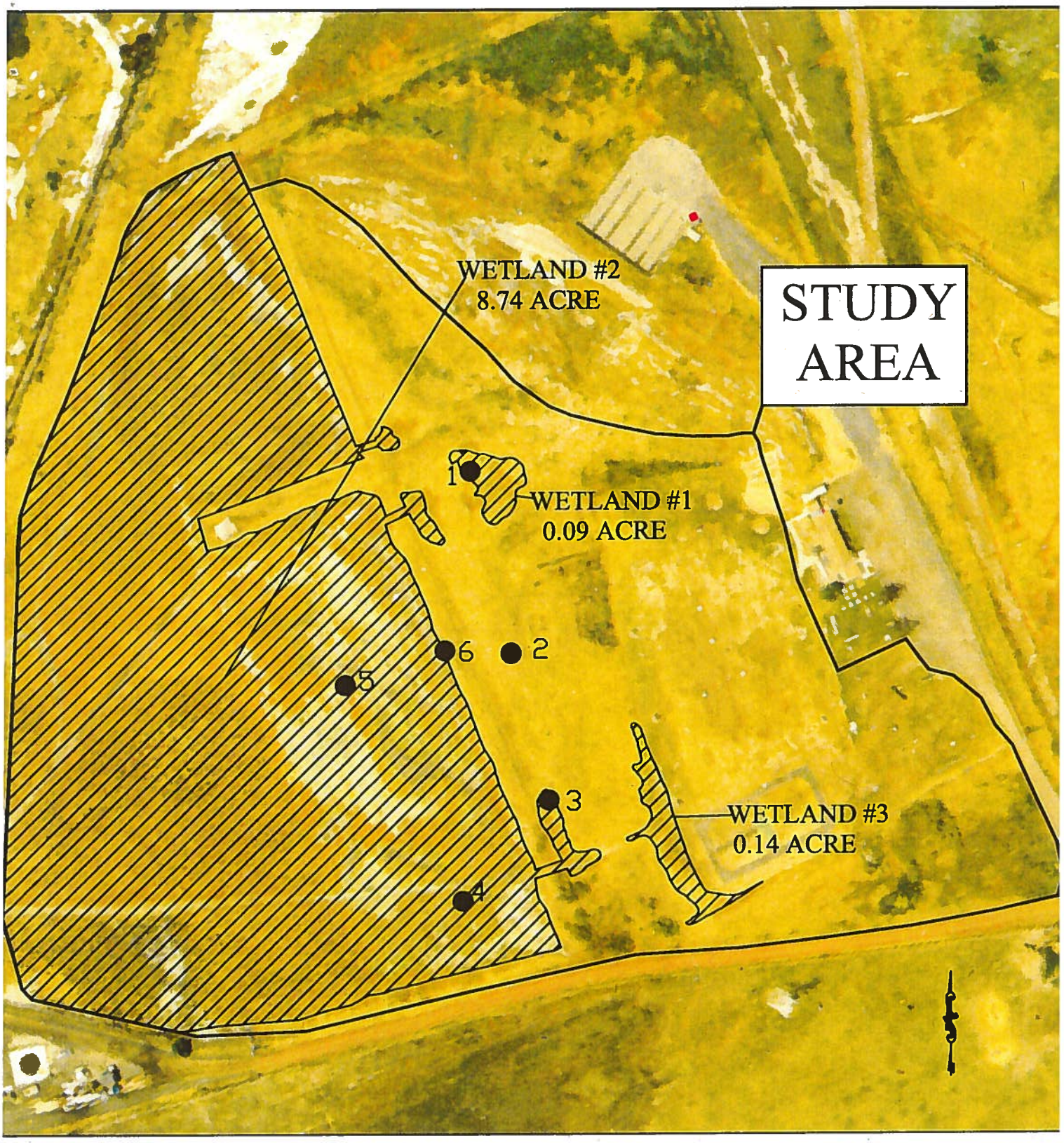
Table 4
Soil Stockpile Analytical Results - TCLP and STLC Metals
Former Newark Sportsman's Club
Newark, California

Stockpile Number	Sample Number	Sampling Date	TCLP				STLC	
			Sb	As	Cr	Pb	Cr	Pb
Stockpiles #1 & #2	CP-1S,1D,2S,2D	4/24/01	<0.50	<0.50	<0.50	<0.50	—	—
	SP-1A,B	9/12/01	—	—	—	—	<0.5	12
	SP-1C,D	9/12/01	—	—	—	—	<0.5	5.7
Stockpile #3	CP-3S,3D	4/24/01	<0.50	<0.50	<0.50	2.1	—	—
	SP-3A,B	9/12/01	—	—	—	—	<0.5	9.3
Stockpile #4	CP-4S,4D	4/24/01	<0.05	<0.05	<0.05	<0.05	—	—
	SP-4A,B	9/12/01	—	—	—	—	<0.5	<0.5
California State								
Title 22 STLC (mg/l)			—	—	—	—	5.0	5.0
Federal								
TCLP Hazardous Criteria (mg/l)			5.0	5.0	5.0	5.0	—	—

Notes:
<0.5 = Not detected at or above indicated method reporting limit.
As = Arsenic; Cr = Chromium; Pb = Lead; Sb = Antimony
TCLP = Toxicity Characteristic Leaching Potential
STLC = Soluble Threshold Limit Concentration

Treadwell&Rollo

APPENDIX A
Wetlands Delineation Figure



L:\wra_custom\graphics\wralogo_black.tif

75 0 75 150 FEET

SCALE: 1" = 150'

Figure 3

AREAS MEETING 1987 CORPS MANUAL CRITERIA	Cargill Salt, Western Division 7220 Central Avenue Newark, CA 94560 Contact: Mr. Robert Douglass 510/790-8156	Newark Gun Club Parcel LOCATION: South of Thornton Avenue and at the end of Perrin Avenue Newark, CA COUNTY: Alameda DATE: June 2001 FILE: 2047\olddwg\figs\Newark_Gun_Club_fig3

Treadwell&Rollo

APPENDIX B
Analytical Results

McCAMPBELL ANALYTICAL INC.

110 2nd Avenue South, #D7, Pacheco, CA 94553-5560
Telephone : 925-798-1620 Fax : 925-798-1622
http://www.mccampbell.com E-mail: main@mccampbell.com

Treadwell & Rollo 555 Montgomery St., Suite 1300 San Francisco, CA 94111	Client Project ID: #3194.01; Cargill Salt	Date Sampled: 08/23-08/24/01
		Date Received: 08/28/01
	Client Contact: David Dixon	Date Extracted: 08/28-09/15/01
	Client P.O:	Date Analyzed: 08/28-09/16/01

09/20/01

Dear David:

Enclosed are:

1). the results of 31 samples from your **#3194.01; Cargill Salt** project,

2). a QC report for the above samples

3). a copy of the chain of custody, and

4). a bill for analytical services.

All analyses were completed satisfactorily and all QC samples were found to be within our control limits. If you have any questions please contact me. McCampbell Analytical Laboratories strives for excellence in quality, service and cost. Thank you for your business and I look forward to working with you again.

Yours truly,

Edward Hamilton, Lab Director

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Treadwell & Rollo 555 Montgomery St., Suite 1300 San Francisco, CA 94111	Client Project ID: #3194.01; Cargill Salt	Date Sampled: 08/23-08/24/01
		Date Received: 08/28/01
	Client Contact: David Dixon	Date Extracted: 08/29/01
	Client P.O:	Date Analyzed: 08/29/01

Polynuclear Aromatic Hydrocarbons (PAH / PNA) by GC-MS

EPA methods 625 (modified 610) and 3510 or 8270 (modified 8100) and 3550

Lab ID	76248	Reporting Limit	
Client ID	E6-1.75	S	W, STLC TCLP
Matrix	S		
Compound	Concentration*	mg/kg	ug/L
Acenaphthene	ND	0.062	10
Acenaphthylne	ND	0.062	10
Anthracene	ND	0.062	10
Benzo(a)anthracene	ND	0.062	10
Benzo(b)fluoranthene	ND	0.062	10
Benzo(k)fluoranthene	ND	0.062	10
Benzo(g,h,i)perylene	ND	0.062	10
Benzo(a)pyrene	ND	0.062	10
Chrysene	ND	0.062	10
Dibenzo(a,h)anthracene	ND	0.062	10
Fluoranthene	ND	0.062	10
Fluorene	ND	0.062	10
Indeno(1,2,3-cd)pyrene	ND	0.062	10
Naphthalene	ND	0.062	10
Phenanthrene	ND	0.062	10
Pyrene	ND	0.062	10
% Recovery Surrogate 1	105		
% Recovery Surrogate 2	108		
Comments			

* water and vapor samples are reported in ug/L, soil and sludge samples in mg/kg, wipes in ug/wipe and all TCLP / STLC / SPLP extracts in ug/L.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis

surrogate diluted out of range or surrogate coelutes with another peak

(h) a lighter than water immiscible sheen is present; (i) liquid sample that contains >~5 vol. % sediment; (j) sample diluted due to high organic content.

DHS Certification No. 1644

Edward Hamilton, Lab Director

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Treadwell & Rollo 555 Montgomery St., Suite 1300 San Francisco, CA 94111	Client Project ID: #3194.01; Cargill Salt	Date Sampled: 08/23-08/24/01
		Date Received: 08/28/01
	Client Contact: David Dixon	Date Extracted: 08/28/01
	Client P.O:	Date Analyzed: 08/29-08/30/01

Lead*

EPA analytical methods 6010/200.7

Lab ID	Client ID	Matrix	Extraction °	Lead*	% Recovery Surrogate
76209	HO,J1,K3,K4 (0.25-0.5)	S	TTLC	9.1	111
76210	J2,J3,J4,K5 (0.25-0.5)	S	TTLC	6.4	106
76211	H5,J9,J10 (0.25-0.5)	S	TTLC	9.9	104
76212	H5,H6,H7 (0.25-0.5)	S	TTLC	2200	102
76213	F4,F5,F6,G2 (0.25-0.5)	S	TTLC	150	98
76214	H2,H3 (0.75-1.0A-B)	S	TTLC	9.9	102
76215	G4,H2,H3,H4 (0)	S	TTLC	100,000	100
76216	H2,H3,H4,G4 (0.25-0.5)	S	TTLC	840	98
76217	H4 (0.75-1.0A-D)	S	TTLC	10	102
76218	H3 (1.75-2.0A-D)	S	TTLC	14	101
76219	H6,H7 (0.25-0.5A-D)	S	TTLC	18	97
76220	K7,L9 (0.25-0.5A-B)	S	TTLC	8.7	98
76221	L9-0.75	S	TTLC	6.5	98
76222	J9-075	S	TTLC	8.4	105
76223	J10-0.75	S	TTLC	11	98
76224	H7-0.75	S	TTLC	11	99
Reporting Limit unless otherwise stated; ND means not detected above the reporting limit		S	TTLC	3.0 mg/kg	
		W	TTLC	0.005 mg/L	
		---	STLC,TCLP	0.2 mg/L	

* soil and sludge samples are reported in mg/kg, wipe samples in ug/wipe, and water samples and all STLC / SPLP / TCLP extracts in mg/L

+Lead is analysed using EPA method 6010 (ICP)for soils, sludges, STLC & TCLP extracts and method 239.2 (AA Furnace) for water samples

@ DISTLC extractions are performed using STLC methodology except that deionized water is substituted for citric acid buffer as the extraction fluid. DISTLC results are not applicable to STLC regulatory limits.

° EPA extraction methods 1311(TCLP), 3010/3020(water,TTLC), 3040(organic matrices,TTLC), 3050(solids,TTLC); STLC - CA Title 22

surrogate diluted out of range; N/A means surrogate not applicable to this analysis

& reporting limit raised due matrix interference

i) liquid sample that contains greater than ~2 vol. % sediment; this sediment is extracted with the liquid, in accordance with EPA methodologies and can significantly effect reported metal concentrations.

DHS Certification No. 1644

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		Date Received: 08/28/01
	Client Contact: David Dixon	Date Extracted: 08/28/01
	Client P.O:	Date Analyzed: 08/28/01

Lead*

EPA analytical methods 6010/200.7, 239.2+

Lab ID	Client ID	Matrix	Extraction °	Lead*	% Recovery Surrogate
76225	H8-0.75	S	TTLC	8.3	96
76226	J11-0.25	S	TTLC	12	93
76227	J11-0.75	S	TTLC	11	98
76234	K11-0.25	S	TTLC	16	101
76235	K11-0.75	S	TTLC	9.8	96
76240	L10-0.25	S	TTLC	25	101
76241	L10-0.75	S	TTLC	6.1	98
76242	K10-0.25	S	TTLC	22	98
76243	K10-0.75	S	TTLC	8.0	97
76244	M10-0.25	S	TTLC	49	105
76245	M10-0.75	S	TTLC	16	104
76246	M9-0.25	S	TTLC	26	100
76247	M9-0.75	S	TTLC	8.5	97
76249	K3-1.75	S	TTLC	9.3	97
Reporting Limit unless otherwise stated; ND means not detected above the reporting limit		S	TTLC	3.0 mg/kg	
		W	TTLC	0.005 mg/L	
		---	STLC,TCLP	0.2 mg/L	

* soil and sludge samples are reported in mg/kg, wipe samples in ug/wipe, and water samples and all STLC / SPLP / TCLP extracts in mg/L

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Treadwell & Rollo 555 Montgomery St., Suite 1300 San Francisco, CA 94111	Client Project ID: #3194.01; Cargill Salt	Date Sampled: 08/23-08/24/01
		Date Received: 08/28/01
	Client Contact: David Dixon	Date Extracted: 09/13/01
	Client P.O:	Date Analyzed: 09/14/01

Lead*

EPA analytical methods 6010/200.7, 239.2+

Lab ID	Client ID	Matrix	Extraction °	Lead*	% Recovery Surrogate
76209A	HO-0.33-0.5	S	TTLC	9.1	102
76209B	J1-0.33-0.5	S	TTLC	7.8	106
76209C	K3-0.33-0.5	S	TTLC	8.6	101
76209D	K4-0.33-0.5	S	TTLC	5.4	104
76210A	J2-0.33-0.5	S	TTLC	7.1	106
76210B	J3-0.33-0.5	S	TTLC	9.0	109
76210C	J4-0.33-0.5	S	TTLC	7.7	104
76210D	K5-0.33-0.5	S	TTLC	8.3	109

Reporting Limit unless otherwise stated; ND means not detected above the reporting limit	S	TTLC	3.0 mg/kg	
	W	TTLC	0.005 mg/L	
	---	STLC,TCLP	0.2 mg/L	

* soil and sludge samples are reported in mg/kg, wipe samples in ug/wipe, and water samples and all STLC / SPLP / TCLP extracts in mg/L

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° EPA extraction methods 1311(TCLP), 3010/3020(water,TTLC), 3040(organic matrices,TTLC), 3050(solids,TTLC); STLC - CA Title 22

surrogate diluted out of range; N/A means surrogate not applicable to this analysis

& reporting limit raised due matrix interference

i) liquid sample that contains greater than ~2 vol. % sediment; this sediment is extracted with the liquid, in accordance with EPA methodologies and can significantly effect reported metal concentrations.

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Treadwell & Rollo 555 Montgomery St., Suite 1300 San Francisco, CA 94111	Client Project ID: #3194.01; Cargill Salt	Date Sampled: 08/23-08/24/01
		Date Received: 08/28/01
	Client Contact: David Dixon	Date Extracted: 09/13-09/15/01
	Client P.O:	Date Analyzed: 09/16/01

Lead*

EPA analytical methods 6010/200.7, 239.2+

Lab ID	Client ID	Matrix	Extraction °	Lead*	% Recovery Surrogate
76209	HO,J1,K3,K4 (0.25-0.5)	S	STLC	ND	N/A
76210	J2,J3,J4,K5 (0.25-0.5)	S	STLC	ND	N/A
76211	H5,J9,J10 (0.25-0.5)	S	STLC	ND	N/A
76214	H2,H3 (0.75-1.0A-B)	S	STLC	ND	N/A
76216	H2,H3,H4,G4 (0.25-0.5)	S	STLC	0.36	N/A
76217	H4 (0.75-1.0A-D)	S	STLC	ND	N/A
76218	H3 (1.75-2.0A-D)	S	STLC	ND	N/A
76219	H6,H7 (0.25-0.5A-D)	S	STLC	ND	N/A
76220	K7,L9 (0.25-0.5A-B)	S	STLC	ND	N/A
Reporting Limit unless otherwise stated; ND means not detected above the reporting limit		S	TTLC	3.0 mg/kg	
		W	TTLC	0.005 mg/L	
		---	STLC,TCLP	0.2 mg/L	

* soil and sludge samples are reported in mg/kg, wipe samples in ug/wipe, and water samples and all STLC / SPLP / TCLP extracts in mg/L

+Lead is analysed using EPA method 6010 (ICP)for soils, sludges, STLC & TCLP extracts and method 239.2 (AA Furnace) for water samples

@ DISTLC extractions are performed using STLC methodology except that deionized water is substituted for citric acid buffer as the extraction fluid. DISTLC results are not applicable to STLC regulatory limits.

° EPA extraction methods 1311(TCLP), 3010/3020(water,TTLC), 3040(organic matrices,TTLC), 3050(solids,TTLC); STLC - CA Title 22

surrogate diluted out of range; N/A means surrogate not applicable to this analysis

& reporting limit raised due matrix interference

i) liquid sample that contains greater than ~2 vol. % sediment; this sediment is extracted with the liquid, in accordance with EPA methodologies and can significantly effect reported metal concentrations.

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Treadwell & Rollo 555 Montgomery St., Suite 1300 San Francisco, CA 94111	Client Project ID: #3194.01; Cargill Salt	Date Sampled: 08/23-08/24/01
		Date Received: 08/28/01
	Client Contact: David Dixon	Date Extracted: 08/28-08/29/01
	Client P.O:	Date Analyzed: 08/30/01

Lead*

EPA analytical methods 6010/200.7

Lab ID	Client ID	Matrix	Extraction °	Lead*	% Recovery Surrogate
76209	HO,J1,K3,K4 (0.25-0.5)	S	TCLP	ND	N/A
76210	J2,J3,J4,K5 (0.25-0.5)	S	TCLP	ND	N/A
76211	H5,J9,J10 (0.25-0.5)	S	TCLP	ND	N/A
76212	H5,H6,H7 (0.25-0.5)	S	TCLP	48	N/A
76213	F4,F5,F6,G2 (0.25-0.5)	S	TCLP	13	N/A
76214	H2,H3 (0.75-1.0A-B)	S	TCLP	ND	N/A
76215	G4,H2,H3,H4 (0)	S	TCLP	99	N/A
76216	H2,H3,H4,G4 (0.25-0.5)	S	TCLP	0.58	N/A
76217	H4 (0.75-1.0A-D)	S	TCLP	ND	N/A
76218	H3 (1.75-2.0A-D)	S	TCLP	ND	N/A
76219	H6,H7 (0.25-0.5A-D)	S	TCLP	ND	N/A
76220	K7,L9 (0.25-0.5A-B)	S	TCLP	ND	N/A
Reporting Limit unless otherwise stated; ND means not detected above the reporting limit		S	TTLC	3.0 mg/kg	
		W	TTLC	0.005 mg/L	
		---	STLC,TCLP	0.2 mg/L	

* soil and sludge samples are reported in mg/kg, wipe samples in ug/wipe, and water samples and all STLC / SPLP / TCLP extracts in mg/L

+Lead is analysed using EPA method 6010 (ICP)for soils, sludges, STLC & TCLP extracts and method 239.2 (AA Furnace) for water samples

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° EPA extraction methods 1311(TCLP), 3010/3020(water,TTLC), 3040(organic matrices,TTLC), 3050(solids,TTLC); STLC - CA Title 22

surrogate diluted out of range; N/A means surrogate not applicable to this analysis

& reporting limit raised due matrix interference

i) liquid sample that contains greater than ~2 vol. % sediment; this sediment is extracted with the liquid, in accordance with EPA methodologies and can significantly effect reported metal concentrations.

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Treadwell & Rollo 555 Montgomery St., Suite 1300 San Francisco, CA 94111	Client Project ID: #3194.01; Cargill Salt	Date Sampled: 08/23-08/24/01
		Date Received: 08/28/01
	Client Contact: David Dixon	Date Extracted: 09/05-09/06/01
	Client P.O:	Date Analyzed: 09/06/01

Lead*

EPA analytical methods 6010/200.7, 239.2+

Lab ID	Client ID	Matrix	Extraction °	Lead*	% Recovery Surrogate
76249	K3-1.75	S	TCLP	ND	NA
Reporting Limit unless otherwise stated; ND means not detected above the reporting limit		S	TTLC	3.0 mg/kg	
		W	TTLC	0.005 mg/L	
		---	STLC,TCLP	0.2 mg/L	

* soil and sludge samples are reported in mg/kg, wipe samples in ug/wipe, and water samples and all STLC / SPLP / TCLP extracts in mg/L

+Lead is analysed using EPA method 6010 (ICP)for soils, sludges, STLC & TCLP extracts and method 239.2 (AA Furnace) for water samples

@ DISTLC extractions are performed using STLC methodology except that deionized water is substituted for citric acid buffer as the extraction fluid. DISTLC results are not applicable to STLC regulatory limits.

° EPA extraction methods 1311(TCLP), 3010/3020(water,TTLC), 3040(organic matrices,TTLC), 3050(solids,TTLC); STLC - CA Title 22

surrogate diluted out of range; N/A means surrogate not applicable to this analysis

& reporting limit raised due matrix interference

i) liquid sample that contains greater than ~2 vol. % sediment; this sediment is extracted with the liquid, in accordance with EPA methodologies and can significantly effect reported metal concentrations.

DHS Certification No. 1644

Edward Hamilton, Lab Director

McCAMPBELL ANALYTICAL INC.
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QC REPORT

SVOCs (EPA 8270/625/525)

Date: 08/28/01-08/29/01 **Extraction:** N/A **Matrix:** Soil

Compound	Concentration: ug/kg				%Recovery		RPD
	Sample	MS	MSD	Amount Spiked	MS	MSD	
SampleID: 82801					Instrument: GC-8		
Surrogate1	ND	1010.0	990.0	1000.00	101	99	2.0
Pyrene	ND	750.0	710.0	1000.00	75	71	5.5
Pentachlorophenol	ND	1080.0	1050.0	2000.00	54	53	2.8
2,4-Dinitrotoluene	ND	920.0	900.0	1000.00	92	90	2.2
4-Nitrophenol	ND	1560.0	1600.0	2000.00	78	80	2.5
Acenaphtene	ND	860.0	820.0	1000.00	86	82	4.8
4-Chloro-3-metylphenol	ND	1990.0	1950.0	2000.00	100	98	2.0
1,2,4-trichlorobenzene	ND	950.0	900.0	1000.00	95	90	5.4
N-nitroso-di-n-propyl	ND	1010.0	1040.0	1000.00	101	104	2.9
1,4-Dichlorobenzene	ND	940.0	910.0	1000.00	94	91	3.2
2-Chlorophenol	ND	1850.0	1810.0	2000.00	93	91	2.2
Phenol	ND	1500.0	1490.0	2000.00	75	75	0.7

$$\% \text{ Recovery} = \frac{(MS - Sample)}{AmountSpiked} \cdot 100$$

$$RPD = \frac{(MS - MSD)}{(MS + MSD)} \cdot 2 \cdot 100$$

RPD means Relative Percent Deviation

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QC REPORT

Date: 08/30/01-08/31/01 **Extraction:** TTLC **Matrix:** Soil

Compound	Concentration: mg/kg				%Recovery		RPD
	Sample	MS	MSD	Amount Spiked	MS	MSD	
SampleID: 82701					Instrument: P-1 | AA		
Lead	ND	5.2	5.1	5.00	105	102	2.2

$$\%\ \text{Recovery} = \frac{(MS - Sample)}{AmountSpiked} \cdot 100$$

$$RPD = \frac{(MS - MSD)}{(MS + MSD)} \cdot 2 \cdot 100$$

RPD means Relative Percent Deviation

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QC REPORT

Date: 08/27/01-08/28/01 Extraction: TTLC Matrix: Soil

Compound	Concentration: mg/kg				%Recovery		RPD
	Sample	MS	MSD	Amount Spiked	MS	MSD	
SampleID: 82701					Instrument: P-1 | AA		
Lead	ND	4.9	4.9	5.00	97	97	0.2

$$\% \text{ Recovery} = \frac{(MS - Sample)}{AmountSpiked} \cdot 100$$

$$RPD = \frac{(MS - MSD)}{(MS + MSD)} \cdot 2 \cdot 100$$

RPD means Relative Percent Deviation

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QC REPORT

Date: 09/13/01-09/14/01 **Extraction:** TTLC **Matrix:** Soil

Compound	Concentration: mg/kg				%Recovery		RPD
	Sample	MS	MSD	Amount Spiked	MS	MSD	
SampleID: 91301					Instrument: P-1 | AA		
Lead	ND	5.1	5.4	5.00	101	107	5.7

$$\% \text{ Recovery} = \frac{(MS - Sample)}{AmountSpiked} \cdot 100$$

$$RPD = \frac{(MS - MSD)}{(MS + MSD)} \cdot 2 \cdot 100$$

RPD means Relative Percent Deviation

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QC REPORT

Date: 09/16/01-09/17/01 **Extraction:** STLC **Matrix:** Soil

Compound	Concentration: ug/l				%Recovery		RPD
	Sample	MS	MSD	Amount Spiked	MS	MSD	
SampleID: 91701					Instrument: P-1 | AA		
Lead	ND	5.0	5.0	5.00	100	99	1.3

$$\% \text{ Recovery} = \frac{(MS - Sample)}{AmountSpiked} \cdot 100$$

$$RPD = \frac{(MS - MSD)}{(MS + MSD)} \cdot 2 \cdot 100$$

RPD means Relative Percent Deviation

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QC REPORT

Date: 08/30/01-08/31/01 Extraction: TCLP Matrix: Soil

Compound	Concentration: ug/L				%Recovery		RPD
	Sample	MS	MSD	Amount Spiked	MS	MSD	
SampleID: 82701					Instrument: P-1 | AA		
Lead	ND	4.9	5.0	5.00	99	99	0.4

$$\%\ \text{Recovery} = \frac{(MS - Sample)}{Amount Spiked} \cdot 100$$

$$RPD = \frac{(MS - MSD)}{(MS + MSD)} \cdot 2 \cdot 100$$

RPD means Relative Percent Deviation

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QC REPORT

Date: 09/06/01-09/07/01 **Extraction:** TCLP **Matrix:** Soil

Compound	Concentration: ug/L				%Recovery		RPD
	Sample	MS	MSD	Amount Spiked	MS	MSD	
SampleID: 90501					Instrument: P-1 | AA		
Lead	ND	4.9	4.9	5.00	99	99	0.1

$$\%\ \text{Recovery} = \frac{(MS - Sample)}{AmountSpiked} \cdot 100$$

$$RPD = \frac{(MS - MSD)}{(MS + MSD)} \cdot 2 \cdot 100$$

RPD means Relative Percent Deviation

0710/2K170.wpd

Treadwell&Rollo
Environmental and Geotechnical Consultant

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[ ] 501 14th Street, 3rd Floor, Oakland, CA 94612 Ph: 510-874-4500 / Fax: 510-874-4507

Site Name: Cargill Salt
Job Number: 3194.01
Project Manager\Contact: D. Dixon
Samplers: J. Graber
Recorder (Signature Required):

Turnaround Time: 5 day

Field Sample Identification No.	Date	Time	Lab Sample No.	Matrix: Soil	Water	Other	No. Containers & Preservative: HCL	H_2SO_4	HNO_3	Ice	Other	Analysis Requested: Total Lead	TCLP Lead	STLC Lead	TTLC Pb 72hr	Silica gel clean-up	Hold	Remarks	
H0-0.33-0.5	8/23/01			X								X	X	X	X			Composite 4:1	76209
J1-0.33-0.5				X								X	X	X	X				76209A
K3-0.33-0.5				X								X	X	X	X				76209B
K4-0.33-0.5				X								X	X	X	X				76209C
J2-0.33-0.5				X								X	X	X	X			Composite 4:1	76209D
J3-0.33-0.5				X								X	X	X	X				76210
J4-0.33-0.5				X								X	X	X	X				76210A
(K5-0.33-0.5) K5-0.33-0.5				X								X	X	X	X				76210B
H5-0.33-0.5				X								X	X	X	X			Composite 3:1	76210C
J9-0.33-0.5				X								X	X	X	X				76210D
J10-0.33-0.5				X								X	X	X	X				
H5-0				X								X	X					Composite 3:1	
H6-0				X								X	X						
H7-0				X								X	X						

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
	8/27/01	1200	Storage	8/27/01	1200
Storage	8/28/01	1155		8/28/01	11:55
	8/28/01	15:35	Received by Lab: (Signature) Nina Abutter	08/28/01	

Sent to Laboratory (Name): McCampbell

Laboratory Comments/Notes: Please change all '0.33' to '0.25'

Method of Shipment: [X] Lab courier [ ] Fed Ex [ ] Airborne [ ] Hand Carried [ ] Private Courier (Co. Name)

White Copy - Original Yellow Copy - Laboratory Pink Copy - Field

COC Number: 001004

VOAS | O&G | METALS
PRESERVATION APPROPRIATE
GOOD CONDITION

76211
76212

(i.e. H0-0.33-0.5 should be H0-0.25-0.5)

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☐ 501 14th Street, 3rd Floor, Oakland, CA 94612 Ph: 510-874-4500 / Fax: 510-874-4507

Site Name: Cargill Salt
Job Number: 3199.01
Project Manager\Contact: J. Dixon
Samplers: J. Graber
Recorder (Signature Required):

Turnaround Time: 5 day

Field sample Identification No.	Date	Time	T&R Sample No.	Matrix: Soil	Water	Other	No. Containers & Preservative: HCL	H_2SO_4	HNO_3	Ice	Other	Analysis Requested: Total Lead	TCLP Lead	STLC Lead	Silica gel clean-up	Hold	Remarks
F4-0.33-0.5	8/23/01			X						1		X	X				Composite 4:1 76213
F5-0.33-0.5				X						1							
F6-0.33-0.5				X						1							
G2-0.33-0.5				X						1							
H2-0.66-1.0A				X						2		X	X	X			Composite 4:1 76214
H2-0.66-1.0B				X						1							
H3-0.66-1.0A				X						1							
H3-0.66-1.0B				X						1							
G4-0				X						1		X	X				Composite 4:1 76215
H2-0				X						1							
H3-0				X						1							
H4-0				X						1							

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
[signature]	8/27/01	1200	[signature] Storage	8/27/01	1200
Storage [signature]	8/28/01	1155	[signature] Courier	8/28/01	11:55
[signature]	8/28/01	15:35	Nina Abutin	08/28/01	

Sent to Laboratory (Name): McCampbell

Method of Shipment: ☒ Lab courier ☐ Fed Ex ☐ Airborne ☐ UPS ☐ Hand Carried ☐ Private Courier (Co. Name)

Laboratory Comments/Notes:
Please change all 0.33 and 0.66 to 0.25 and 0.75, respectively.

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COC Number: 001002

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[ ] 501 14th Street, 3rd Floor, Oakland, CA 94612 Ph: 510-874-4500 / Fax: 510-874-4507

Site Name: Cargill Salt
Job Number: 3794.01
Project Manager\Contact: D. Dixon
Samplers: J. Graber
Recorder (Signature Required):

Turnaround Time: 5 day

Field Sample Identification No.	Date	Time	Lab Sample No.	Matrix: Soil	Water	Other	Preservative: HCL	H_2SO_4	HNO_3	Ice	Other	Analysis Requested: Total Lead	TCLP Lead	STLC Lead	Silica gel clean-up	Hold	Remarks	
H2-0.33-0.5	8/23/01			X						X		X	X	X			Composite 4:1	76216
H3-0.33-0.5				X								X	X	X				
H4-0.33-0.5				X								X	X	X				
G4-0.33-0.5				X								X	X	X				
H4-0.66-1.0A				X								X	X	X			Composite 4:1	76217
H4-0.66-1.0B				X								X	X	X				
H4-0.66-1.0C				X								X	X	X				
H4-0.66-1.0D				X								X	X	X				
H3-1.66-2.0A				X								X	X	X			Composite 4:1	76218
H3-1.66-2.0B				X								X	X	X				
H3-1.66-2.0C				X								X	X	X				
H3-1.66-2.0D				X								X	X	X				

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
[signature]	8/27/01	1200	Storage	8/27/01	1200
Storage [signature]	8/28/01	1155	[signature]	8/28/01	11:55
[signature]	8/28/01	15:35	Lima Abutun	08/28/01	

Sent to Laboratory (Name): McCampbell.
Laboratory Comments/Notes: Please change all 0.33 and 0.66 to 0.25 and 0.75, respectively. (i.e. H2-0.33-0.5 → becomes H2-0.25-0.5)

Method of Shipment: [X] Lab courier [ ] Fed Ex [ ] Airborne [ ] UPS [ ] Hand Carried [ ] Private Courier (Co. Name)

White Copy - Original Yellow Copy - Laboratory Pink Copy - Field COC Number: 001003

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Turnaround Time: 5-day

Site Name: Cargill Salt
Job Number: 3194.01
Project Manager\Contact: D. Dixon / B.K. Moore
Samplers: Josh Gruber
Recorder (Signature Required): [signature]

Full sample identification No.	Date	Time	Lab sample No.	Matrix: Soil	Water	Other	No. Containers & Preservative: HCL	H_2SO_4	HNO_3	Ice	Other	Analysis Requested: Total Lead	TCLP Lead	STLC Lead	Silica gel clean-up	Hold	Remarks	
H6-0.33-0.5A	8/23/01			X						X		X	X	X				76219
H6-0.33-0.5B	↓			X								X	X	X			composite 4:1	
H7-0.33-0.5A				X								X	X	X				76220
H7-0.33-0.5B				X														
K7-0.33-0.5A	8/24/01			X								X	X	X				
K7-0.33-0.5B				X													composite 4:1	76221
L9-0.33-0.5A				X														
L9-0.33-0.5B				X														76222
L9-0.75				X								X						76223
J9-0.75				X								X						
J10-0.75				X								X						76224
H7-0.75				X								X						
H8-0.75				X								X						76225
J11-0.75				X								X						76226

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
[signature]	8/27/01	1200	Storage	8/27/01	12[illegible]
Relinquished by: (Signature) Storage [signature]	8/27/01	1155	[signature]	8/28/01	11:55
Relinquished by: (Signature) [signature]	8/28/01	15:35	Received by Lab: (Signature) Lima A. Butler	08/28/01	Time

Sent to Laboratory (Name): McCampbell
Laboratory Comments/Notes:

Method of Shipment: ☒ Lab courier ☐ Fed Ex ☐ Airborne ☐ UPS ☐ Hand Carried ☐ Private Courier (Co. Name)

White Copy - Original Yellow Copy - Laboratory Pink Copy - Field

COC Number: 001180

ICE/4° ____ GOOD CONDITION
PRESERVATION APPROPRIATE

VOAS	O&G	METALS	OTHE

Please change all '0.33' to 0.25

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[ ] 501 14th Street, 3rd Floor, Oakland, CA 94612 Ph: 510-874-4500 / Fax: 510-874-4507

Site Name: Cargill Salt
Job Number: 3194.01
Project Manager\Contact: L. Dixon
Samplers: J. Grabell
Recorder (Signature Required):

Turnaround Time: 5-day

Field Sample Identification No.	Date	Time	Lab Sample No.	Matrix: Soil	Water	Other	Preservative: HCL	H_2SO_4	HNO_3	Ice	Other	Analysis Requested: Total Lead	TTLC Lead	STLC Lead	Silica gel clean-up	Hold	Remarks	
J11-0.75	8/27/01			X								X						76227
H9-0.25																X	Hold	76228 H
H9-0.75																X	Hold	76229 H
J12-0.25																X	Hold	76230 H
J12-0.75																X	Hold	76231 H
K12-0.25																X	Hold	76232 H
K12-0.75																X	Hold	76233 H
K11-0.25												X				X	RUN	76234
K11-0.75												X						76235
L12-0.25																X	Hold	76236 H
L12-0.75																X	Hold	76237 H
L11-0.25																X	Hold	76238 H
L11-0.75																X	Hold	76239 H

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
[signature]	8/27/01	1200	Storage	8/27/01	1200
Storage [signature]	8/28/01	1155	[signature]	8/28/01	1155
[signature]	8/28/01	15:35	Lina Abutin	08/28/01	

Sent to Laboratory (Name): McCampbell
Laboratory Comments/Notes:

Method of Shipment: [X] Lab courier [ ] Fed Ex [ ] Airborne [ ] Hand Carried [ ] Private Courier (Co. Name)

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GOOD CONDITION
HEAD SPACE ABSENT
PRESERVATION APPROPRIATE

COC Number: 0 0 0 9 9 6

VOAS | O&G | METALS | OTHER

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☐ 501 14th Street, 3rd Floor, Oakland, CA 94612 Ph: 510-874-4500 / Fax: 510-874-4507

Site Name: Cargill Salt
Job Number: 3194.01
Project Manager\Contact: D. Dixon
Samplers: Josh Grabber
Recorder (Signature Required): [signature]

Turnaround Time: 5-day

Field Sample Identification No.	Date	Time	Lab Sample No.	Matrix: Soil	Water	Other	No. Containers & Preservative: HCL	H_2SO_4	HNO_3	Ice	Other	Analysis Requested: Total Lead	TCLP Lead	PAH 8270	Silica gel clean-up	Hold	Remarks	
L10-0.25	8/27/01			X						X		X						76240
L10-0.75				X								X						76241
K10-0.25				X								X						76242
K10-0.75				X								X						76243
M10-0.25				X								X						76244
M10-0.75				X								X						76245
M9-0.25				X								X						76246
M9-0.75				X								X						76247
E5-1.75				X										X				76248
~~K5-1.75~~				~~X~~														76249
K3-1.75				X								X	X					

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
[signature]	8/27/01	1200	Storage	8/27/01	1200
Storage [signature]	8/28/01	1155	[signature]	8/28/01	11:55
[signature]	8/28/01	15:35	Lima Abutha	08/28/01	

Sent to Laboratory (Name): McCambell
Laboratory Comments/Notes:

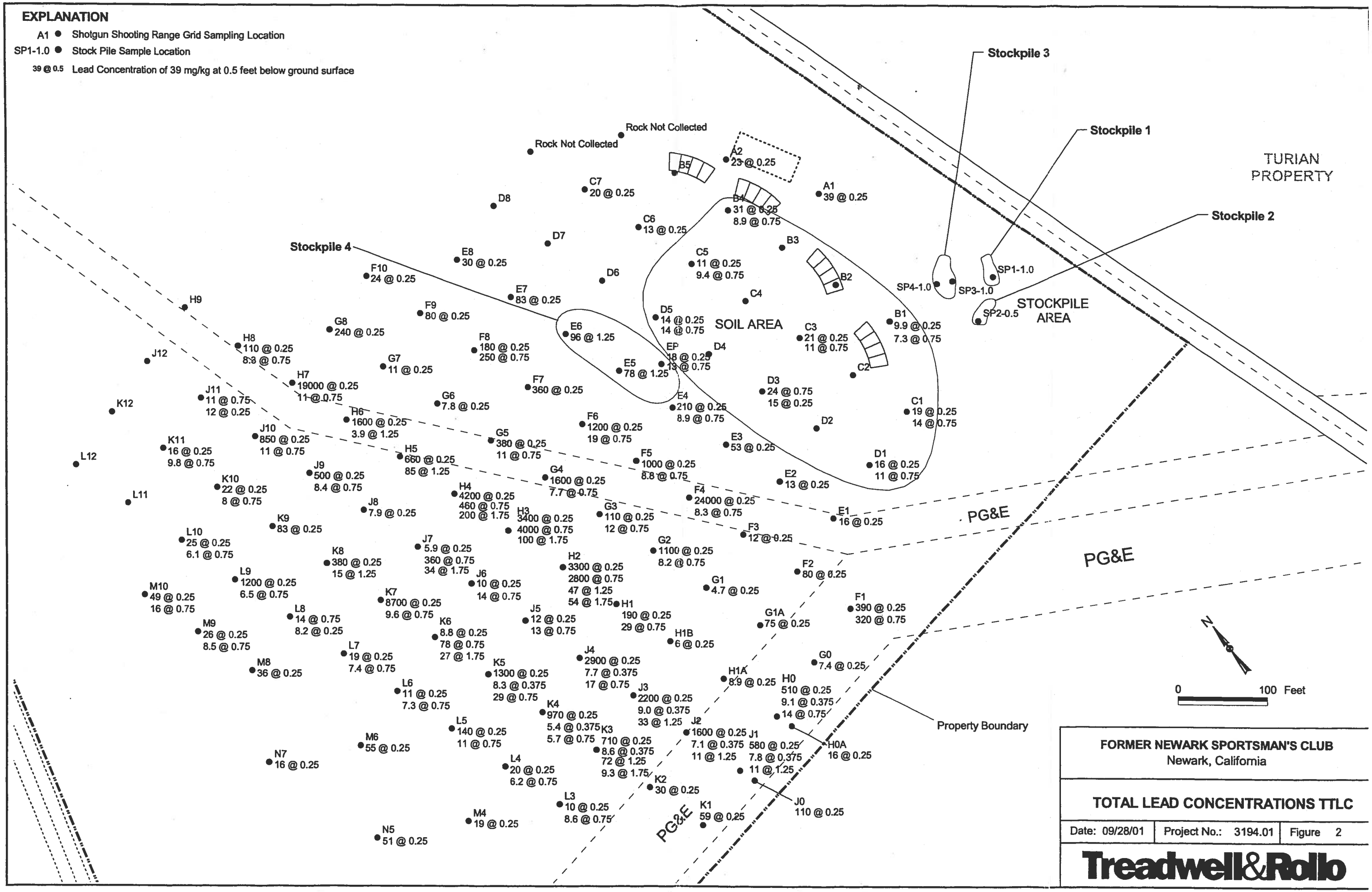
Method of Shipment: ☒ Lab courier ☐ Fed Ex ☐ Airborne ☐ UPS ☐ Hand Carried ☐ Private Courier (Co. Name)

White Copy - Original Yellow Copy - Laboratory Pink Copy - Field

COC Number: 000998

VOAS	O&G	METALS	OTHER

PRESERVATION APPROPRIATE ICE/t° ____ GOOD CONDITION



FORMER NEWARK SPORTSMAN'S CLUB
Newark, California

TOTAL LEAD CONCENTRATIONS TTLC

Date: 09/28/01	Project No.: 3194.01	Figure 2

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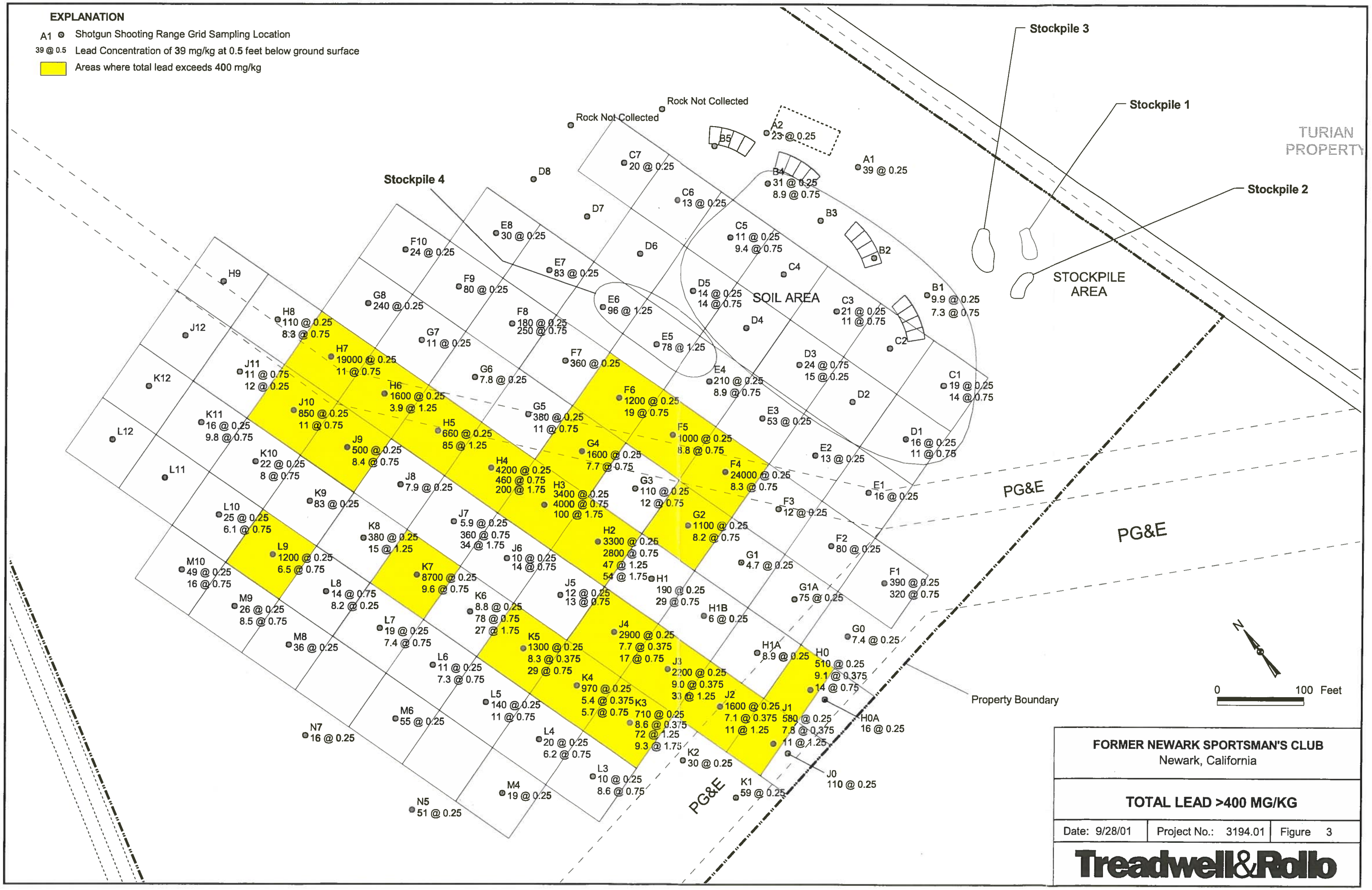

FORMER NEWARK SPORTSMAN'S CLUB
Newark, California

TOTAL LEAD >400 MG/KG

Date: 9/28/01	Project No.: 3194.01	Figure 3

Treadwell&Rollo

Table 2
Summary of PAH Analytical Results for Soil Samples
Former Newark Sportsman's Club
Newark, California

Sample Location	Sample Depth (ft)	Sample Date	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Benzo(g,h,i)perylene	Benzo(a)pyrene	Chrysene	Dibenzo(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	Naphthalene	Phenanthrene	Pyrene
D6	0.25	3/22/01	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7
D7	0.25	3/22/01	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7
D8	0.25	3/22/01	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7
E1	0.25	3/22/01	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
E2	0.25	3/22/01	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
E3	0.25	3/22/01	<3.5	<3.5	<3.5	<3.5	<3.5	<3.5	<3.5	<3.5	<3.5	<3.5	<3.5	<3.5	<3.5	<3.5	<3.5	<3.5
E4	0.25	3/22/01	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40
E5	1.25	3/22/01	<40	<40	<40	**68**	**56**	**68**	72	**100**	**84**	<40	52	<40	52	<40	<40	80
E5	1.75	3/22/01	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
E6	1.25	3/22/01	<40	<40	<40	**110**	**100**	**130**	92	**130**	**130**	<40	130	<40	84	<40	<40	130
E6	1.75	8/24/01	<0.062	<0.062	<0.062	<0.062	<0.062	<0.062	<0.062	<0.062	<0.062	<0.062	<0.062	<0.062	<0.062	<0.062	<0.062	<0.062
E7	0.25	3/22/01	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40	40
E7	0.75	3/22/01	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7
E8	0.25	3/22/01	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
F1	0.25	3/22/01	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
F2	0.25	3/22/01	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
F3	0.25	3/22/01	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
F4	0.25	3/22/01	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
F5	0.25	3/22/01	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
F6	0.25	3/22/01	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
F7	0.25	3/22/01	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
F8	0.25	3/22/01	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
PRG																		
Residential	–		3,450	NE	22,000	0.62	0.62	6.2	NE	0.062	62	0.062	2,300	2,600	0.62	56	NE	2,300

Notes:
All concentrations are in milligrams per kilogram (mg/kg).
PAH = Polynuclear Aromatic Hydrocarbons
PRG = EPA Preliminary Remedial Goals for residential soil (November 2000)
NE = Not Established
Bold indicates a detected value that exceeds the PRG.
Shading indicates new analytical results added to the table for the August 2001 sampling event.
<0.33 = Not detected at or above laboratory testing limits

Table 3
Soil Stockpile Analytical Results - Metals
Former Newark Sportsman's Club
Newark, California

Stockpile Number	Sample Number	Sampling Date	As	Sb	Ba	Be	Cd	Cr	Co	Cu	Pb	Hg	Mo	Ni	Se	Ag	Ti	V	Zn
Stockpile #1	SP1-1.0	3/23/01	—	—	—	—	—	—	—	—	360	—	—	—	—	—	—	—	—
	CP-2S	4/16/01	<1.0	<2.0	110	<0.5	1.6	130	19	26	170	0.085	<1.0	250	<2.0	<1.0	<1.0	27	48
	CP-2D	4/16/01	<1.0	<2.0	88	<0.5	1.3	120	20	23	94	0.086	<1.0	310	<2.0	<1.0	<1.0	22	31
Stockpile #2	SP2-0.5	3/23/01	—	—	—	—	—	—	—	—	310	—	—	—	—	—	—	—	—
	CP-1S	4/17/01	1.3	4.8	84	<0.5	1.4	130	16	22	640	0.32	<1.0	230	<2.0	<1.0	<1.0	20	44
	CP-1D	4/16/01	1.6	3.1	63	<0.5	0.85	53	7.1	14	310	0.098	<1.0	83	<2.0	<1.0	<1.0	14	25
Stockpile #3	SP3-1.0	3/23/01	—	—	—	—	—	—	—	—	110	—	—	—	—	—	—	—	—
	SP4-1.0	3/23/01	—	—	—	—	—	—	—	—	60	—	—	—	—	—	—	—	—
	CP-3S	4/16/01	<1.0	<2.0	17	<0.5	<0.5	23	3.1	3.7	89	0.12	<1.0	39	<2.0	<1.0	<1.0	4.1	9.0
	CP-3D	4/16/01	2.1	2.0	140	<0.5	1.7	100	18	35	230	0.080	<1.0	160	<2.0	<1.0	<1.0	35	54
Stockpile #4	EP-0.5	3/23/01	—	—	—	—	—	—	—	—	18	—	—	—	—	—	—	—	—
	EP-1.0	3/23/01	—	—	—	—	—	—	—	—	13	—	—	—	—	—	—	—	—
	CP-4S	4/16/01	<1.0	<2.0	<1.0	<0.5	<0.5	<1.0	<1.0	<1.0	1.7	<0.05	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	2.1
	CP-4D	4/16/01	240	**960**	5.5	<0.5	<0.5	15	<1.0	5.4	**85,000**	<0.05	<1.0	6.1	<2.0	1.1	<1.0	1.2	5.1
California State																			
Title 22 TTLC			500.	500.	10,000.	75.	100.	2,500.	8,000.	2,500.	1,000.	20.	3,500.	2,000.	100.	500.	700.	2,400.	5,000.
Title 22 STLC (mg/l)			5.0	15.	100.	0.75	1.0	5.0	80.	25.	5.0	0.2	350.	20.	1.0	5.0	7.0	24.	250.
Federal																			
TCLP Hazardous Criteria (mg/l)			5.0	—	750.	—	5.0	5.0	—	—	5.0	0.2	—	—	1.0	5.0	—	—	—

Notes:
All results in mg/kg unless otherwise noted
— = Not analyzed
<0.5 = Not detected at or above indicated method reporting limit.
Ag = Silver; As = Arsenic; Ba = Barium; Be = Beryllium; Cd = Cadmium; Co = Cobalt; Cr = Chromium; Cu = Copper; Hg = Mercury
Mo = Molybdenum; Ni = Nickel; Pb = Lead; Sb = Antimony; Se = Selenium; Tl = Thallium; V = Vanadium; Zn = Zinc
TTLC = California Total Threshold Limit Concentration - State hazardous waste criterion
TCLP = Federal Toxicity Characteristic Leaching Potential Analysis - Federal hazardous waste criterion
STLC = Soluble Threshold Limit Concentration

Table 5
Soil Stockpile Analytical Results - Polynuclear Aromatic Hydrocarbons
Former Newark Sportsman's Club
Newark, California

	Sample ID	Sample Date	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Benzo(g,h,i)perylene	Benzo(a)pyrene	Chrysene	Dibenzo(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	Naphthalene	Phenanthrene	Pyrene
Stockpile 1	SP1-1.0	3/23/01	<200	<200	<200	280	240	360	280	420	380	<200	280	<200	280	<200	<200	360
	CP-2S	4/16/01	<250	<250	<250	640	490	710	750	990	990	<500	500	<250	590	<250	<250	650
	CP-2D	4/16/01	<5	<5	<5	15	22	17	22	32	21	<10	12	<5	19	<5	<5	14
Stockpile 2	SP2-0.5	3/23/01	<200	<200	<200	200	220	320	280	380	320	<200	200	<200	220	<200	<200	300
	CP-1S	4/17/01	<250	<250	<250	410	490	<500	510	690	600	<500	350	<250	<500	<250	<250	440
	CP-1D	4/16/01	<250	<250	<250	360	360	<500	<500	610	530	<500	280	<250	<500	<250	<250	360
Stockpile 3	SP-3-1.0	3/23/01	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
	SP-4-1.0	3/23/01	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
	CP-3S	4/16/01	<250	<250	<250	550	420	590	<500	790	790	<500	450	<250	<500	<250	<250	570
	CP-3D	4/16/01	<50	<50	<50	600	480	700	720	1100	920	240	460	<50	600	<50	180	660
Stockpile 4	EP-0.5	3/23/01	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
	EP-1.0	3/23/01	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
	CP-4S	4/16/01	<250	<250	<250	540	<250	<500	<500	690	820	<500	<250	<250	<500	<250	<250	520
	CP-4D	4/16/01	89	<60	<60	600	580	850	510	1,100	760	260	580	<60	520	<60	190	630
	CP-4SOIL	4/16/01	<0.10	<0.10	<0.10	<0.10	<0.10	<0.20	<0.20	<0.020	<0.10	<0.20	<0.10	<0.10	<0.20	<0.10	<0.10	<0.10

Notes:

All concentrations are in milligrams per kilogram (mg/kg).

PAH = Polycyclic Aromatic Hydrocarbons

<0.33 = Not detected at or above laboratory testing limits.

. Dames & Moore
. Mag Oile
. Post Removal Sampling Report
. Dated Jan. 28, 2002

MAGNESIA WASTE PILE POST-REMOVAL SAMPLING REPORT

PARCEL NO. 15-30-15 MAGNESIA WASTE PILE SITE
NEWARK, CALIFORNIA

PREPARED FOR:
FMC CORPORATION

PREPARED BY:
URS
(FORMERLY DAMES & MOORE GROUP COMPANY)
55 SOUTH MARKET STREET
SUITE 1650
SAN JOSE, CALIFORNIA 95113

D&M JOB NO. 41179003
JANUARY 28, 2002

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1.0 INTRODUCTION

This report presents results of soil sampling conducted in accordance with the Post-Removal Sampling Plan, submitted by Cargill Inc. (Cargill) and FMC Corporation (FMC) to the City of Newark by letter dated June 2, 2000. The sampling plan described the sampling of soil remaining after excavation and removal of the "Mag Pile" material at this site (parcel number 15-35-30, Newark, Alameda County) for the identified chemicals of concern, namely copper, mercury and thallium.

This site has been the location of extensive characterization and excavation activities relating to "Mag Pile" on the Cargill property located to the west of FMC Corporation's (FMC) former Magnesia plant in Newark California. The materials deposited at the site came primarily from the former Magnesia plant operated by FMC and included magnesia material, mercury contaminated magnesia, copper pellets, copper contaminated magnesia and debris. The debris portion included construction materials such as lumber, bricks, concrete blocks, wire, screens, tires, newspapers, plastic sheeting, PVC piping, and metal. The copper catalyst pellets were produced for use in the manufacture of synthetic rubber. FMC conducted a cleanup and removal of visible copper catalyst pellets and debris material in 1985. Following issuance by the California Department of Health Services (DOHS) of Remedial Action orders in 1987, Cargill and FMC undertook further investigation and completed and submitted a remedial investigation report and feasibility study. With DOHS approval, Cargill and FMC then proceeded to develop and submit a Remedial Action Plan to excavate copper and mercury contaminated areas that exceeded regulatory guidelines, and implemented this plan following DOHS approval. The work was documented in the Final Remediation Report, Magnesia Waste Pile (IT 1991).

In 1996, Alameda County Environmental Health Department, Hazardous Materials Division issued several directives to FMC for further investigation of the Mag Pile. Cargill and FMC responded by letter dated April 11, 1997, proposing as an option excavation and removal of the remaining "magnesia material". In the event of excavation, Cargill and FMC proposed to develop and submit a plan for post-removal sampling, to verify that no significant levels of copper, mercury or thallium

remained in the soil. By letter dated April 30, 1997, the City and County approved the program proposed by Cargill and FMC.

Cargill and FMC proceeded with the excavation and with notifications to the City.

2.0 PROJECT OBJECTIVES AND DESCRIPTION

The objective of this sampling effort was to evaluate results of soil samples collected after the removal of approximately 120,000 cubic yards of magnesia material in 1998 and 1999 (Appendix B) to determine if there are any significant residual levels of chemicals of concern, namely copper, mercury and thallium in the remaining soil. The sampling protocol was provided in the Post-Removal Sampling Plan transmitted to the City by letter dated June 2, 2000 and was approved by the City.

In addition to the samples collected as mentioned above, five more soil samples were collected from a residual magnesia area located outside the southeast portion of the former magnesia waste pile. They were analyzed for pH values. The result is a pH range from 10.0 to 10.3 (Attachment No. 1). Also, fifteen samples were collected and analyzed for pH in an area known to have gypsum. The result is a pH range from 8.3 to 9.6 (Attachment No.2).

3.0 SOIL SAMPLING

3.1 Sampling and Analysis Rationale

In accordance with acceptance letters from the Alameda Environmental County Health Services dated October 14, 1996 and from the Newark Fire Department dated April 30, 1997, the target analytes for sampling were copper, mercury and thallium. Twenty samples were collected throughout the site after the 1998/1999 removal activities were completed. Figure 1 depicts the locations of the twenty soil sampling locations. A grid was laid out on the site to facilitate an

even distribution of sampling sites. Specific sampling site or sites were placed in each grid near or at the boundaries of the original Mag Waste Pile, in areas inside the Mag Waste Pile and in the areas used for stockpiling copper and mercury contaminated materials during the previous excavation.

Soil sampling was performed on November 3, 1999. Some or all of the twenty samples collected were analyzed for copper, mercury, and thallium using EPA method series 6010B or 7471. Because previous reports indicated copper contamination throughout the soil, sixteen of the twenty samples were analyzed for copper. Five of the twenty-one samples were analyzed for mercury at areas previously identified in the IT Final Remediation Report (October 1991) as containing mercury. Locations for samples 4-A-2-1, 7-C-2-1, 3-C-1-1, 8-A-3-2, 10-B-3-4, and 15-B-4-2 were selected based on areas used for stockpiling of mercury-contaminated waste. Approximately 67,000 pounds of thallium contaminated soil was removed from the east side of the Mag Pile in 1990 as an interim remedial measure under a work plan approved by DOHS. Post excavation soils sampling, and submittal of a closure report in July 1990 documents the removal and sampling activities of this material. Therefore, one sample (identified as 13-C-3-4) for thallium was collected to verify that the removal of thallium-contaminated soils at this area was complete.

3.2 Sample Collection

Sampling locations, as shown in Figure 1, were marked and measured from readily available landmarks, including the existing fence line and overhead transmission line. A grid was laid out on the site with overall dimensions measuring 1500 x 600 feet (Figure 1). The grid is comprised of fifteen blocks identified with a letter/number combination. Each grid block measures approximately 300 x 200 feet. Each grid block is further divided into quadrants numbered one through four. Sample numbers identify a sample location based on the grid numbering system. A total of twenty sample locations were identified with flags. The grid allowed even distribution of sampling points over the entire site.

Prior to excavation and removal in 1998 and 1999, the thickness of this pile varied, and ranged from

5 feet to 45 feet. The pile surface sloped from the southeast to the northwest and exhibited steep slopes in the southwest area of the pile. Soil samples were taken at approximately one foot of depth below the surface of the soil using a hand auger. Some areas of the site have been recently graded and covered with new fill material. Field determinations were made in the event a sampling location appeared to be covered with fill material. In each case, the sample was collected as deep as deemed necessary to obtain native soil for analyses.

All soil samples were collected, handled and documented in accordance with the protocols described in the approved Post-Removal Sampling Plan.

Hand trowels, shovels, or other sampling equipment used to collect the samples were decontaminated before and after use by washing in an Alconox TM solution and rinsing in tap water followed by distilled water. The rinsate generated during decontamination were sampled for pH and copper prior to disposal.

4.0 Laboratory Quality Assurance and Quality Control (QA/QC)

Specific procedures for the collection and evaluation of both field and laboratory data were implemented, such as the use of internal quality control checks, data review and validation. All QA/QC objectives for data measurement were met and there were no rejected data.

5.0 HEALTH AND SAFETY

A Site-specific Health and Safety Plan was developed prior to initiation of field sampling activities in 1999. The plan was implemented during the field activities in order to meet the requirements of Section 1910.120(I)(2), Title 29, Code of Federal Regulations. The Health and Safety Plan assigned responsibilities, establish personal protection standards and mandatory safety procedures, and provide for contingencies that may arise while operations are being conducted at the Site. Trained personnel as required by Title 29, Code of Federal Regulations, performed field activities. A site safety briefing was conducted before commencement of work.

6.0 ANALYTICAL RESULTS

The metals, namely copper and mercury were reported above the laboratory detection limits as summarized in Table 1. Thallium was not detected. Laboratory analytical results are included in Appendix A. The laboratory results with the maximum concentration of mercury at 0.189 mg/kg were compared against the US EPA Region IX Preliminary Remediation Goals (PRGs) of mercury for residential soil (23 mg/kg) and industrial soil (610 mg/kg), the EPA Region IX PRGs of copper for residential soil (2900 mg/kg) and industrial soil (76,000 mg/kg) were compared to the maximum detected copper concentration of 160 mg/kg at the site.

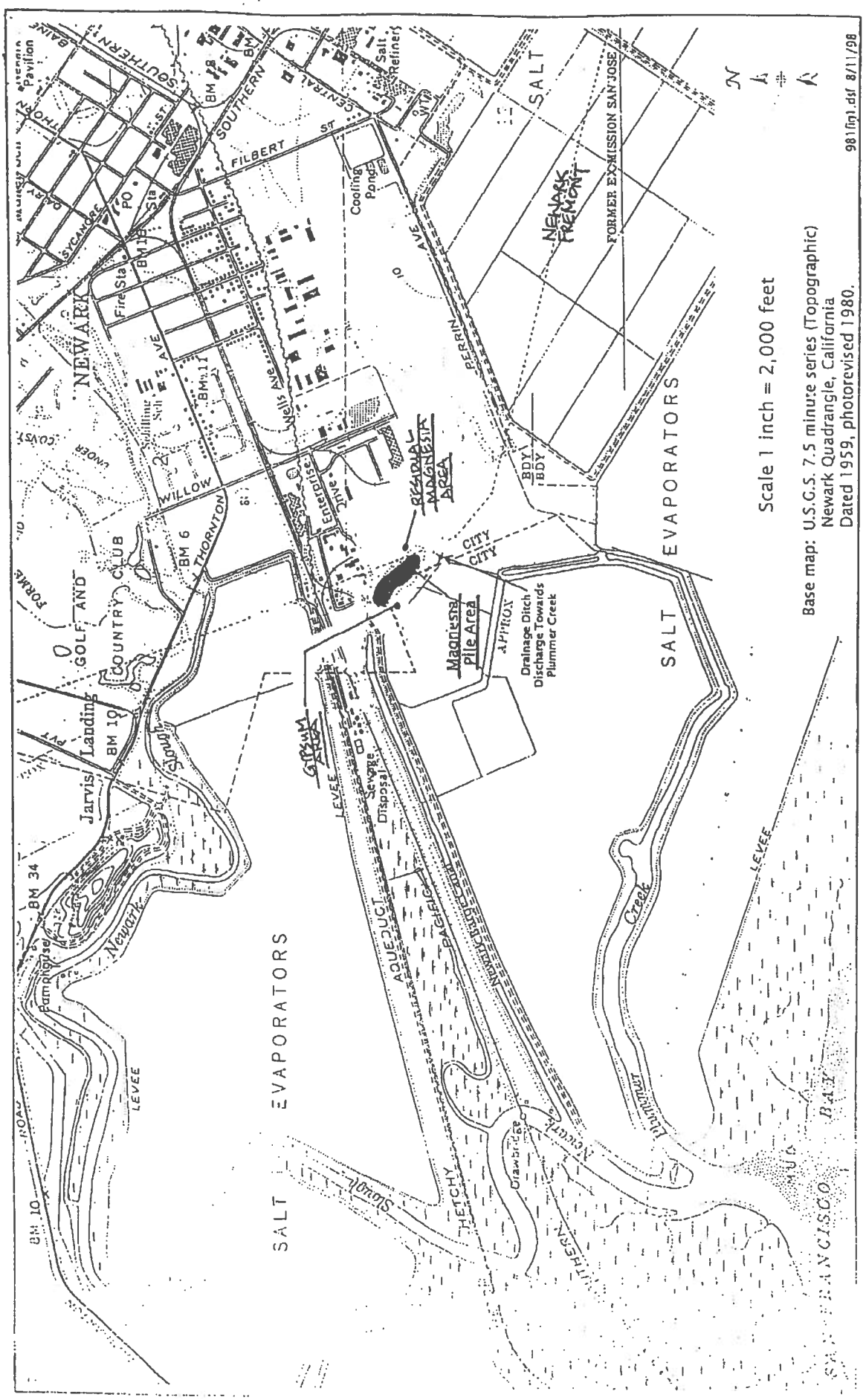
7.0 CONCLUSIONS

The following conclusions are based on the results of the field investigation described above and our assessment of the data:

- Based on laboratory analytical data, the concentrations of metals in the soil samples submitted for analysis were all below the respective PRGs for mercury and copper.
- Thallium was not detected in the soil samples.

8.0 RECOMMENDATIONS

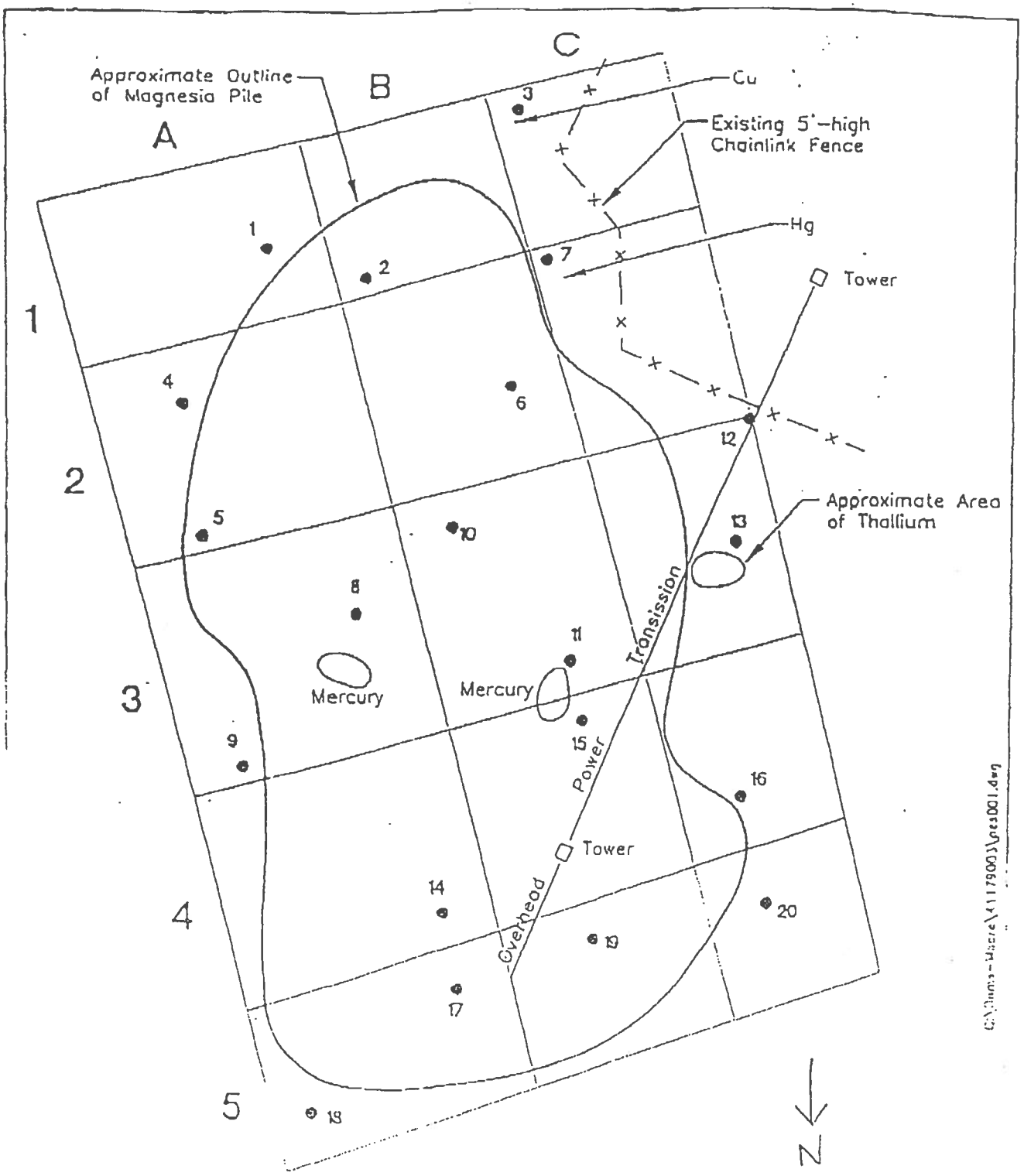
The purpose of the sampling was to assess whether any significant residual levels of chemicals of concern, namely copper, mercury or thallium remain in the soil sampled. Based on the results documented in this report, no significant residual levels of chemicals of concern appear to be present.



Magnesia Waste Piles, Newark, California

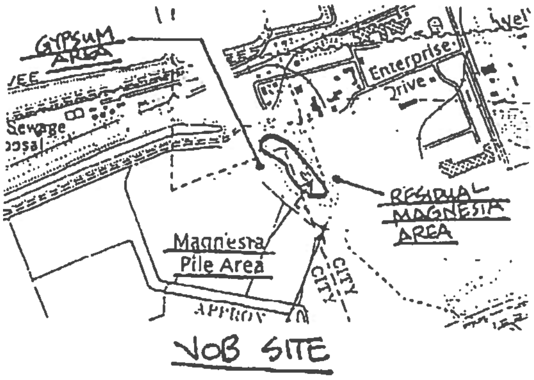
Site Location

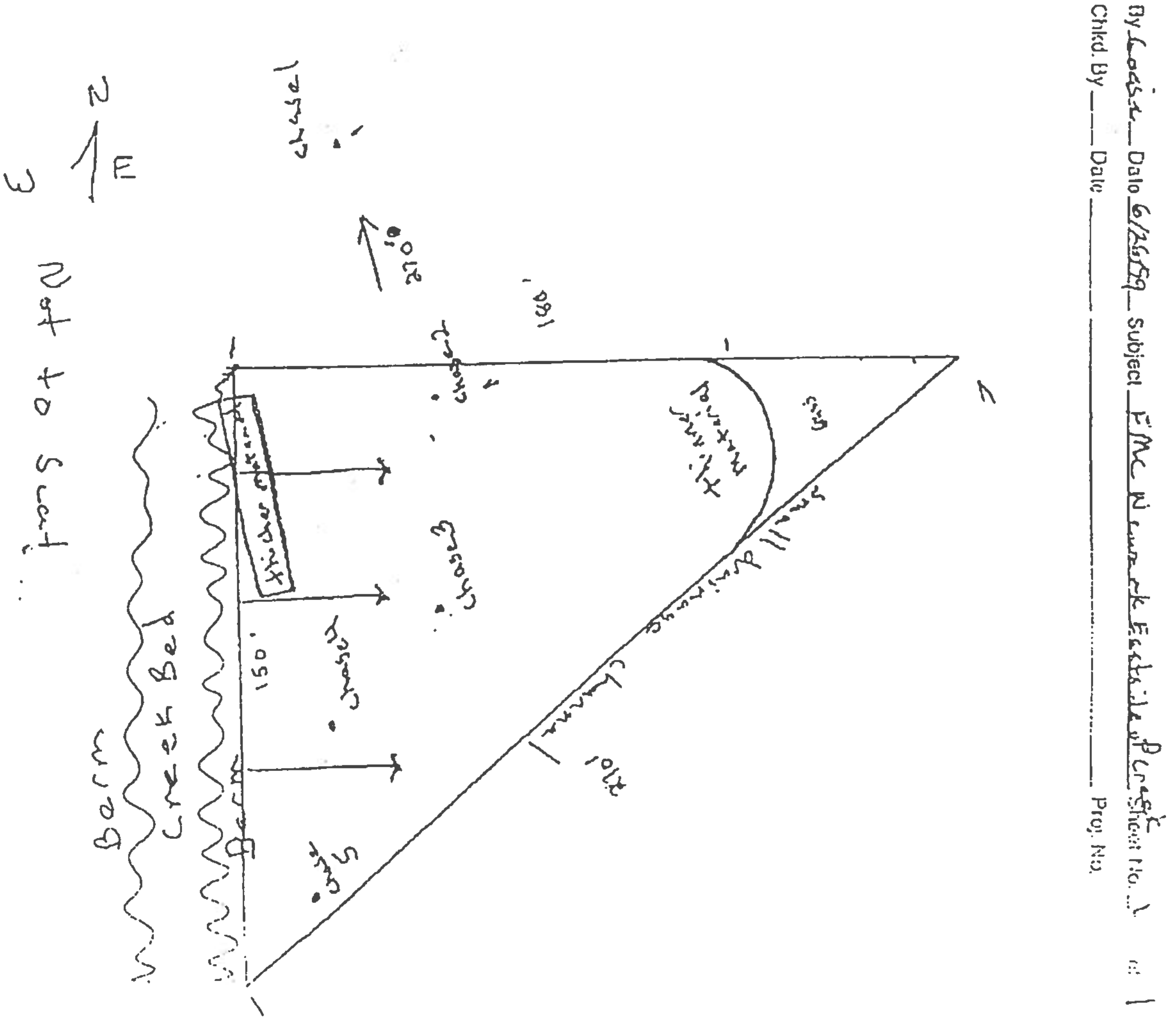
FIGURE 1
Map of Sampling Sites



Project No. 41179003	FMC Corporation Newark, California	Magnesia Waste Pile
05/07/98		

Attachment No. 1
Residual Magnesia Area





RESIDUAL MAGNESIA AREA

Wednesday, June 29, 1999

Attn: Rowan Tucker

pH Results for soil samples taken by Rowan Tucker

Sample ID	pH
Chase 1	10.0
Chase 2	10.2
Chase 3	10.3
Chase 4	10.2
Chase 5	10.1

Analyzed by

Donna Richardson
Sr. Lab Technician
FMC Corp.

CHAIN OF CUSTODY

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☐ 819 Striker Ave., Suite 8 • Sacramento, CA 95834 • (916) 921-9600 FAX (916) 921-0100
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☐ 1455 McDowell Blvd. North, Suite D • Petaluma, CA 94954 • (707) 792-1865 FAX (707) 792-0342

Company Name: FMC Newark	Project Name: FMC Newark eastside of creek chase
Mailing Address:	Billing Address (if different):
City: Newark State: CA Zip Code:	
Telephone: FAX #:	P.O. #:
Report To: Rowan Tucker Sampler: R.T.	QC Data: ☒ Level D (Standard) ☐ Level C ☐ Level B ☐ Level A

Turnaround Time: ☐ 10 Working Days ☐ 7 Working Days ☐ 5 Working Days ☐ 3 Working Days ☐ 2 Working Days ☐ 24 Hours ☐ 2 - 8 Hours

☐ Drinking Water ☐ Waste Water ☒ Other

Analyses Requested

Client Sample I.D.	Date/Time Sampled	Matrix Desc.	# of Cont.	Cont. Type	Sequoia's Sample #	Ph									Comments
1. Chase1	6/28/99	Soil	1	plastic	NA 4"	X	10.0								composite depth
2. chase2	↓	↓	↓	↓	8"	↓	10.2								used homogenize
3. Chase3	↓	↓	↓	↓	8"	↓	10.3								mixture for test
4. Chase4	↓	↓	↓	↓	12"	↓	10.2								
5. Chase5	↓	↓	↓	↓	6"	↓	10.1								
6.															Note 12" + on
7.															nearby wall
8.															
9.															
10.															

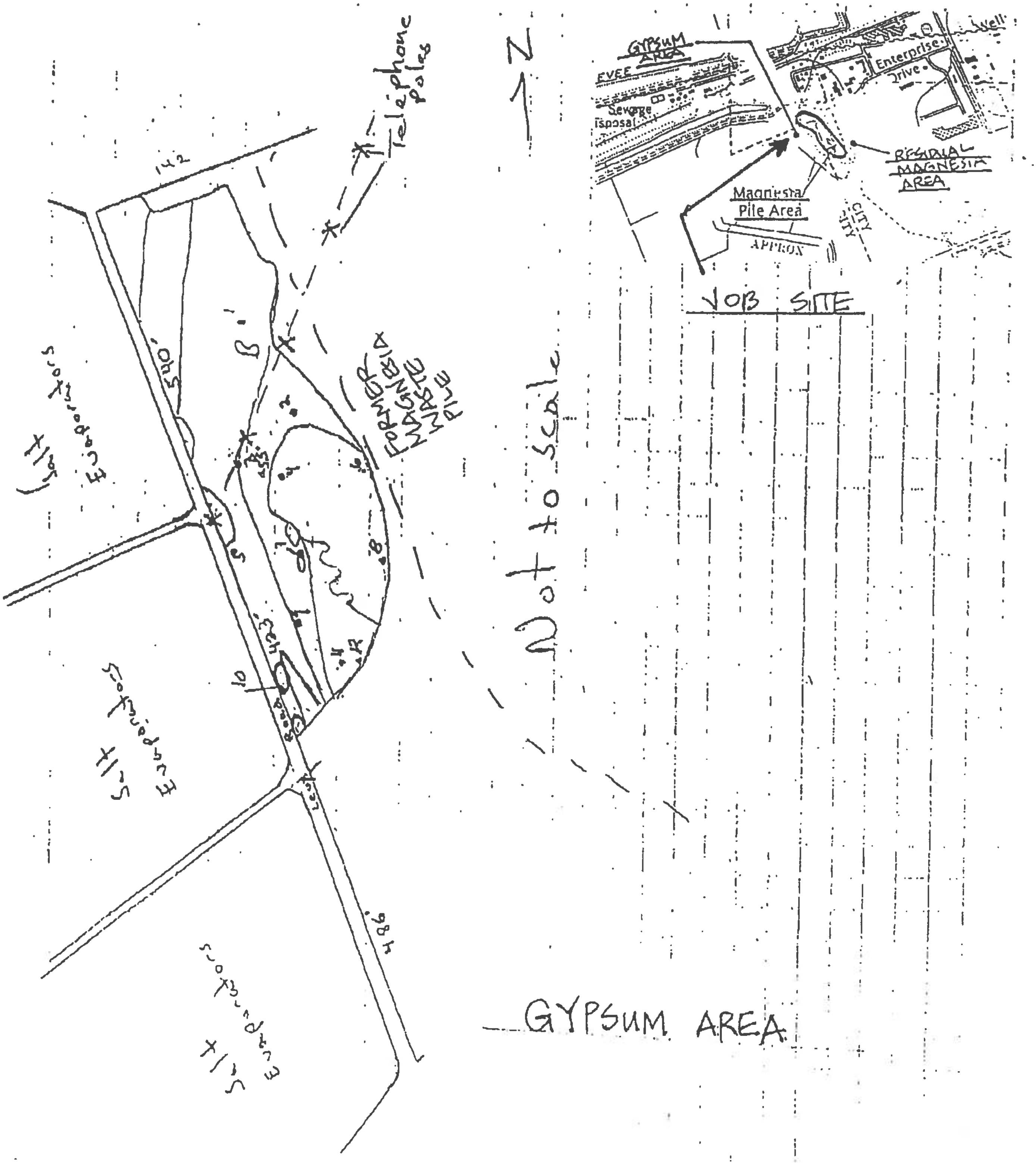
Relinquished By: Rowan Tucker	Date: 6/28/99	Time: 15:20	Received By: [illegible]	Date: 6/28/99	Time: 15:25
Relinquished By:	Date:	Time:	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By Lab:	Date:	Time:

Pink - Client
Yellow - Sequoia
White - Sequoia

Attachment No. 2
Gypsum Area

By________ Date________ Subject________ Sheet No.____ of____

Chkd. By____ Date________ Proj. No.________



To: Peter W
From Goosa

Wednesday, June 23, 1999

Attn: Rowan Tucker

pH Results for soil samples taken by Rowan Tucker

Sample ID	pH
FMC 1	9.6
FMC 2	8.6
FMC 3	8.3
FMC 4	9.2
FMC 4A	8.2
FMC 5	8.7
FMC 6	8.6
FMC 7	8.3
FMC 8	8.3
FMC 9	9.0
FMC 10	9.2
FMC 11	9.2
FMC 12	9.3
Cresent North	9.3
Cresent South	8.6

Analyzed by

Donna Richardson
Sr. Lab Technician
FMC Corp.

1 of 2

CHAIN OF CUSTODY

☐ 680 Chesapeake Drive • Redwood City, CA 94063 • (650) 364-9600 FAX (650) 364-9233
☐ 819 Striker Ave., Suite 8 • Sacramento, CA 95834 • (916) 921-9600 FAX (916) 921-0100
☐ 404 N. Wiget Lane • Walnut Creek, CA 94598 • (925) 988-9600 FAX (925) 988-9673
☐ 1455 McDowell Blvd. North, Suite D • Petaluma, CA 94954 • (707) 792-1865 FAX (707) 792-0342

Company Name: FMC Newark	Project Name: FMC Newark Ph NaS May ponds
Mailing Address: NA	Billing Address (if different): NA
City: Newark State: CA Zip Code:	
Telephone: FAX #:	P.O. #:
Report To: Rowan Tucker / Sampler: Rowan Tucker	QC Data: ☒ Level D (Standard) ☐ Level C ☐ Level B ☐ Level A

Turnaround Time: ☐ 10 Working Days ☐ 7 Working Days ☐ 5 Working Days ☐ 3 Working Days ☐ 2 Working Days ☐ 24 Hours ☐ 2 - 8 Hours

☐ Drinking Water ☐ Waste Water ☐ Other

Analyses Requested

Client Sample I.D.	Date/Time Sampled	Matrix Desc.	# of Cont.	Cont. Type	Sequoia's Sample #	PH									Comments
1. FMC1 1 3/4' 3'	6/22/99 11:45	soil	1	plastic	comp 1-3/4'	X									make sample Homogeneous
2. FMC2 "	12:50	"	"	"	" 3'										
3. FMC3 " 1 3/4'	12:00	"	"	"	1 3/4'										
4. FMC4/4A " 1'	12:10				1 1/2/5 1/2										
5. FMC5 "	12:23				1'										
6. FMC6 " 1/2'	13:45				1/2'										
7. FMC7 5 1/2"	14:53				5 1/2'										
8. FMC8 1"	14:00				1"										
9. FMC9	14:15				5 1/2'										
10. FMC10	14:30				7' fill 3' hole										Note just West of hole - water 6-8' at 3' if at 1-1/2' of white Matl

Relinquished By: Rowan Tucker	Date: 6/22/99	Time: 15:25	Received By: Dana Pachola	Date: 6/22/99	Time: 15:26
Relinquished By:	Date:	Time:	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By Lab:	Date:	Time:

Were Samples Received in Good Condition? ☐ Yes ☐ No

Pink - Client
Yellow - Sequoia
White - Sequoia

SEQUOIA ANALYTICAL
CHAIN OF CUSTODY

☐ 680 Chesapeake Drive • Redwood City, CA 94063 • (650) 364-9600 FAX (650) 364-9233
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☐ 404 N. Wiget Lane • Walnut Creek, CA 94598 • (925) 988-9600 FAX (925) 988-9673
☐ 1455 McDowell Blvd. North, Suite D • Petaluma, CA 94954 • (707) 792-1865 FAX (707) 792-0342

Company Name: FMC Newark	Project Name: FMC Newark fh Nas Maglands
Mailing Address: NA	Billing Address (if different):
City: Newark State: CA Zip Code:	
Telephone: FAX #:	P.O. #:
Report To: Rowan Tucker Sampler: Rowan Tucker	QC Data: ☒ Level D (Standard) ☐ Level C ☐ Level B ☐ Level A

Turnaround Time: ☐ 10 Working Days ☐ 3 Working Days ☐ 2 - 8 Hours ☐ 7 Working Days ☐ 2 Working Days ☐ 5 Working Days ☐ 24 Hours

☐ Drinking Water ☐ Waste Water ☐ Other

Analyses Requested

Client Sample I.D.	Date/Time Sampled	Matrix Desc.	# of Cont.	Cont. Type	Sequoia's Sample #	PH									Comments
1. FMC 11	6/22/99 14:35	Soil	1	plastic	composite 1½"	X									Make sample Homogeneous
2. FMC 12	14:45				1¾"	X									
3. Crescent North FMC	15:10				4"	X									
4. Crescent South	15:15				8"	X									
5.															
6.															
7.															
8.															
9.															
10															

Relinquished By: [signature]	Date: 6/22/99	Time: 15:25	Received By: Dawn Richardson	Date: 6/22/99	Time: 15:26
Relinquished By:	Date:	Time:	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By Lab:	Date:	Time:

Pink - Client
Yellow - Sequoia
White - Sequoia

Were Samples Received in Good Condition? ☐ Yes ☐ No

Attached is
Dames & Moore
Mag Pile
Post Removal
Sampling Report
dated
Jan. 28, 2002

February 27, 2002

Miguel Trujillo
Hazardous Materials Specialist
City of Newark Fire Department
37101 Newark Boulevard
Newark, California 94560-3796

Re: Closure of Former Magnesia Pile
Magnesia Waste Pile – Post Removal Sampling Report

Dear Mr. Trujillo,

In accordance with the April 30, 1997 letter from the City of Newark to FMC Corporation (FMC) and Cargill Inc, the two companies have executed an excavation project to remove magnesia materials from Parcel No. 15-30-15 Newark, California (site). Based on pervious investigations under the oversight of the Department of Toxic Substances Control, the residual material left at the site was characterized as non-hazardous. The voluntary removal of approximately 120,000 cubic yard of this residual magnesia-related material was carried out in 1998 and 1999.

A post-removal sampling plan was submitted by letter transmittal dated June 2, 2000 and was approved by the City of Newark in a letter dated November 16, 2000. In response to our earlier meetings and the sampling plan, FMC is submitting the attached Magnesia Waste Pile-Post Removal Sampling Report. Based on the sampling results, no significant levels of chemical of concern were present. With the completion of this post removal sampling report, FMC believes that the requirements as stated in your letter have been met.

If you have any questions or comments, please feel free to call Peter Wan of my staff at 408-289-4285.

Sincerely,

Sally Jenks
Manager, West Coast Remediation

Cc: Barbara Ransom – Cargill Inc.

REMEDIATION COMPLETION REPORT
FORMER NEWARK SPORTSMAN'S CLUB
Newark, California

Regional Water Quality Control Board
Oakland, California

15 October 2002
Project No. 3194.01

Treadwell&Rollo
Environmental and Geotechnical Consultants

Treadwell&Rollo

15 October 2002
Project 3194.01

Mr. Thomas Butler
Regional Water Quality Control Board
1515 Clay Street, Suite 1400
Oakland, California 94612

Subject: File Number 2199.9303
Remedial Action Workplan
Former Newark Sportsman's Club
Newark, CA

Dear Mr. Butler:

On behalf of Cargill Salt Company, Treadwell & Rollo, Inc., is pleased to submit two copies of the Remediation Completion Report for the former Newark Sportsmen's Club. This report is submitted in compliance with the Regional Water Quality Control Board's 27 August 2001 letter to Cargill Salt Company.

Please call with any questions.

Sincerely yours,
TREADWELL & ROLLO, INC.

REGISTERED GEOLOGIST
DAVID G. DIXON
No. 7066
STATE OF CALIFORNIA

David G. Dixon, R.G.
Senior Project Manager

Philip G. Smith, REA II
Principal

31940105.PGS

Attachment

cc: Ms. Teri Peterson – Cargill Salt Company

Treadwell & Rollo, Inc. *Environmental & Geotechnical Consultants*
555 Montgomery Street, Suite 1300, San Francisco, CA 94111
Telephone (415) 955-9040 Facsimile (415) 955-9041

REMEDIATION COMPLETION REPORT
FORMER NEWARK SPORTSMAN'S CLUB
Newark, California

Regional Water Quality Control Board
Oakland, California

15 October 2002
Project No. 3194.01

Treadwell&Rollo
Environmental and Geotechnical Consultants

Treadwell&Rollo

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EXECUTIVE SUMMARY

This report documents that all of the previously identified lead and PAH impacted soil and debris exceeding approved cleanup criteria have been removed from the former Newark Sportsmen's Club (NSC) property (Site) and properly disposed of in accordance with the approved Remedial Action Workplan (RAW) and other applicable regulatory agency requirements. In addition to the remediation work, this report presents a site background, summarizes the previous characterization work, the RAW, and regulatory agency oversight and compliance work.

This Remediation Completion Report has been prepared for Cargill Salt Company (Cargill) to meet the requirements of the San Francisco Regional Water Quality Control Board's (RWQCB) letter of 27 August 2001, requesting that site remediation be completed at the Site by 15 October 2002. The NSC had leased the approximately 18-acre site from 1969 to 1995, using the Site as a recreational outdoor shooting range. This use of the Site resulted in surficial and shallow soil deposition of lead shot, residual total lead, and clay pigeon debris containing elevated levels of polycyclic aromatic hydrocarbons (PAHs).

The Site elevation varies from approximately 4 to 10 feet above mean sea level. The native surface soil is clay/silt, underlain by medium dense sand, which is in turn underlain by Bay Mud. Groundwater has reportedly been encountered in the vicinity of the Site at 4 to 9 feet below ground surface, and is not used as a drinking water resource. Groundwater flow is likely west towards San Francisco Bay. A jurisdictional wetland assessment and sensitive receptor study identified 3.42 acres of low habitat quality wetlands in the excavation areas proposed in the RAW. A Nationwide 38 Permit was obtained from the U.S. Army Corps of Engineers (ACOE) for the remediation work in the jurisdictional wetlands.

The lateral and vertical distribution of lead and PAHs had been established through several field investigations, involving the collection and analysis of 159 soil samples from 93 locations. Lead concentrations decrease rapidly with depth, with very little contamination was found deeper than

0.5 feet below ground surface. PAH contamination was limited to four stockpiles comprised of clay pigeon debris. With the exception of one sample collected from area E7, which was within the footprint Debris Stockpile 4, no soil samples contained PAHs. During the removal of Debris Stockpile 4, area E7 was excavated and confirmation samples were collected to ensure removal of all soil containing PAHs above the approved cleanup criteria.

The RAW selected cleanup criteria for total lead of 400 mg/kg and a lead shot count of 10 shot per square foot was determined to be protective of human health and the environment. The PAH cleanup criteria of 10 mg/kg total PAHs was similarly selected. The RAW and associated cleanup criteria were approved by the RWQCB in a 14 January 2002 letter. During site characterization work, a sampling grid was established covering the Site. Of the 90 grid sampling locations, 23 grid areas had sample results exceeding the total lead cleanup criteria, and 9 additional areas had visible lead shot likely exceeding the visual cleanup criteria. Additionally, the four clay pigeon debris stockpiles exceeded the cleanup criteria for PAHs.

Between July and October 2002, all of the identified lead and PAH impacted soil and debris exceeding the cleanup criteria were removed from the site and sent to appropriate landfills. A total of 5,910 tons were removed, approximately 1,121 tons of this soil, which exceeded federal hazardous (RCRA) criteria for lead, were treated onsite to stabilize it to non-RCRA concentrations. Confirmation samples were collected in the excavation areas, below former stockpile locations, and in the soil treatment areas. Laboratory analyses of the confirmation samples showed that these samples were all significantly below the cleanup criteria. All soil excavation areas passed the visual lead shot criteria.

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REMEDIATION COMPLETION REPORT
FORMER NEWARK SPORTSMAN'S CLUB
Newark, California

1.0 INTRODUCTION

This Remediation Completion Report summarizes previous site characterization work and reporting, and presents results of the remedial work, soil disposal, and confirmation sampling at the Former Newark Sportsman's Club (NSC) in Newark, California (Figure 1).
Treadwell & Rollo, Inc. has prepared this report on behalf of Cargill Salt Company (Cargill) to meet the requirements of the San Francisco Bay Regional Water Quality Control Board (RWQCB) as documented in their letters of 27 August 2001 and 14 January 2002. Treadwell & Rollo previously prepared a characterization workplan (Treadwell & Rollo, 2001a), a final site characterization report (Treadwell & Rollo, 2001b), and a Remedial Action Workplan (RAW) (Treadwell & Rollo, 2001c).

2.0 SITE BACKGROUND

The NSC site (Site) comprises approximately 18 acres of a much larger parcel owned by Cargill. Between 1969 and May 1995, the NSC leased the Site from Leslie Salt, and following Cargill's purchase of Leslie Salt in 1978 from Cargill to operate a recreational outdoor shooting range (Figure 2). As a result of these activities, lead pellets from shotgun shells and clay pigeon debris were scattered on the ground surface at the Site. It has been reported that the NSC periodically excavated the lead pellets and clay pigeon debris, separated the lead shot from the clay pigeon debris and recycled it, and placed the clay pigeon debris and dirt into stockpiles.

The Witmer-Tyson Police Dog School and the Menlo Park Schutzhund Club, both German shepherd training facilities, subsequently rented and continue to use the eastern portion of the Site. Various Bay Area police departments as well as private dog trainers utilize the facility. According to long-time occupants of the dog training facility, surficial soil and debris (i.e. lead

shot and clay pigeon fragments) located west-southwest of the clubhouse had been excavated and stockpiled. The depth of excavation was estimated to be approximately 0.5 feet below ground surface (bgs). Imported soil, comprised primarily of silty clay and imported from an adjacent area to the south, was used to form a pad for the dog training ground. The surface of the imported pad lies approximately 0.5 to 1.0 foot above the original ground surface. The locations of the imported pad and the stockpiles are shown on Figure 2.

Between March and September 2001, Treadwell & Rollo conducted several sampling events at the Site. The results of these investigations were presented in the *Characterization Report and Additional Sampling Workplan* (T&R, 2001a) and the *Final Characterization Report* (T&R, 2001b). These reports document the lateral and vertical distribution of residual lead and potential polycyclic aromatic hydrocarbon (PAH) compounds in soil at the Site and the characterization work performed at four existing clay pigeon debris stockpiles. The RAW for the NSC site was accepted, with conditions, by the RWQCB in a letter dated 14 January 2002 (Appendix A).

3.0 GEOLOGY AND HYDROLOGY

3.1 Geology

Ground surface elevations at the Site vary from approximately 4 to 10 feet above mean sea level (MSL). According to investigations conducted in the vicinity of the Site, the native surface clay/silt is underlain by loose to medium dense silty sand approximately 8 to 12 feet thick. The sand is likely underlain by soft to medium stiff clay known as Bay Mud. The Bay Mud at the Site may vary from 0 to 9 feet thick. Interbedded layers of medium stiff to hard silt and clay and medium dense to very dense sand with gravel underlay the Bay Mud or sand at adjacent sites. These soils extend to the maximum depths explored in the site vicinity (about 51 feet).

The serpentinite outcrops located just northeast of the Site are southerly outliers of a north-south trending chain of outcrops known as the Coyote Hills (Geosystem, 1997). The alluvium in this area is reported to be up to 350 feet deep and rests atop Franciscan Formation bedrock.

3.2 Hydrogeology

Groundwater was reportedly encountered during previous geotechnical and environmental investigations in the vicinity of the Site at depths ranging from 4 to 9 feet bgs. Periodic fluctuations in groundwater elevations may occur because of natural processes such as the infiltration of rainfall and tidal influences within the Bay.

A shallow aquifer in the Site vicinity has been reported to be present from approximately 4 to 20 feet bgs and consists of silty clay and clayey sand. The Newark Aquifer, comprised of interbedded sand and silt layers, extends from approximately 50 to 70 feet bgs and is separated from the shallow aquifer by the approximately 30-foot thick Newark Aquitard.

Based on the previous investigations that we reviewed and the regional topography, we estimate that groundwater flow direction over most of the Site is likely west towards San Francisco Bay. There are local variations in the groundwater flow direction in the vicinity of the Jones Hamilton, Romic, Ashland, and FMC facilities caused by the groundwater extraction systems operating at these facilities. These facilities are located approximately one-quarter to one-half mile north of the Site. The owners of these facilities are the responsible parties mitigating groundwater contamination referred to as the 4-Parties Plume, under the RWQCB oversight.
These groundwater extraction systems are designed to: (1) depress the groundwater elevation of the shallow aquifer at each facility to prevent offsite migration of contaminants; (2) recapture some contaminants that have migrated just offsite; and (3) extract and treat contaminated groundwater in activated carbon filtration systems prior to discharge to the sanitary sewer (Treadwell & Rollo, 1998).

3.3 Groundwater Usage

Other than the groundwater remediation operations described above, there is no evidence of groundwater use at the Site or vicinity.

4.0 SUMMARY OF REMEDIAL INVESTIGATIONS

Between March and September 2001, Treadwell & Rollo conducted several sampling events at the Site (T&R, 2001a, 2001b).

4.1 Soil Characterization Investigation Results

The Site is divided into two areas, referred to as the Soil Area and the Stockpile Areas. The Soil Area is defined as the area west of the shooting positions where lead pellets and clay pigeon debris fell. The Stockpile Areas are the three locations southeast of the shooting positions and one area within the Soil Area where clay pigeon debris had been stockpiled as shown on Figure 2.

To determine the lateral and vertical extent of contamination within the Soil Area, a sampling grid was established at the Site that generally consisted of equidistant sampling locations on 75-foot centers. Soil samples were collected from various depths from the ground surface to two feet below ground surface (bgs) using either a hand auger, a slide hammer with a 2-inch sampling spoon, or a sampling trowel. A total of 159 samples were collected at 93 locations and submitted for laboratory analysis.

4.1.1 Lead

Previous investigations determined the lead-impacted soil area to be a "fan-shaped" area between 360 and 600 feet west of the shooting positions as shown on Figure 3. This is generally consistent with published studies documenting that typical lead skeet loads fall roughly 375 to 600 feet from the shooter depending on the amount of gunpowder in the shotgun shell, the type

of shot, the angle at which the shooter fires, the slope of the ground, the wind, and other factors (National Shooting Sports Foundation, 1997). Within this area, lead shot is visible on the surface and elevated concentrations of lead were observed in the shallow soil. The results of analytical testing for lead are presented in Table 1.

Lead concentrations in the soil decrease rapidly with depth. While residential Preliminary Remediation Goals (PRGs) for lead (400 mg/kg [EPA, 2000]) were exceeded within 0.4 feet bgs at 23 sampling locations, only 3 samples at 1 foot bgs exceeded residential PRGs.

4.1.2 Polycyclic Aromatic Hydrocarbons

Soil Samples

Twenty soil samples were collected and analyzed for PAH compounds (Figure 4). The samples were collected from 250 to 500 feet in front of the shooting positions within the area likely to be impacted by falling clay pigeon debris. With one exception, no PAH's were detected in any soil samples. One soil sample collected immediately adjacent to Stockpile 4, sample E7-0.5, contained one PAH compound at 40 mg/kg. Table 2 summarizes analytical results for PAHs in soil.

Debris Stockpile Samples

Four samples were collected from clay pigeon Debris Stockpiles 1, 2, and 3 located behind the shooting positions, and three samples from Debris Stockpile 4 located approximately 200 feet in front of the shooting positions.

Of the seven samples collected from the target debris stockpiles, four (E5-1.5, E6-1.5, SP1-1.0 and SP2-0.5) had PAH levels exceeding laboratory reporting limits. These represented samples from Debris Stockpiles 1, 2, and 4. Concentrations of total PAH compounds ranged from 632 mg/kg in sample E5-1.5 to 2,880 mg/kg in stockpile sample SP1-1.0.

No PAH compounds were detected in soil samples collected from Stockpile 3. During the remedial work additional sampling and characterization work was conducted for Stockpile 4, as described in section 7.0.

4.2 Sensitive Receptor Survey

Wetlands Research Associates, Inc., (WRA) conducted a special status species habitat assessment of the Site to determine whether significant impacts to protected wildlife and plants (sensitive receptors) would possibly result from the proposed removal of contaminated soils from the parcel. According to WRA, no sensitive receptors were observed at the site, and based on existing habitat conditions and past and present disturbance, it is unlikely that any would occur at the site. A summary of WRA's findings are included in the Final Characterization Report (T&R, 2001b). In preparation of the Nationwide 38 permit for the proposed remedial work, the Army Corps of Engineers (ACOE) had the U.S. Fish & Wildlife Service (USFWS) visit and inspect the site. The USFWA concurred with the WRA findings in a 10 June 2002 letter attached in Appendix B.

4.3 Jurisdictional Wetland Areas

WRA conducted an assessment for the presence of jurisdictional wetlands and waters that meet the criteria used in the 1987 ACOE Manual. A summary of this assessment is included in the Final Characterization Report (T&R, 2001b).

The study determined that there are two areas that meet the jurisdictional criteria at the NSC Site, encompassing 8.88 acres of the total approximate site area of 18 acres. These areas are depicted on Figure 5, and acreage for each are given in the table below.

Jurisdictional Area Number	Area (acres)
1	8.74
2	0.14
Total	8.88

Of the estimated 8.88 acres of jurisdictional areas, 3.42 acres at Jurisdictional Area 1 were identified as being in proposed soil excavation locations described in Section 6.0 of this report. Jurisdictional Area 2 was not in soil excavation locations.

5.0 REMEDIAL ACTION WORKPLAN

The RAW selected the cleanup criteria and cleanup method for the NSC Site. The selected remedial method was to excavate and remove from the site all material shown to exceed the cleanup criteria. The following is a summary of the cleanup criteria, excavation locations and remedial confirmation sampling procedures presented in the RAW. The RWQCB approved the RAW in a 14 January 2002 letter (attached in Appendix A) with two modifications described in section 5.1.

5.1 Cleanup Criteria and Confirmation Sampling Procedures

5.1.1 Lead Cleanup Criteria

As described in section 4.2, site studies found that the site is a poor quality wildlife habitat, and sensitive receptors do not likely occur at the site. Due these conditions and the general low quality of the shallow groundwater, the RAW recommended using the residential Preliminary Remediation Goals (PRG) for lead of 400 mg/kg as the cleanup goal for the Site as being

protective of human health and the environment. The RWQCB approved this cleanup goal in their 14 January 2002 letter.

The RAW proposed collecting confirmation samples at all 23 excavation areas where lead concentrations exceeded the cleanup criteria (Figure 6). The confirmation sampling procedure selected included collecting 4 samples in each sampling grid area (one near each corner), from within three inches of the excavation floor. The four samples were to be sent to the analytical laboratory to be composited into a single sample and analyzed for total lead.

5.1.2 Polycyclic Aromatic Hydrocarbon Cleanup Criteria

PAH compounds at the site were only detected in soil samples collected from three of the four clay pigeon debris stockpiles, and in one soil sample (E7) located adjacent to a debris stockpile as described in Section 4.1.2. The RAW proposed collecting at least one confirmation sample from beneath Debris Stockpiles 1, 2, and 3, and three samples from beneath Debris Stockpile 4 after removal from the Site. Based on discussions with the RWQCB, a cleanup goal of 10 mg/kg total PAHs was selected as protective of human health and the environment.

The RWQCB approved this cleanup goal in their 14 January 2002 letter, and added the requirement that confirmation sampling also be conduced in Grid E7 where there were detectable concentrations of PAHs, and E4 where PAHs were not detected, but the laboratory reporting limits for PAHs were greater that the cleanup criteria.

5.1.3 Visual Lead Shot Cleanup Criteria

The RAW recommended using a visual cleanup criteria of 10 lead shots per square foot. The procedure described in the RAW was to select a random area in a sampling grid after excavation, and perform a visual inspection on a square foot area within the grid. In addition to the 23 grid locations recommended for excavation due to lead concentrations, nine grid locations were recommended in the RAW for excavation due to the likely presence of lead shot exceeding the

visual lead shot cleanup criteria. The visual lead shot criteria was proposed for use at all 32 of the excavation locations.

The RWQCB commented in their 14 January 2002 letter that a more quantitative sampling procedure than a visual criteria would be preferred. However, in subsequent discussions with Thomas Butler, the RWQCB case officer for the site, it was agreed that using the visual criteria presented in the RAW was appropriate. Mr. Butler was present to observe screening using the visual criteria after soil excavation.

5.2 Soil Excavation Areas

Twenty-three grid sections that exceeded the total lead cleanup goal were identified in the RAW for excavation. Nine other grid sections, which were below the proposed total lead cleanup criterion but exceeded the 10 shot per square foot criterion, were also selected for excavation. Figure 6 shows the proposed remedial excavation areas and depths presented in the RAW.

A grid section is generally a 75 x 75-foot square area with the associated sampling location in approximately the center of the square. The areas, H0 and J1 were approximately half the size of the other areas (75 x 40 feet). Excavation depths were generally estimated to be half-way between the deepest sample exceeding the residential PRG for lead and the next deepest sample.

5.3 Selected Remedial and Laboratory Analytical Methods

The remedial actions selected by the RAW were to dispose of the material from the four existing stockpiles and all excavated soil at offsite disposal facilities. New soil would be imported to the site to bring excavated areas up to previously existing grade. The RAW identified onsite treatment as an option, and this was performed at the site as described in Section 7.1.2.

Treadwell & Rollo issued a letter dated 18 June 2002 proposing analytical methods to be used for confirmation sampling at the site. It was proposed to use EPA Method 8270 for all PAH

analyses, and to use a mobile laboratory using an XRF method for lead analyses. During confirmation sampling, EPA Method 8310, which has a reporting limit approximately 10 times lower than EPA Method 8270, was also used for some analyses. Since the XRF method is not certified for use by the California Health Department of Health Services (DHS) it was proposed to send 10% of the samples analyzed by XRF to a fixed laboratory using EPA Method 6010 for confirmation. A mobile laboratory was not available during remediation however, and all confirmation samples were sent to a fixed laboratory for analyses by EPA Method 6010. Additionally, at the request of the RWQCB, analyses for total arsenic and antimony (by EPA Method 6010) were added for confirmation samples in excavation areas. No cleanup criteria were established for these two metals, and analytical results in the confirmation samples were typical of background concentrations for the area.

6.0 REMEDIAL ACTIVITIES

Remedial activities at the site included the following:

- Obtaining a Nationwide 38 Permit for remedial work in jurisdictional wetland areas
- Surveying of remedial excavation areas
- Conducting remedial excavation of 32 areas
- Collecting soil confirmation samples for lead, arsenic and antimony at 23 excavation areas
- Collecting soil confirmation samples for PAHs at five areas
- Visual inspections of all 32 excavation areas for visible lead, and
- Collecting soil confirmation samples for lead at three areas at previous stockpile locations.

These activities are discussed in detail below.

6.1 Nationwide 38 Permit for Remedial Work

An application for an ACOE Nationwide 38 Permit, to allow remedial actions in the jurisdictional wetland areas was submitted on 24 January 2002. The application was submitted by the ACOE to the USFWS for informal consultation. Approval from the USFWS was received on 10 June 2002. The Nationwide 38 Permit for remedial work was approved by the ACOE on 14 June 2002 and is attached in Appendix B. Special requirements in the ACOE permit included disposing of all material and debris generated by the Site remediation at an approved offsite location, and having a biologist inspect, flag and remove pickleweed in selected areas prior to excavation and be present during excavation at areas with greater than 40% pickleweed cover.

6.2 Site Surveying and Maintenance of Horizontal and Vertical Control

On 8 July 2002, Martin Ron Associates, Inc., a California-licensed surveyor, staked and recorded locations of the previous soil characterization samples in areas proposed for excavation. The following day they staked the corners of each excavation area at locations that had been plotted based upon the characterization sampling locations.

Treadwell & Rollo, using a Trimble Geographical Positioning System (GPS), recorded the locations of all stakes, and kept the GPS on site to relocate stakes as needed during the remedial work. Pacific States Environmental (PSE), the remedial excavation contractor, set up a laser level at a reference point, and recorded elevations throughout the remediation areas. This was due to determine when the proposed depth of excavation had been achieved within each excavation area. During excavation PSE had a dedicated field technician maintaining elevation control to ensure that the appropriate amount of material was excavated.

6.3 Remedial Excavation

Remedial excavation was conducted at the Site by PSE from 10 through 15 July 2002. Remedial excavation took place in each of the proposed 32 areas to depths discussed below. A road grader, capable of soil removal accuracy of less than 1-inch, was used by PSE to form windrows

of soil within the excavation footprint. A scraper followed behind the grader, picked up the windrows of soil and depositing the excavated soil on visqueen in a soil stockpile, located east of the remedial excavation area. Throughout the excavation activities a water truck was used to wet the remedial areas and soil stockpiles to reduce dust. The excavation was conducted in the westernmost areas first to avoid transporting excavated soil over areas where excavation had been completed.

A biologist from WRA was onsite prior to excavation to inspect, flag and remove pickleweed areas where required to comply with the ACOE Nationwide 38 Permit. A WRA biologist was also present during the excavation of areas with greater than 40% pickleweed cover, per the conditions of the Nationwide 38 Permit. WRA did not observe any salt harvest mice prior to or during excavation activities. WRA prepared a 12 July 2002 letter documenting their work, which is included in Appendix B.

PSE completed the soil remedial excavation activities on 15 July 2002. The table below shows the minimum excavation depths in each area. The actual excavation depths were determined on the basis of lead shot observations and associated confirmation sample results.

Excavation Area	Excavation Depth (inches)
F4, F5, F6, G2, H7, J9, J10, K7 and L9	4
H5 and H6	4
H3 and H4	12
H1B, H1, J3, J4, J5, J6 and J7	6

Excavation depths proposed in the RAW for each area were generally conservatively estimated to be halfway between the deepest sample exceeding the cleanup criteria for lead and the next deepest sample below the cleanup criteria.

Some excavation areas were not excavated to depths proposed in the RAW, because significant lead shot was not observed after removal of all soil greater than the cleanup criteria, and lead concentrations in confirmation samples collected at the base of these excavations were below the lead cleanup criteria. In these cases, care was taken to ensure that all the soil previously characterized as exceeding the cleanup criteria for lead was excavated. Some areas were excavated to deeper than proposed depths because visible lead shot was still present at the proposed excavation depth. Excavation continued at these areas until the lead shot removal criteria was met.

6.4 Soil Confirmation Sampling in Excavation Areas

Between 11 and 15 July 2002, soil confirmation samples were collected in the excavation areas. Ninety-two soil confirmation samples were collected and composited by the laboratory into 23 soil confirmation samples as described below.

6.4.1 Soil Confirmation Sampling Methods and Locations

Soil confirmation samples were collected from the 92 locations depicted on Figure 7. Prior to sampling, each excavation area was divided into four quadrants and confirmation samples were collected from the center of each quadrant (Figure 7) from the base of the excavation floor, extending three inches below the top of the excavation floor, for a total of four samples per excavated area. Depths of the soil confirmation samples are summarized in Table 6.

Soil confirmation samples were collected from the bottom of each excavation area proposed for confirmation sampling (Figure 7) using 2-inch diameter, 3-inch long stainless steel sampling tubes driven into the soil with a slide hammer. Following collection, each sample tube was capped using Teflontm tape and plastic end caps.

Soil confirmation samples were labeled according to which excavation area and which quadrant within that excavation area the sample was located. For example, the soil confirmation sample

collected from the northeast quadrant of excavation area H7 was labeled H7-NE. All four confirmation samples collected from H7 (H7-NE, H7-SE, H7-NW and H7-SW) were composited by the laboratory and identified as sample H7-(NE, SE, NW, SW) in the laboratory reports.

Soil confirmation samples were not proposed for excavation areas G3, G5, H1A, H1B, H1, J5, J6, J7 and J8, as these areas were below the cleanup criteria and only excavated due to the presence of lead shot at the surface. These areas were screened using the visual lead shot method as described in Section 6.5.

6.4.2 Soil Confirmation Sample Results

Soil confirmation samples were analyzed for California Total Threshold Limit Concentration (TTLC) antimony, arsenic and lead. All soil confirmation sample results were below the approved cleanup criteria for lead. Soil confirmation sample results and the depths from which the samples were collected are included in Table 6. Soil confirmation results for TTLC lead can also be found on Figure 7. Laboratory analytical reports for all remedial work are attached in Appendix C. While no cleanup criteria were established for arsenic or antimony, the concentrations detected are low, and likely represent background concentrations. Soil confirmation sample results are as follows.

- Antimony concentrations were detected in 15 of the 23 samples ranging from the reporting limit of 2.0 mg/kg to 8.5 mg/kg, with the average detected concentration being 4 mg/kg.
- Arsenic concentrations ranged from 5.5 to 9.0 mg/kg, with the average concentration being 7 mg/kg.
- Lead concentrations ranged from 6.6 to 270 mg/kg with the average concentration being 67 mg/kg.

During the site characterization, one soil sample collected immediately adjacent to Stockpile 4, sample E7-0.5, contained one PAH compound at 40 mg/kg, which exceeds the PAH cleanup criteria of 10 mg/kg. During remedial work, this sample location was found to be within stockpile 4 and was excavated during the removal of Debris Stockpile 4, as discussed in Section 7.0.

6.5 Visual Lead Shot Screening Results

On 15 July 2002 excavation areas were screened using the visible lead shot cleanup criteria under the direction of the RWQCB. A random survey location was established in excavation areas by throwing a capped stainless steel sample tube into an excavation area. A visual inspection was then conducted by placing a one-foot square template on the ground and brushing the surface of the inspection area to help identify the number of lead shot present. After the visual inspection was performed, the survey location was recorded using a GPS unit. Visual inspection results are posted on Figure 8, and the results are summarized in Table 7.

6.6 Soil Import, Compaction and Backfill

Clean soil was imported to the Site from the Dumbarton Quarry by PSE on 17 July 2002. This soil was used to bring excavations areas back up to their original grade. The imported soil consisted of dark reddish brown, poorly graded, gravelly clay to clayey gravel with silt.

7.0 SOIL AND DEBRIS STOCKPILE CHARACTERIZATION AND DISPOSAL

Excavated soils were stockpiled on visqueen in an area located east of the excavation footprint. All soils excavated to 4-inches bgs were stockpiled together and identified as Soil Stockpile 1. Soils excavated deeper than 4 inches bgs were stockpiled together and identified as Soil Stockpile 2.

Four debris stockpiles (Debris Stockpiles 1, 2, 3 and 4) were present at the site prior to Treadwell & Rollo beginning work. The original estimated locations of the Debris Stockpiles are shown on Figure 2.

Debris Stockpiles 1, 2 and 3 were originally three individual stockpiles but had been previously characterized as California Hazardous waste and were subsequently combined into one stockpile (Treadwell & Rollo, 2001b). Following consolidation, former Debris Stockpiles 1, 2 and 3 were collectively referred to as Debris Stockpile 1, 2 and 3, which was composed of mostly clay pigeon debris with some soil and concrete debris.

Debris Stockpile 4 was located in sampling areas E5, E6 and E7 (Figure 7), and was comprised of mostly clay pigeon debris with some soil. The horizontal and vertical extent of Debris Stockpile #4 was consolidated into a stockpile by PSE at the location shown on Figure 7.

The following is a table of approximate tonnage of soil and debris off-hauled from the site and where the material was taken. The tons shown are based on the actual weight tags for trucks arriving at the landfills and the tonnage report provided by the landfill.

Stockpile Name	Date of Off-haul	Tons	Waste Type	Disposal Landfill
Soil Stockpile #1	9/4/02, 9/5/02 & 10/10/02	2,270	California Hazardous	Kettleman Hills
Soil Stockpile #1 (Treated)	10/4/02	1,121	California Hazardous	Kettleman Hills
Soil Stockpile #2	8/30/02	675	Non-Hazardous	Altamont
Debris Stockpile #1, 2 and 3	9/5/02, 10/4/02 & 10/5/02	1,143	California Hazardous	Kettleman Hills
Debris Stockpile #4	9/4/02, 10/4/02 & 10/10/02	701	California Hazardous	Kettleman Hills

7.1 Soil Stockpile 1 Characterization, Treatment and Disposal

7.1.1 Soil Stockpile 1 Characterization Sampling and Results

On 15 July 2002, Soil Stockpile 1 was divided into six equal parts (SS-1 through SS-6) and sampled for characterization. Characterization sampling consisted of collecting four soil samples in glass jars from each of the six approximately equal sections. Soil characterization samples collected from the section of Soil Stockpile 1 identified as SS-1 were labeled SS-1A, SS-1B, SS-1C and SS-1D, which were subsequently composited by the laboratory into a single sample identified as SS-1(A-D). The same compositing methodology was applied to the other five sections of the stockpile. The stockpile characterization samples were analyzed for total and TCLP lead. Analytical results for TCLP lead indicated that sections SS-1, SS-2, SS-3 and SS-6 had concentrations exceeding the federal hazardous waste criteria of 5 mg/L. Total and TCLP lead concentrations for samples SS-4(A-D) and SS-5(A-D) were below the federal and state hazardous waste criteria, so these samples were also analyzed for soluble lead using the STLC method. Selected samples were also analyzed for CAM 16 additional metals for landfill profiling purposes. Tables 3 and 4 summarize the analytical results for Soil Stockpile 1.

On 19 July 2002, sections SS-1, SS-2, SS-3 and SS-6 were divided into three subsections each, and a 4:1 composite characterization sample was collected in each subsection for TCLP lead analyses. The composite samples collected in section SS-1 were identified as soil characterization sample SS-1A(A-D), SS-1B(A-D), SS-1C(A-D). The same identification methodology was applied to the other three stockpile sections. Analytical results for additional subsections SS-1A(A-D), SS-2A(A-D), SS-2B(A-D) and SS-3B(A-D) indicated that these subsections exceeded federal hazardous criteria.

7.1.2 Soil Stockpile 1 Treatment and Disposal

Between 16 and 19 September 2002, subsections SS-1A(A-D), SS-2A(A-D), SS-2B(A-D) and SS-3B(A-D), representing approximately 1,121 tons of soil were treated by PSE to below federal hazardous criteria.

The soil was treated by PSE using a pug mill permitted by the California Department of Toxic Substance Control as a portable treatment unit. The pug mill mixed the soil with a high phosphorous reagent. Approximately 1,121 tons of soil were treated and stockpiled in five adjacent piles.

The five treated soil stockpiles were sampled on 17 and 19 September 2002. Four samples were collected in glass jars from all the treated soil stockpiles. The four samples collected from Treated Soil Stockpile 1 were labeled TS-1A, TS-1B, TS-1C and TS-1D and were composited by the laboratory and identified as TS-1(A-D). The same sample labeling methodology was applied to the samples collected from the other four treated soil stockpiles. The composite samples collected from the five treated soil stockpiles were analyzed for total, TCLP and STLC lead.

All of the composite samples collected from the treated soil stockpiles were below federal hazardous criteria, but exceeded state hazardous criteria. Table 8 summarizes the analytical results for samples collected from the treated soil.. On 3 October 2002 all of the treated soil was disposed of at Kettleman Hills Landfill as a California hazardous waste.

7.1.3 Soil Stockpile 1 Confirmation Sampling

On 4 October 2002 two four-to-one composite samples were collected from the area beneath former Soil Stockpile 1 to confirm that all of the stockpile had been removed from the site. The samples were collected from the northern and southern sections of the former stockpile and labeled C-SS1-1(A-D) and C-SS1-2(A-D), respectively. Sample C-SS1-1(A-D) contained 210 mg/kg and C-SS1-2(A-D) contained 560 mg/kg, indicating that additional soil removal was required in the southern half of the former Soil Stockpile 1 location . On 10 October 2002 approximately two inches of soil was removed in this area and sample C-SS1-3(A-D) was collected. Laboratory analyses showed that this sample contained 6.4 mg/kg of lead and that no additional work was required in this area. Table 3 summarizes the analytical results, and Figure 7 shows the approximate sampling locations.

7.2 Soil Stockpile 2 Characterization and Disposal

Soil Stockpile 2 was comprised of excavated soils taken from deeper than 4 inches bgs and comprised approximately 675 tons. Characterization samples were collected from Soil Stockpile 2 on 15 July 2002. Four glass jars were collected from each half of the stockpile and identified as SS2-1 and SS2-2. The four samples collected from SS2-1 were labeled SS2-1A, SS2-1B, SS2-1C and SS2-1D and were composited by the laboratory and identified as SS2-1(A-D). The same sampling and labeling methodology was applied to both halves of the stockpile. Both soil characterization samples were analyzed for total and TCLP lead.

Total lead was detected in composite samples SS2-1(A-D) and SS2-2(A-D) at concentrations of 26 and 16 mg/kg, respectively. Neither of the soil characterization samples collected from Soil Stockpile 2 contained detectable concentrations of TCLP lead. Table 4 summarizes the analytical results for Soil Stockpile 2. Based on these analytical results, Soil Stockpile 2 was accepted as a non-hazardous Class II waste by Altamont Landfill, and sent to Altamont on 30 August 2002.

7.3 Debris Stockpile Characterization and Disposal

Four clay pigeon debris stockpiles (Debris Stockpile 1, 2 and 3 and 4) were located onsite prior to Treadwell & Rollo beginning work at the site. Debris Stockpiles 1, 2 and 3 were sampled during 2001 and characterized as a California hazardous waste on the basis of their lead concentrations (Treadwell & Rollo, 2001b).

Debris Stockpile 4 was located near the E4, E5 and E6 characterization sampling areas (Figure 2) and was comprised of mostly clay pigeon debris with some soil. The horizontal and vertical extent of Debris Stockpile 4 was excavated and stockpiled by PSE, east of excavation area F6.

7.3.1 Debris Stockpile Characterization Sampling

Debris Stockpiles 1, 2 and 3 were sampled during the initial site characterization in 2001 and characterized as California hazardous waste on the basis of their lead concentrations (Treadwell & Rollo, 2001b). Tables 3, 4 and 5 summarize the analytical results for these stockpiles.

The lateral extent of Debris Stockpile 4 was not sufficiently characterized during the initial site work in 2001. In July 2002 the stockpile was consolidated by scraping several inches off the surface in areas E-4, E-5, E6 and E7, and in portions of adjacent areas with visible clay pigeon debris, and pushed into a single large pile. On 15 July 2002 the consolidated stockpile was divided into four equal parts and each was sampled. The characterization samples collected from Debris Stockpile 4 were analyzed for PAHs, and total, TCLP and STLC lead. On the basis of lead concentrations this stockpile was characterized as a California hazardous waste. Tables 3, 4 and 5 summarize the analytical results for these stockpiles.

7.3.2 Confirmation Sampling Below Debris Stockpiles

On 4 and 5 October, confirmation samples were collected from the area beneath former debris stockpiles to confirm that all of the stockpiled material had been removed from the site. The confirmation samples were collected using the same protocols described for the excavation areas and were submitted for PAH analyses using EPA Method 8270C. A four-to-one composite sample was collected below the former Stockpile 1, 2 and 3 removal area, and one each in Areas E4, E5, E6, and E7. The stockpile removal areas (Figure 7) were extended beyond the edges of the actual stockpiles to remove all visible debris.

PAH concentrations were not detected above the cleanup criteria of 10 mg/kg in any samples except for the sample collected in Area E5. This sample E5-(NE,SE,NW,SW) contained 49.5 mg/kg of total PAHs, indicating that additional soil removal was required in area E5. On 10 October 2002 approximately two inches of soil was removed in this area and sample E5-(NE,SE,NW,SW)-1 was collected. Laboratory analyses showed that this sample contained

0.84 mg/kg of total PAHs and that no additional work was required in this area. Table 10 summarizes the analytical results, and Figure 7 shows the approximate sampling locations.

7.3.3 Debris Stockpile Disposal

On 5 and 6 September 2002 all four debris stockpiles were hauled from the site to Kettleman Hills Landfill in Kettleman City, California, as a California hazardous waste. According to the weight tickets recorded at the landfill, Debris Stockpiles 1, 2 and 3 comprised approximately 1,143 tons and Debris Stockpile 4 comprised approximately 701 tons.

8.0 CONCLUSION

This report documents that all of the previously identified lead and PAH impacted soil and debris exceeding approved cleanup criteria have been removed from the Site and properly disposed of in accordance with the approved Remedial Action Workplan (RAW) and other applicable regulatory agency requirements.

The site was adequately characterized in 2001 under the oversight of the RWQCB as described in Section 4.0 of this report (T&R 2001a, T&R 2001) (RWQCB 2001a, 2001b). In December 2001 a Remedial Action Workplan (RAW) was prepared (T&R 2001a) which was accepted by the RWQCB with two comments as described in Section 5.0 of this report (T&R 2001c) (RWQCB 2002a). Between July and October 2002 the remedial work was performed at the site in accordance with the RAW. Remedial confirmation sampling and analyses, and visual screening indicate that all of the previously identified lead and PAH impacted soil and debris exceeding cleanup criteria have been removed from the site and properly disposed of, as described in Sections 6 and 7 of this report.

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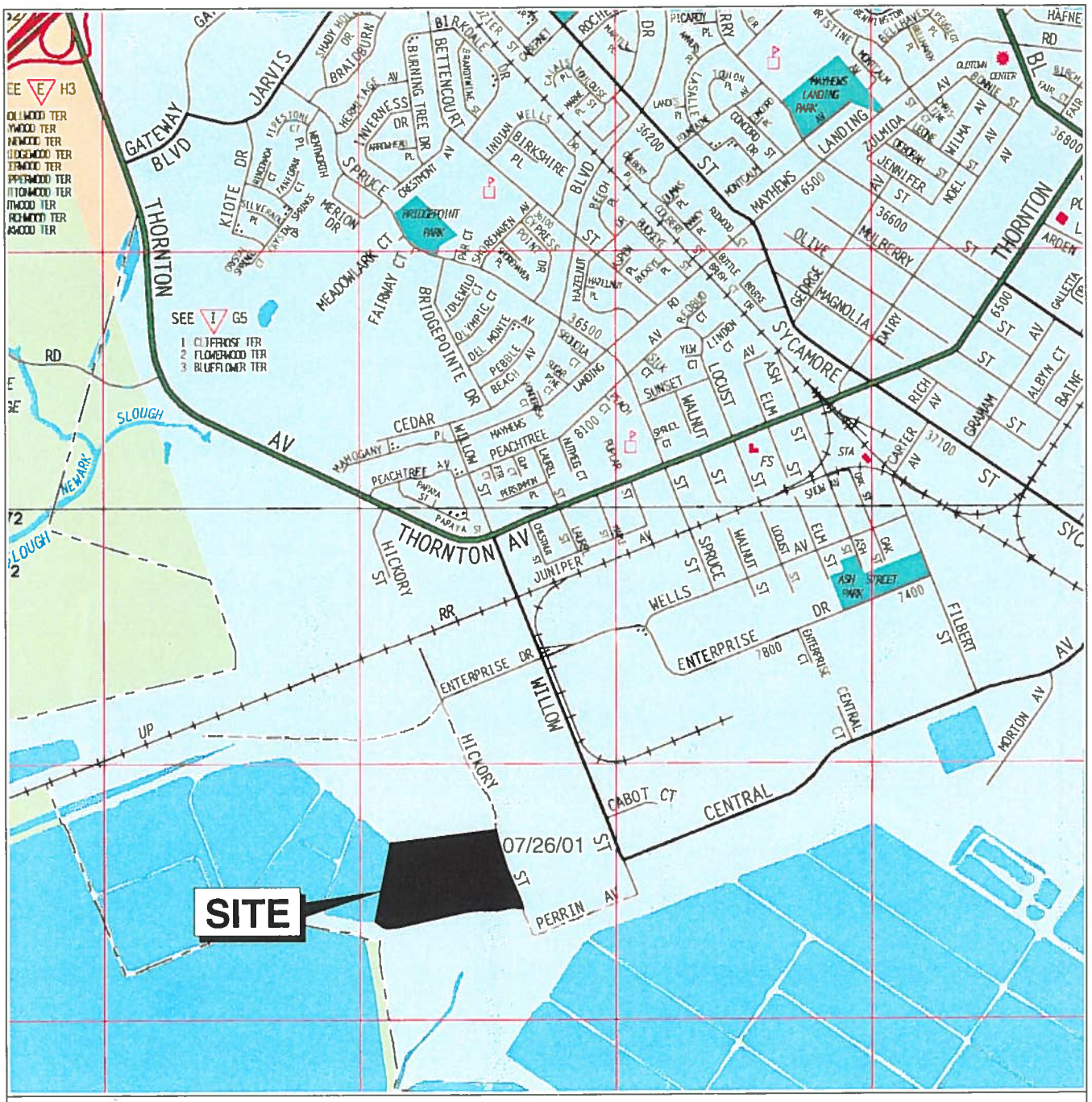
FIGURES



Base map: The Thomas Guide
Alameda County
1999

No scale

FORMER NEWARK SPORTSMAN'S CLUB
Newark, California

SITE LOCATION MAP

Treadwell&Rollo

Date 12/14/01	Project No. 3194.01	Figure 1

EXPLANATION

Areas meeting the Wetland definition in 1987 Corps of Engineers manual

Soil sample location

Excavation locations

Reference: Wetlands Research Associates, June 2001.

FORMER NEWARK SPORTSMAN'S CLUB
Newark, California

JURISDICTIONAL WETLANDS AND EXCAVATION AREAS

Date 10/1/02	Project No. 3194.01	Figure 5

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TABLES

Table 1
Lead and Copper Analytical Results for Site Characterization Soil Samples
Former Newark Sportsman's Club
Newark, California

Sample Location	Sample Depth (Feet)	Sample Date	Lead TTLC Extraction (mg/kg)	Lead SPLP Extraction (mg/L)	Lead TCLP Extraction (mg/L)	Lead STLC Extraction (mg/L)	Total Copper (mg/kg)
Soil Area Sample Results							
A1	0.25	3/21/01	39	—	—	—	—
A2	0.25	3/21/01	23	—	—	—	—
B1	0.25	3/21/01	9.9	—	—	—	—
B1	0.75	3/21/01	7.3	—	—	—	—
B2	0.25	3/21/01	—	—	—	—	25
B2	0.75	3/21/01	—	—	—	—	25
B4	0.25	3/21/01	31	—	—	—	30
B4	0.75	3/21/01	8.9	—	—	—	33
B5	0.25	3/21/01	—	—	—	—	24
C1	0.25	3/22/01	19	—	—	—	—
C1	0.75	3/22/01	14	—	—	—	—
C3	0.25	3/22/01	21	—	—	—	—
C3	0.75	3/22/01	11	—	—	—	—
C5	0.25	3/22/01	11	—	—	—	—
C5	0.75	3/22/01	9.4	—	—	—	—
C6	0.25	3/22/01	13	—	—	—	—
C7	0.25	3/22/01	20	—	—	—	—
D1	0.25	3/22/01	16	—	—	—	—
D1	0.75	3/22/01	11	—	—	—	—
D3	0.25	3/22/01	15	—	—	—	—
D3	0.75	3/22/01	24	—	—	—	—
D5	0.25	3/22/01	14	—	—	—	—
D5	0.75	3/22/01	14	—	—	—	—
E1	0.25	3/22/01	16	—	—	—	—
E2	0.25	3/22/01	13	—	—	—	—
E3	0.25	3/22/01	53	—	—	—	—
E4	0.25	3/22/01	210	—	—	—	—
E4	0.75	3/22/01	8.9	—	—	—	—
E5	1.25	3/22/01	78	—	—	—	—
E6	1.25	3/22/01	96	—	—	—	—
E7	0.25	3/22/01	83	—	—	—	—
E8	0.25	3/22/01	30	—	—	—	—
F1	0.25	3/22/01	390	1.6	—	—	—
F1	0.75	3/22/01	320	—	—	—	—
F2	0.25	3/22/01	80	—	—	—	—
F3	0.25	3/22/01	12	—	—	—	—
F4	0.25	3/22/01	24,000	—	—	—	—
F4	0.75	3/22/01	8.3	<0.2	—	—	—

Table 1
Lead and Copper Analytical Results for Site Characterization Soil Samples
Former Newark Sportsman's Club
Newark, California

Sample Location	Sample Depth (Feet)	Sample Date	Lead TTLC Extraction (mg/kg)	Lead SPLP Extraction (mg/L)	Lead TCLP Extraction (mg/L)	Lead STLC Extraction (mg/L)	Total Copper (mg/kg)
F5	0.25	3/22/01	1,000	—	—	—	—
F5	0.75	3/22/01	8.8	<0.2	—	—	—
F6	0.25	3/22/01	1,200	—	—	—	—
F6	0.75	3/22/01	19	<0.2	—	—	—
F7	0.25	3/22/01	360	—	—	—	—
F8	0.25	3/22/01	180	—	—	—	—
F8	0.75	3/22/01	250	—	—	—	—
F9	0.25	3/22/01	80	—	—	—	—
F10	0.25	3/22/01	24	—	—	—	—
F11	0.25	3/22/01	98	—	—	—	—
G0	0.25	4/12/01	7.4	—	—	—	—
G1A	0.25	5/7/01	75	—	—	—	—
G1	0.25	4/12/01	4.7	—	—	—	—
G2	0.25	4/12/01	1,100	—	—	—	—
G2	0.75	4/12/01	8.2	—	—	—	—
G3	0.25	4/12/01	110	—	—	—	—
G3	0.75	4/12/01	12	—	—	—	—
G4	0.25	4/12/01	1,600	—	—	—	—
G4	0.75	4/12/01	7.7	—	—	—	—
G5	0.25	4/12/01	380	—	—	—	—
G5	0.75	4/12/01	11	—	—	—	—
G6	0.25	4/12/01	7.8	—	—	—	—
G7	0.25	5/7/01	11	—	—	—	—
G8	0.25	5/17/01	240	—	—	—	—
H0A	0.25	5/7/01	16	—	—	—	—
H0	0.25	4/12/01	510	—	—	—	—
H0	0.375	8/23/01	9.1	—	—	—	—
H0	0.75	4/12/01	14	—	—	—	—
H1A	0.25	5/7/01	8.9	—	—	—	—
H1B	0.25	5/7/01	6.0	—	—	—	—
H1	0.25	4/12/01	190	—	—	—	—
H1	0.75	4/12/01	29	—	—	—	—
H2	0.25	4/12/01	3,300	—	3.9	—	—
H2	0.75	4/12/01	2,800	—	58	—	—
H2	1.25	5/7/01	47	—	—	—	—
H2	1.75	5/7/01	54	—	—	—	—
H3	0.25	4/12/01	3,400	—	3.9	—	—
H3	0.75	4/12/01	4,000	—	0.36	—	—
H3	1.75	5/7/01	590/100	—	—	—	—
H4	0.25	4/12/01	4,200	—	—	—	—
H4	0.75	4/12/01	460	—	—	—	—
H4	1.75	5/7/01	200	—	—	—	—
H5	0.25	5/7/01	660	—	—	—	—
H5	1.25	5/7/01	85	—	—	—	—

Table 1
Lead and Copper Analytical Results for Site Characterization Soil Samples
Former Newark Sportsman's Club
Newark, California

Sample Location	Sample Depth (Feet)	Sample Date	Lead TTLC Extraction (mg/kg)	Lead SPLP Extraction (mg/L)	Lead TCLP Extraction (mg/L)	Lead STLC Extraction (mg/L)	Total Copper (mg/kg)
H6	0.25	5/7/01	1,600	—	—	—	—
H6	1.25	5/7/01	3.9	—	—	—	—
H7	0.25	5/17/01	19,000	—	—	—	—
H7	0.75	8/24/01	11	—	—	—	—
H8	0.25	5/17/01	110	—	—	—	—
H8	0.75	8/24/01	8.3	—	—	—	—
J0	0.25	5/17/01	110	—	—	—	—
J1	0.25	5/7/01	580	—	—	—	—
J1	0.375	8/23/01	7.8	—	—	—	—
J1	1.25	5/7/01	11	—	—	—	—
J2	0.25	5/7/01	1,600	—	—	—	—
J2	0.375	8/23/01	7.1	—	—	—	—
J2	1.25	5/7/01	11	—	—	—	—
J3	0.25	5/7/01	2,200	—	—	—	—
J3	0.375	8/23/01	9.0	—	—	—	—
J3	1.25	5/7/01	33	—	—	—	—
J4	0.25	5/7/01	2,900	—	—	—	—
J4	0.75	5/7/01	17	—	—	—	—
J4	0.375	8/23/01	7.7	—	—	—	—
J5	0.25	5/7/01	12	—	—	—	—
J5	0.75	5/7/01	13	—	—	—	—
J6	0.25	5/7/01	10	—	—	—	—
J6	0.75	5/7/01	14	—	—	—	—
J7	0.25	5/7/01	5.9	—	—	—	—
J7	0.75	5/7/01	360	—	—	—	—
J7	1.75	5/7/01	34	—	—	—	—
J8	0.25	5/7/01	7.9	—	—	—	—
J9	0.25	5/17/01	500	—	—	—	—
J9	0.75	8/24/01	8.4	—	—	—	—
J10	0.25	5/17/01	850	—	—	—	—
J10	0.75	8/24/01	11	—	—	—	—
J11	0.25	8/24/01	12	—	—	—	—
J11	0.75	8/24/01	11	—	—	—	—
K1	0.25	5/17/01	59	—	—	—	—
K2	0.25	5/17/01	30	—	—	—	—
K3	0.25	5/7/01	710	—	—	—	—
K3	0.375	8/23/01	8.6	—	—	—	—
K3	1.25	5/7/01	72 / 2,600	—	—	—	—
K3	1.75	8/24/01	9.3	—	<3.0	—	—
K4	0.25	5/7/01	970	—	—	—	—
K4	0.375	8/23/01	5.4	—	—	—	—
K4	0.75	5/7/01	5.7	—	—	—	—

Table 1
Lead and Copper Analytical Results for Site Characterization Soil Samples
Former Newark Sportsman's Club
Newark, California

Sample Location	Sample Depth (Feet)	Sample Date	Lead TTLC Extraction (mg/kg)	Lead SPLP Extraction (mg/L)	Lead TCLP Extraction (mg/L)	Lead STLC Extraction (mg/L)	Total Copper (mg/kg)
K5	0.25	5/7/01	1,300	—	—	—	—
K5	0.375	8/23/01	8.3	—	—	—	—
K5	0.75	5/7/01	29	—	—	—	—
K6	0.25	5/7/01	8.8	—	—	—	—
K6	0.75	5/7/01	78	—	—	—	—
K6	1.75	5/7/01	27	—	—	—	—
K7	0.25	5/7/01	8,700	—	—	—	—
K7	0.75	5/7/01	9.6	—	—	—	—
K8	0.25	5/7/01	380	—	—	—	—
K8	1.25	5/7/01	15	—	—	—	—
K9	0.25	5/17/01	83	—	—	—	—
K10	0.25	8/24/01	22	—	—	—	—
K10	0.75	8/24/01	8	—	—	—	—
K11	0.25	8/24/01	16	—	—	—	—
K11	0.75	8/24/01	9.8	—	—	—	—
L3	0.25	5/17/01	10	—	—	—	—
L3	0.75	5/17/01	8.6	—	—	—	—
L4	0.25	5/17/01	20	—	—	—	—
L4	0.75	5/17/01	6.2	—	—	—	—
L5	0.25	5/17/01	140	—	—	—	—
L5	0.75	5/17/01	11	—	—	—	—
L6	0.25	5/17/01	11	—	—	—	—
L6	0.75	5/17/01	7.3	—	—	—	—
L7	0.25	5/17/01	19	—	—	—	—
L7	0.75	5/17/01	7.4	—	—	—	—
L8	0.25	5/17/01	8.2	—	—	—	—
L8	0.75	5/17/01	14	—	—	—	—
L9	0.25	5/17/01	1,200	—	—	—	—
L9	0.75	8/24/01	6.5	—	—	—	—
L10	0.25	8/24/01	25	—	—	—	—
L10	0.75	8/24/01	6.1	—	—	—	—
M4	0.25	5/17/01	19	—	—	—	—
M6	0.25	5/17/01	55	—	—	—	—
M8	0.25	5/17/01	36	—	—	—	—
M9	0.25	8/24/01	26	—	—	—	—
M9	0.75	8/24/01	8.5	—	—	—	—
M10	0.25	8/24/01	49	—	—	—	—
M10	0.75	8/24/01	16	—	—	—	—
N5	0.25	5/17/01	51	—	—	—	—
N7	0.25	5/17/01	16	—	—	—	—

Table 1
Lead and Copper Analytical Results for Site Characterization Soil Samples
Former Newark Sportsman's Club
Newark, California

Sample Location	Sample Depth (Feet)	Sample Date	Lead TTLC Extraction (mg/kg)	Lead SPLP Extraction (mg/L)	Lead TCLP Extraction (mg/L)	Lead STLC Extraction (mg/L)	Total Copper (mg/kg)
Composite Sample Results							
F4, F5, F6, G2	0.375	8/23/01	150	—	13	—	—
G4, H2, H3, H4	Surface	8/23/01	100,000	—	99	—	—
G4, H2, H3, H4	0.375	8/23/01	840	—	0.58	0.36	—
H5, H6, H7	Surface	8/23/01	2,200	—	48		—
H2, H3	0.875	8/23/01	9.9	—	<0.2	<0.2	—
H4	0.875	8/23/01	10	—	<0.2	<0.2	—
H3	1.875	8/23/01	14	—	<0.2	<0.2	—
H6, H7	0.375	8/23/01	18	—	<0.2	<0.2	—
H0, J1, K3, K4	0.375	8/23/01	9.1	—	<0.2	<0.2	—
H5, J9, J10	0.375	8/23/01	9.9	—	<0.2	<0.2	—
J2, J3, J4, K5	0.375	8/23/01	6.4	—	<0.2	<0.2	—
K7, L9	0.375	8/24/01	8.7	—	<0.2	<0.2	—

Notes:

mg/kg = milligrams per kilogram

mg/L = milligrams per liter

SPLP = Synthetic Precipitation Leachate Procedure by EPA Method 1311

TTLC = California Total Threshold Limit Concentration - State hazardous waste criterion

TCLP = Federal Toxicity Characteristic Leaching Potential Analysis - Federal hazardous waste criterion

STLC = Soluble Threshold Limit Concentration

— = Not Analyzed

<0.2 = Not detected at or above laboratory reporting limits.

Table 3
Soil and Debris Stockpile Analytical Results for Metals
Former Newark Sportsman's Club
Newark, California

Stockpile Number	Sample Number	Sampling Date	As	Sb	Ba	Be	Cd	Cr	Co	Cu	Pb	Hg	Mo	Ni	Se	Ag	Tl	V	Zn
Debris Stockpile 1	CP-2S	4/16/01	<1.0	<2.0	110	<0.5	1.6	130	19	26	170	0.085	<1.0	250	<2.0	<1.0	<1.0	27	48
	CP-2D	4/16/01	<1.0	<2.0	88	<0.5	1.3	120	20	23	94	0.086	<1.0	310	<2.0	<1.0	<1.0	22	31
Debris Stockpile 2	CP-1S	4/17/01	1.3	4.8	84	<0.5	1.4	130	16	22	640	0.32	<1.0	230	<2.0	<1.0	<1.0	20	44
	CP-1D	4/16/01	1.6	3.1	63	<0.5	0.85	53	7.1	14	310	0.098	<1.0	83	<2.0	<1.0	<1.0	14	25
Debris Stockpile 3	CP-3S	4/16/01	<1.0	<2.0	17	<0.5	<0.5	23	3.1	3.7	89	0.12	<1.0	39	<2.0	<1.0	<1.0	4.1	9.0
	CP-3D	4/16/01	2.1	2.0	140	<0.5	1.7	100	18	35	230	0.080	<1.0	160	<2.0	<1.0	<1.0	35	54
Debris Stockpile 4	SP4C-1(A-D)	7/15/02	—	—	—	—	—	—	—	—	470	—	—	—	—	—	—	—	—
	SP4C-2(A-D)	7/15/02	—	—	—	—	—	—	—	—	670	—	—	—	—	—	—	—	—
	SP4C-3(A-D)	7/15/02	—	—	—	—	—	—	—	—	490	—	—	—	—	—	—	—	—
	SP4C-4(A-D)	7/15/02	—	—	—	—	—	—	—	—	350	—	—	—	—	—	—	—	—
Soil Stockpile 1	SS-1(A-D)	7/15/02	—	—	—	—	—	—	—	—	880	—	—	—	—	—	—	—	—
	SS-2(A-D)	7/15/02	14	13	90	<0.5	2.9	57	12	25	920	0.051	<1	73	<2	<1	<1	31	44
	SS-3A(A-D)	7/19/02	—	—	—	—	—	—	—	—	640	—	—	—	—	—	—	—	—
	SS-3B(A-D)	7/19/02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	SS-3C(A-D)	7/19/02	—	—	—	—	—	—	—	—	2,000	—	—	—	—	—	—	—	—
	SS-4(A-D)	7/15/02	11	7.6	96	<0.5	2.9	54	11	24	580	<0.05	<1	68	<2	<1	<1	30	40
	SS-5(A-D)	7/15/02	—	—	—	—	—	—	—	—	390	—	—	—	—	—	—	—	—
	SS-6(A-D)	7/15/02	—	—	—	—	—	—	—	—	740	—	—	—	—	—	—	—	—
Soil Stockpile 2	SS2-1(A-D)	7/15/02	—	—	—	—	—	—	—	—	26	—	—	—	—	—	—	—	—
	SS2-2(A-D)	7/15/02	—	—	—	—	—	—	—	—	16	—	—	—	—	—	—	—	—
California State Hazardous Criteria																			
Title 22 TTLC			500	500	10,000	75	100	2,500	8,000	2,500	1,000	20	3,500	2,000	100	500	700	2,400	5,000

Notes:

All results in mg/kg unless otherwise noted

— = Not analyzed

<0.5 = Not detected at or above indicated method reporting limit.

Ag = Silver; As = Arsenic; Ba = Barium; Be = Beryllium; Cd = Cadmium; Co = Cobalt; Cr = Chromium; Cu = Copper; Hg = Mercury

Mo = Molybdenum; Ni = Nickel; Pb = Lead; Sb = Antimony; Se = Selenium; Tl = Thallium; V = Vanadium; Zn = Zinc

TTLC = California Total Threshold Limit Concentration - State hazardous waste criterion

Table 4
Soil and Debris Stockpile Analytical Results for Soluble Metals
Former Newark Sportsman's Club
Newark, California

Stockpile Number	Sample Number	Sampling Date	TCLP				STLC	
			Sb	As	Cr	Pb	Cr	Pb
Debris Stockpiles 1 & 2	CP-1S,1D,2S,2D	4/24/01	<0.50	<0.50	<0.50	<0.50	—	—
	SP-1A,B	9/12/01	—	—	—	—	<0.5	12
	SP-1C,D	9/12/01	—	—	—	—	<0.5	5.7
Debris Stockpile 3	CP-3S,3D	4/24/01	<0.50	<0.50	<0.50	2.1	—	—
	SP-3A,B	9/12/01	—	—	—	—	<0.5	9.3
Debris Stockpile 4	SP4C-1(A-D)	7/15/02	—	—	—	3.5	—	31
	SP4C-2(A-D)	7/15/02	—	—	—	3.8	—	430
	SP4C-3(A-D)	7/15/02	—	—	—	1.9	—	240
	SP4C-4(A-D)	7/15/02	—	—	—	3.4	—	58
Soil Stockpile 1	SS-1(A-D)	7/15/02	—	—	—	10	—	—
	SS1A-(A-D)	7/19/02	—	—	—	9.5	—	—
	SS1B-(A-D)	7/19/02	—	—	—	1.3	—	210
	SS1C-(A-D)	7/19/02	—	—	—	1.2	—	160
	SS-2(A-D)	7/15/02	—	—	—	5	—	—
	SS2A-(A-D)	7/19/02	—	—	—	6.8	—	—
	SS2B-(A-D)	7/19/02	—	—	—	10	—	—
	SS2C-(A-D)	7/19/02	—	—	—	3.2	—	500
	SS-3(A-D)	7/15/02	—	—	—	6.1	—	—
	SS3A-(A-D)	7/19/02	—	—	—	2.2	—	180
	SS3B-(A-D)	7/19/02	—	—	—	28	—	—
	SS3C-(A-D)	7/19/02	—	—	—	1.5	—	200
	SS-4(A-D)	7/15/02	—	—	—	3.7	—	290
	SS-5(A-D)	7/15/02	—	—	—	2.7	—	33
	SS-6(A-D)	7/15/02	—	—	—	8.2	—	—
	SS6A-(A-D)	7/19/02	—	—	—	0.81	—	200
	SS6B-(A-D)	7/19/02	—	—	—	3.3	—	310
	SS6C-(A-D)	7/19/02	—	—	—	2.7	—	49
Soil Stockpile 2	SS2-1(A-D)	7/15/02	—	—	—	<0.50	—	—
	SS2-1(A-D)	7/15/02	—	—	—	<0.50	—	—
California State Hazardous Criteria								
Title 22 STLC			—	—	—	—	5.0	5.0
Federal Hazardous Criteria								
TCLP			5.0	5.0	5.0	5.0	—	—

Notes:
All concentrations are in milligrams per Liter (mg/L)
<0.5 = Not detected at or above indicated method reporting limit.
As = Arsenic; Cr = Chromium; Pb = Lead; Sb = Antimony
TCLP = Toxicity Characteristic Leaching Potential
STLC = Soluble Threshold Limit Concentration

Table 6
Confirmation Soil Sample Results
Former Newark Sportsman's Club
Newark, California

Sample Location	Sample Date	Depth of Remedial Excavation [1] (Feet)	Sample Depth Bottom (Feet)	Totals Metals Analyses		
				Antimony TTLC Extraction (mg/kg)	Arsenic TTLC Extraction (mg/kg)	Lead TTLC Extraction (mg/kg)
Excavation Area Confirmation Samples						
F4-(NE, SE, NW, SW)	7/12/02	0.33	0.58	< 2.0	5.7	10
F5-(NE, SE, NW, SW)	7/12/02	0.33	0.58	4.7	5.9	170
F6-(NE, SE, NW, SW)	7/12/02	0.33	0.58	8.5	7.5	270
G2-(NE, SE, NW, SW)	7/12/02	0.33	0.58	2.6	6.6	140
G4-(NE, SE, NW, SW)	7/12/02	0.33	0.58	2.9	6.1	64
H0-(NE, SE, NW, SW)	7/12/02	0.33	0.58	3.4	6.5	52
H2-(NE, SE, NW, SW)	7/15/02	1.0	1.25	< 2.0	5.7	6.6
H3-(NE, SE, NW, SW)	7/15/02	1.0	1.25	< 2.0	6.3	6.7
H4-(NE, SE, NW, SW)	7/15/02	1.0	1.25	< 2.0	6.0	8.3
H5-(NE, SE, NW, SW)	7/12/02	0.33	0.58	6.6	9.0	260
H6-(NE, SE, NW, SW)	7/12/02	0.33	0.58	4.8	7.9	140
H7-(NE, SE, NW, SW)	7/11/02	0.33	0.58	< 2.0	6.9	20
J1-(NE, SE, NW, SW)	7/11/02	0.33	0.58	< 2.0	5.9	75
J2-(NE, SE, NW, SW)	7/11/02	0.33	0.58	6.0	7.0	120
J3-(NE, SE, NW, SW)	7/11/02 & 7/12/02	0.5	0.75	3.1	6.0	23
J4-(NE, SE, NW, SW)	7/12/02	0.5	0.75	2.7	5.8	24
J9-(NE, SE, NW, SW)	7/11/02	0.33	0.58	3.1	6.8	39
J10-(NE, SE, NW, SW)	7/11/02	0.33	0.58	< 2.0	6.6	7.5
K3-(NE, SE, NW, SW)	7/11/02	0.33	0.58	< 2.0	5.5	26
K4-(NE, SE, NW, SW)	7/11/02	0.33	0.58	4.9	6.5	36
K5-(NE, SE, NW, SW)	7/11/02	0.33	0.58	2.0	7.7	7.3
K7-(NE, SE, NW, SW)	7/11/02	0.33	0.58	4.4	7.2	18
L9-(NE, SE, NW, SW)	7/11/02	0.33	0.58	2.0	7.3	20
Soil Stockpile 1 Confirmation Samples						
C-SS1-1(A-D)	10/4/02	0.17	0.42	NA	NA	210
C-SS1-2(A-D) [2]	10/4/02	0.17	0.42	NA	NA	560
C-SS1-3(A-D) [3]	10/10/02	0.17	0.42	NA	NA	6.4
Treated Soil Stockpile Confirmation Sample						
C-TS-1(A-D)	10/4/02	0.17	0.42	NA	NA	27
Approved Cleanup Criteria				none	none	400

Notes:

1 - Confirmation samples were collected from 0 to 3 inches below the floor of the remedial excavation.
The floor of the remedial excavation is equal to the depth of the remedial excavation from the original grade.

2 - The sample area associated with C-SS1-2(A-D) was re-excavated and resampled (C-SS1-3(A-D) on 10 October 2002.

3 - C-SS1-3(A-D) was collected in the same area as C-SS1-2(A-D), following further excavation.

mg/kg - milligrams per kilogram

TTLC - California Total Threshold Limit Concentration - State hazardous waste criterion

NA - Not Analyzed

< 2.0 - Not detected at or above laboratory reporting limits.

Table 7
Visual Lead Screening Results
Former Newark Sportsman's Club
Newark, California

Excavation Area Identification	Shots Observed per Square Foot
F4	6
F5	8
F6	5
G2	6
G3	2
G4	2
G5	2
H1	1
H1B	1
H1A	1
H0	1
H2	0
H3	0
H4	0
H5	9
H6	3
H7	2
J1	3
J2	3
J3	0
J4	0
J5	0
J6	0
J7	1
J8	0
J9	0
J10	0
K3	0
K4	0
K5	0
K7	0
L9	0
Approved Cleanup Criteria	**10**

Notes:

None of the visual lead shot inspections failed the 10 shot per square foot Regional Water Quality Control Board (RWQCB) criteria.

Visual lead count inspections were conducted by Treadwell & Rollo and under the supervision of Tom Butler of the RWQCB.

The visual lead count inspections were conducted by:

1) Arbitrarily throwing an unused sample tube into the appropriate cell
2) Placing a 1-foot square over the location where the sample tube came to rest
3) Outlining the area
4) Counting the number of lead shot on the surface within the 1-foot square.

Approximate locations of visual lead shot inspections are illustrated on Figure 8.

Table 8
Soil Stockpile Post Treatment Analytical Results
Former Newark Sportsman's Club
Newark, California

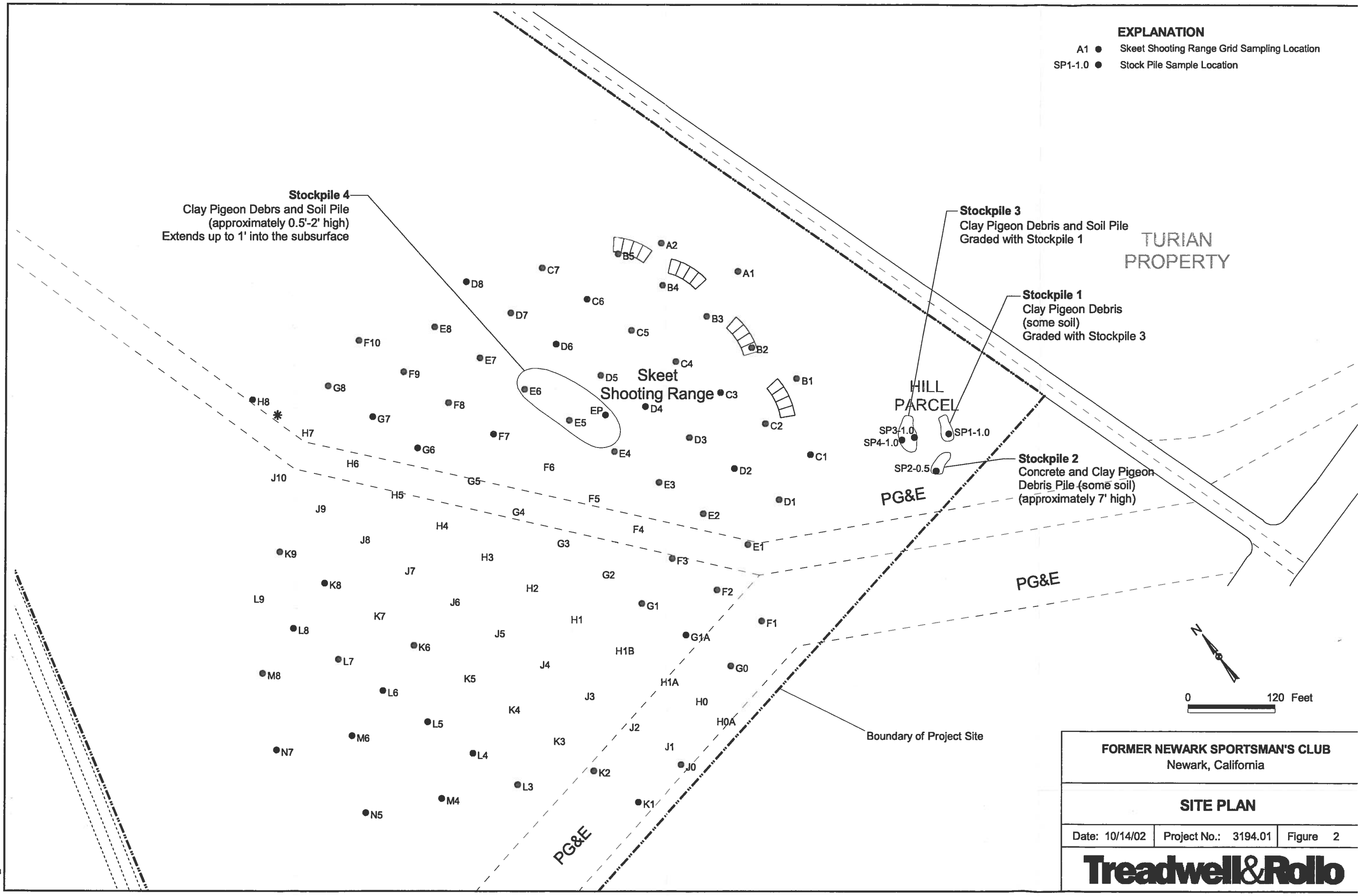
Stockpile Number	Sample Number	Sampling Date	Total Lead	TCLP Lead	STLC Lead
		Units	mg/kg	mg/L	mg/L
TS-1	TS1-(A-D)	9/17/02	1,000	<0.50	28
TS-2	TS2-(A-D)	9/17/02	3,900	<0.50	73
TS-3	TS3-(A-D)	9/19/02	770	<0.50	310
TS-4	TS4-(A-D)	9/19/02	960	0.71	70
TS-5	TS5-(A-D)	9/19/02	1,400	<0.50	63
California State Hazardous Criteria					
Total Lead			1,000	—	—
Title 22 STLC (mg/l)			—	—	5.0
Federal Hazardous Criteria					
TCLP (mg/l)			—	5.0	—

Notes:
mg/kg = milligrams per kilogram
mg/L = milligrams per liter
<0.5 = Not detected at or above indicated method reporting limit.
TCLP = Toxicity Characteristic Leaching Potential
STLC = Soluble Threshold Limit Concentration

Table 9
Summary of Soil Disposal Volumes
Former Newark Sportsman's Club
Newark, California

Landfill Disposal Date	Stockpile Identification	Total Tonnage [1]	Waste Characterization	Disposal Facility
30-Aug-02	Soil Stockpile 1	585	California Hazardous	Kettleman Hills
	Soil Stockpile 2	675	Non-Hazardous	Altamont
	Total	**1260**		
4-Sep-02	Soil Stockpile 1	903	California Hazardous	Kettleman Hills
	Debris Stockpile 4	611	California Hazardous	Kettleman Hills
	Total	**1514**		
5-Sep-02	Soil Stockpile 1	691	California Hazardous	Kettleman Hills
	Debris Stockpile 1, 2, 3	609	California Hazardous	Kettleman Hills
	Total	**1299**		
4-Oct-02	Treated Soil	1121	California Hazardous	Kettleman Hills
	Debris Stockpile 1, 2, 3	123	California Hazardous	Kettleman Hills
	Total	**1244**		
7-Oct-02	Debris Stockpile 1, 2, 3	411	California Hazardous	Kettleman Hills
	Total	**411**		
10-Oct-02	Soil Stockpile 1	91	California Hazardous	Kettleman Hills
	Debris Stockpile 4	90	California Hazardous	Kettleman Hills
	Total	**181**		
		Totals		
Stockpile Identification		**Actual Total Tonnage**		
Soil Stockpile 1		2,270	California Hazardous	Kettleman Hills
Soil Stockpile 2		675	Non-Hazardous	Altamont
Treated Soil Stockpile		1,121	California Hazardous	Kettleman Hills
Debris Stockpile 1, 2, 3		1,143	California Hazardous	Kettleman Hills
Debris Stockpile 4		701	California Hazardous	Kettleman Hills

Notes:
1 - Total tonnages were determined using weight tickets and tonnage reports provided by the landfills.



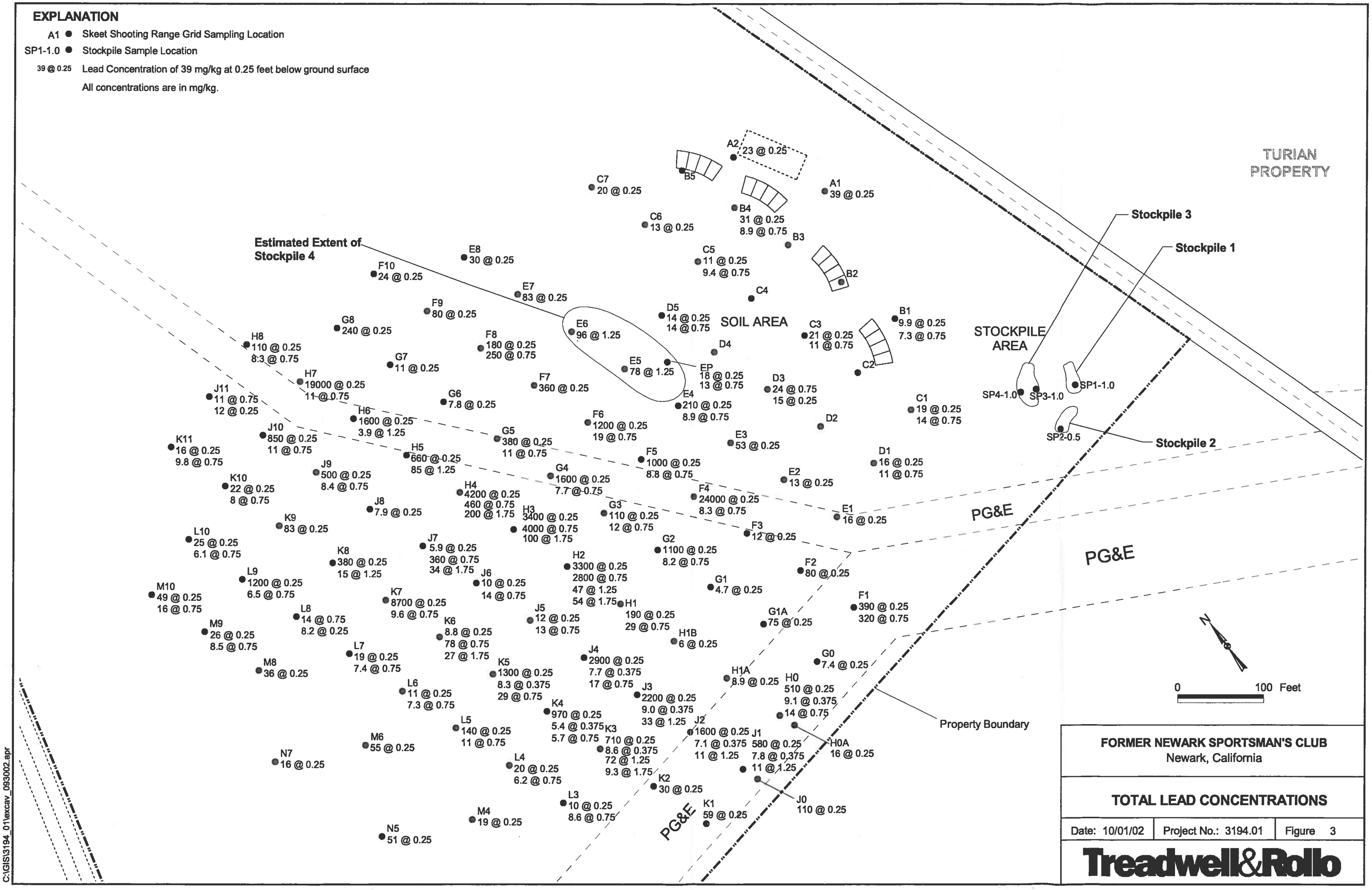
FORMER NEWARK SPORTSMAN'S CLUB
Newark, California

SITE PLAN

Date: 10/14/02	Project No.: 3194.01	Figure 2

Treadwell&Rollo

3194_01\FIGURE2.APR 10/2002

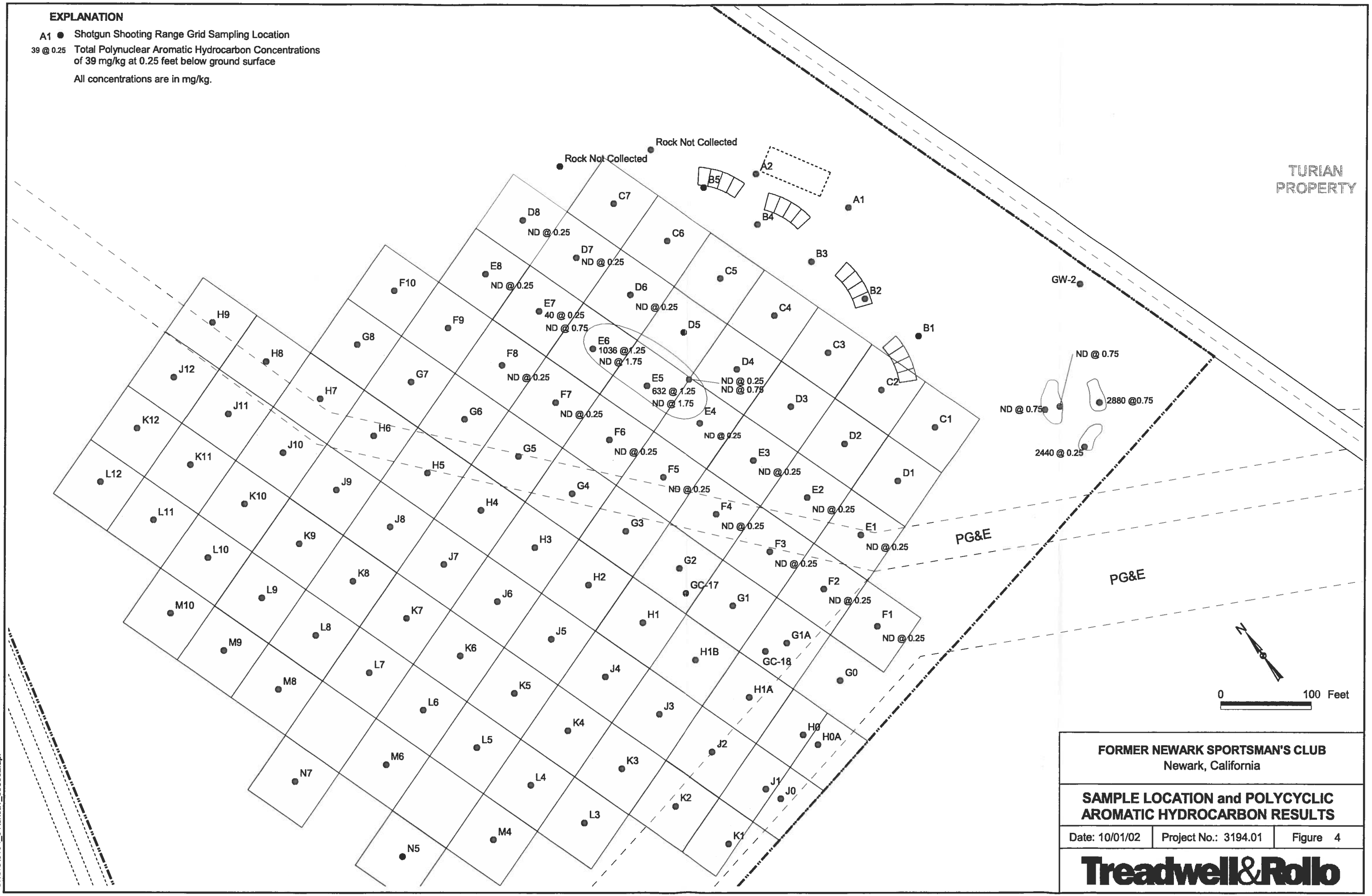


FORMER NEWARK SPORTSMAN'S CLUB
Newark, California

TOTAL LEAD CONCENTRATIONS

Date: 10/01/02	Project No.: 3194.01	Figure 3

Treadwell&Rollo



FORMER NEWARK SPORTSMAN'S CLUB
Newark, California

SAMPLE LOCATION and POLYCYCLIC AROMATIC HYDROCARBON RESULTS

Date: 10/01/02	Project No.: 3194.01	Figure 4

Treadwell&Rollo

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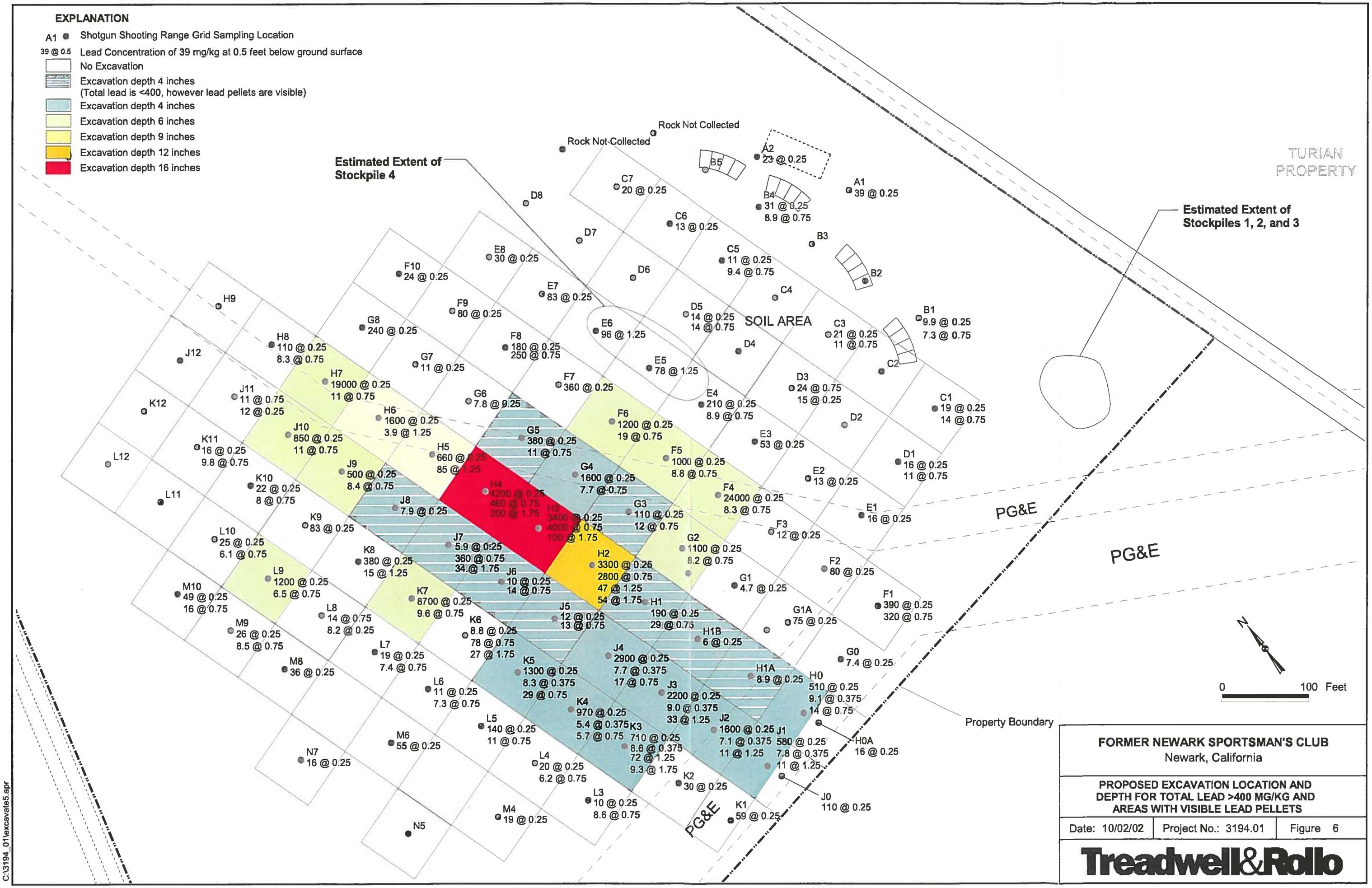
EXPLANATION
A1 Shotgun Shooting Range Grid Sampling Location
39 @ 0.5 Lead Concentration of 39 mg/kg at 0.5 feet below ground surface
No Excavation
Excavation depth 4 inches
(Total lead is <400, however lead pellets are visible)
Excavation depth 4 inches
Excavation depth 6 inches
Excavation depth 9 inches
Excavation depth 12 inches
Excavation depth 16 inches
Estimated Extent of Stockpile 4
Estimated Extent of Stockpiles 1, 2, and 3
TURIAN PROPERTY
SOIL AREA
PG&E
PG&E
PG&E
Property Boundary
Rock Not Collected
Rock Not Collected
A1 39 @ 0.25
A2 23 @ 0.25
B1 9.9 @ 0.25 7.3 @ 0.75
B2
B3
B4 31 @ 0.25 8.9 @ 0.75
B5
C1 19 @ 0.25 14 @ 0.75
C2
C3 21 @ 0.25 11 @ 0.75
C4
C5 11 @ 0.25 9.4 @ 0.75
C6 13 @ 0.25
C7 20 @ 0.25
D1 16 @ 0.25 11 @ 0.75
D2
D3 24 @ 0.75 15 @ 0.25
D4
D5 14 @ 0.25 14 @ 0.75
D6
D7
D8
E1 16 @ 0.25
E2 13 @ 0.25
E3 53 @ 0.25
E4 210 @ 0.25 8.9 @ 0.75
E5 78 @ 1.25
E6 96 @ 1.25
E7 83 @ 0.25
E8 30 @ 0.25
F1 390 @ 0.25 320 @ 0.75
F2 80 @ 0.25
F3 12 @ 0.25
F4 24000 @ 0.25 8.3 @ 0.75
F5 1000 @ 0.25 8.8 @ 0.75
F6 1200 @ 0.25 19 @ 0.75
F7 360 @ 0.25
F8 180 @ 0.25 250 @ 0.75
F9 80 @ 0.25
F10 24 @ 0.25
G0 7.4 @ 0.25
G1 4.7 @ 0.25
G1A 75 @ 0.25
G2 1100 @ 0.25 8.2 @ 0.75
G3 110 @ 0.25 12 @ 0.75
G4 1600 @ 0.25 7.7 @ 0.75
G5 380 @ 0.25 11 @ 0.75
G6 7.8 @ 0.25
G7 11 @ 0.25
G8 240 @ 0.25
H0 510 @ 0.25 9.1 @ 0.375 14 @ 0.75
H0A 16 @ 0.25
H1 190 @ 0.25 29 @ 0.75
H1A 8.9 @ 0.25
H1B 6 @ 0.25
H2 3300 @ 0.25 2800 @ 0.75 47 @ 1.25 54 @ 1.75
H3 3400 @ 0.25 4000 @ 0.75 100 @ 1.75
H4 4200 @ 0.25 460 @ 0.75 200 @ 1.75
H5 660 @ 0.25 85 @ 1.25
H6 1600 @ 0.25 3.9 @ 1.25
H7 19000 @ 0.25 11 @ 0.75
H8 110 @ 0.25 8.3 @ 0.75
H9
J0 110 @ 0.25
J1 580 @ 0.25 7.8 @ 0.375 11 @ 1.25
J2 1600 @ 0.25 7.1 @ 0.375 11 @ 1.25
J3 2200 @ 0.25 9.0 @ 0.375 33 @ 1.25
J4 2900 @ 0.25 7.7 @ 0.375 17 @ 0.75
J5 12 @ 0.25 13 @ 0.75
J6 10 @ 0.25 14 @ 0.75
J7 5.9 @ 0.25 360 @ 0.75 34 @ 1.75
J8 7.9 @ 0.25
J9 500 @ 0.25 8.4 @ 0.75
J10 850 @ 0.25 11 @ 0.75
J11 11 @ 0.75 12 @ 0.25
J12
K1 59 @ 0.25
K2 30 @ 0.25
K3 710 @ 0.25 8.6 @ 0.375 72 @ 1.25 9.3 @ 1.75
K4 970 @ 0.25 5.4 @ 0.375 5.7 @ 0.75
K5 1300 @ 0.25 8.3 @ 0.375 29 @ 0.75
K6 8.8 @ 0.25 78 @ 0.75 27 @ 1.75
K7 8700 @ 0.25 9.6 @ 0.75
K8 380 @ 0.25 15 @ 1.25
K9 83 @ 0.25
K10 22 @ 0.25 8 @ 0.75
K11 16 @ 0.25 9.8 @ 0.75
K12
L3 10 @ 0.25 8.6 @ 0.75
L4 20 @ 0.25 6.2 @ 0.75
L5 140 @ 0.25 11 @ 0.75
L6 11 @ 0.25 7.3 @ 0.75
L7 19 @ 0.25 7.4 @ 0.75
L8 14 @ 0.75 8.2 @ 0.25
L9 1200 @ 0.25 6.5 @ 0.75
L10 25 @ 0.25 6.1 @ 0.75
L11
L12
M4 19 @ 0.25
M6 55 @ 0.25
M8 36 @ 0.25
M9 26 @ 0.25 8.5 @ 0.75
M10 49 @ 0.25 16 @ 0.75
N5
N7 16 @ 0.25
0 100 Feet
FORMER NEWARK SPORTSMAN'S CLUB
Newark, California
PROPOSED EXCAVATION LOCATION AND DEPTH FOR TOTAL LEAD >400 MG/KG AND AREAS WITH VISIBLE LEAD PELLETS
Date: 10/02/02
Project No.: 3194.01
Figure 6
Treadwell&Rollo
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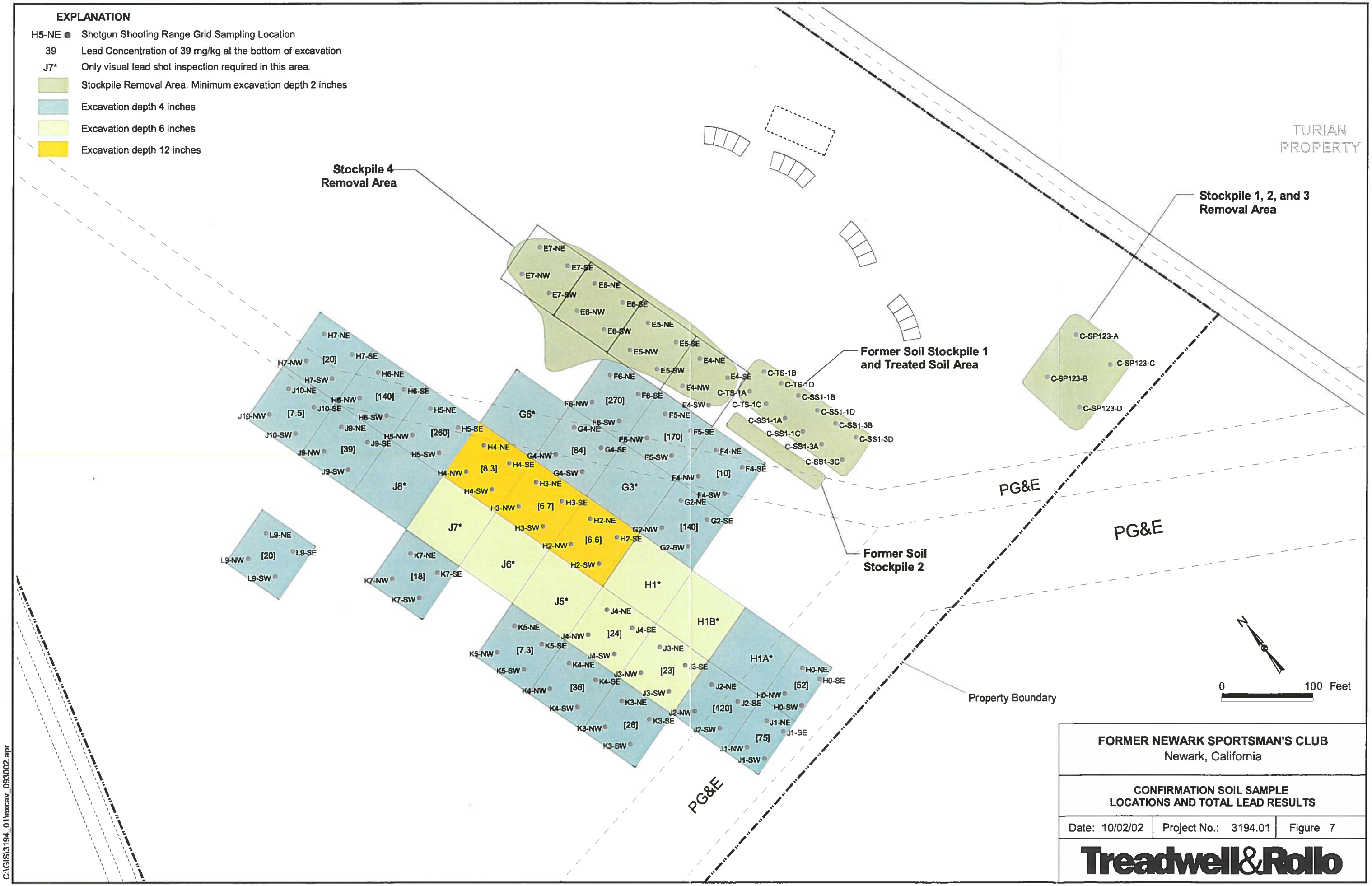

FORMER NEWARK SPORTSMAN'S CLUB
Newark, California

CONFIRMATION SOIL SAMPLE LOCATIONS AND TOTAL LEAD RESULTS

Date: 10/02/02	Project No.: 3194.01	Figure 7

Treadwell&Rollo

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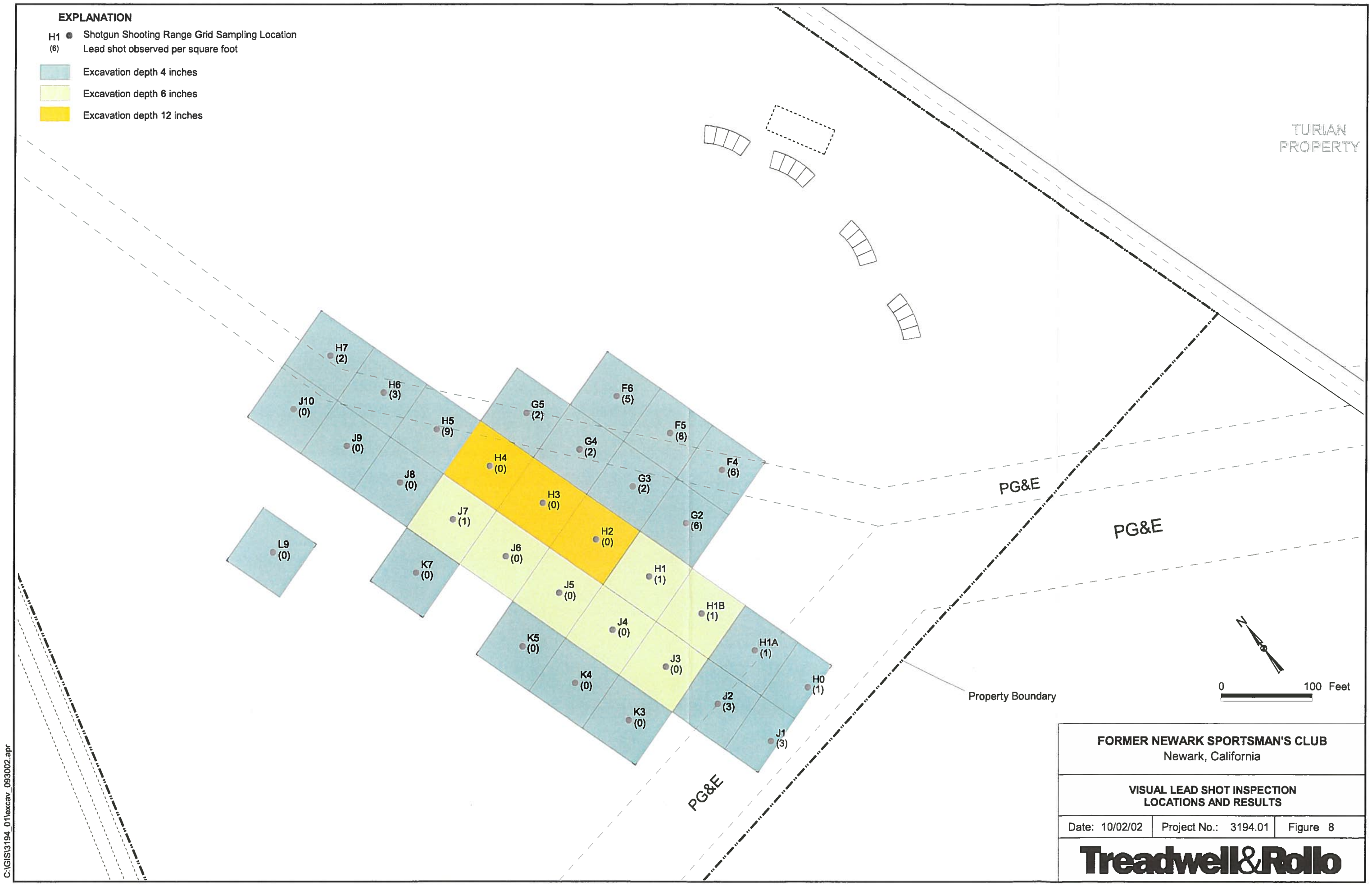


FORMER NEWARK SPORTSMAN'S CLUB
Newark, California

VISUAL LEAD SHOT INSPECTION LOCATIONS AND RESULTS

Date: 10/02/02	Project No.: 3194.01	Figure 8

Treadwell&Rollo

Table 2
PAH Analytical Results for Site Characterization Soil Samples
Former Newark Sportsman's Club
Newark, California

Sample Location	Sample Depth (ft)	Sample Date	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Benzo(g,h,i)perylene	Benzo(a)pyrene	Chrysene	Dibenzo(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	Naphthalene	Phenanthrene	Pyrene
D6	0.25	3/22/01	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7
D7	0.25	3/22/01	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7
D8	0.25	3/22/01	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7
E1	0.25	3/22/01	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
E2	0.25	3/22/01	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
E3	0.25	3/22/01	<3.5	<3.5	<3.5	<3.5	<3.5	<3.5	<3.5	<3.5	<3.5	<3.5	<3.5	<3.5	<3.5	<3.5	<3.5	<3.5
E4	0.25	3/22/01	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40
E5	1.25	3/22/01	<40	<40	<40	68	56	68	72	100	84	<40	52	<40	52	<40	<40	80
E5	1.75	3/22/01	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
E6	1.25	3/22/01	<40	<40	<40	110	100	130	92	130	130	<40	130	<40	84	<40	<40	130
E6	1.75	8/24/01	<0.062	<0.062	<0.062	<0.062	<0.062	<0.062	<0.062	<0.062	<0.062	<0.062	<0.062	<0.062	<0.062	<0.062	<0.062	<0.062
E7	0.25	3/22/01	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40	40
E7	0.75	3/22/01	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7
E8	0.25	3/22/01	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
F1	0.25	3/22/01	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
F2	0.25	3/22/01	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
F3	0.25	3/22/01	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
F4	0.25	3/22/01	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
F5	0.25	3/22/01	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
F6	0.25	3/22/01	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
F7	0.25	3/22/01	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
F8	0.25	3/22/01	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33

Notes:
All concentrations are in milligrams per kilogram (mg/kg).
PAH = Polynuclear Aromatic Hydrocarbons
<0.33 = Not detected at or above laboratory testing limits

Table 5
Debris Stockpile Analytical Results for PAHs
Former Newark Sportsman's Club
Newark, California

	Sample ID	Sample Date	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Benzo(g,h,i)perylene	Benzo(a)pyrene	Chrysene	Dibenzo(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	Naphthalene	Phenanthrene	Pyrene
Debris Stockpile 1	SP1-1.0	3/23/01	<200	<200	<200	280	240	360	280	420	380	<200	280	<200	280	<200	<200	360
	CP-2S	4/16/01	<250	<250	<250	640	490	710	750	990	990	<500	500	<250	590	<250	<250	650
	CP-2D	4/16/01	<5	<5	<5	15	22	17	22	32	21	<10	12	<5	19	<5	<5	14
Debris Stockpile 2	SP2-0.5	3/23/01	<200	<200	<200	200	220	320	280	380	320	<200	200	<200	220	<200	<200	300
	CP-1S	4/17/01	<250	<250	<250	410	490	<500	510	690	600	<500	350	<250	<500	<250	<250	440
	CP-1D	4/16/01	<250	<250	<250	360	360	<500	<500	610	530	<500	280	<250	<500	<250	<250	360
Debris Stockpile 3	SP-3-1.0	3/23/01	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
	SP-4-1.0	3/23/01	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
	CP-3S	4/16/01	<250	<250	<250	550	420	590	<500	790	790	<500	450	<250	<500	<250	<250	570
	CP-3D	4/16/01	<50	<50	<50	600	480	700	720	1100	920	240	460	<50	600	<50	180	660
Debris Stockpile 4	EP-0.5	3/23/01	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
	EP-1.0	3/23/01	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
	SP4-A1-A4	6/17/02	<170	<170	<170	770	610	390	630	970	680	<170	300	<170	420	<170	<170	560
	SP4-B1-B4	6/17/02	<170	<170	<170	530	980	<170	460	740	460	<170	320	<170	420	<170	<170	410
	SP4-C1-C4	6/17/02	<170	<170	<170	950	600	580	740	1,100	890	<170	590	<170	540	<170	280	790
	SP4-D1-D4	6/17/02	<170	<170	<170	520	1,000	<170	490	740	470	<170	340	<170	440	<170	<170	450
	SP4C-1(A-D)	7/15/02	<2	<2	5.4	34	16	12	6.9	23	31	15	50	<1	9.8	<3	21	29
	SP4C-2(A-D)	7/15/02	<0.2	<0.2	2.1	14	5.6	3.9	2.7	11	13	7.7	15	<0.1	4.1	0.52	6.6	9.5
	SP4C-3(A-D)	7/15/02	<2	<2	5.1	53	25	20	18	48	51	40	54	<1	21	<3	22	39
	SP4C-4(A-D)	7/15/02	<4	<4	5.3	120	<2	<2	34	100	100	86	100	<2	42	<6	26	74

Notes:

All concentrations are in milligrams per kilogram (mg/kg).

PAH = Polycyclic Aromatic Hydrocarbons

<0.33 = Not detected at or above laboratory testing limits.

Table 10
Confirmation Soil Sample Results at Former Debris Stockpile Locations
Former Newark Sportsman's Club
Newark, California

Stockpile Area	Sample ID	Sampling Date	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Benzo(g,h,i)perylene	Benzo(a)pyrene	Chrysene	Dibenzo(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	Naphthalene	Phenanthrene	Pyrene	Total PAHs
Debris Stockpiles 1, 2 and 3	C-SP123-(A-D)	10/5/02	< 0.067	< 0.067	< 0.067	< 0.067	< 0.067	< 0.067	< 0.067	< 0.067	< 0.067	< 0.067	< 0.067	< 0.067	< 0.067	< 0.067	< 0.067	< 0.067	< 0.067
Debris Stockpile 4	E4-(NE, SE, NW, SW)	10/5/02	< 0.067	< 0.067	< 0.067	0.48	1.0	< 0.067	0.49	0.79	0.47	0.24	0.28	< 0.067	0.46	< 0.067	0.09	0.38	4.68
	E5-(NE, SE, NW, SW) [1]	10/5/02	0.57	< 0.067	0.39	4.8	11	< 0.067	4.9	8.2	4.8	1.3	3.5	0.09	4.1	0.1	1.3	4.4	49.45
	E5-(NE, SE, NW, SW)-1	10/10/02	< 0.067	< 0.067	< 0.067	0.08	0.21	< 0.067	0.13	0.16	0.09	< 0.067	< 0.067	< 0.067	0.1	< 0.067	< 0.067	0.07	0.84
	E6-(NE, SE, NW, SW)	10/5/02	< 0.067	< 0.067	< 0.067	0.39	0.48	0.38	0.48	0.73	0.42	0.15	0.24	< 0.067	0.39	< 0.067	0.08	0.35	4.09
	E7-(NE, SE, NW, SW)	10/5/02	< 0.067	< 0.067	< 0.067	0.24	0.31	0.38	0.35	0.51	0.28	0.13	0.19	< 0.067	0.29	< 0.067	< 0.067	0.23	2.91
Approved Cleanup Criteria																			**10**

Notes:
All concentrations are in milligrams per kilogram (mg/kg).
PAH = Polycyclic Aromatic Hydrocarbons
<0.33 = Not detected at or above laboratory testing limits.
1 - Additional remedial excavation was conducted in this area on 10 October 2002.
2 - Soil confirmation sample E5-(NE, SE, NW, SW)-1 was collected after additional excavation was conducted, it was collected from the same area as the original confirmation sample (E5-(NE, SE, NW, SW).

FMC Corporation
P.O. Box 58123
Santa Clara, California 95052-8123

File #_____._____:_____

FMC

Date: August 6, 2002

Copy to Barbara ✓
Teri P. ✓

To: Barbara Ransom

Fr: Peter Wan

Attached is:
City of Newark - Mag Pile Closure Letter dated July 1 2002

Subject: Magnesia Pile Case Closure

Barbara, Attached is the letter from the Newark Fire Department. The Fire Department approved the post removal of the magnesia pile post removal sampling report.

FMC is preparing a request to the County to **"Withdraw the Order"**

If you have any questions call me.

Thank you,

Peter Wan

• City of Newark
• Mag Pile Closure
Letter dated
July 15, 200

CITY OF NEWARK, CALIFORNIA

37101 Newark Boulevard • Newark, California 94560-3796 • (510) 793-1400 • FAX (510) 794-2306

July 15, 2002

FMC Corporation
Peter Wan
P.O. Box 58123
Santa Clara, CA 95052-8123

Subject: Magnesia Pile case closure. FMC, 8787 Enterprise Drive, CA

Dear Mr. Wan:

The magnesia pile post removal sampling report dated February 27, 2002 has been received and reviewed by this Department. All closure activities and pertinent inspections for closure of the magnesia pile have been completed as required. Newark Fire Department closure requirements have been satisfied pursuant to the California Health & Safety Code, Chapter 6.75 and Newark Municipal Code Section 17.26.390B. Closure requirements include:

- Minimize the need for further maintenance;
- Controls to the extent that a threat to public health or safety, or to the environment from residual hazardous materials in the storage facility is minimized or eliminated; and
- Demonstrates that the hazardous materials that were stored in the storage facility were removed, disposed of, neutralized or reused in an appropriate manner.

Be advised that this letter does not relieve this site of any liability under the California Health and Safety Code for past, present or future operations at this site. Nor does it relieve this site of the responsibility to clean up existing, additional or previously unidentified conditions at this site, which cause or threaten to cause pollution or nuisance or otherwise pose a threat to water quality or public health.

If you have any further questions, please call 510 790-7273.

Sincerely,

Miguel Trujillo
Hazardous Materials Specialist

cc: Bill Lichtenberger, Fire Marshal

Attached:
Dames + Moore
April 20, 2000
Mag Site Post Remov
Sampling
Report.

FMC

June 2, 2000

Ms. Jacqueline Bretschneider
Hazardous Materials Coordinator
City of Newark Fire Department
37101 Newark Boulevard
Newark, California 94560-3796

Dear Ms. Bretschneider:

In accordance with the April 30, 1997 letter from the City of Newark to Cargill Inc. and FMC Corporation, the two companies have executed an excavation plan to remove magnesia materials at Parcel No. 15-30-15, Newark CA (Site). Detail of the excavation activities was provided to you in a letter dated August 28, 1998. The removal of magnesia materials has been successfully completed. Attached for your review is a Post-Removal Sampling Plan. This sampling plan describes the rationale and proposed sampling locations as well as targeted constituents to be analyzed to verify that no significant contaminates remain at the site.

For future correspondence, please send to:

FMC Corporation
P.O. Box 58123
Santa Clara, CA 95052-8123
Attn: Sally Jenks, F-64

We are looking forward to receiving your approval of the sampling plan. In the meantime, if you have any questions or comments, please feel free to contact Mr. Peter Wan of my staff at 408-289-4285.

Sincerely,

Sally Jenks
FMC Corporation
Manager, West Coast Remediation Department

Cc: Barbara Ransom – Cargill Inc.
Peter Wan – FMC Corporation

ADDENDUM

Cargill letter to RWQCB

Cargill Salt

* Dated: Dec. 12, 2003
* Amended Remediation Completi Report

December 12, 2003

Mr. Thomas Butler
Regional Water Quality Control Board
San Francisco Bay Region
1515 Clay Street, Suite 1400
Oakland, CA 94612

Subject: Remediation Completion Report, Newark Sportsman's Club
Addendum - Additional Soil Excavation, September-November 2003

Dear Mr. Butler,

This letter serves as an addendum to the October 15, 2002 Remediation Completion Report for the Newark Sportsman's Club to detail the additional soil excavation conducted at the request of the Regional Water Quality Control Board. The additional soil excavation was conducted during two separate mobilization efforts in September and November of 2003 to remove additional soil impacted by clay pigeon debris.

Per your request during a site walk in November 2002, Cargill arranged for the removal of a small area of soil containing visible clay pigeon debris at the perimeter of the site, on the eastern border of the cell E7 (see attached site plan). Site conditions necessitated waiting until the end of the rainy season and for the site to dry out to mobilize equipment. In June 2003, a grading contractor excavated 96.4 tons of soil containing clay pigeon debris and stockpiled it on site for characterization. This material was characterized as California hazardous and was profiled for disposal at Kettleman Hills. In September 2003, Pacific States Environmental Contractors, Inc. was contracted to conduct additional excavation activities. On September 17, 18, and October 1, 2003, Pacific States loaded and transported the 96.4 tons of stockpiled soil to Kettleman Hills. On September 17 and 18, Pacific States also excavated an additional 201.16 tons of soil and placed it in a separate pile for characterization, based on visual evidence of fewer clay pigeon shards. The additional excavated soil was characterized as non-hazardous and profiled for disposal at Altamont. On October 1, 2003, Pacific States loaded and transported 201.16 tons of soil to Altamont. The attached table summarizes soil volumes and disposal facilities.

Following the October 1 excavation, confirmation samples were collected from the bottom of the excavation. The same confirmation sampling methodology was employed as for the original Newark Sportsman's Club confirmation sampling. Four samples were taken in each grid square and composited by the lab (for more information on confirmation sampling procedures, see the Remediation Completion Report). The samples were screened by the lab using a 1/8-inch screen prior to analysis and analyzed for PAHs by method 8270. The composite samples for both grid cells did not meet the 10 mg/kg criteria for total PAHs set by your office. The samples were then analyzed individually, and two of the eight samples met the criteria (D7-NW with a total of 3.27 mg/kg and C7-SE with a total of 6.77 mg/kg).

Additional sampling was then conducted in the remaining six areas to determine the proper depth for additional excavation. On October 31, 2003, deeper samples were collected in the same locations as the original confirmation samples. Using a slide hammer and 3" stainless steel tubes, samples were collected at 3"-6", 6"-9", and 9"-12". The sample tubes were covered with Teflon and plastic end caps and submitted to the lab for analysis. The lab was directed to screen the samples using a 1/8-inch screen prior to analysis, and to composite 3:1 the samples from each grid cell. The 3"-6" samples were run first, and as both grid cells met the cleanup criteria it was not necessary to analyze the deeper samples. The composite D7-SE, NE, SW at 0.25 feet had 3.26 mg/kg total PAHs, and composite C7-NE, NW, SW at 0.25 feet had no detectable levels of PAHs.

Based on these results, Pacific States was remobilized on November 18, 2003 to excavate the six areas within the two grid cells an additional 6 inches. An additional 185.29 tons of soil was removed, and transported to Altamont Landfill the same day. Following the excavation, confirmation samples were taken from the bottom of the excavation in approximately the same location as previous samples. Six confirmation samples were taken, and composited by the lab into 3:1 composites. Both confirmation samples (C7-NE, SW, NW and D7-NE, SE, SW) did not contain any detectable levels of PAHs.

From September to November 2003, 96.4 tons of California hazardous and 386.45 tons of non-hazardous soil were transported from the site for off-site disposal. Confirmation sampling shows no detectable levels of PAHs in samples taken at the bottom of the excavation, and the quantity of visible clay pigeon debris remaining in the area is negligible, as confirmed by your site visit on Monday, December 8.

Based on these results, in addition to the Remediation Completion Report, we request final closure of the Newark Sportsman's Club case with the Regional Water Quality Control Board. If you have any questions or comments, please feel free to call me at (510) 790-8625.

Sincerely,

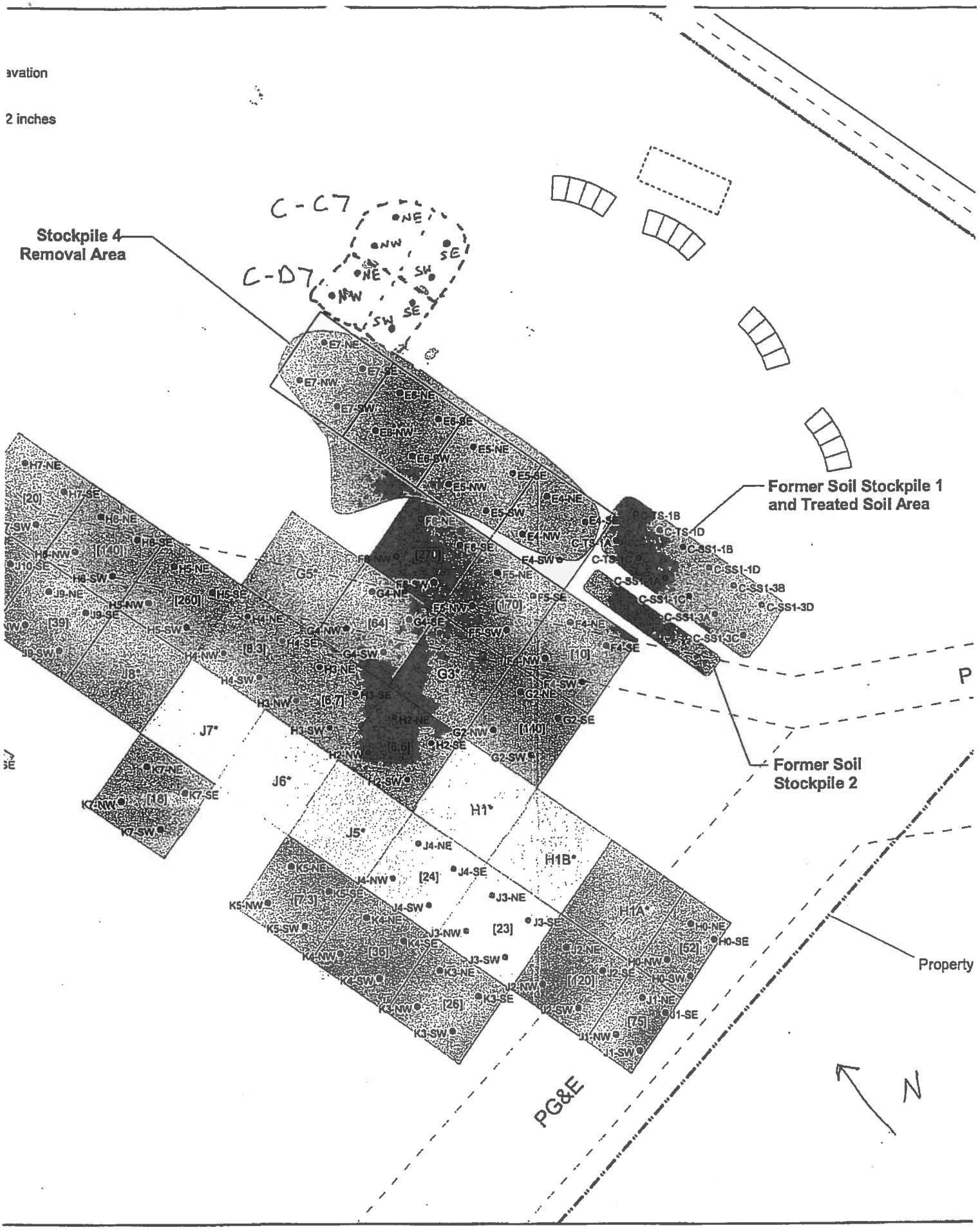
Teri Peterson

Teri Peterson
Environmental Engineer

Attachments:
Site Plan
Table – Summary of Soil Disposal Volumes
October 1, 2003, Confirmation Sample Lab Reports (2003-10-0087 and 2003-10-0522)
October 31, 2003, Samples to Determine Excavation Depth Lab Report (2003-11-0067)
November 18, 2003, Confirmation Sample Lab Report (2003-11-0725)
96.4 ton Soil Stockpile Characterization Lab Report (2003-08-0440)
201.64 ton Soil Stockpile Characterization Lab Report (2003-09-0639)

avation

2 inches



Additional Soil Excavation, September-November 2003
Summary of Soil Disposal Volumes
Former Newark Sportsman's Club
Newark, California

Stockpile ID or Area	Dates of Disposal	Tonnage	Class of Waste	Disposal Facility
Soil Stockpile 5 (stockpiled by Cargill)	17-Sep-03	45.6 [1]	California Hazardous	Kettleman Hills
	18-Sep-03	24.33 [1]	California Hazardous	Kettleman Hills
	1-Oct-03	26.47 [1]	California Hazardous	Kettleman Hills
Totals		**96.40**	**California Hazardous**	**Kettleman Hills**
Additional Soil Excavated from Areas C7 and D7	1-Oct-03	201.16 [2]	Non-Hazardous	Altamont
	19-Nov-03	185.29 [3]	Non-Hazardous	Altamont
Totals		**386.45**	**Non-Hazardous**	**Altamont**

Notes
1 - Tonnages were determined using weight tickets provided by the Kettleman Hills Facility.
2 - Tonnages were determined using weight tickets provided by Altamont Landfill.
3 - Tonnages were based on totals supplied by Pacific States on 8 December 2003.

California Regional Water Quality Control Board
San Francisco Bay Region

Terry Tamminen
Secretary for Environmental Protection

1515 Clay Street, Suite 1400, Oakland, California 94612
(510) 622-2300 • Fax (510) 622-2460
http://www.swrcb.ca.gov/rwqcb2

Arnold Schwarzenegger
Governor

Gun Club
No Further Action
Letter
RWQCB
dated Mar 10
200

Cargill Salt Company
Attention: Ms. Teri Peterson
7220 Central Avenue
Newark, California 94560-4206

Date: MAR 10 2004
File Number: 2199.9303 (TWB)

Subject: Newark Gun Club, Alameda County – Certification of Remediation Completion Report

Dear Ms. Peterson:

This letter certifies that soil remediation activities conducted at the former Newark Sportsmen's Club have been completed pursuant to the December 31, 2001 **Remedial Action Workplan** and that analytical results for all soil confirmation samples were below established cleanup objectives. The results of soil confirmation sampling conducted at the facility are summarized in the October 15, 2003 **Remediation Completion Report**, amended on December 12, 2003 and indicate that no additional remedial action is necessary. see attach

Should you have any questions regarding this letter please contact Thomas Butler of my staff at 510-622-2309 or by email at twb@rb2.swrcb.ca.gov.

Sincerely,

Curtis T. Scott

Curtis T. Scott
Division Chief
Groundwater Protection & Waste Containment

Cargill-Serpentine

3001.003.05

BGC

BERLOGAR GEOTECHNICAL CONSULTANTS

SOIL ENGINEERS
ENGINEERING GEOLOGISTS

NATURALLY OCCURRING
ASBESTOS INVESTIGATION
HILL PARCEL OF THE CARGILL SALT PROPERTY
SOUTHWEST CORNER OF ENTERPRISE DRIVE
AND HICKORY STREET
NEWARK, CALIFORNIA

FOR
CARGILL SALT
October 12, 2007

NATURALLY OCCURRING
ASBESTOS INVESTIGATION
HILL PARCEL OF THE CARGILL SALT PROPERTY
SOUTHWEST CORNER OF ENTERPRISE DRIVE
AND HICKORY STREET
NEWARK, CALIFORNIA

FOR
CARGILL SALT
October 12, 2007

Job No. 2914.101

BERLOGAR GEOTECHNICAL CONSULTANTS

October 12, 2007
Job No. 2914.101

BGC
BERLOGAR
GEOTECHNICAL
CONSULTANTS

Ms. Penny Streff
Cargill Salt
7220 Central Avenue
Newark, California 94560

Subject: Naturally Occurring Asbestos Investigation
Hill Parcel of the Cargill Salt Property
Southwest Corner of Enterprise Drive and Hickory Street
Newark, California

Dear Ms. Streff:

This report presents the results of our investigation to determine the possible presence of naturally occurring asbestos (NOA) within and around near-surface bedrock outcrops at the subject site. The location of the site is shown with respect to existing cultural features on the Vicinity Map, Plate 1. The site is located in the southwest corner of Enterprise Drive and Hickory Street in Newark, California. This area is designated as the Hill Parcel, which contains 2 rock outcrops, called the north and south outcrops. This report is based on requirements as interpreted from verbal conversations with Cargill personnel.

PURPOSE AND SCOPE OF SERVICES

The purpose of this investigation was to investigate the potential for naturally-occurring asbestos within possible shallow Serpentinite bedrock at the site. Our study did not investigate the potential of encountering NOA deeper more than about 10 feet below the ground surface in the surrounding flatter portions of the site. Our scope of services included:

1. Review of published maps and literature pertinent to the site and vicinity,
2. Site reconnaissance,
3. Excavating and logging of 7 test pits and collection of 10 surface soil and bedrock samples,
4. Laboratory testing (Carb 435) of serpentinite bedrock and nearby soil samples by RJ Lee Group, Inc.,
5. Preparation of this report.

FIELD EXPLORATION AND LABORATORY TESTING

Our field exploration was conducted on September 13 and 27, 2007. A reconnaissance was performed by a BGC geologist and engineer on the 13th, and field sampling and test pit excavations occurred on September 27. The test pit locations were determined by our geologist and engineer

during the site reconnaissance on the basis of possible locations of encountering serpentinite. Subsurface information from BGC studies conducted in 1998 and 2006 (Berlogar Geotechnical Consultants, Preliminary Geotechnical Investigation, Hill Parcel, Enterprise Drive and Hickory Street, Newark, California, December 12, 2006) were reviewed and the boring logs are contained in this report. The test pits were excavated with a backhoe, and representative near-surface soil and bedrock samples were obtained manually. The locations of the recent test pits and surface samples, and the borings performed in 1998 and 2006, are shown on the Site Plan, Plate 2. The test pits were located on the northern rock outcrop and were excavated to depths of about 7 to 14 feet below the existing ground surface. Materials encountered in the test pits were logged, and the logs are presented on Plates 3 and 4. The test pits were backfilled with no significant compactive effort at the end of logging.

Surface soil and bedrock samples were obtained from the southern rock outcrop and were transported to a State of California certified laboratory, RJ Lee Group, Inc., in San Leandro, California with proper Chain of Custody procedures to test for potential NOA. The results of the laboratory tests are contained in Appendix B. Serpentinite bedrock was not encountered in the northern rock outcrop area; as such, laboratory tests were not performed on soil and bedrock samples from this area.

REGIONAL GEOLOGY

The site is located within the Coast Ranges geomorphic province of California. The Coast Ranges are characterized by a series of northwest-trending folded and faulted mountain chains and valleys. In the site vicinity, the Coyote Hills form a northwest-trending ridgeline of Cretaceous-aged Franciscan Complex bedrock that is surrounded by younger alluvium that was deposited around the flanks of the San Francisco Bay. The Franciscan Complex bedrock generally includes sandstone, shale, greenstone, and ultramafic rocks. The ultramafic rocks commonly alter to serpentine minerals through metamorphic conditions. The site is located to the south of the southern end of the Coyote Hills where two relatively small bedrock outcrops protrude out of the alluvium. The outcrops at the site are a southeastern extension of the Coyote Hills rocks and have been mapped as serpentinite by the U.S. Geological Survey (Helley and Miller 1992).

SITE CONDITIONS

SURFACE CONDITIONS

The northern rock outcrop study area is approximately 1,000 feet long in the north-south direction and 500 feet wide. Fill up to about 25 feet thick has been placed on the west side of the outcrop. The western side slopes down towards flatter ground and is a couple hundred feet from a salt pond. Rock outcrops are visible along the central and eastern sides of this area, as shown on Plate 2. The surrounding areas have been disturbed by past grading, but are essentially flat with elevations between 8 to 15 feet in elevation. The top of the rock outcrop and fill area is generally at about 30 feet mean sea level.

The southern study area contains a rock outcrop of serpentinite that is about 700 feet long in the north-south direction and about 200 feet wide. This rock outcrop contains 2 high points that are about 35 feet MSL. A shooting range is located on the east side of the rock outcrop, and a dog training facility is located on the south side. The central portion of the outcrop has been mass graded and a berm for the shooting range has been constructed. The surrounding areas are flat and at about 8 to 10 feet MSL.

SUBSURFACE CONDITIONS

NORTH HILL

The material encountered in the test pits was a mixture of clayey and silty gravel, silty clay, sandy clay, and clayey sand. Sandstone and claystone bedrock were encountered in 5 of the 7 test pits. Where bedrock was not encountered, the test pits extended to 14 feet in depth (2 feet and -5 feet MSL), without encountering serpentinite type material. Since serpentinite type material was not encountered in this area, samples of soil or rock were not obtained for laboratory testing for NOA.

SOUTH HILL

The rock outcrop is composed of serpentinite, with silty sand material around the outcrop. The serpentinite extends to depths which are unknown. Ten surficial samples of soil and bedrock were obtained from this area as shown on the site plan. Samples were obtained from bedrock and from the surrounding soil areas. The samples were placed in plastic bags and sealed, and transported to RJ Lee for Carb 435 testing.

The Carb 435 test results by RJ Lee Group indicate that NOA is present in concentrations ranging between 0.25 to 6.25 percent. The source of the asbestos was determined to be chrysotile, which is a mineral variation of serpentine.

GROUNDWATER

Groundwater was not encountered in the test pits except some minor seepage. BGC's previous studies indicate the groundwater level is at or near MSL. Groundwater is expected to be controlled by tidal influence in this area and weather conditions.

CONCLUSIONS AND RECOMMENDATIONS

The results of our field and laboratory study indicate that the north hill does not contain serpentinite (and therefore should not contain naturally occurring asbestos). The south hill area is composed of serpentine bedrock that contains naturally occurring asbestos. The concentration of NOA was above the action limit of 0.25 percent in all 10 samples, including the nearby soil just downslope of the rock outcrop. As such, the area of the rock outcrop and extending at least 100 feet away from the rock outcrop in all directions should be considered to contain possible state-regulated concentrations of NOA. At such time as the site is to be modified or developed, all earthmoving and trenching should be performed in compliance with regulatory requirements then in effect.

LIMITATIONS

The conclusions and recommendations of this report are based upon the information provided to us, subsurface conditions encountered at the field exploration locations, our site reconnaissance, and professional judgment. This study has been conducted in accordance with current professional geotechnical engineering and engineering geologic standards; no other warranty is expressed or implied.

The locations of the field explorations were determined by field estimating from topographic and cultural features indicated on a topographic map supplied by Cargill Salt, and are to be considered approximate only. Site conditions are described in the text as they were observed during our field work in the fall of 2007, and are not necessarily representative of such conditions at other locations and times.

Respectfully submitted,

BERLOGAR GEOTECHNICAL CONSULTANTS

William R. Stevens
Principal Geotechnical Engineer
GE 2339, Exp. 3/31/08

REGISTERED PROFESSIONAL ENGINEER
WILLIAM R. STEVENS
No. 2339
Exp. 03-31-08
GEOTECHNICAL
STATE OF CALIFORNIA

Frank Berlogar
President

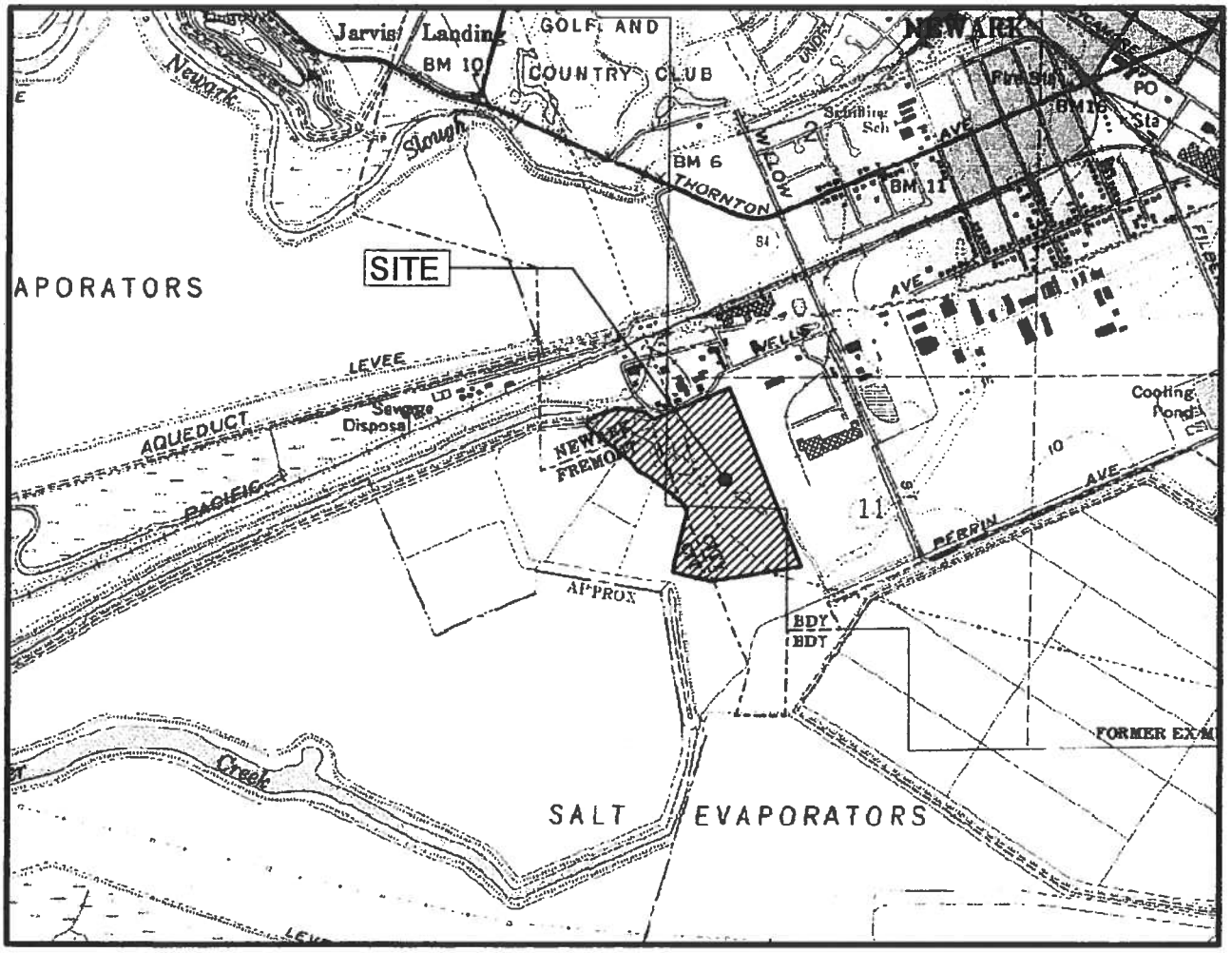
WRS/KJR/FB:jmb

Attachments:
- Plate 1 – Vicinity Map
- Plate 2 – Site Plan
- Plates 3 and 4 – Test Pit Logs
- Appendix A – Borings B1 through B4, BGC 2006 and B1 through B16, 1998
- Appendix B – Laboratory Test Results

Copies: Addressee (6)

2914.101/20742.doc

JOB NUMBER: 2914.101 DATE: 10-1-07 BY: CC



N

0 2000

1"=2000'

VICINITY MAP

HILL PARCEL NOA STUDY

ENTERPRISE DRIVE AND HICKORY STREET

NEWARK, CALIFORNIA

FOR

CARGILL SALT

BASE: PORTION OF U.S.G.S. 7.5 MINUTE TOPOGRAPHIC QUADRANGLE, NEWARK, CALIFORNIA, PHOTOREVISED 1983, AT A SCALE OF 1:24,000.

PLATE 1

BERLOGAR GEOTECHNICAL CONSULTANTS

TEST PIT LOGS – 9/27/07

Test Pit Number	Depth (feet)	Description
TP-1 Elev. 23 feet	0 – 2	Clayey Gravel, gray-brown, moist, medium dense, with sand, trace roots, concrete and brick fragments, well-graded sand and gravel (FILL).
	2 – 6	Silty Clay, dark gray-brown, moist, very stiff.
	6 – 7	SANDSTONE, fine-grained, reddish-brown, weathered, fractured, moderately strong to weak, some oxidation staining. Top of Sandstone at 17-feet elevation
		Total Depth 7 feet No free groundwater encountered
TP-2 Elev. 19 feet	0 – 1½	Silty Gravel, gray-brown, dry, loose, trace brick fragments, some magnesium concretions (FILL).
	1½ – 3	SANDSTONE, fine-grained, tan, weathered, slightly fractured, moderately strong, some oxidation staining. Top of Sandstone at 17-feet elevation.
		Total Depth 3 feet No free groundwater encountered
TP-3 Elev. 14 feet	0 – 8	Silty Clay, dark gray, moist, stiff, some medium fine sand, trace gravel and asphalt concrete fragments, trace rootlets, sod, wood fragments and light brown and black mottling (FILL).
	8 – 12	Silty Clay, olive-brown, moist, stiff, slightly porous, trace oxidation, staining. No bedrock above 2-feet elevation.
		Total Depth 12 feet No free groundwater encountered
TP-4 Elev. 11 feet	0 – 2	Clayey Gravel, tan, slightly moist to dry, dense, trace rootlets, wood fragments (FILL).
	2 – 10	Sandy Clay, brown to reddish brown, moist, stiff, trace gravel.
	10 – 11	CLAYSTONE, reddish-brown, highly weathered, weak, moist, some oxidation staining.
	11 – 12	SANDSTONE, fine-grained, tan, highly weathered, friable, moist with some oxidation staining.
		Total Depth 12 feet No free groundwater encountered

TEST PIT LOGS – 9/27/07

Test Pit Number	Depth (feet)	Description
TP-5 Elev. 12 feet	0 – 2	Silty Gravel, tan, moist to dry, some sand and magnesium concretions.
	2 – 6	Silty Clay, dark gray-brown, moist, stiff.
	6 – 7	SANDSTONE, fine-grained, reddish brown, highly weathered, highly fractured, friable to weak, some oxidation staining. Top of sandstone at 6-feet elevation.
		Total Depth 7 feet No free groundwater encountered
TP-6 Elev. 29 feet	0 – 2	Silty Gravel, gray-brown, slightly moist to dry, dense, fine to medium gravel, trace concrete fragments (FILL).
	2 – 12	Sandy Clay, dark gray-brown, moist, stiff, some gravel, trace concrete fragments, wood and plastic (FILL).
	12 – 14	SANDSTONE, fine-grained, reddish-brown, highly weathered, friable to weak, highly fractured, oxidation staining along fractures. Top of sandstone at 17-feet elevation.
TP-7 Elev. 9 feet	0 – 1	Sandy Clay, dark gray-brown, moist, medium stiff, trace magnesium concretions (FILL).
	1 – 4	Silty Clay, dark gray-brown, moist, stiff, trace fine sand.
	4 – 8	Clayey Silt, olive-brown, moist, medium stiff, trace oxidation staining, slightly porous.
	8 – 12	Clayey Sand, olive-brown, moist, medium dense, trace oxidation staining, fine sand.
	12 – 14	Sandy Clay, red-brown, very moist, stiff, fine-grained sand, trace oxidation staining. No bedrock above -5 feet elevation.
		Total Depth 14 feet Trace groundwater seepage at 9 feet

APPENDIX A

Boring Logs –

Borings B1 through B4, BGC 2006 and
B1 through B16, BGC 1998

BORING LOG B-1

JOB NUMBER: 2914.100 **DATE DRILLED:** 7-13-06

JOB NAME: Hill Parcel **SURFACE ELEVATION:** 8 feet

DRILL RIG: Rotary Wash **DATUM:** Mean Sea Level

SAMPLER TYPE: ■ 2.5 inch I.D. Split Barrel

DRIVE WEIGHT - LB: 140

HEIGHT OF FALL - IN: 30*

*Automatic Trip Hammer

BLOWS PER FT.	MOISTURE CONTENT %	DRY UNIT WEIGHT p.c.f.	DEPTH IN FEET	USCS CLASSI-FICATION	DESCRIPTION
				CL	SANDY CLAY with abundant GRAVEL, light gray-brown, dry to damp, stiff (fill)
				CL	SILTY CLAY, dark gray, damp, stiff, rootlets
20	18.7	106			
				CL	SILTY CLAY, yellow-brown, moist, stiff, gray rootlets
16	21.0	106			
			5		
				CL	SANDY CLAY,yellow-brown, saturated, medium stiff, fine-grained sand
6	24.3	101			
			10		
				CL/ML	SANDY CLAY/CLAYEY SILT, yellow-brown, moist to saturated, medium stiff, fine-grained sand
7	26.8	95			
			15		
				CL	SILTY CLAY, green-gray, moist, stiff
10	32.9	86			
			20		

PLATE

BORING LOG B-1

JOB NUMBER: 2914.100 **SHEET:** 2 **OF:** 2

JOB NAME: Hill Parcel **DEPTH:** 20 feet **TO** 30-1/2 feet

NOTES:

BLOWS PER FT.	MOISTURE CONTENT %	DRY UNIT WEIGHT p.c.f.	DEPTH IN FEET	USCS CLASSI-FICATION	DESCRIPTION
42	21.4	106	25	CL	SILTY CLAY, green-gray, moist, stiff below 23 feet, hard
21	-	-	30	CL	SILTY CLAY, yellow-brown, moist, very stiff, minor carbonate
			35 40		Boring terminated at 30-1/2 feet Groundwater obscured by rotary wash drill method

BORING LOG B-2

JOB NUMBER: 2914.100 **DATE DRILLED:** 7-14-06

JOB NAME: Hill Parcel **SURFACE ELEVATION:** 8 feet

DRILL RIG: Rotary Wash **DATUM:** Mean Sea Level

SAMPLER TYPE: 2.5 inch I.D. Split Barrel **DRIVE WEIGHT - LB** 140 **HEIGHT OF FALL - IN** 30*

*Automatic Trip Hammer

BLOWS PER FT.	MOISTURE CONTENT %	DRY UNIT WEIGHT p.c.f.	DEPTH IN FEET	USCS CLASSI-FICATION	DESCRIPTION
20	-	-		CL	SANDY CLAY, dark gray-brown, moist, stiff, fine-grained sand, rootlets
11	20.2	100	5	CL	SILTY CLAY, light gray-brown, wet, stiff, some fine-grained sand, trace fine gravel at 4 feet, clayey sand
9	21.1	107	10	CL	SILTY CLAY/SANDY CLAY, brown, saturated, medium stiff to stiff, fine-grained sand
24	20.6	101	15	CL/SC	SANDY CLAY/CLAYEY SAND, brown, saturated, very stiff/medium dense, fine-grained sand, some silt
				CL	SILTY CLAY, light gray-brown, saturated, stiff
11	-	-	20	SM	SILTY SAND, light gray-brown, saturated, loose, fine-grained sand, some clay

BORING LOG B-2

JOB NUMBER: 2914.100 **SHEET:** 2 **OF:** 2

JOB NAME: Hill Parcel **DEPTH:** 20 feet **TO** 34-1/2 feet

NOTES:

BLOWS PER FT.	MOISTURE CONTENT %	DRY UNIT WEIGHT p.c.f.	DEPTH IN FEET	USCS CLASSI-FICATION	DESCRIPTION
				SM	SILTY SAND, light gray-brown, saturated, loose, fine-grained sand, some clay
				CL	SILTY CLAY, light gray to dark gray, saturated, very stiff
27	31.8	91			
			25		
				CL	SILTY CLAY, brown, saturated, very stiff to hard, trace fine-grained sand
31	21.1	106			
			30		
				CL	SILTY CLAY/SANDY CLAY, brown, saturated, stiff, fine-grained sand, some silt
11	22.4	111			
			35		Boring terminated at 34-1/2 feet Groundwater obscured by rotary wash drill method
			40		

PLATE 6

BORING LOG B-3

JOB NUMBER: 2914.100 **DATE DRILLED:** 7-14-06

JOB NAME: Hill Parcel **SURFACE ELEVATION:** 7 feet

DRILL RIG: Rotary Wash **DATUM:** Mean Sea Level

SAMPLER TYPE:	DRIVE WEIGHT - LB	HEIGHT OF FALL - IN
■ 2.5 inch I.D. Split Barrel	140	30*
☑ Standard Penetration Test	140	30*

*Automatic Trip Hammer

BLOWS PER FT.	MOISTURE CONTENT %	DRY UNIT WEIGHT p.c.f.	DEPTH IN FEET	USCS CLASSI-FICATION	DESCRIPTION
24	14.8	112		CL	SANDY CLAY, dark gray to light gray-brown, moist, very stiff, fine-grained sand, trace rootlets
15	22.5	104	5	CL	SILTY CLAY, light gray-brown, moist to wet, stiff
23	18.8	110	10		below 9 feet, very stiff, trace coarse gravel
6	-	-	15	CL/SC	SANDY CLAY/CLAYEY SAND, brown, saturated, loose to medium stiff
17	23.9	99	20	SM/ML	SILTY SAND/SANDY SILT, light gray-brown, saturated, loose to medium dense, fine-grained sand
				CL	SILTY CLAY, light gray-brown, saturated, stiff

BORING LOG B-3

JOB NUMBER: 2914.100 **SHEET:** 2 **OF:** 3

JOB NAME: Hill Parcel **DEPTH:** 20 feet **TO** 40 feet

NOTES:

BLOWS PER FT.	MOISTURE CONTENT %	DRY UNIT WEIGHT p.c.f.	DEPTH IN FEET	USCS CLASSI-FICATION	DESCRIPTION
17	23.9	99		CL	SILTY CLAY, light gray-brown, saturated, stiff
				CL	SILTY CLAY, gray, saturated, very stiff to hard
35	27.9	95	25		
				CL	SILTY CLAY, brown with light gray mottling, saturated, hard
54	19.0	109	30		
				CL	SILTY CLAY, light gray-brown, saturated, stiff, some fine-grained sand, trace caliche
16	26.4	99	35		
					below 38 feet, very stiff
35	22.4	105	40		

PLATE 8

BORING LOG B-3

JOB NUMBER: 2914.100 **SHEET:** 3 **OF:** 3

JOB NAME: Hill Parcel **DEPTH:** 40 feet **TO** 50-1/2 feet

NOTES:

BLOWS PER FT.	MOISTURE CONTENT %	DRY UNIT WEIGHT p.c.f.	DEPTH IN FEET	USCS CLASSI-FICATION	DESCRIPTION
35	22.4	105		CL	SILTY CLAY, light gray-brown, saturated, very stiff, some fine-grained sand, trace caliche
27	29.0	93	45		below 44 feet, trace black mottling
48	-	-	50	SP/GP	SAND/GRAVEL, gray-brown, saturated, dense, fine-to coarse-grained sand, fine to coarse gravel
			55 60		Boring terminated at 50-1/2 feet Groundwater obscured by rotary wash drill method

PLATE 9

BORING LOG B-4

JOB NUMBER: 2914.100 **DATE DRILLED:** 7-14-06

JOB NAME: Hill Parcel **SURFACE ELEVATION:** 7 feet

DRILL RIG: Rotary Wash **DATUM:** Mean Sea Level

SAMPLER TYPE: ■ 2.5 inch I.D. Split Barrel

DRIVE WEIGHT - LB: 140

HEIGHT OF FALL - IN: 30*

*Automatic Trip Hammer

BLOWS PER FT.	MOISTURE CONTENT %	DRY UNIT WEIGHT p.c.f.	DEPTH IN FEET	USCS CLASSI-FICATION	DESCRIPTION
26	20.2	101		CL	SANDY CLAY/SILTY CLAY, dark gray, moist, very stiff, fine-grained sand, trace caliche
25	19.9	109	5	CL	SILTY CLAY, light gray-brown, moist, very stiff below 7 feet, stiff
12	-	-			
			10	CL/SC	SANDY CLAY/CLAYEY SAND, light gray-brown, saturated, medium stiff, loose to medium dense, fine-grained sand
9	-	-		SM/SC	SILTY SAND/CLAYEY SAND, brown, saturated, loose, fine-grained sand
			15	CL/ML	SANDY CLAY/SILTY CLAY/CLAYEY SILT, brown, satuarted, medium stiff to stiff, fine-grained sand
17	18.2	109		CL	SILTY CLAY, dark brown to light gray-brown, saturated, stiff, some fine-grained sand
			20		

BORING LOG B-4

JOB NUMBER: 2914.100 **SHEET:** 2 **OF:** 2

JOB NAME: Hill Parcel **DEPTH:** 20 feet **TO** 30 feet

NOTES:

BLOWS PER FT.	MOISTURE CONTENT %	DRY UNIT WEIGHT p.c.f.	DEPTH IN FEET	USCS CLASSI-FICATION	DESCRIPTION
				CL	SILTY CLAY, dark brown to light gray-brown, saturated, stiff, some fine-grained sand
				CL	SILTY CLAY, light gray-brown, saturated, hard, some bedrock structure
56	27.1	98	25		
				CL	SILTY CLAY with GRAVEL, saturated, hard, fine-gravel
60	24.7	101	30		
			35		Boring terminated at 30 feet Groundwater obscured by rotary wash drill method
			40		

PLATE 11

BORING LOG B-1

JOB NUMBER: 1629.403 **DATE DRILLED:** 3-26-98

JOB NAME: FMC Site **SURFACE ELEVATION:** 49-1/2 feet

DRILL RIG: Hollow Auger **DATUM:** Mean Sea Level

SAMPLER TYPE: ■ 2.5 inch I.D. Split Barrel Sample **DRIVE WEIGHT - LB** 140 **HEIGHT OF FALL - IN** 30

BLOWS PER FT.	MOISTURE CONTENT %	DRY UNIT WEIGHT p.c.f.	DEPTH IN FEET	USCS CLASSI-FICATION	DESCRIPTION
24	21.8	83			ALKALINE MATERIAL (magnesia), mottled gray-white and gray, very stiff, some gypsum
33	22.7	78			
22	28.5	77	5		at 5 feet, becomes dark gray at 5-1/2 feet, rust veinlet
37	34.2	58	10	M L	SANDY SILT, brown, moist, very stiff, yellow-white alkaline material
					ALKALINE MATERIAL (magnesia), gray-white, moist, very stiff
11	35.2	71	15	S W	SAND, light brown, moist, loose, medium grained
					ALKALINE MATERIAL (megnesia), gray-white, moist
35	23.5	85	20	M L	SANDY SILT, gray-brown, moist, medium stiff

BORING LOG B-1

JOB NUMBER: 1629.403 **SHEET:** 2 **OF:** 2

JOB NAME: FMC Site **DEPTH:** 20 feet **TO** 25-1/2 feet

NOTES:

BLOWS PER FT.	MOISTURE CONTENT %	DRY UNIT WEIGHT p.c.f.	DEPTH IN FEET	USCS CLASSI-FICATION	DESCRIPTION
35	23.5	85		M L	SANDY SILT, gray-brown, moist, medium stiff
					ALKALINE MATERIAL (magnesia), gray-white and yellow-white, moist, medium stiff
50/3"	-	-	25		SILTSTONE, red-brown, highly weathered, friable, highly fractured
					Boring terminated at 25-1/2 feet. No free water encountered.
			30		
			35		
			40		

BORING LOG B-2

JOB NUMBER: 1629.403 **DATE DRILLED:** 3-26-98

JOB NAME: FMC Site **SURFACE ELEVATION:** 44-1/2 feet

DRILL RIG: Hollow Auger **DATUM:** Mean Sea Level

SAMPLER TYPE: ■ 2.5 inch I.D. Split Barrel Sample **DRIVE WEIGHT - LB** 140 **HEIGHT OF FALL - IN** 30

BLOWS PER FT.	MOISTURE CONTENT %	DRY UNIT WEIGHT p.c.f.	DEPTH IN FEET	USCS CLASSI-FICATION	DESCRIPTION
50	21.8	81		M L	SANDY SILT, gray, moist, hard, alkaline material
50/3"	23.1	74			ALKALINE MATERIAL (magnesia), mottled gray and white, moist, hard, trace sand
14	20.0	70	5		at 5 feet, mottled white and orange-white, stiff at 5-1/2 feet, white
19	19.7	75	10		
38	17.1	74	15		at 15 feet, siltstone fragments at 15-1/2 feet, white, very stiff, trace fine gravel
41	24.1	75	20		

BORING LOG B-2

JOB NUMBER: 1629.403 **SHEET:** 2 **OF:** 2

JOB NAME: FMC Site **DEPTH:** 20 feet **TO** 21-1/2 feet

NOTES:

BLOWS PER FT.	MOISTURE CONTENT %	DRY UNIT WEIGHT p.c.f.	DEPTH IN FEET	USCS CLASSI-FICATION	DESCRIPTION
41	24.1	75			ALKALINE MATERIAL (magnesia), white, moist, very stiff, trace fine gravel
				CL	SILTY CLAY, dark brown, moist, very stiff
			25		Boring terminated at 21-1/2 feet. No free water encountered.
			30		
			35		
			40		

BORING LOG B-3

JOB NUMBER: 1629.403 **DATE DRILLED:** 3-26-98

JOB NAME: FMC Site **SURFACE ELEVATION:** 40-1/2 feet

DRILL RIG: Hollow Auger **DATUM:** Mean Sea Level

SAMPLER TYPE: ■ 2.5 inch I.D. Split Barrel Sample **DRIVE WEIGHT - LB** 140 **HEIGHT OF FALL - IN** 30

BLOWS PER FT.	MOISTURE CONTENT %	DRY UNIT WEIGHT p.c.f.	DEPTH IN FEET	USCS CLASSI-FICATION	DESCRIPTION
21	23.7	76			ALKALINE MATERIAL (magnesia), gray-white, moist, stiff
17	23.2	65			
			5		
13	25.3	69			at 6 feet, gypsum
			10		at 10 feet, becomes white
14	26.7	61			
			15		at 15 feet, becomes gray-white
20	30.0	61			
			20		
58	22.5	70			

BORING LOG B-3

JOB NUMBER: 1629.403 **SHEET:** 2 **OF:** 2

JOB NAME: FMC Site **DEPTH:** 20 feet **TO** 31 feet

NOTES:

BLOWS PER FT.	MOISTURE CONTENT %	DRY UNIT WEIGHT p.c.f.	DEPTH IN FEET	USCS CLASSI-FICATION	DESCRIPTION
58	22.5	70			ALKALINE MATERIAL (magnesia), gray-white, moist, stiff
					at 20 feet, becomes hard, wood debris and gypsum
			25		
22	26.3	72			at 25 feet, very stiff
			30		
32	53.3	59		CL	SILTY CLAY, dark brown, moist, very stiff
					Boring terminated at 31 feet. No free water encountered.
			35		
			40		

BORING LOG B-4

JOB NUMBER: 1629.403 **DATE DRILLED:** 3-26-98

JOB NAME: FMC Site **SURFACE ELEVATION:** 52-1/2 feet

DRILL RIG: Hollow Auger **DATUM:** Mean Sea Level

SAMPLER TYPE: ■ 2.5 inch I.D. Split Barrel Sample **DRIVE WEIGHT - LB** 140 **HEIGHT OF FALL - IN** 30

BLOWS PER FT.	MOISTURE CONTENT %	DRY UNIT WEIGHT p.c.f.	DEPTH IN FEET	USCS CLASSI-FICATION	DESCRIPTION
50/5"	18.1	102		ML	SANDY SILT, gray-brown, dry to mist, hard
					ALKALINE MATERIAL (magnesia), gray-white, moist, hard, some silt
				ML	CLAYEY SILT, dry red, moist
76	30.9	79			ALKALINE MATERIAL (magnesia), mottled gray-white, dark gray and red, moist, hard
			5		
76	21.6	85			
				CL	SILTY CLAY, dark brown, moist
					Boring terminated at 7 feet. No free water encountered.
			10		
			15		
			20		

BORING LOG B-5

JOB NUMBER: 1629.403 **DATE DRILLED:** 3-26-98

JOB NAME: FMC Site **SURFACE ELEVATION:** 35 feet

DRILL RIG: Hollow Auger **DATUM:** Mean Sea Level

SAMPLER TYPE: ■ 2.5 inch I.D. Split Barrel Sample **DRIVE WEIGHT - LB** 140 **HEIGHT OF FALL - IN** 30

BLOWS PER FT.	MOISTURE CONTENT %	DRY UNIT WEIGHT p.c.f.	DEPTH IN FEET	USCS CLASSI-FICATION	DESCRIPTION
17	48.4	62			ALKALINE MATERIAL (magnesia), white, moist to wet, stiff
66	30.0	63			at 2 feet, some silty sand, gray-brown
50/5"	--	-	5		SANDSTONE, red-orange and light brown, highly weathered, friable, highly fractured
			10		Boring terminated at 6 feet. No free water encountered.
			15		
			20		

BORING LOG B-6

JOB NUMBER: 1629.403 **DATE DRILLED:** 3-26-98

JOB NAME: FMC Site **SURFACE ELEVATION:** 23-1/2 feet

DRILL RIG: Hollow Auger **DATUM:** Mean Sea Level

SAMPLER TYPE: 2.5 inch I.D. Split Barrel Sample **DRIVE WEIGHT - LB** 140 **HEIGHT OF FALL - IN** 30

BLOWS PER FT.	MOISTURE CONTENT %	DRY UNIT WEIGHT p.c.f.	DEPTH IN FEET	USCS CLASSI-FICATION	DESCRIPTION
25	33.4	75			ALKALINE MATERIAL (magnesia), white, dry to moist, very stiff
24	39.1	67			at 1/2 foot, mottled gray-brown and white, moist, trace medium-grained sand
13	30.1	75	5		at 5 feet, sandy silt, gray-brown, moist, stiff, white alkaline material
22	33.2	60	10		
					at 13-1/2 feet, more silt
			15		from 15 to 15-1/2 feet, clayey silt
					from 17-1/2 to 18 feet, some gypsum
37	33.7	87			
				CL	SILTY CLAY, dark brown, moist, very stiff
			20		Boring terminated at 19 feet. No free water encountered.

BORING LOG B-7

JOB NUMBER: 1629.403 **DATE DRILLED:** 3-26-98

JOB NAME: FMC Site **SURFACE ELEVATION:** 28-1/2 feet

DRILL RIG: Hollow Auger **DATUM:** Mean Sea Level

SAMPLER TYPE: ■ 2.5 inch I.D. Split Barrel Sample **DRIVE WEIGHT - LB** 140 **HEIGHT OF FALL - IN** 30

BLOWS PER FT.	MOISTURE CONTENT %	DRY UNIT WEIGHT p.c.f.	DEPTH IN FEET	USCS CLASSI-FICATION	DESCRIPTION
16	33.3	79			ALKALINE MATERIAL (magnesia), gray-brown and white, moist, stiff, some gypsum
28	25.4	83			at 1-1/2 feet, more silt, trace fine to medium gravel
					at 2-1/2 feet, some sand
11	32.5	79	5		at 5 feet, medium stiff
15	31.8	75	10		at 10 feet, gray-white, stiff
21	26.6	85	15	C L	SILTY CLAY, dark brown, wet, stiff
					ALKALINE MATERIAL (magnesia), gray-white, moist, stiff
				C L	SILTY CLAY, dark brown
			20		Boring terminated at 20 feet. No free water encountered.

BORING LOG B-8

JOB NUMBER: 1629.403 **DATE DRILLED:** 3-26-98

JOB NAME: FMC Site **SURFACE ELEVATION:** 15 feet

DRILL RIG: Hollow Auger **DATUM:** Mean Sea Level

SAMPLER TYPE: ■ 2.5 inch I.D. Split Barrel Sample **DRIVE WEIGHT - LB** 140 **HEIGHT OF FALL - IN** 30

BLOWS PER FT.	MOISTURE CONTENT %	DRY UNIT WEIGHT p.c.f.	DEPTH IN FEET	USCS CLASSI-FICATION	DESCRIPTION
26	28.5	70		M L	SANDY SILT, tan, moist, very stiff with alkaline material
65	41.1	68			ALKALINE MATERIAL (magnesia), gray white
				M L	SANDY SILT, tan, moist, hard
14	76.9	48	5		ALKALINE MATERIAL (magnesia), white, wet, stiff,
				M L	SANDY SILT, brown, saturated, stiff
			10		Boring terminated at 6-1/2 feet. Free water encountered at 6-1/2 feet.
			15		
			20		

BORING LOG B-9

JOB NUMBER: 1629.403 **DATE DRILLED:** 3-27-98

JOB NAME: FMC Site **SURFACE ELEVATION:** 37 feet

DRILL RIG: Hollow Auger **DATUM:** Mean Sea Level

SAMPLER TYPE: 2.5 inch I.D. Split Barrel Sample **DRIVE WEIGHT - LB** 140 **HEIGHT OF FALL - IN** 30

BLOWS PER FT.	MOISTURE CONTENT %	DRY UNIT WEIGHT p.c.f.	DEPTH IN FEET	USCS CLASSI-FICATION	DESCRIPTION
72	18.1	94			ALKALINE MATERIAL (magnesia), mottled off-white and white, dry , hard
29	31.0	78			
				S M	SILTY SAND, light brown, dry, very stiff, fine to medium-grained,
46	43.9	63	5		ALKALINE MATERIAL (magnesia), off-white and white, dry to moist, hard, gypsum at 5-1/2 feet
28	51.8	59	10		
50/5"	–	–	15		SILTSTONE, dry, highly weathered, friable, highly fractured
			20		Boring terminated at 16-1/2 feet. No free water encountered.

BORING LOG B-10

JOB NUMBER: 1629.403 **DATE DRILLED:** 3-27-98

JOB NAME: FMC Site **SURFACE ELEVATION:** 33-1/2 feet

DRILL RIG: Hollow Auger **DATUM:** Mean Sea Level

SAMPLER TYPE: 2.5 inch I.D. Split Barrel Sample **DRIVE WEIGHT - LB** 140 **HEIGHT OF FALL - IN** 30

BLOWS PER FT.	MOISTURE CONTENT %	DRY UNIT WEIGHT p.c.f.	DEPTH IN FEET	USCS CLASSI-FICATION	DESCRIPTION
20	31.8	76			ALKALINE MATERIAL (magnesia), white, moist, stiff,
					below 1/2 foot, red-brown and white
15	40.8	69			below 2 feet, white
			5		
59/9"	35.0	76			below 6 feet, white and tan, wet, gray, hard
				CL	SILTY CLAY, dark brown, moist with gravel
					Boring terminated at 7 feet. No free water encountered.
			10		
			15		
			20		

BORING LOG B-11

JOB NUMBER: 1629.403 **DATE DRILLED:** 3-27-98

JOB NAME: FMC Site **SURFACE ELEVATION:** 32-1/2 feet

DRILL RIG: Hollow Auger **DATUM:** Mean Sea Level

SAMPLER TYPE: ■ 2.5 inch I.D. Split Barrel Sample **DRIVE WEIGHT - LB** 140 **HEIGHT OF FALL - IN** 30

BLOWS PER FT.	MOISTURE CONTENT %	DRY UNIT WEIGHT p.c.f.	DEPTH IN FEET	USCS CLASSI-FICATION	DESCRIPTION
73	25.0	76			ALKALINE MATERIAL (magnesia), gray-white, moist, hard,
				M L	SANDY SILT, mottled brown and dark brown, dry, hard with siltstone fragments
25	27.0	76			ALKALINE MATERIAL (magnesia), gray-white, moist, hard
					below 1-1/2 feet, white, very stiff
25	26.7	81	5		below 5 feet, mottled white and gray below 5-1/2 feet, white below 6 feet, dark gray
14	25.1	78	10	M L	SANDY SILT, brown, moist, stiff, trace fine gravel
					ALKALINE MATERIAL (magnesia), mottled white, tan and green, moist, stiff
45	35.2	71	15		below 15 feet, off-white and white
2	–		20	M L	CLAYEY SILT, brown, wet, very soft

BORING LOG

B-11

JOB NUMBER: 1629.403

SHEET: 2 OF: 2

JOB NAME: FMC Site

DEPTH: 20 TO 21-1/2 feet

NOTES:

BLOWS PER FT.	MOISTURE CONTENT %	DRY UNIT WEIGHT p.c.f.	DEPTH IN FEET	USCS CLASSI-FICATION	DESCRIPTION
2	-			M L	CLAYEY SILT, brown, wet, very soft
					Boring terminated at 21-1/2 feet. No free water encounterd.
			25		
			30		
			35		
			40		

BORING LOG B-12

JOB NUMBER: 1629.403 **DATE DRILLED:** 3-27-98

JOB NAME: FMC Site **SURFACE ELEVATION:** 19 feet

DRILL RIG: Hollow Auger **DATUM:** Mean Sea Level

SAMPLER TYPE: ■ 2.5 inch I.D. Split Barrel Sample **DRIVE WEIGHT - LB** 140 **HEIGHT OF FALL - IN** 30

BLOWS PER FT.	MOISTURE CONTENT %	DRY UNIT WEIGHT p.c.f.	DEPTH IN FEET	USCS CLASSI-FICATION	DESCRIPTION
50/3"	30.4	60			ALKALINE MATERIAL (magnesia), gray-white, moist, hard
					below 1/2 foot, gray-brown, some fine-grained gravel
					between 1-1/2 feet and 3 feet, hard
			5		
28	47.6	64			
				M L	CLAYEY SILT, dark brown, moist, very stiff
					Boring terminated at 7-1/2 feet. No free water encountered.
			10		
			15		
			20		

BORING LOG B-13

JOB NUMBER: 1629.403 **DATE DRILLED:** 3-27-98

JOB NAME: FMC Site **SURFACE ELEVATION:** 12-1/2 feet

DRILL RIG: Hollow Auger **DATUM:** Mean Sea Level

SAMPLER TYPE: ▌ 2.5 inch I.D. Split Barrel Sample **DRIVE WEIGHT - LB** 140 **HEIGHT OF FALL - IN** 30

BLOWS PER FT.	MOISTURE CONTENT %	DRY UNIT WEIGHT p.c.f.	DEPTH IN FEET	USCS CLASSI-FICATION	DESCRIPTION
					ALKALINE MATERIAL (magnesia), gray-white, dry
8	31.5	60			below 2-1/2 feet, white, medium stiff, some medium-grained sand
			5		
36	35.9	80			
				C L	SILTY CLAY, black, moist to wet, very stiff
			10		Boring terminated at 8-1/2 feet. No free water encountered.
			15		
			20		

BORING LOG B-14

JOB NUMBER: 1629.403 **DATE DRILLED:** 3-27-98

JOB NAME: FMC Site **SURFACE ELEVATION:** 25 feet

DRILL RIG: Hollow Auger **DATUM:** Mean Sea Level

SAMPLER TYPE: ■ 2.5 inch I.D. Split Barrel Sample **DRIVE WEIGHT - LB** 140 **HEIGHT OF FALL - IN** 30

BLOWS PER FT.	MOISTURE CONTENT %	DRY UNIT WEIGHT p.c.f.	DEPTH IN FEET	USCS CLASSI-FICATION	DESCRIPTION
41	32.3	76			ALKALINE MATERIAL (magnesia), light gray, moist, very stiff
					below 1-1/2 feet, hard
77	33.6	80			
			5		
95/ 11"	37.4	74			
			10		
81	37.9	76			at 10 feet, orange veinlet
					below 10-1/2 feet, light gray and white
					below 11 feet, tan
			15		
13	51.6	64			below 15 feet, white, wet
					below 16 feet, speckled black and white
			20		
50/1"	-	-			SANDSTONE, brown, highly weathered, friable, highly fractured

BORING LOG B-14

JOB NUMBER: 1629.403 **SHEET:** 2 **OF:** 2

JOB NAME: FMC Site **DEPTH:** 20 **TO** 20-1/2 feet

NOTES:

BLOWS PER FT.	MOISTURE CONTENT %	DRY UNIT WEIGHT p.c.f.	DEPTH IN FEET	USCS CLASSI-FICATION	DESCRIPTION
50/1"	-	-			SANDSTONE, brown, highly weathered, friable, highly fractured
					Boring terminated at 20-1/2 feet. No free water encountered at 18 feet.
			25		
			30		
			35		
			40		

BORING LOG B-15

JOB NUMBER: 1629.403 **DATE DRILLED:** 3-27-98

JOB NAME: FMC Site **SURFACE ELEVATION:** 20-1/2 feet

DRILL RIG: Hollow Auger **DATUM:** Mean Sea Level

SAMPLER TYPE: ■ 2.5 inch I.D. Split Barrel Sample **DRIVE WEIGHT - LB** 140 **HEIGHT OF FALL - IN** 30

BLOWS PER FT.	MOISTURE CONTENT %	DRY UNIT WEIGHT p.c.f.	DEPTH IN FEET	USCS CLASSI-FICATION	DESCRIPTION
				ML	CLAYEY SILT, gray-brown
21	35.5	66	5		ALKALINE MATERIAL (magnesia), white, moist, stiff
48	-	-		CL	SILTY CLAY, orange-brown, moist to wet, very stiff
			10 15 20		Boring terminated at 8-1/2 feet. No free water encountered.

BORING LOG B-16

JOB NUMBER: 1629.403 **DATE DRILLED:** 3-27-98

JOB NAME: FMC Site **SURFACE ELEVATION:** 32-1/2 feet

DRILL RIG: Hollow Auger **DATUM:** Mean Sea Level

SAMPLER TYPE: ■ 2.5 inch I.D. Split Barrel Sample **DRIVE WEIGHT - LB** 140 **HEIGHT OF FALL - IN** 30

BLOWS PER FT.	MOISTURE CONTENT %	DRY UNIT WEIGHT p.c.f.	DEPTH IN FEET	USCS CLASSI-FICATION	DESCRIPTION
					ALKALINE MATERIAL (magnesia), white, moist, stiff
16	-	-		M L	SANDY SILT, dark brown, moist, stiff, sitlstone fragments
					Boring terminated at 3-1/2 feet. No free water encountered.
			5		
			10		
			15		
			20		

APPENDIX B

Laboratory Test Results

RJ Lee Group, Inc.
530 McCormick Street, San Leandro, CA 94577
Tel: (510) 567-0480 | Fax: (510) 567-0488

Laboratory Report

Berlogar Geotechnical Consultants
5587 Sunol Boulevard
Pleasanton, CA 94566
Attention: Mr. Bill Stevens
Telephone: 925-484-0220

Report Date	10/4/2007
Sample Receipt Date.	9/27/2007
RJ Lee Group Job No	AOC709243
Project location	Cargill / Newark CA
Authorization/P.O. No.	2914.101
Client Job No./Name	2914.101

Determination of Asbestos Content of Serpentine Aggregate
Method: CARB 435

RJLG Sample Number	Client Sample Number	Description	Asbestos Detected(%)	Non-Asbestos Fibers(%)	Non-Fibrous Materials(%)	Matrix Material	Analyst - Analysis Date
2805369.HPL	#1	Blue/Green Gravel	0.25 CH	5.00 W	94.75	Q, CL, B, G, MI, M	TEM-10/4/2007
2805370.HPL	#2	Gray Soil	3.00 CH	-	97.00	Q, CA, CL, B, G, M	TEM-10/3/2007
2805371.HPL	#3	Gray Soil	1.00 CH	-	99.00	Q, CA, CL, B, G, M	TEM-10/3/2007
2805372.HPL	#4	Beige Soil	0.75 CH	-	99.25	Q, CL, B, OP, M	TEM-10/3/2007
2805373.HPL	#5	Blue/Green Soil	1.25 CH	-	98.75	Q, CA, CL, B, F, OP, G, M	TEM-10/3/2007
2805374.HPL	#6	Blue/Green Soil	6.25 CH	-	93.75	Q, CA, CL, B, OP, G, M	TEM-10/3/2007
2805375.HPL	#7	Gray/Brown Soil	1.75 CH	-	98.25	Q, CA, CL, B, F, OP, G, M	TEM-10/3/2007
2805376.HPL	#8	Blue/Green Soil	0.50 CH	-	99.50	Q, CA, CL, B, F, OP, G, M	TEM-10/3/2007

RJ Lee Group, Inc.

RJ Lee Group Job No: AOC709243

Client Job No./Name: 2914.101

RJLG Sample Number	Client Sample Number	Description	Asbestos Detected(%)	Non-Asbestos Fibers(%)	Non-Fibrous Materials(%)	Matrix Material	Analyst - Analysis Date
2805377.HPL	#9	Blue/Green Soil	0.75 CH	-	99.25	Q, CA, CL, B, F, OP, G, M	TEM-10/3/2007
2805378.HPL	#10	Blue/Green Soil	0.75 CH	<1 CE	99.25	CA, CL, B, F, OP, G, M	TEM-10/3/2007

RJ LeeGroup, Inc.

Client Job No./Name: 2914.101

Laboratory Report (cont.)

RJ Lee Group Job No: AOC709243

Authorized Signature _____

Tracy Mitchell, PLM Analyst

ASBESTOS

AM = Amosite
AC = Actinolite
AN = Anthophyllite
CH = Chrysotile
CR = Crocidolite
TR = Tremolite

NON-ASBESTOS

CE = Cellulose
MW = Mineral Wool
FG = Fibrous Glass
SF = Synthetic Fibers
H = Hair
W = Wollastonite
OF = Other Fibers

NON-FIBROUS MATERIALS

AM = Amphibole
B = Binder
CA = Carbonates
CL = Clay
F = Feldspar
G = Gypsum
HY = Hydromagnesite
M = Miscellaneous
MI = Mica
OP = Opaque
OR = Organic
P = Perlite
Q = Quartz
T = Tar
V = Vermiculite

DISCLAIMER NOTES

- "ND" indicates no asbestos was detected in the sample portion analyzed; the method detection limit is 0.25%.
- "Trace" or "<0.25" indicates asbestos was identified in the sample portion analyzed, but at a concentration of less than the detection limit of 0.25%. PLM coefficients of variance range from approximately 1.8 at the detection limit of 0.25% to 0.1 at high fiber concentrations.
- Samples are archived for three months following analysis and are then properly discarded.
- These results are submitted pursuant to RJ Lee Group's current terms and conditions of sale, including the company's standard warranty and limitation of liability provisions. No responsibility or liability is assumed for the manner in which these results are used or interpreted.
- This test report relates to the items tested.
- This report is not valid unless it bears the name of a NVLAP-approved signatory.
- Any reproduction of this document must be in full in order for the report to be valid.
- This report may not be used to claim product endorsement by NVLAP, any agency of the U.S Government or any other laboratory accrediting agency.
- Polarized-light microscopy is not consistently reliable in detecting asbestos in floor coverings and similar nonfriable organically bound materials. Quantitative transmission electron microscopy is currently the only method that can be used to determine if this material can be considered or treated as "non-asbestos-containing."
- Sample(s) for this project were analyzed at our: San Leandro, CA (NVLAP #101208-2) facility.
- If RJ Lee Group, Inc. did not collect the samples analyzed, the verifiability of the laboratory's results are limited to the reported values.

RJLeeGroup, Inc. Sample Transmittal Form

Company: Berlogar Geotechnical
Address: 5587 Sunol Boulevard
Pleasanton CA 94566
Attn: BILL STEVENS
Phone: 925-484-0220 Fax: 925-846-9645
Special Instructions:

Analysis Type	Turn Around Time
PLM BULK	☐ 8 Hours ☐ 24 Hours ☐ 72 Hours ☒ 3-5 Days
CARB 435	

PO Number:
Job Number: 2914.101
Project Name/Location: CARGILL / NEWARK
Sampled By: BILL STEVENS
Date: 9/27/07

Date	Description	Sample ID	Location
9/27/07	DARK BLUE GREEN GRAVEL		CARGILL
9/27/07	BLUE GREEN WEATHERED GRAVEL	#2	CARGILL
9/27/07	Blue Green weathered Gravel	#3	CARGILL
9/27/07	GRAY BROWN GRAVEL w/ TRACE SILT	#4	CARGILL
9/27/07	DARK BLUE GREEN WEATHERED GRAVEL	#5	CARGILL
9/27/07	BLUE GREEN GRAVEL	#6	CARGILL
9/27/07	GRAY/BROWN GRAVEL/SILT MIXTURE	#7	CARGILL
9/27/07	DARK BLUE GREEN WEATHERED GRAVEL	#8	CARGILL

Chain of Custody:

Date	Time	Relinquished By	Company	Received By	Company	Date	Time
				Cesar Correa	RJLG	9/27	2:40

Samples Accepted: ☐ Yes ☐ No
Reason Rejected:

AOC 10424

RJLeeGroup, Inc. Sample Transmittal Form

Company: Berlogar Geotechnical
Address: 5587 Sunol Boulevard
Pleasanton CA 94566
Attn: BILL STEVENS
Phone: 925-484-0220 Fax: 846-9645 925
Special Instructions:

Analysis Type	Turn Around Time
PLM BULK	☐ 8 Hours ☐ 24 Hours ☑ 72 Hours ☒ 3-5 Days ☐

CARB 435

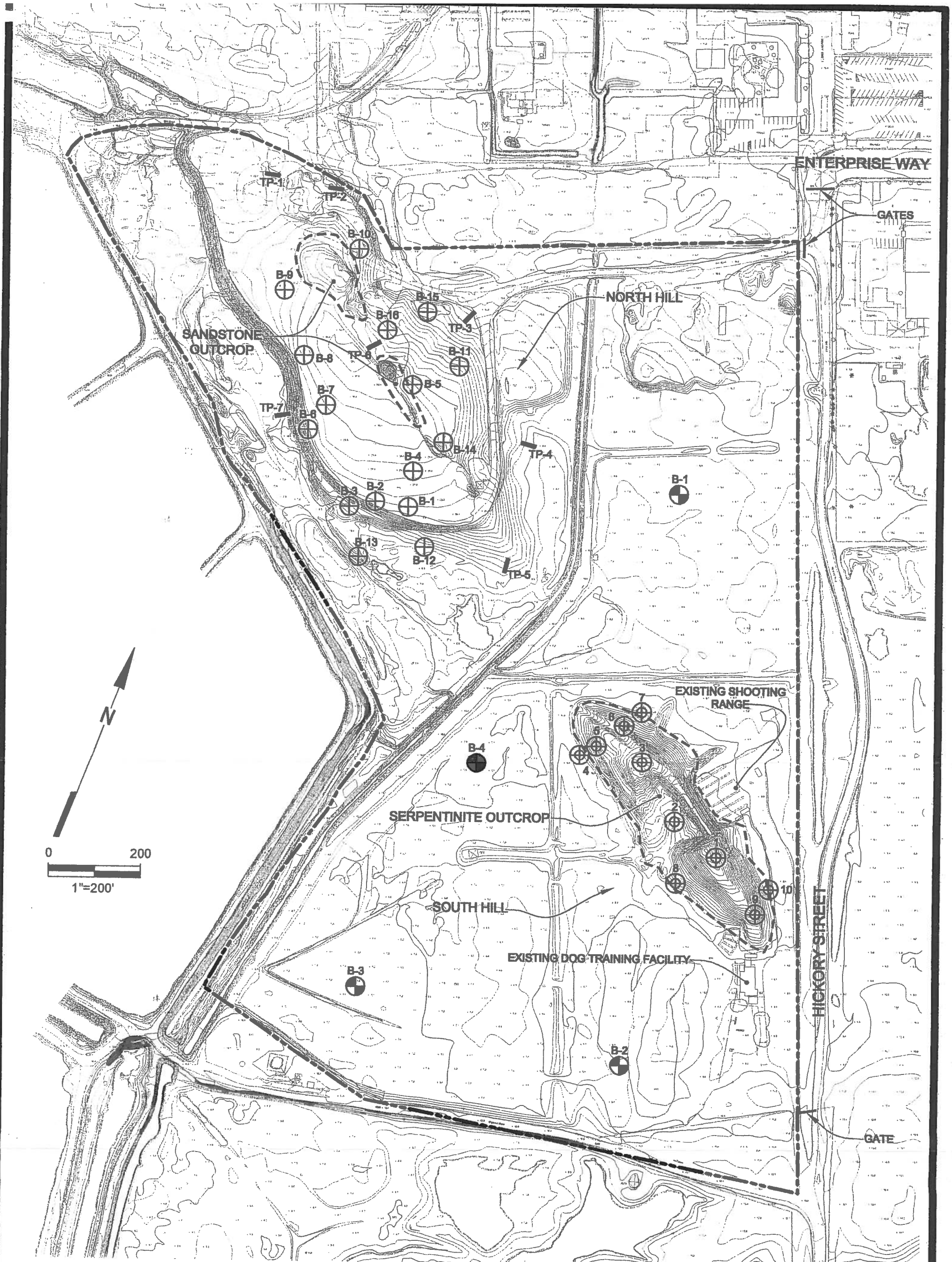
PO Number:
Job Number: 2914.101
Project Name/Location: CARGILL / NEWARK
Sampled By: BILL STEVENS
Date: 9/27/07

Date	Description	Sample ID	Location
9/27/07	DARK BLUE GREEN GRAVEL	#9	CARGILL
9/27/07	DARK BLUE GREEN GRAVEL	#10	CARGILL

Chain of Custody:

Date	Time	Relinquished By	Company	Received By	Company	Date	Time
					RJLG	9/27	2400

Samples Accepted: ☐ Yes ☐ No
Reason Rejected:



JOB NUMBER: 2914.101 DATE: 10-1-07 DRAWN BY: CC CHECKED BY:

EXPLANATION

LIMITS OF HILL PARCEL

10 — APPROXIMATE ROCK/SOIL BULK SAMPLE LOCATION (BGC, THIS STUDY)

TP-7 — APPROXIMATE TEST PIT LOCATION (BGC, THIS STUDY)

B-4 — APPROXIMATE BORING LOCATION (BGC, 2006)

B-15 — APPROXIMATE BORING LOCATION (BGC, 1998)

SITE PLAN

HILL PARCEL NOA STUDY

ENTERPRISE DRIVE AND HICKORY STREET

NEWARK, CALIFORNIA

FOR

CARGILL SALT

Berlogar Geotechnical Consultants

SOIL ENGINEERS * ENGINEERING GEOLOGISTS

BASE: PROVIDED BY CARGILL, VIA CD

PLATE 2

Via E-Mail and Mail

Cargill Hill Vacant
Serpentine

November 9, 2007
Job No. 2914.101

RECEIVED BY
NOV 13 2007
LAND DEPT.

BGC
BERLOGAR GEOTECHNICAL CONSULTANTS

Ms. Penny Streff
Cargill Salt
7220 Central Avenue
Newark, California 94560

Subject: Addendum to Naturally Occurring Asbestos Investigation
Design and Construction Considerations
Hill Parcel of the Cargill Salt Property
Southwest Corner of Enterprise Drive and Hickory Street
Newark, California

Dear Ms. Streff:

Berlogar Geotechnical Consultants prepared a Naturally Occurring Asbestos Investigation report dated October 12, 2007. The results of that study indicate that the north hill does not contain naturally occurring asbestos, whereas the south hill area is composed of serpentine bedrock that contains naturally occurring asbestos above the action limit of 0.25 percent. We are providing design and construction considerations for both the south and the north hill areas if this site were to be developed.

The following provides our recommended soil cover thickness for various structures constructed within about 100 feet of the serpentinite rock outcrop. The minimum soil cover thickness may need to be increased to extend deeper than a majority of the underground utilities in the building pad and footing bottoms. This would reduce the potential of having to handle NOA material during trenching.

1. Detached Single Family Residences –We recommend a minimum 3-foot soil cover in building pad areas, extending at least 5 feet beyond the building perimeter. Deed restrictions will be required (such as not allowing swimming pools) if there is less than 10-feet of soil cover over the serpentinite with NOA.

2. Podium Type Multi-Unit Residential Structures – We recommend a minimum 2-foot thick soil cover even though the regulations do not require a soil cover.

3. Other Commercial or Industrial Developments – A 2-foot thick soil cover is recommended though soil cover is not required.

4. Pavement and Concrete Hardscape – As long as the NOA material is covered to prevent airborne dust after construction, a soil cover is not required.

5. Landscape Areas – we recommend 2 feet of cover in landscape areas.

Prior to construction, an application from the Bay Area Air Quality Management District is required for projects over 1-acre in size. Dust control and an NOA air monitoring program will be required.

In essence, the site should be maintained in a wet condition to prevent airborne dust. The soil must be wetted during grading and trenching operations.

Overexcavation and removal of NOA material is recommended for utility corridors. The overexcavation zone should extend at least 1 foot below the utility pipes.

The site is underlain by soil and hard bedrock. As such, different foundations for structures should be expected.

1. In areas underlain by soil, we anticipate shallow foundations with low allowable bearing pressures. Heavy structures may need to be supported on a deep foundation system, such as piers or piles.

2. In areas underlain by bedrock, including serpentinite, shallow foundations with higher allowable bearing capaicities is expected.

3. For buildings straddling the contact between soil and bedrock, we recommend the foundations for the portion of the building on soil be extended to bedrock. Hence, these structures would be entirely supported in serpentinite. Depending on the size of the structure, deep foundations may be required to achieve this.

We hope this provides the necessary information. If you have any questions, please contact Frank Berlogar or Bill Stevens at (925) 484-0220. It has been a pleasure providing professional geotechnical services to Cargill Salt.

Respectfully submitted,

BERLOGAR GEOTECHNICAL CONSULTANTS

William R. Stevens
Principal Geotechnical Engineer
GE 2339, Exp. 3/31/08

REGISTERED PROFESSIONAL ENGINEER
WILLIAM R. STEVENS
No. 2339
Exp. 03-31-08
GEOTECHNICAL
STATE OF CALIFORNIA

Frank Berlogar

WRS/KJR/FB:jmb

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Cargill-Seppentine

3001.003.05

BGC

BERLOGAR GEOTECHNICAL CONSULTANTS

SOIL ENGINEERS
ENGINEERING GEOLOGISTS

NATURALLY OCCURRING
ASBESTOS INVESTIGATION
HILL PARCEL OF THE CARGILL SALT PROPERTY
SOUTHWEST CORNER OF ENTERPRISE DRIVE
AND HICKORY STREET
NEWARK, CALIFORNIA

FOR
CARGILL SALT
October 12, 2007

NATURALLY OCCURRING
ASBESTOS INVESTIGATION
HILL PARCEL OF THE CARGILL SALT PROPERTY
SOUTHWEST CORNER OF ENTERPRISE DRIVE
AND HICKORY STREET
NEWARK, CALIFORNIA

FOR
CARGILL SALT
October 12, 2007

Job No. 2914.101

BERLOGAR GEOTECHNICAL CONSULTANTS

October 12, 2007
Job No. 2914.101

BGC
BERLOGAR
GEOTECHNICAL
CONSULTANTS

Ms. Penny Streff
Cargill Salt
7220 Central Avenue
Newark, California 94560

Subject: Naturally Occurring Asbestos Investigation
Hill Parcel of the Cargill Salt Property
Southwest Corner of Enterprise Drive and Hickory Street
Newark, California

Dear Ms. Streff:

This report presents the results of our investigation to determine the possible presence of naturally occurring asbestos (NOA) within and around near-surface bedrock outcrops at the subject site. The location of the site is shown with respect to existing cultural features on the Vicinity Map, Plate 1. The site is located in the southwest corner of Enterprise Drive and Hickory Street in Newark, California. This area is designated as the Hill Parcel, which contains 2 rock outcrops, called the north and south outcrops. This report is based on requirements as interpreted from verbal conversations with Cargill personnel.

PURPOSE AND SCOPE OF SERVICES

The purpose of this investigation was to investigate the potential for naturally-occurring asbestos within possible shallow Serpentinite bedrock at the site. Our study did not investigate the potential of encountering NOA deeper more than about 10 feet below the ground surface in the surrounding flatter portions of the site. Our scope of services included:

1. Review of published maps and literature pertinent to the site and vicinity,
2. Site reconnaissance,
3. Excavating and logging of 7 test pits and collection of 10 surface soil and bedrock samples,
4. Laboratory testing (Carb 435) of serpentinite bedrock and nearby soil samples by RJ Lee Group, Inc.,
5. Preparation of this report.

FIELD EXPLORATION AND LABORATORY TESTING

Our field exploration was conducted on September 13 and 27, 2007. A reconnaissance was performed by a BGC geologist and engineer on the 13th, and field sampling and test pit excavations occurred on September 27. The test pit locations were determined by our geologist and engineer

during the site reconnaissance on the basis of possible locations of encountering serpentinite. Subsurface information from BGC studies conducted in 1998 and 2006 (Berlogar Geotechnical Consultants, Preliminary Geotechnical Investigation, Hill Parcel, Enterprise Drive and Hickory Street, Newark, California, December 12, 2006) were reviewed and the boring logs are contained in this report. The test pits were excavated with a backhoe, and representative near-surface soil and bedrock samples were obtained manually. The locations of the recent test pits and surface samples, and the borings performed in 1998 and 2006, are shown on the Site Plan, Plate 2. The test pits were located on the northern rock outcrop and were excavated to depths of about 7 to 14 feet below the existing ground surface. Materials encountered in the test pits were logged, and the logs are presented on Plates 3 and 4. The test pits were backfilled with no significant compactive effort at the end of logging.

Surface soil and bedrock samples were obtained from the southern rock outcrop and were transported to a State of California certified laboratory, RJ Lee Group, Inc., in San Leandro, California with proper Chain of Custody procedures to test for potential NOA. The results of the laboratory tests are contained in Appendix B. Serpentinite bedrock was not encountered in the northern rock outcrop area; as such, laboratory tests were not performed on soil and bedrock samples from this area.

REGIONAL GEOLOGY

The site is located within the Coast Ranges geomorphic province of California. The Coast Ranges are characterized by a series of northwest-trending folded and faulted mountain chains and valleys. In the site vicinity, the Coyote Hills form a northwest-trending ridgeline of Cretaceous-aged Franciscan Complex bedrock that is surrounded by younger alluvium that was deposited around the flanks of the San Francisco Bay. The Franciscan Complex bedrock generally includes sandstone, shale, greenstone, and ultramafic rocks. The ultramafic rocks commonly alter to serpentine minerals through metamorphic conditions. The site is located to the south of the southern end of the Coyote Hills where two relatively small bedrock outcrops protrude out of the alluvium. The outcrops at the site are a southeastern extension of the Coyote Hills rocks and have been mapped as serpentinite by the U.S. Geological Survey (Helley and Miller 1992).

SITE CONDITIONS

SURFACE CONDITIONS

The northern rock outcrop study area is approximately 1,000 feet long in the north-south direction and 500 feet wide. Fill up to about 25 feet thick has been placed on the west side of the outcrop. The western side slopes down towards flatter ground and is a couple hundred feet from a salt pond. Rock outcrops are visible along the central and eastern sides of this area, as shown on Plate 2. The surrounding areas have been disturbed by past grading, but are essentially flat with elevations between 8 to 15 feet in elevation. The top of the rock outcrop and fill area is generally at about 30 feet mean sea level.

The southern study area contains a rock outcrop of serpentinite that is about 700 feet long in the north-south direction and about 200 feet wide. This rock outcrop contains 2 high points that are about 35 feet MSL. A shooting range is located on the east side of the rock outcrop, and a dog training facility is located on the south side. The central portion of the outcrop has been mass graded and a berm for the shooting range has been constructed. The surrounding areas are flat and at about 8 to 10 feet MSL.

SUBSURFACE CONDITIONS

NORTH HILL

The material encountered in the test pits was a mixture of clayey and silty gravel, silty clay, sandy clay, and clayey sand. Sandstone and claystone bedrock were encountered in 5 of the 7 test pits. Where bedrock was not encountered, the test pits extended to 14 feet in depth (2 feet and -5 feet MSL), without encountering serpentinite type material. Since serpentinite type material was not encountered in this area, samples of soil or rock were not obtained for laboratory testing for NOA.

SOUTH HILL

The rock outcrop is composed of serpentinite, with silty sand material around the outcrop. The serpentinite extends to depths which are unknown. Ten surficial samples of soil and bedrock were obtained from this area as shown on the site plan. Samples were obtained from bedrock and from the surrounding soil areas. The samples were placed in plastic bags and sealed, and transported to RJ Lee for Carb 435 testing.

The Carb 435 test results by RJ Lee Group indicate that NOA is present in concentrations ranging between 0.25 to 6.25 percent. The source of the asbestos was determined to be chrysotile, which is a mineral variation of serpentine.

GROUNDWATER

Groundwater was not encountered in the test pits except some minor seepage. BGC's previous studies indicate the groundwater level is at or near MSL. Groundwater is expected to be controlled by tidal influence in this area and weather conditions.

CONCLUSIONS AND RECOMMENDATIONS

The results of our field and laboratory study indicate that the north hill does not contain serpentinite (and therefore should not contain naturally occurring asbestos). The south hill area is composed of serpentine bedrock that contains naturally occurring asbestos. The concentration of NOA was above the action limit of 0.25 percent in all 10 samples, including the nearby soil just downslope of the rock outcrop. As such, the area of the rock outcrop and extending at least 100 feet away from the rock outcrop in all directions should be considered to contain possible state-regulated concentrations of NOA. At such time as the site is to be modified or developed, all earthmoving and trenching should be performed in compliance with regulatory requirements then in effect.

LIMITATIONS

The conclusions and recommendations of this report are based upon the information provided to us, subsurface conditions encountered at the field exploration locations, our site reconnaissance, and professional judgment. This study has been conducted in accordance with current professional geotechnical engineering and engineering geologic standards; no other warranty is expressed or implied.

The locations of the field explorations were determined by field estimating from topographic and cultural features indicated on a topographic map supplied by Cargill Salt, and are to be considered approximate only. Site conditions are described in the text as they were observed during our field work in the fall of 2007, and are not necessarily representative of such conditions at other locations and times.

Respectfully submitted,

BERLOGAR GEOTECHNICAL CONSULTANTS

William R. Stevens
Principal Geotechnical Engineer
GE 2339, Exp. 3/31/08

REGISTERED PROFESSIONAL ENGINEER
WILLIAM R. STEVENS
No. 2339
Exp. 03-31-08
GEOTECHNICAL
STATE OF CALIFORNIA

Frank Berlogar
President

WRS/KJR/FB:jmb

Attachments:
- Plate 1 – Vicinity Map
- Plate 2 – Site Plan
- Plates 3 and 4 – Test Pit Logs
- Appendix A – Borings B1 through B4, BGC 2006 and B1 through B16, 1998
- Appendix B – Laboratory Test Results

Copies: Addressee (6)

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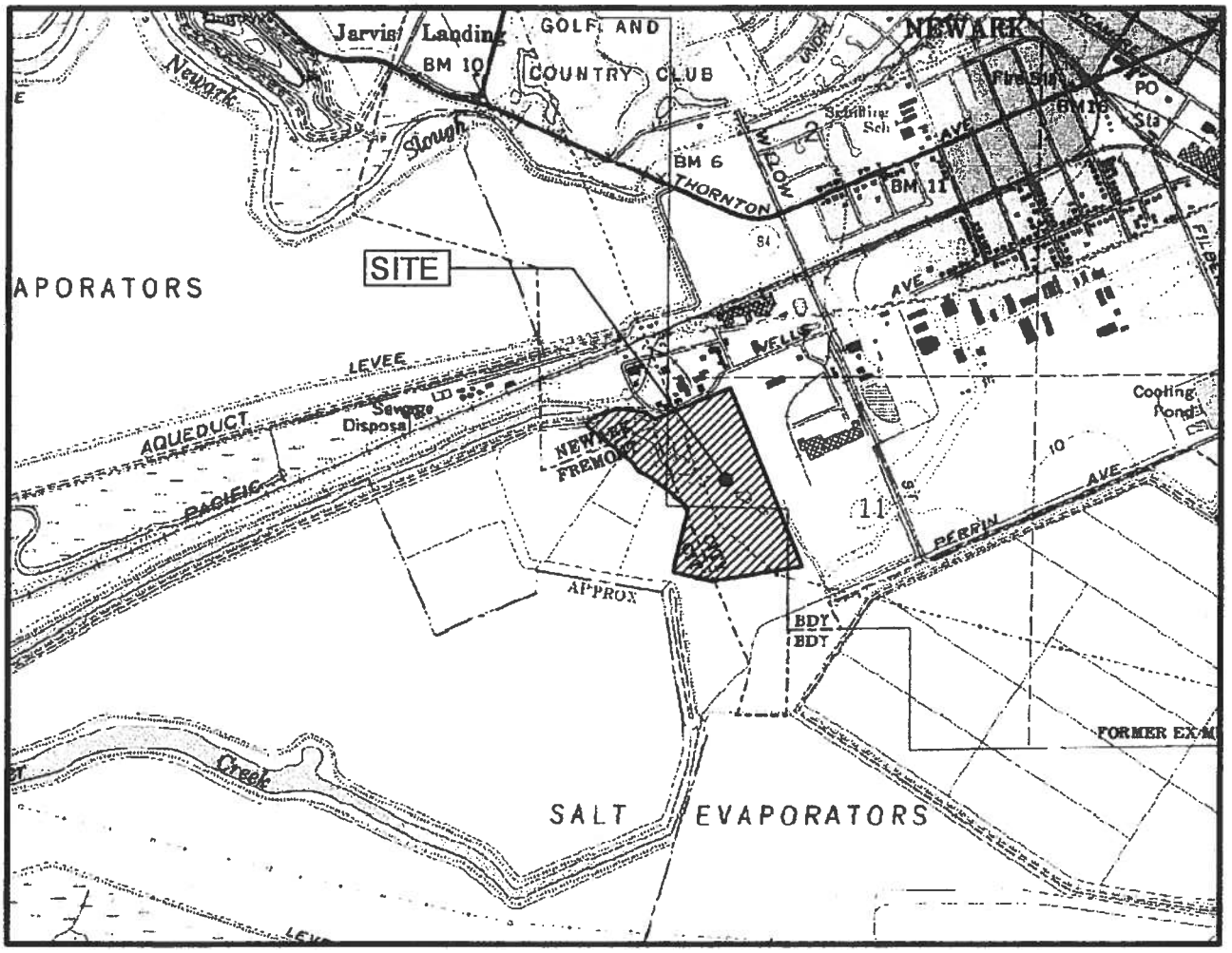
JOB NUMBER: 2914.101 DATE: 10-1-07 BY: CC



N

0 2000

1"=2000'

VICINITY MAP

HILL PARCEL NOA STUDY

ENTERPRISE DRIVE AND HICKORY STREET

NEWARK, CALIFORNIA

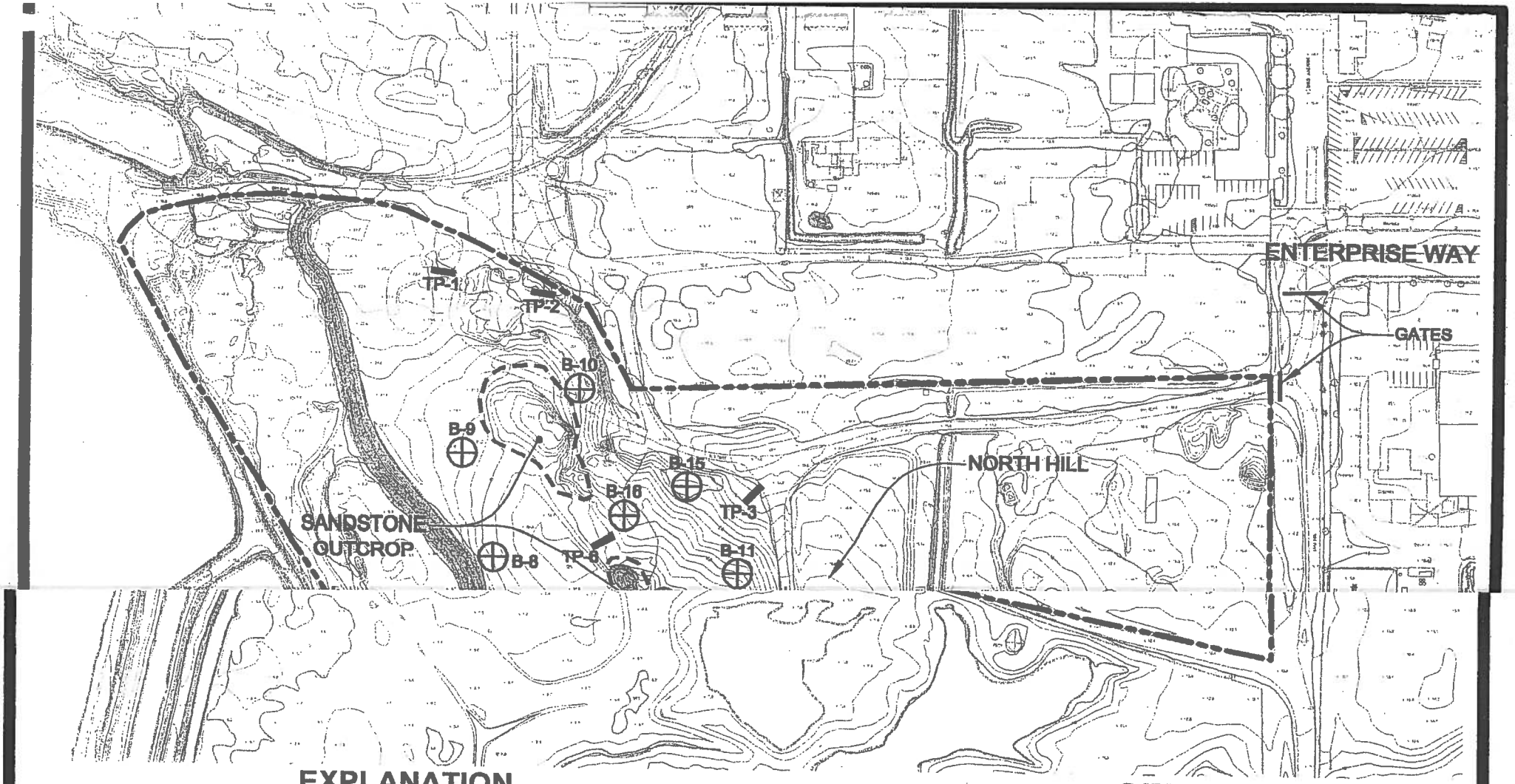
FOR

CARGILL SALT

BASE: PORTION OF U.S.G.S. 7.5 MINUTE TOPOGRAPHIC QUADRANGLE, NEWARK, CALIFORNIA, PHOTOREVISED 1983, AT A SCALE OF 1:24,000.

PLATE 1

BERLOGAR GEOTECHNICAL CONSULTANTS



EXPLANATION

LIMITS OF HILL PARCEL

10 — APPROXIMATE ROCK/SOIL BULK SAMPLE LOCATION (BGC, THIS STUDY)

TP-7 — APPROXIMATE TEST PIT LOCATION (BGC, THIS STUDY)

B-4 — APPROXIMATE BORING LOCATION (BGC, 2006)

B-15 — APPROXIMATE BORING LOCATION (BGC, 1998)

SITE PLAN

HILL PARCEL NOA STUDY

ENTERPRISE DRIVE AND HICKORY STREET

NEWARK, CALIFORNIA

FOR

CARGILL SALT

Berlogar Geotechnical Consultants

SOIL ENGINEERS * ENGINEERING GEOLOGISTS

BASE: PROVIDED BY CARGILL, VIA CD

Job No. 2914.101
Cargill Parcel 2
Newark, California

TEST PIT LOGS – 9/27/07

Test Pit Number	Depth (feet)	Description
TP-1 Elev. 23 feet	0 – 2	Clayey Gravel, gray-brown, moist, medium dense, with sand, trace roots, concrete and brick fragments, well-graded sand and gravel (FILL).
	2 – 6	Silty Clay, dark gray-brown, moist, very stiff.
	6 – 7	SANDSTONE, fine-grained, reddish-brown, weathered, fractured, moderately strong to weak, some oxidation staining. Top of Sandstone at 17-feet elevation
		Total Depth 7 feet No free groundwater encountered
TP-2 Elev. 19 feet	0 – 1½	Silty Gravel, gray-brown, dry, loose, trace brick fragments, some magnesium concretions (FILL).
	1½ – 3	SANDSTONE, fine-grained, tan, weathered, slightly fractured, moderately strong, some oxidation staining. Top of Sandstone at 17-feet elevation.
		Total Depth 3 feet No free groundwater encountered
TP-3 Elev. 14 feet	0 – 8	Silty Clay, dark gray, moist, stiff, some medium fine sand, trace gravel and asphalt concrete fragments, trace rootlets, sod, wood fragments and light brown and black mottling (FILL).
	8 – 12	Silty Clay, olive-brown, moist, stiff, slightly porous, trace oxidation, staining. No bedrock above 2-feet elevation.
		Total Depth 12 feet No free groundwater encountered
TP-4 Elev. 11 feet	0 – 2	Clayey Gravel, tan, slightly moist to dry, dense, trace rootlets, wood fragments (FILL).
	2 – 10	Sandy Clay, brown to reddish brown, moist, stiff, trace gravel.
	10 – 11	CLAYSTONE, reddish-brown, highly weathered, weak, moist, some oxidation staining.
	11 – 12	SANDSTONE, fine-grained, tan, highly weathered, friable, moist with some oxidation staining.
		Total Depth 12 feet No free groundwater encountered

Job No. 2914.101
Cargill Parcel 2
Newark, California

TEST PIT LOGS – 9/27/07

Test Pit Number	Depth (feet)	Description
TP-5 Elev. 12 feet	0 – 2	Silty Gravel, tan, moist to dry, some sand and magnesium concretions.
	2 – 6	Silty Clay, dark gray-brown, moist, stiff.
	6 – 7	SANDSTONE, fine-grained, reddish brown, highly weathered, highly fractured, friable to weak, some oxidation staining. Top of sandstone at 6-feet elevation.
		Total Depth 7 feet No free groundwater encountered
TP-6 Elev. 29 feet	0 – 2	Silty Gravel, gray-brown, slightly moist to dry, dense, fine to medium gravel, trace concrete fragments (FILL).
	2 – 12	Sandy Clay, dark gray-brown, moist, stiff, some gravel, trace concrete fragments, wood and plastic (FILL).
	12 – 14	SANDSTONE, fine-grained, reddish-brown, highly weathered, friable to weak, highly fractured, oxidation staining along fractures. Top of sandstone at 17-feet elevation.
TP-7 Elev. 9 feet	0 – 1	Sandy Clay, dark gray-brown, moist, medium stiff, trace magnesium concretions (FILL).
	1 – 4	Silty Clay, dark gray-brown, moist, stiff, trace fine sand.
	4 – 8	Clayey Silt, olive-brown, moist, medium stiff, trace oxidation staining, slightly porous.
	8 – 12	Clayey Sand, olive-brown, moist, medium dense, trace oxidation staining, fine sand.
	12 – 14	Sandy Clay, red-brown, very moist, stiff, fine-grained sand, trace oxidation staining. No bedrock above -5 feet elevation.
		Total Depth 14 feet Trace groundwater seepage at 9 feet

APPENDIX A

Boring Logs –

Borings B1 through B4, BGC 2006 and
B1 through B16, BGC 1998

BORING LOG B-1

JOB NUMBER: 2914.100 **DATE DRILLED:** 7-13-06

JOB NAME: Hill Parcel **SURFACE ELEVATION:** 8 feet

DRILL RIG: Rotary Wash **DATUM:** Mean Sea Level

SAMPLER TYPE: 2.5 inch I.D. Split Barrel **DRIVE WEIGHT - LB** 140 **HEIGHT OF FALL - IN** 30*

*Automatic Trip Hammer

BLOWS PER FT.	MOISTURE CONTENT %	DRY UNIT WEIGHT p.c.f.	DEPTH IN FEET	USCS CLASSI-FICATION	DESCRIPTION
				CL	SANDY CLAY with abundant GRAVEL, light gray-brown, dry to damp, stiff (fill)
				CL	SILTY CLAY, dark gray, damp, stiff, rootlets
20	18.7	106			
				CL	SILTY CLAY, yellow-brown, moist, stiff, gray rootlets
16	21.0	106			
			5		
				CL	SANDY CLAY,yellow-brown, saturated, medium stiff, fine-grained sand
6	24.3	101			
			10		
				CL/ML	SANDY CLAY/CLAYEY SILT, yellow-brown, moist to saturated, medium stiff, fine-grained sand
7	26.8	95			
			15		
				CL	SILTY CLAY, green-gray, moist, stiff
10	32.9	86			
			20		

PLATE

BORING LOG B-1

JOB NUMBER: 2914.100 **SHEET:** 2 **OF:** 2

JOB NAME: Hill Parcel **DEPTH:** 20 feet **TO** 30-1/2 feet

NOTES:

BLOWS PER FT.	MOISTURE CONTENT %	DRY UNIT WEIGHT p.c.f.	DEPTH IN FEET	USCS CLASSI-FICATION	DESCRIPTION
				CL	SILTY CLAY, green-gray, moist, stiff
					below 23 feet, hard
42	21.4	106	25		
				CL	SILTY CLAY, yellow-brown, moist, very stiff, minor carbonate
21	-	-	30		
					Boring terminated at 30-1/2 feet Groundwater obscured by rotary wash drill method
			35		
			40		

PLATE 4

BORING LOG B-2

JOB NUMBER: 2914.100 **DATE DRILLED:** 7-14-06

JOB NAME: Hill Parcel **SURFACE ELEVATION:** 8 feet

DRILL RIG: Rotary Wash **DATUM:** Mean Sea Level

SAMPLER TYPE: 2.5 inch I.D. Split Barrel **DRIVE WEIGHT - LB** 140 **HEIGHT OF FALL - IN** 30*

*Automatic Trip Hammer

BLOWS PER FT.	MOISTURE CONTENT %	DRY UNIT WEIGHT p.c.f.	DEPTH IN FEET	USCS CLASSI-FICATION	DESCRIPTION
20	-	-		CL	SANDY CLAY, dark gray-brown, moist, stiff, fine-grained sand, rootlets
11	20.2	100	5	CL	SILTY CLAY, light gray-brown, wet, stiff, some fine-grained sand, trace fine gravel at 4 feet, clayey sand
9	21.1	107	10	CL	SILTY CLAY/SANDY CLAY, brown, saturated, medium stiff to stiff, fine-grained sand
24	20.6	101	15	CL/SC	SANDY CLAY/CLAYEY SAND, brown, saturated, very stiff/medium dense, fine-grained sand, some silt
				CL	SILTY CLAY, light gray-brown, saturated, stiff
11	-	-	20	SM	SILTY SAND, light gray-brown, saturated, loose, fine-grained sand, some clay

BORING LOG B-2

JOB NUMBER: 2914.100 **SHEET:** 2 **OF:** 2

JOB NAME: Hill Parcel **DEPTH:** 20 feet **TO** 34-1/2 feet

NOTES:

BLOWS PER FT.	MOISTURE CONTENT %	DRY UNIT WEIGHT p.c.f.	DEPTH IN FEET	USCS CLASSI-FICATION	DESCRIPTION
				SM	SILTY SAND, light gray-brown, saturated, loose, fine-grained sand, some clay
				CL	SILTY CLAY, light gray to dark gray, saturated, very stiff
27	31.8	91			
			25		
				CL	SILTY CLAY, brown, saturated, very stiff to hard, trace fine-grained sand
31	21.1	106			
			30		
				CL	SILTY CLAY/SANDY CLAY, brown, saturated, stiff, fine-grained sand, some silt
11	22.4	111			
			35		Boring terminated at 34-1/2 feet Groundwater obscured by rotary wash drill method
			40		

PLATE 6

BORING LOG B-3

JOB NUMBER: 2914.100 **DATE DRILLED:** 7-14-06

JOB NAME: Hill Parcel **SURFACE ELEVATION:** 7 feet

DRILL RIG: Rotary Wash **DATUM:** Mean Sea Level

SAMPLER TYPE:	DRIVE WEIGHT - LB	HEIGHT OF FALL - IN
■ 2.5 inch I.D. Split Barrel	140	30*
☑ Standard Penetration Test	140	30*

*Automatic Trip Hammer

BLOWS PER FT.	MOISTURE CONTENT %	DRY UNIT WEIGHT p.c.f.	DEPTH IN FEET	USCS CLASSI-FICATION	DESCRIPTION
24	14.8	112		CL	SANDY CLAY, dark gray to light gray-brown, moist, very stiff, fine-grained sand, trace rootlets
15	22.5	104	5	CL	SILTY CLAY, light gray-brown, moist to wet, stiff
23	18.8	110	10		below 9 feet, very stiff, trace coarse gravel
6	-	-	15	CL/SC	SANDY CLAY/CLAYEY SAND, brown, saturated, loose to medium stiff
17	23.9	99	20	SM/ML	SILTY SAND/SANDY SILT, light gray-brown, saturated, loose to medium dense, fine-grained sand
				CL	SILTY CLAY, light gray-brown, saturated, stiff

BORING LOG B-3

JOB NUMBER: 2914.100 **SHEET:** 2 **OF:** 3

JOB NAME: Hill Parcel **DEPTH:** 20 feet **TO** 40 feet

NOTES:

BLOWS PER FT.	MOISTURE CONTENT %	DRY UNIT WEIGHT p.c.f.	DEPTH IN FEET	USCS CLASSI-FICATION	DESCRIPTION
17	23.9	99		CL	SILTY CLAY, light gray-brown, saturated, stiff
				CL	SILTY CLAY, gray, saturated, very stiff to hard
35	27.9	95	25		
				CL	SILTY CLAY, brown with light gray mottling, saturated, hard
54	19.0	109	30		
				CL	SILTY CLAY, light gray-brown, saturated, stiff, some fine-grained sand, trace caliche
16	26.4	99	35		
					below 38 feet, very stiff
35	22.4	105	40		

PLATE 8

BORING LOG B-3

JOB NUMBER: 2914.100 **SHEET:** 3 **OF:** 3

JOB NAME: Hill Parcel **DEPTH:** 40 feet **TO** 50-1/2 feet

NOTES:

BLOWS PER FT.	MOISTURE CONTENT %	DRY UNIT WEIGHT p.c.f.	DEPTH IN FEET	USCS CLASSI-FICATION	DESCRIPTION
35	22.4	105		CL	SILTY CLAY, light gray-brown, saturated, very stiff, some fine-grained sand, trace caliche
27	29.0	93	45		below 44 feet, trace black mottling
48	-	-	50	SP/GP	SAND/GRAVEL, gray-brown, saturated, dense, fine-to coarse-grained sand, fine to coarse gravel
			55 60		Boring terminated at 50-1/2 feet Groundwater obscured by rotary wash drill method

BORING LOG B-4

JOB NUMBER: 2914.100 **DATE DRILLED:** 7-14-06

JOB NAME: Hill Parcel **SURFACE ELEVATION:** 7 feet

DRILL RIG: Rotary Wash **DATUM:** Mean Sea Level

SAMPLER TYPE: 2.5 inch I.D. Split Barrel

DRIVE WEIGHT - LB: 140

HEIGHT OF FALL - IN: 30*

*Automatic Trip Hammer

BLOWS PER FT.	MOISTURE CONTENT %	DRY UNIT WEIGHT p.c.f.	DEPTH IN FEET	USCS CLASSI-FICATION	DESCRIPTION
26	20.2	101		CL	SANDY CLAY/SILTY CLAY, dark gray, moist, very stiff, fine-grained sand, trace caliche
25	19.9	109	5	CL	SILTY CLAY, light gray-brown, moist, very stiff
12	-	-			below 7 feet, stiff
			10	CL/SC	SANDY CLAY/CLAYEY SAND, light gray-brown, saturated, medium stiff, loose to medium dense, fine-grained sand
9	-	-		SM/SC	SILTY SAND/CLAYEY SAND, brown, saturated, loose, fine-grained sand
			15	CL/ML	SANDY CLAY/SILTY CLAY/CLAYEY SILT, brown, satuarted, medium stiff to stiff, fine-grained sand
17	18.2	109	20	CL	SILTY CLAY, dark brown to light gray-brown, saturated, stiff, some fine-grained sand

BORING LOG B-4

JOB NUMBER: 2914.100 **SHEET:** 2 **OF:** 2

JOB NAME: Hill Parcel **DEPTH:** 20 feet **TO** 30 feet

NOTES:

BLOWS PER FT.	MOISTURE CONTENT %	DRY UNIT WEIGHT p.c.f.	DEPTH IN FEET	USCS CLASSI-FICATION	DESCRIPTION
				CL	SILTY CLAY, dark brown to light gray-brown, saturated, stiff, some fine-grained sand
				CL	SILTY CLAY, light gray-brown, saturated, hard, some bedrock structure
56	27.1	98			
			25		
				CL	SILTY CLAY with GRAVEL, saturated, hard, fine-gravel
60	24.7	101			
			30		
					Boring terminated at 30 feet Groundwater obscured by rotary wash drill method
			35		
			40		

PLATE 11

BORING LOG B-1

JOB NUMBER: 1629.403 **DATE DRILLED:** 3-26-98

JOB NAME: FMC Site **SURFACE ELEVATION:** 49-1/2 feet

DRILL RIG: Hollow Auger **DATUM:** Mean Sea Level

SAMPLER TYPE: ■ 2.5 inch I.D. Split Barrel Sample **DRIVE WEIGHT - LB** 140 **HEIGHT OF FALL - IN** 30

BLOWS PER FT.	MOISTURE CONTENT %	DRY UNIT WEIGHT p.c.f.	DEPTH IN FEET	USCS CLASSI-FICATION	DESCRIPTION
24	21.8	83			ALKALINE MATERIAL (magnesia), mottled gray-white and gray, very stiff, some gypsum
33	22.7	78			
22	28.5	77	5		at 5 feet, becomes dark gray at 5-1/2 feet, rust veinlet
37	34.2	58	10	M L	SANDY SILT, brown, moist, very stiff, yellow-white alkaline material
					ALKALINE MATERIAL (magnesia), gray-white, moist, very stiff
11	35.2	71	15	S W	SAND, light brown, moist, loose, medium grained
					ALKALINE MATERIAL (megnesia), gray-white, moist
35	23.5	85	20	M L	SANDY SILT, gray-brown, moist, medium stiff

BORING LOG B-1

JOB NUMBER: 1629.403 **SHEET:** 2 **OF:** 2

JOB NAME: FMC Site **DEPTH:** 20 feet **TO** 25-1/2 feet

NOTES:

BLOWS PER FT.	MOISTURE CONTENT %	DRY UNIT WEIGHT p.c.f.	DEPTH IN FEET	USCS CLASSI-FICATION	DESCRIPTION
35	23.5	85		M L	SANDY SILT, gray-brown, moist, medium stiff
					ALKALINE MATERIAL (magnesia), gray-white and yellow-white, moist, medium stiff
50/3"	-	-	25		SILTSTONE, red-brown, highly weathered, friable, highly fractured
					Boring terminated at 25-1/2 feet. No free water encountered.
			30		
			35		
			40		

BORING LOG B-2

JOB NUMBER: 1629.403 **DATE DRILLED:** 3-26-98

JOB NAME: FMC Site **SURFACE ELEVATION:** 44-1/2 feet

DRILL RIG: Hollow Auger **DATUM:** Mean Sea Level

SAMPLER TYPE: ■ 2.5 inch I.D. Split Barrel Sample **DRIVE WEIGHT - LB** 140 **HEIGHT OF FALL - IN** 30

BLOWS PER FT.	MOISTURE CONTENT %	DRY UNIT WEIGHT p.c.f.	DEPTH IN FEET	USCS CLASSI-FICATION	DESCRIPTION
50	21.8	81		M L	SANDY SILT, gray, moist, hard, alkaline material
50/3"	23.1	74			ALKALINE MATERIAL (magnesia), mottled gray and white, moist, hard, trace sand
14	20.0	70	5		at 5 feet, mottled white and orange-white, stiff at 5-1/2 feet, white
19	19.7	75	10		
38	17.1	74	15		at 15 feet, siltstone fragments at 15-1/2 feet, white, very stiff, trace fine gravel
41	24.1	75	20		

BORING LOG B-2

JOB NUMBER: 1629.403 **SHEET:** 2 **OF:** 2

JOB NAME: FMC Site **DEPTH:** 20 feet **TO** 21-1/2 feet

NOTES:

BLOWS PER FT.	MOISTURE CONTENT %	DRY UNIT WEIGHT p.c.f.	DEPTH IN FEET	USCS CLASSI-FICATION	DESCRIPTION
41	24.1	75			ALKALINE MATERIAL (magnesia), white, moist, very stiff, trace fine gravel
				CL	SILTY CLAY, dark brown, moist, very stiff
			25		Boring terminated at 21-1/2 feet. No free water encountered.
			30		
			35		
			40		

BORING LOG B-3

JOB NUMBER: 1629.403 **DATE DRILLED:** 3-26-98

JOB NAME: FMC Site **SURFACE ELEVATION:** 40-1/2 feet

DRILL RIG: Hollow Auger **DATUM:** Mean Sea Level

SAMPLER TYPE: 2.5 inch I.D. Split Barrel Sample **DRIVE WEIGHT - LB** 140 **HEIGHT OF FALL - IN** 30

BLOWS PER FT.	MOISTURE CONTENT %	DRY UNIT WEIGHT p.c.f.	DEPTH IN FEET	USCS CLASSI-FICATION	DESCRIPTION
21	23.7	76			ALKALINE MATERIAL (magnesia), gray-white, moist, stiff
17	23.2	65			
13	25.3	69	5		at 6 feet, gypsum
14	26.7	61	10		at 10 feet, becomes white
20	30.0	61	15		at 15 feet, becomes gray-white
58	22.5	70	20		

BORING LOG B-3

JOB NUMBER: 1629.403 **SHEET:** 2 **OF:** 2

JOB NAME: FMC Site **DEPTH:** 20 feet **TO** 31 feet

NOTES:

BLOWS PER FT.	MOISTURE CONTENT %	DRY UNIT WEIGHT p.c.f.	DEPTH IN FEET	USCS CLASSI-FICATION	DESCRIPTION
58	22.5	70			ALKALINE MATERIAL (magnesia), gray-white, moist, stiff
					at 20 feet, becomes hard, wood debris and gypsum
			25		
22	26.3	72			at 25 feet, very stiff
			30		
32	53.3	59		CL	SILTY CLAY, dark brown, moist, very stiff
					Boring terminated at 31 feet. No free water encountered.
			35		
			40		

BORING LOG B-4

JOB NUMBER: 1629.403 **DATE DRILLED:** 3-26-98

JOB NAME: FMC Site **SURFACE ELEVATION:** 52-1/2 feet

DRILL RIG: Hollow Auger **DATUM:** Mean Sea Level

SAMPLER TYPE: ■ 2.5 inch I.D. Split Barrel Sample **DRIVE WEIGHT - LB** 140 **HEIGHT OF FALL - IN** 30

BLOWS PER FT.	MOISTURE CONTENT %	DRY UNIT WEIGHT p.c.f.	DEPTH IN FEET	USCS CLASSI-FICATION	DESCRIPTION
50/5"	18.1	102		ML	SANDY SILT, gray-brown, dry to mist, hard
					ALKALINE MATERIAL (magnesia), gray-white, moist, hard, some silt
				ML	CLAYEY SILT, dry red, moist
76	30.9	79			ALKALINE MATERIAL (magnesia), mottled gray-white, dark gray and red, moist, hard
			5		
76	21.6	85			
				CL	SILTY CLAY, dark brown, moist
					Boring terminated at 7 feet. No free water encountered.
			10		
			15		
			20		

BORING LOG B-5

JOB NUMBER: 1629.403 **DATE DRILLED:** 3-26-98

JOB NAME: FMC Site **SURFACE ELEVATION:** 35 feet

DRILL RIG: Hollow Auger **DATUM:** Mean Sea Level

SAMPLER TYPE: ■ 2.5 inch I.D. Split Barrel Sample

DRIVE WEIGHT - LB: 140

HEIGHT OF FALL - IN: 30

BLOWS PER FT.	MOISTURE CONTENT %	DRY UNIT WEIGHT p.c.f.	DEPTH IN FEET	USCS CLASSI-FICATION	DESCRIPTION
17	48.4	62			ALKALINE MATERIAL (magnesia), white, moist to wet, stiff
66	30.0	63			at 2 feet, some silty sand, gray-brown
50/5"	--	-	5		SANDSTONE, red-orange and light brown, highly weathered, friable, highly fractured
			10		Boring terminated at 6 feet. No free water encountered.
			15		
			20		

BORING LOG B-6

JOB NUMBER: 1629.403 **DATE DRILLED:** 3-26-98

JOB NAME: FMC Site **SURFACE ELEVATION:** 23-1/2 feet

DRILL RIG: Hollow Auger **DATUM:** Mean Sea Level

SAMPLER TYPE: ■ 2.5 inch I.D. Split Barrel Sample **DRIVE WEIGHT - LB** 140 **HEIGHT OF FALL - IN** 30

BLOWS PER FT.	MOISTURE CONTENT %	DRY UNIT WEIGHT p.c.f.	DEPTH IN FEET	USCS CLASSI-FICATION	DESCRIPTION
25	33.4	75			ALKALINE MATERIAL (magnesia), white, dry to moist, very stiff
24	39.1	67			at 1/2 foot, mottled gray-brown and white, moist, trace medium-grained sand
13	30.1	75	5		at 5 feet, sandy silt, gray-brown, moist, stiff, white alkaline material
22	33.2	60	10		
					at 13-1/2 feet, more silt
			15		from 15 to 15-1/2 feet, clayey silt
					from 17-1/2 to 18 feet, some gypsum
37	33.7	87			
				CL	SILTY CLAY, dark brown, moist, very stiff
			20		Boring terminated at 19 feet. No free water encountered.

BORING LOG B-7

JOB NUMBER: 1629.403 **DATE DRILLED:** 3-26-98

JOB NAME: FMC Site **SURFACE ELEVATION:** 28-1/2 feet

DRILL RIG: Hollow Auger **DATUM:** Mean Sea Level

SAMPLER TYPE: ■ 2.5 inch I.D. Split Barrel Sample **DRIVE WEIGHT - LB** 140 **HEIGHT OF FALL - IN** 30

BLOWS PER FT.	MOISTURE CONTENT %	DRY UNIT WEIGHT p.c.f.	DEPTH IN FEET	USCS CLASSI-FICATION	DESCRIPTION
16	33.3	79			ALKALINE MATERIAL (magnesia), gray-brown and white, moist, stiff, some gypsum
28	25.4	83			at 1-1/2 feet, more silt, trace fine to medium gravel
					at 2-1/2 feet, some sand
11	32.5	79	5		at 5 feet, medium stiff
15	31.8	75	10		at 10 feet, gray-white, stiff
21	26.6	85	15	C L	SILTY CLAY, dark brown, wet, stiff
					ALKALINE MATERIAL (magnesia), gray-white, moist, stiff
				C L	SILTY CLAY, dark brown
			20		Boring terminated at 20 feet. No free water encountered.

BORING LOG B-8

JOB NUMBER: 1629.403 **DATE DRILLED:** 3-26-98

JOB NAME: FMC Site **SURFACE ELEVATION:** 15 feet

DRILL RIG: Hollow Auger **DATUM:** Mean Sea Level

SAMPLER TYPE: 2.5 inch I.D. Split Barrel Sample **DRIVE WEIGHT - LB** 140 **HEIGHT OF FALL - IN** 30

BLOWS PER FT.	MOISTURE CONTENT %	DRY UNIT WEIGHT p.c.f.	DEPTH IN FEET	USCS CLASSI-FICATION	DESCRIPTION
26	28.5	70		M L	SANDY SILT, tan, moist, very stiff with alkaline material
65	41.1	68			ALKALINE MATERIAL (magnesia), gray white
				M L	SANDY SILT, tan, moist, hard
14	76.9	48	5		ALKALINE MATERIAL (magnesia), white, wet, stiff,
				M L	SANDY SILT, brown, saturated, stiff
			10		Boring terminated at 6-1/2 feet. Free water encountered at 6-1/2 feet.
			15		
			20		

BORING LOG B-9

JOB NUMBER: 1629.403 **DATE DRILLED:** 3-27-98

JOB NAME: FMC Site **SURFACE ELEVATION:** 37 feet

DRILL RIG: Hollow Auger **DATUM:** Mean Sea Level

SAMPLER TYPE: 2.5 inch I.D. Split Barrel Sample **DRIVE WEIGHT - LB:** 140 **HEIGHT OF FALL - IN:** 30

BLOWS PER FT.	MOISTURE CONTENT %	DRY UNIT WEIGHT p.c.f.	DEPTH IN FEET	USCS CLASSI-FICATION	DESCRIPTION
72	18.1	94			ALKALINE MATERIAL (magnesia), mottled off-white and white, dry , hard
29	31.0	78			
				S M	SILTY SAND, light brown, dry, very stiff, fine to medium-grained,
46	43.9	63	5		ALKALINE MATERIAL (magnesia), off-white and white, dry to moist, hard, gypsum at 5-1/2 feet
28	51.8	59	10		
50/5"	–	–	15		SILTSTONE, dry, highly weathered, friable, highly fractured
			20		Boring terminated at 16-1/2 feet. No free water encountered.

BORING LOG B-10

JOB NUMBER: 1629.403 **DATE DRILLED:** 3-27-98

JOB NAME: FMC Site **SURFACE ELEVATION:** 33-1/2 feet

DRILL RIG: Hollow Auger **DATUM:** Mean Sea Level

SAMPLER TYPE: ■ 2.5 inch I.D. Split Barrel Sample **DRIVE WEIGHT - LB** 140 **HEIGHT OF FALL - IN** 30

BLOWS PER FT.	MOISTURE CONTENT %	DRY UNIT WEIGHT p.c.f.	DEPTH IN FEET	USCS CLASSI-FICATION	DESCRIPTION
20	31.8	76			ALKALINE MATERIAL (magnesia), white, moist, stiff,
					below 1/2 foot, red-brown and white
15	40.8	69			below 2 feet, white
			5		
59/9"	35.0	76			below 6 feet, white and tan, wet, gray, hard
				CL	SILTY CLAY, dark brown, moist with gravel
					Boring terminated at 7 feet. No free water encountered.
			10		
			15		
			20		

BORING LOG B-11

JOB NUMBER: 1629.403 **DATE DRILLED:** 3-27-98

JOB NAME: FMC Site **SURFACE ELEVATION:** 32-1/2 feet

DRILL RIG: Hollow Auger **DATUM:** Mean Sea Level

SAMPLER TYPE: ■ 2.5 inch I.D. Split Barrel Sample **DRIVE WEIGHT - LB** 140 **HEIGHT OF FALL - IN** 30

BLOWS PER FT.	MOISTURE CONTENT %	DRY UNIT WEIGHT p.c.f.	DEPTH IN FEET	USCS CLASSI-FICATION	DESCRIPTION
73	25.0	76			ALKALINE MATERIAL (magnesia), gray-white, moist, hard,
				M L	SANDY SILT, mottled brown and dark brown, dry, hard with siltstone fragments
25	27.0	76			ALKALINE MATERIAL (magnesia), gray-white, moist, hard
					below 1-1/2 feet, white, very stiff
25	26.7	81	5		below 5 feet, mottled white and gray below 5-1/2 feet, white below 6 feet, dark gray
14	25.1	78	10	M L	SANDY SILT, brown, moist, stiff, trace fine gravel
					ALKALINE MATERIAL (magnesia), mottled white, tan and green, moist, stiff
45	35.2	71	15		below 15 feet, off-white and white
2	-		20	M L	CLAYEY SILT, brown, wet, very soft

BORING LOG

B-11

JOB NUMBER: 1629.403 **SHEET:** 2 **OF:** 2

JOB NAME: FMC Site **DEPTH:** 20 **TO** 21-1/2 feet

NOTES:

BLOWS PER FT.	MOISTURE CONTENT %	DRY UNIT WEIGHT p.c.f.	DEPTH IN FEET	USCS CLASSI-FICATION	DESCRIPTION
2				M L	CLAYEY SILT, brown, wet, very soft
					Boring terminated at 21-1/2 feet. No free water encounterd.
			25		
			30		
			35		
			40		

BORING LOG B-12

JOB NUMBER: 1629.403 **DATE DRILLED:** 3-27-98

JOB NAME: FMC Site **SURFACE ELEVATION:** 19 feet

DRILL RIG: Hollow Auger **DATUM:** Mean Sea Level

SAMPLER TYPE: ■ 2.5 inch I.D. Split Barrel Sample **DRIVE WEIGHT - LB** 140 **HEIGHT OF FALL - IN** 30

BLOWS PER FT.	MOISTURE CONTENT %	DRY UNIT WEIGHT p.c.f.	DEPTH IN FEET	USCS CLASSI-FICATION	DESCRIPTION
50/3"	30.4	60			ALKALINE MATERIAL (magnesia), gray-white, moist, hard
					below 1/2 foot, gray-brown, some fine-grained gravel
					between 1-1/2 feet and 3 feet, hard
			5		
28	47.6	64			
				M L	CLAYEY SILT, dark brown, moist, very stiff
					Boring terminated at 7-1/2 feet.
					No free water encountered.
			10		
			15		
			20		

BORING LOG B-13

JOB NUMBER: 1629.403 **DATE DRILLED:** 3-27-98

JOB NAME: FMC Site **SURFACE ELEVATION:** 12-1/2 feet

DRILL RIG: Hollow Auger **DATUM:** Mean Sea Level

SAMPLER TYPE: ■ 2.5 inch I.D. Split Barrel Sample **DRIVE WEIGHT - LB** 140 **HEIGHT OF FALL - IN** 30

BLOWS PER FT.	MOISTURE CONTENT %	DRY UNIT WEIGHT p.c.f.	DEPTH IN FEET	USCS CLASSI-FICATION	DESCRIPTION
					ALKALINE MATERIAL (magnesia), gray-white, dry
8	31.5	60			below 2-1/2 feet, white, medium stiff, some medium-grained sand
			5		
36	35.9	80			
				C L	SILTY CLAY, black, moist to wet, very stiff
			10		Boring terminated at 8-1/2 feet. No free water encountered.
			15		
			20		

BORING LOG B-14

JOB NUMBER: 1629.403 **DATE DRILLED:** 3-27-98

JOB NAME: FMC Site **SURFACE ELEVATION:** 25 feet

DRILL RIG: Hollow Auger **DATUM:** Mean Sea Level

SAMPLER TYPE: 2.5 inch I.D. Split Barrel Sample **DRIVE WEIGHT - LB** 140 **HEIGHT OF FALL - IN** 30

BLOWS PER FT.	MOISTURE CONTENT %	DRY UNIT WEIGHT p.c.f.	DEPTH IN FEET	USCS CLASSI-FICATION	DESCRIPTION
41	32.3	76			ALKALINE MATERIAL (magnesia), light gray, moist, very stiff
					below 1-1/2 feet, hard
77	33.6	80			
			5		
95/ 11"	37.4	74			
			10		
81	37.9	76			at 10 feet, orange veinlet below 10-1/2 feet, light gray and white below 11 feet, tan
			15		
13	51.6	64			below 15 feet, white, wet below 16 feet, speckled black and white
			20		
50/1"	-	-			SANDSTONE, brown, highly weathered, friable, highly fractured

BORING LOG B-14

JOB NUMBER: 1629.403 **SHEET:** 2 **OF:** 2

JOB NAME: FMC Site **DEPTH:** 20 **TO** 20-1/2 feet

NOTES:

BLOWS PER FT.	MOISTURE CONTENT %	DRY UNIT WEIGHT p.c.f.	DEPTH IN FEET	USCS CLASSI-FICATION	DESCRIPTION
50/1"	-	-			SANDSTONE, brown, highly weathered, friable, highly fractured
					Boring terminated at 20-1/2 feet. No free water encountered at 18 feet.
			25		
			30		
			35		
			40		

BORING LOG B-15

JOB NUMBER: 1629.403 **DATE DRILLED:** 3-27-98

JOB NAME: FMC Site **SURFACE ELEVATION:** 20-1/2 feet

DRILL RIG: Hollow Auger **DATUM:** Mean Sea Level

SAMPLER TYPE: ■ 2.5 inch I.D. Split Barrel Sample **DRIVE WEIGHT - LB** 140 **HEIGHT OF FALL - IN** 30

BLOWS PER FT.	MOISTURE CONTENT %	DRY UNIT WEIGHT p.c.f.	DEPTH IN FEET	USCS CLASSI-FICATION	DESCRIPTION
				ML	CLAYEY SILT, gray-brown
21	35.5	66	5		ALKALINE MATERIAL (magnesia), white, moist, stiff
48	-	-		CL	SILTY CLAY, orange-brown, moist to wet, very stiff
			10 15 20		Boring terminated at 8-1/2 feet. No free water encountered.

BORING LOG B-16

JOB NUMBER: 1629.403 **DATE DRILLED:** 3-27-98

JOB NAME: FMC Site **SURFACE ELEVATION:** 32-1/2 feet

DRILL RIG: Hollow Auger **DATUM:** Mean Sea Level

SAMPLER TYPE: 2.5 inch I.D. Split Barrel Sample **DRIVE WEIGHT - LB** 140 **HEIGHT OF FALL - IN** 30

BLOWS PER FT.	MOISTURE CONTENT %	DRY UNIT WEIGHT p.c.f.	DEPTH IN FEET	USCS CLASSI-FICATION	DESCRIPTION
					ALKALINE MATERIAL (magnesia), white, moist, stiff
16	-	-		M L	SANDY SILT, dark brown, moist, stiff, sitlstone fragments
					Boring terminated at 3-1/2 feet. No free water encountered.
			5		
			10		
			15		
			20		

APPENDIX B

Laboratory Test Results

RJ Lee Group, Inc.
530 McCormick Street, San Leandro, CA 94577
Tel: (510) 567-0480 | Fax: (510) 567-0488

Laboratory Report

Berlogar Geotechnical Consultants
5587 Sunol Boulevard
Pleasanton, CA 94566
Attention: Mr. Bill Stevens
Telephone: 925-484-0220

Report Date	10/4/2007
Sample Receipt Date.	9/27/2007
RJ Lee Group Job No	AOC709243
Project location	Cargill / Newark CA
Authorization/P.O. No.	2914.101
Client Job No./Name	2914.101

Determination of Asbestos Content of Serpentine Aggregate
Method: CARB 435

RJLG Sample Number	Client Sample Number	Description	Asbestos Detected(%)	Non-Asbestos Fibers(%)	Non-Fibrous Materials(%)	Matrix Material	Analyst - Analysis Date
2805369.HPL	#1	Blue/Green Gravel	0.25 CH	5.00 W	94.75	Q, CL, B, G, Ml, M	TEM-10/4/2007
2805370.HPL	#2	Gray Soil	3.00 CH	-	97.00	Q, CA, CL, B, G, M	TEM-10/3/2007
2805371.HPL	#3	Gray Soil	1.00 CH	-	99.00	Q, CA, CL, B, G, M	TEM-10/3/2007
2805372.HPL	#4	Beige Soil	0.75 CH	-	99.25	Q, CL, B, OP, M	TEM-10/3/2007
2805373.HPL	#5	Blue/Green Soil	1.25 CH	-	98.75	Q, CA, CL, B, F, OP, G, M	TEM-10/3/2007
2805374.HPL	#6	Blue/Green Soil	6.25 CH	-	93.75	Q, CA, CL, B, OP, G, M	TEM-10/3/2007
2805375.HPL	#7	Gray/Brown Soil	1.75 CH	-	98.25	Q, CA, CL, B, F, OP, G, M	TEM-10/3/2007
2805376.HPL	#8	Blue/Green Soil	0.50 CH	-	99.50	Q, CA, CL, B, F, OP, G, M	TEM-10/3/2007

RJ Lee Group, Inc.

RJ Lee Group Job No: AOC709243

Client Job No./Name: 2914.101

RJLG Sample Number	Client Sample Number	Description	Asbestos Detected(%)	Non-Asbestos Fibers(%)	Non-Fibrous Materials(%)	Matrix Material	Analyst - Analysis Date
2805377.HPL	#9	Blue/Green Soil	0.75 CH	-	99.25	Q, CA, CL, B, F, OP, G, M	TEM-10/3/2007
2805378.HPL	#10	Blue/Green Soil	0.75 CH	<1 CE	99.25	CA, CL, B, F, OP, G, M	TEM-10/3/2007

OCT. 4. 2007 8:26AM R J LEE GROUP INC NO. 5692 P. 3

RJ LeeGroup, Inc.

Laboratory Report (cont.)

Client Job No./Name: 2914.101

RJ Lee Group Job No: AOC709243

Authorized Signature _____

Tracy Mitchell, PLM Analyst

ASBESTOS

AM = Amosite
AC = Actinolite
AN = Anthophyllite
CH = Chrysotile
CR = Crocidolite
TR = Tremolite

NON-ASBESTOS

CE = Cellulose
MW = Mineral Wool
FG = Fibrous Glass
SF = Synthetic Fibers
H = Hair
W = Wollastonite
OF = Other Fibers

NON-FIBROUS MATERIALS

AM = Amphibole
B = Binder
CA = Carbonates
CL = Clay
F = Feldspar
G = Gypsum
HY = Hydromagnesite
M = Miscellaneous
MI = Mica
OP = Opaque
OR = Organic
P = Perlite
Q = Quartz
T = Tar
V = Vermiculite

DISCLAIMER NOTES

- "ND" indicates no asbestos was detected in the sample portion analyzed; the method detection limit is 0.25%.
- "Trace" or "<0.25" indicates asbestos was identified in the sample portion analyzed, but at a concentration of less than the detection limit of 0.25%. PLM coefficients of variance range from approximately 1.8 at the detection limit of 0.25% to 0.1 at high fiber concentrations.
- Samples are archived for three months following analysis and are then properly discarded.
- These results are submitted pursuant to RJ Lee Group's current terms and conditions of sale, including the company's standard warranty and limitation of liability provisions. No responsibility or liability is assumed for the manner in which these results are used or interpreted.
- This test report relates to the items tested.
- This report is not valid unless it bears the name of a NVLAP-approved signatory.
- Any reproduction of this document must be in full in order for the report to be valid.
- This report may not be used to claim product endorsement by NVLAP, any agency of the U.S Government or any other laboratory accrediting agency.
- Polarized-light microscopy is not consistently reliable in detecting asbestos in floor coverings and similar nonfriable organically bound materials. Quantitative transmission electron microscopy is currently the only method that can be used to determine if this material can be considered or treated as "non-asbestos-containing."
- Sample(s) for this project were analyzed at our: San Leandro, CA (NVLAP #101208-2) facility.
- If RJ Lee Group, Inc. did not collect the samples analyzed, the verifiability of the laboratory's results are limited to the reported values.

RJLeeGroup, Inc. Sample Transmittal Form

Company: Berlogar Geotechnical
Address: 5587 Sunol Boulevard
Pleasanton CA 94566
Attn: BILL STEVENS
Phone: 925-484-0220 Fax: 925-846-9645
Special Instructions:

Analysis Type	Turn Around Time
PLM BULK	☐ 8 Hours ☐ 24 Hours ☐ 72 Hours ☒ 3-5 Days
CARB 435	

PO Number:
Job Number: 2914.101
Project Name/Location: CARGILL / NEWARK
Sampled By: BILL STEVENS
Date: 9/27/07

Sample ID	Date	Description	Location
	9/27/07	DARK BLUE GREEN GRAVEL	CARGILL
#2	9/27/07	BLUE GREEN WEATHERED GRAVEL	CARGILL
#3	9/27/07	Blue Green weathered Gravel	CARGILL
#4	9/27/07	GRAY BROWN GRAVEL w/ TRACE SILT	CARGILL
#5	9/27/07	DARK BLUE GREEN WEATHERED GRAVEL	CARGILL
#6	9/27/07	BLUE GREEN GRAVEL	CARGILL
#7	9/27/07	GRAY/BROWN GRAVEL/SILT MIXTURE	CARGILL
#8	9/27/07	DARK BLUE GREEN WEATHERED GRAVEL	CARGILL

Chain of Custody:

Date	Time	Relinquished By	Company	Received By	Company	Date	Time
				[illegible]	RJLG	9/27	2:49

Samples Accepted: ☐ Yes ☐ No
Reason Rejected:

ACCW4243

RJLeeGroup, Inc. Sample Transmittal Form

Company: Berlogar Geotechnical
Address: 5587 Sunol Boulevard
Pleasanton CA 94566
Attn: BILL STEVENS
Phone: 925-484-0220 Fax: 846-9645
925
Special Instructions:

Analysis Type	Turn Around Time
PLM BULK	☐ 8 Hours ☐ 24 Hours ☒ 72 Hours ☒ 3-5 Days ☐
CARB 435	

PO Number:
Job Number: 2914.101
Project Name/Location: CARGILL / NEWARK
Sampled By: BILL STEVENS
Date: 9/27/07

Date: 9/27/07	Description: DARK BLUE GREEN GRAVEL
Sample ID: #9	Location: CARGILL
Date: 9/27/07	Description: DARK BLUE GREEN GRAVEL
Sample ID: #10	Location: CARGILL
Date:	Description:
Sample ID:	Location:
Date:	Description:
Sample ID:	Location:
Date:	Description:
Sample ID:	Location:
Date:	Description:
Sample ID:	Location:
Date:	Description:
Sample ID:	Location:

Chain of Custody:

Date	Time	Relinquished By	Company	Received By	Company	Date	Time
				[illegible]	RJLG	9/27	2:40p

Samples Accepted: ☐ Yes ☐ No
Reason Rejected:

PHASE I
ENVIRONMENTAL SITE ASSESSMENT

Cargill Parcel
Newark, California

This report has been prepared for:

Dumbarton Area 2, LLC
3 San Joaquin Plaza, Suite 100
Newport Beach, California 92660

August 30, 2011
Project No. 186974

Stason I. Foster, P.E.
Senior Project Engineer

James P. Schwartz, P.G.
Principal Geologist

Expiration Date 4/30/12

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August 30, 2011
186974

Mr. Glenn Brown
DUMBARTON AREA 2, LLC
190 N. Wiget Lane, Suite 101
Walnut Creek, California 94598

RE: PHASE I ENVIRONMENTAL SITE ASSESSMENT
CARGILL PARCEL
NEWARK, CALIFORNIA
UNION CITY, CALIFORNIA

Dear Mr. Brown:

As requested, we have performed a Phase I Environmental Site Assessment (ESA) at the Cargill Parcel in Union City, California. We refer you to the text of the report for details regarding this study.

Thank you for choosing us to assist you. If you have any questions, please call and we will be glad to discuss them with you.

Very truly yours,

TRC

James P. Schwartz, P.G.
Principal Geologist

SIF:JPS:jcm

Copies: Addressee (1 copy and CD)

SR, 186974 Cargill Parcel Phase I ESA Rpt 083011.doc

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1.0 INTRODUCTION

TRC Environmental Corporation (TRC) prepared this Phase I Environmental Site Assessment (ESA) for Integral Communities

1.1 Statement of Purpose

This Phase I ESA was performed on a 54.53 acre property owned by Cargill located at the western terminus of Enterprise Drive in Newark, Alameda County, California (hereinafter the "subject property" or "site") A site location map is presented as Figure 1. This Phase I ESA has been prepared by TRC in general accordance with American Society for Testing and Materials (ASTM) E 1527-05 *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process* and is intended for the sole use of Integral Communities (User or Client). The purpose of this assessment is to identify *Recognized Environmental Conditions* as defined in the ASTM E 1527-05 standard, in connection with the property.

1.2 Scope of Investigation/Services

This Phase I ESA consisted of the following tasks:

- Site reconnaissance.
- Description of historical site conditions.
- Review of environmental database and regulatory agency records.
- Investigation of historical site conditions.
- Preparation of a report summarizing findings, opinions, and conclusions.

1.3 Limitations and Exceptions

1.3.1 Accuracy and Completeness

TRC makes no guarantees as to the accuracy or completeness of information obtained from others. It is possible that information exists beyond the scope of this investigation or that was not provided to TRC. Additional data subsequently provided, discovered, or produced may alter findings or conclusions made in this Phase I ESA report. TRC is under no obligation to update this report to reflect such subsequent information. The findings presented in this report are based upon the information reasonably available and observed site conditions at the time of this

assessment. Conditions may have changed since that time and the findings, and conclusions of this report are not meant to be indicative of future conditions at the subject property. This report may not be relied on by any party other than the client with whom TRC has contracted to prepare this report.

1.3.2 Warranties and Representations

This report does not warrant against: (1) operations or conditions which were not in evidence from visual observations or historical information obtained; (2) conditions which could only be determined by physical sampling or other intrusive investigation techniques; or (3) locations other than the Client provided addresses and/or legal parcel description or information on off-site locations (with possible impact on the subject properties) not published in records reviewed.

1.3.3 Continued Validity/User Reliance

This report is presumed to be valid, in accordance with the limitations specified in ASTM E 1527-05, for a period of 180 days from its completion or until the Integral Communities obtains specific information that may materially alter a Finding, Opinion, or Conclusion in this report, or until Integral Communities is notified by TRC that it has obtained specific information that materially alter a Finding, Opinion, or Conclusion in this report.

If within the period, the assessment will be used by a different user than Integral Communities, subsequent users must also satisfy the User's Responsibilities specified in ASTM E 1527-05.

1.3.4 Exceptions to the ASTM E 1527-05 Practice

This assessment was conducted to obtain information on past or present environmental conditions or activities on the subject property that may present environmental risks or liabilities per the ASTM E1727-05 standard. No other Business Environmental Risks were evaluated. This assessment did not involve a detailed regulatory compliance audit or search for environmental liens. Deviations, deletions and data gaps are discussed in Section 8.0.

1.3.5 Significant Assumptions

During this Phase I ESA, TRC relied on database information, local and state records, and information provided by the User and the site owner (Cargill). TRC assumed that the information is true and accurate. If information to the contrary is discovered and/or if

additional previous reports exist that were not provided to TRC, then our conclusions may not be valid. Other assumptions include the following:

- Environmental records have been made available by the User.
- TRC was provided with known or reasonably ascertainable information by the User relative to valuation reduction issues (e.g. structural or environmental concerns that result in a price reduction); activity or land use restrictions; environmental liens; specialized knowledge of the site and surrounding properties (e.g. spills/releases, historical operations, chemicals utilized, environmental cleanups, etc.); and other information related to the likely presence of contamination at the site.
- Reliance on electronic database search reports is subject to the limitations set forth in those reports.
- Site boundaries are as shown on the attached figures. Based on discussions with Cargill, we understand that the service roads and brine pipeline located on the east and northeast sides of the adjacent bittern storage-ponds are not on the subject property.

2.0 SITE LOCATION

2.1 Site Location and Legal Description

The subject property is located near the western terminus of Enterprise Drive and west of Hickory Street in Newark, California. The subject property consists of a portion of three current parcels (APN 537-852-007, 008-1 and 008-2). We understand that the parcel boundaries have recently been revised and a new parcel map is being recorded with the County; the subject property will subsequently consist of a single 54.53-acre parcel. The approximate property boundaries are shown on Figure 2 and site specific features are shown on Figure 3.

2.2 Regional Geology and Hydrogeology

Bedrock and unconsolidated sediments in the San Francisco Bay region are from Jurassic to Recent in age. The subject property lies in the Niles subarea of the Fremont Ground Water Area (California Department of Water Resources, 1975). The subject property also lies within the physiographic province known as the Niles Cone, which is an alluvial fan formed by Alameda Creek. The Niles subarea consists of a series of flat-lying gravel aquifers separated by extensive clay aquicludes. The gravel portion of the alluvium is thickest in the eastern portion of the Niles subarea and gradually thins out to the west. The subject property is likely underlain by

unconsolidated sand, silt, and clay deposits, which in turn is underlain at depth by a sequence of alluvial sand, gravel, silt, and clay deposits as in most areas of the City of Newark.

The alluvium deposited along the margins of San Francisco Bay appears to consist of a complex deposit of unconsolidated clay, silt, gravel, and sand. These deposits are reportedly between 300 and 500 feet thick. The sand and gravel units are buried stream channel and estuarine deposits which are interlayered with silt and clay deposits of estuarine, marine, and continental origins. Data interpreted by the California Department of Water Resources (1975) indicates that there are numerous buried channel deposits underlying the region. These ancient stream channels drained into San Francisco Bay from the highlands to the east to form a series of alluvial fans. These channels have since been buried due to tectonic events, sedimentation, and land subsidence. The surface water bodies in the immediate site vicinity that have contributed to deposition of alluvial sediments are Plummer Creek to the southeast and the Newark Slough located northwest of the subject property. In addition, serpentinite outcrops have been identified on-site (see Section 2.4.3). Based upon surface geologic features and groundwater data from nearby off-site facilities, the expected regional groundwater flow direction is to the northwest.

2.3 Site and Vicinity General Characteristics

The subject property is located along the San Francisco Bay margin in an area referred to as "Area Two." In collaboration with Area Two landowners, the City of Newark began a planning effort in the fall of 2007 to explore potential development in Area Two around the planned Newark Station along the Dumbarton Rail Corridor. Area Two includes approximately 233 acres of land that has contained various industrial, manufacturing, chemical processing and salt production facilities since the early twentieth century. Industrial chemical operations were largely phased out by the 1990s, leaving area mostly vacant and underutilized; however, Cargill's salt production facilities remain active. The primary landowners within the area include Cargill Salt, FMC, Torian, Ashland and SHH.

Zoning for the area was updated in 1999 with the adoption of the Newark Area Two Specific Plan, which anticipated the construction of a Community College surrounded by multi-level office and R&D buildings. However, after adoption of that Plan, the Community College located elsewhere and the market for office space in South Alameda County diminished. The planned Dumbarton Rail Corridor presents an opportunity to create a vibrant new transit-oriented, mixed-use development in Newark. As part of the planned development, residential use of the subject property is currently being considered.

2.4 Previous Site Environmental Investigations

Since the early 1980s, numerous on-site environmental investigations have been completed. On June 22, 2010, TRC staff met with Cargill representatives, Ms. Penny Streff, Land Project Manager, and Ms. Barbara Ransom, Environmental Manager. During our meeting, a cursory review of Cargill's records pertaining to the site was performed and copies of several prior reports were subsequently provided by Cargill.

Additional information regarding prior investigations at the site was obtained from: **1)** regulatory agency files described in Section 4.2; **2)** from the state Geotracker database (http://geotracker.swrcb.ca.gov); and **3)** from the Envirostor database (http://www.envirostor.dtsc.ca.gov). The Geotracker and Envirostor databases are online search and Geographic Information System (GIS) tools for identifying sites with known or potential contamination, and sites where regulatory environmental oversight or review has been requested or required. The Geotracker database tracks regulatory data about leaking underground storage tank (LUST), Department of Defense, Site Cleanup Program and Landfill sites. Geotracker was developed pursuant to a mandate by the California State Legislature (AB 592, SB 1189) to investigate the feasibility of establishing a statewide GIS for LUST sites. The Envirostor database is maintained by the Department of Toxic Substances Control (DTSC) and contains information on investigation, cleanup, permitting, and/or corrective actions that are planned, being conducted or have been completed under DTSC's oversight.

Because of the site history, a very large volume of environmental documents pertaining to the site have been generated over the past 20 to 30 years. A detailed review of each document was not feasible within the time and budget constraints of this Phase I ESA. A portion of the existing documents, but not all, were obtained during this study. After a cursory review of the documents within Cargill files, those documents that appeared to be of greater relevance, based on our professional judgment, were selected for further evaluation. We additionally focused our review on those reports that contained a summary of prior investigations, such as final remediation/completion reports. Section 9 contains a listing of referenced reports.

A summary of previous environmental activities performed at the subject property is presented below.

2.4.1 Magnesia Waste Pile Area

Site History (Magnesia Waste Pile Area)

Based on the documents reviewed, the subject property was purchased from August and Agnes Schilling by The Arden Salt Company in 1926 (DHS, 1988). The Arden Salt Company leased the site to Westvaco Chemicals in 1929. Leslie Salt Company merged with Arden Salt Company in 1936 and was subsequently acquired in 1979 by Cargill (the current site owner). FMC Corporation acquired Westvaco Chemicals in 1950 and the lease was extended in FMC Corporation's name until 1968 when the lease was terminated.

The primary industrial activities of Westvaco and FMC (on property located adjacent to the north of the site) included the production of magnesia oxide ("magnesia"), phosphoric acid, ethylene dibromide (EDB), gypsum, and various catalysts (HCI, 1990). Magnesia is used as a fluxing agent, as a feedstock for the chemical industry and other industrial uses. Gypsum is used primarily as the basis for plaster, and as an additive in fertilizer. Phosphoric acid is a common feedstock used by the fertilizer and chemical industries, while EDB is used as a soil fumigant, and is also a minor component of petroleum-based fuels (used as an octaneenhancer). Manufacture of these materials used bittern from the adjacent salt-production operations as a primary raw material. Bittern is the concentrated brine which remains after salt has been removed from sea water concentrated in evaporation ponds.

Over the years, the site was used by Westvaco and subsequently FMC to discard waste products. Most materials discarded on the subject property reportedly were non-hazardous (HCI, 1990) as defined by Title 22 of the California Code of Regulations. The wastes consisted primarily of bulk quantities of off-grade or residual products resulting from manufacturing activities at the adjacent FMC facilities, and included magnesia (MgO) , gypsum ($CaSO_4$), dolomite ($CaMg(CO_3)_2$), lime (CaO) and limestone ($CaCO_3$). Other reported waste products included four to eight drums of phosphorus-containing sludge, copper catalyst pellets used in synthetic rubber production, scrap lumber, kiln brick, general trash, and old concrete machinery foundations. The waste pile reportedly was 40 to 50 feet high, 300 to 400 feet wide at its base, and approximately 1,200 feet in length. The waste pile was located primarily to the west of the currently present on-site drainage ditch that extends to the south from the northerly adjacent FMC property.

In 1982, Parson's Ag Materials began excavating and removing dolomite for agricultural uses. Parson's removed approximately 5,000 tons of material per year over a period of several years (HCI, 1990).

Environmental Studies

During the 1980s, several studies of the site were conducted by the California Department of Health Services (DHS), EMCON Associates, Environmental Solutions, Inc. and S.S. Papadopulos and Associates. Based on these studies, the DHS issued a Remedial Action Order (RAO) to FMC and Leslie Salt dated July 19, 1988. The RAO required the preparation of a Remedial Investigation (RI) to further evaluate soil, groundwater, surface water and air in the vicinity of the magnesia waste pile and a Feasibility Study (FS) to assess various remedial alternatives.

The results of the RI demonstrated that the contaminants of primary concern within the pile were copper and mercury (HCI, 1990). Copper and mercury were considered to be hazardous because the concentrations of these chemicals in the magnesia exceed their respective Total Threshold Limit Concentrations (TTLCs) as defined by Title 22. Ethylene dibromide (EDB) was detected at concentrations of less than 0.020 milligrams per kilogram (mg/kg) in five samples out of 35 samples collected during the RI. Cyanide was also detected in the waste pile materials. The maximum concentration found was 11 mg/kg, detected in one sample. Cyanide was not detected in the majority of the soil/waste samples.

Analyses of samples taken in 1981 show several samples with a pH between 12.0 and 12.4 (DHS, 1988). Per Title 22 of the California Code of Regulations, an aqueous solution with pH greater than 12.5 is considered to be a hazardous substance. Although the detected pH levels are below the hazardous criteria, the RAO notes that they are close enough to 12.5 to be of concern.

Samples collected from trenches during the RI were screened in the field using an organic vapor meter; measurements reportedly varied between 0 and 140 parts per million (ppm). Based on the screening results, nine samples were selected for laboratory analysis to test for the possible presence of organic compounds. The samples were analyzed for volatile and semi-volatile organic compounds, for pesticides, and for polychlorinated biphenyls (PCBs). Eleven semi-volatile organic compounds and 10 volatile organic compounds were detected. The results are reported in Table 8 of the HCI Remedial Action Plan (1990). HCI indicated that the detected concentrations were low (generally less than 1 ppm) and it was therefore concluded that volatile and semi-volatile organic compounds did not present a vapor hazard at the Magnesia Waste Pile, and would not be considered during the evaluation of remedial alternatives.

The Magnesia Waste Pile reportedly contained approximately 65,000 cubic yards (cy) of general magnesia material, 9,600 cy of general construction debris (concrete, lumber, etc.), approximately 600 cy of copper catalyst pellets and approximately 2,500 cy of mercury-contaminated magnesia material (HCI, 1990). During RI site overview activities, DHS sampled

a small waste area to the east of the pile. Magnesia/soil material in this area contained thallium at concentrations that exceeded the TTLC for thallium. The volume of soil material that contained thallium concentrations in excess of the TTLC was estimated to be 50 cy. The copper and mercury contaminated wastes were reportedly restricted to distinct areas of the waste pile, generally on the west side of the pile.

Surface Water (E-1 Ditch)

To evaluate potential impacts to surface water, water within the on-site drainage ditch was sampled during a rain event in 1989 (HCI, 1990). The HCI report notes that FMC had a National Pollutant Discharge Elimination System (NPDES) permit that allowed effluent to be discharged to the ditch. A discharge rate of 60 gallons per minute was indicated. Copper was detected at the FMC out-fall at a maximum concentration of 0.036 mg/l. After the ditch water had passed the Magnesia Waste Pile, the concentration had declined to a maximum of 0.017 mg/l. HCI indicated that this data suggest that the Magnesia Waste Pile was not contributing significant amounts of copper to the drainage ditch. Mercury, thallium and cyanide were not detected in any of the surface-water samples. The only organic compound detected was chloroform, at maximum concentrations of 0.0024 milligrams per liter (mg/l).

To obtain additional information regarding effluent discharges to the on-site drainage ditch, a Remedial Investigation Report (McLaren Hart, 1999) for the adjacent FMC property was reviewed. The ditch is described as FMC's effluent (E-1) ditch. Prior to about 1972, the E-l ditch began on FMC property at a pit used for disposal of filter cake. The filter cake reportedly contained dicalite (diatomaceous earth) and arsenic sulfide, generated during the production of food grade phosphoric acid. The pit, along with 700 to 800 feet of ditch on FMC property, was closed by excavation and off-site disposal in 1972, and the area was backfilled with clean fill and graded. The remaining portion of the ditch was used for discharge of effluent from a pond on FMC property (E-1 pond). The pond was clay lined and was operated from the mid-1970s to 1995 as part of the FMC plant's effluent management and treatment system under a NPDES permit. Effluent from the plant reportedly consisted of cooling tower blowdown, boiler blowdown, softener regeneration brines, and stormwater runoff, which were collected in the E-1 pond and adjusted for pH prior to discharge to the E-1 ditch. The effluent pond was taken out of service and backfilled with clean fill in mid-1996. In 1987 and 1988, effluent from a groundwater treatment system at FMC also was discharged to the ditch.

Groundwater

To assess the effects of the waste pile on groundwater quality, down gradient wells W-2 and W-19 were sampled in 1989. These wells appear to have been located on adjacent FMC property. The groundwater samples were analyzed for halogenated volatile organic compounds

(VOCs), copper, mercury and thallium (HCI, 1990). No mercury, or thallium, were detected. Copper was detected at up to 0.21 mg/l which is below the EPA Action Level of 1.3 mg/l for drinking water. The only VOC detected was 1,2 dichloroethane (DCA) at 0.0018 mg/l. HCI (1990) noted that DCA has been found in groundwater in the course of other on-going investigations in the site area, and that there is no evidence that it is associated with the Magnesia Waste Pile.

Remedial Actions

A general site cleanup was undertaken in 1985 and included the excavation and removal of about 450 cubic yards of copper catalyst pellets, and the removal of visible trash and debris (HCI, 1990). The copper catalyst material was disposed at the IT Corporation Class I landfill in Benicia, California, and the general trash was disposed in a municipal landfill.

Thallium was among the contaminants of concern identified by the DHS; however, only one soil sample collected by DHS contained thallium in concentrations greater than 700 mg/kg (the TTLC). The elevated thallium concentrations in soil/waste were reportedly restricted to a small area east of the main pile. As an interim remedial measure, approximately 67,000 pounds of thallium contaminated soil was removed on April 26, 1990 (IT, 1991) and disposed at an off-site landfill. Thallium was not detected in six verification soils that were collected from the base of the excavation.

The selected remedial alternative for the main waste pile included excavation and off-site disposal of all hazardous materials (i.e., materials with contaminant concentrations exceeding their respective TTLCs [2,500 mg/kg for copper and 20 mg/kg for mercury]). Identified alternatives for management of magnesia and other materials that were considered non-hazardous included off-site recycling and leaving the material on-site.

Remediation work was performed in 1991 and documented in a Final Remediation Report (IT, 1991). Three types of waste material were encountered at the site: 1) Copper pellet contaminated magnesia; 2) Naphthalene contaminated magnesia; and 3) Waste oil contaminated magnesia. Approximately 5,620 tons of hazardous waste were transported by rail car to the United States Pollution Control Inc. (USPCI) Grassy Mountain facility in Utah and approximately 4,095 tons were transported to the Chemical Waste Management facility in Kettleman City, California (DTSC, 1992). The naphthalene and waste oil contaminated magnesia was encountered during excavation and was not previously identified in the RI. During remedial work, material suspected of being contaminated with mercury (based on prior sampling data) was placed into interim stockpiles for further sampling. Several 8-point composite samples were collected and analyzed. Mercury was detected at up to 1.3 mg/kg.

Because the detected concentrations did not exceed the TTLC for mercury (20 mg/kg divided by the number of samples forming the composite), this material was left on-site (IT, 1991).

Verification sampling was performed at the completion of contaminated material removal from each excavation (IT, 1991). Samples of the magnesia material were obtained from the base and the sidewalls of the excavation, and were analyzed for copper, mercury, naphthalene or waste oil, depending on the location. A sampling density of about one sample per 135 square feet of excavated area was utilized. The highest detected copper concentration was 730 mg/kg. The mean copper concentrations for each excavated area ranged from 23 mg/kg to 170 mg/kg. Mercury was detected in verification soil samples at up to 2.2 mg/kg. The mean mercury concentrations ranged from 0.196 mg/kg to 0.511 mg/kg. Naphthalene and waste oil were not detected in verification samples.

Certification of Completion

In an October 28, 1991 letter, the DTSC stated that the remedial actions have addressed the concerns expressed in the Remedial Action Plan. A certification form attached to the DTSC letter indicates that *The Department has determined that all appropriate response actions have been completed, that all acceptable engineering practices were implemented and that no further removal/remedial action is necessary.*

The letter also requested that the final report be revised to remove references to "final closure" and indicated that *the actions taken did not achieve the standards as prescribed in 40 CFR 264.258, nor did they include the requirements of 40 CFR 264, Subpart G. Therefore, the Department cannot approve the "certification of site closure" or the "final closure report."*

In a subsequent Fact Sheet (DTSC, 1992), the DTSC states that alkaline (high pH) materials are still present on-site at levels that can cause irritation to human tissue, but are not classified as hazardous waste. It is noted that some of the materials have a pH comparable to laundry soap.

Removal of Remaining Non-Hazardous Magnesia

In 1996 the Alameda County Environmental Health Department, Hazardous Materials Division reportedly required further investigation of the remaining magnesia material at the site (URS, 2002). Cargill and FMC subsequently proposed to excavate and remove the material and conduct post-removal sampling. Approximately 120,000 cubic yards (as reported by URS) of magnesia material reportedly was removed in 1998 and 1999. An annual progress report (FMC, 1999) indicates that 140,000 cubic yards were removed. The material reportedly was reused at the Waste Management Inc. Altamont and Tri-City landfills as fill for construction of new cells and operation layers. After the material was removed, soil samples were collected from 20

locations. Depending upon the location, the samples were analyzed for copper, mercury and/or thallium. Copper and mercury were detected at up to 160 and 0.189 mg/kg, respectively. Thallium was not detected. Analyses for pH were additionally performed (apparently by an FMC laboratory) on 15 samples collected from an area know to contain gypsum located on the west side of the former waste pile, and on five samples from an area described as a residual magnesia area located outside the southeast portion of the former waste pile; pH levels ranging from 8.3 to 10.3 were reported (URS, 2002).

In a July 15, 2002 letter, the City of Newark Fire Department indicated that they reviewed the post-removal sampling data and that all closure activities for the magnesia pile have been completed as required.

2.4.2 Former Newark Sportsman's Club

Site History (Newark Sportsman's Club Area)

Between 1969 and 1995, the Newark Sportsman's Club (NSC) leased approximately 18-acres of the subject property and used the site as a recreational outdoor shooting range (Treadwell & Rollo, 2002). This use resulted in surficial and shallow soil deposition of lead shot, residual total lead, and clay pigeon debris containing elevated levels of PAH aromatic hydrocarbons (PAHs). In a 1994 cleanup order, the Regional Water Quality Control Board (RWQCB) noted that shooting ranges have existed at the site since before World War II.

The Witmer-Tyson Dog School and the Menlo Park Schutzhund Club (both dog training operations) are reported as the present users of the former NSC site area (Treadwell & Rollo, 2002). Treadwell & Rollo (2002) also noted that approximately ½ to 1 foot of soil was imported from an adjacent area to the south and used to form a pad at the dog training facility; details regarding the soil source area were not provided.

Soil Quality Evaluation and Remediation Activities

The lateral and vertical distribution of lead and PAH aromatic hydrocarbons (PAHs) was established through several field investigations, involving the collection and analysis of 159 soil samples from 93 locations (Treadwell & Rollo, 2002). Lead concentrations reportedly decrease rapidly with depth, with very little contamination deeper than 0.5 feet below ground surface. PAHs reportedly were detected only in soil samples collected from clay pigeon debris stockpiles, and in one soil sample collected adjacent to a debris stockpile.

A Remedial Action Workplan (RAW) and associated cleanup criteria were approved by the RWQCB in a January 14, 2002 letter. The RAW selected cleanup criteria for total residual lead of 400 mg/kg, a lead shot count of ten shot per square foot, and a total PAH concentration of 10 mg/kg.

During site characterization work, a sampling grid was established covering the site. Of the 90 grid sampling locations, 23 grid areas had sample results exceeding the total lead cleanup criteria, and nine additional areas had visible lead shot likely exceeding the visual cleanup criteria. Additionally, the four clay-pigeon debris stockpiles exceeded the cleanup criteria for PAHs (Treadwell & Rollo, 2002).

Between July and October 2002, the identified lead and PAH impacted soil and debris exceeding the cleanup criteria were removed from the site and sent to appropriate landfills (Treadwell & Rollo, 2002). A total of 5,910 tons were removed. Confirmation samples were collected in the excavation areas below former stockpile locations. Laboratory analyses of the confirmation samples showed that lead and PAH concentrations were below the cleanup criteria. Lead reportedly was detected at concentrations ranging from 6.6 to 270 mg/kg, with an average lead concentration of 67 mg/kg; twenty-six 4-point composite verification samples were analyzed for lead. Total PAHs were not detected above the cleanup goal of 10 mg/kg; five 4-point composite verification samples were analyzed for PAHs.

Additional Remedial Activities

Based on an a December 12, 2003, addendum letter prepared by Cargill and submitted to the RWQCB, approximately 483 tons of additional clay pigeon debris and soil were excavated in 2003 and disposed at off-site landfills. The additional material reportedly was identified during a site walk in November 2002 with the RWQCB. Analyses of final verification samples (consisting of two 3-point composites) reportedly did not detect PAHs.

Certification of Completion

In a March 10, 2004 letter, the RWQCB indicated that remedial actions at the former NSC area were completed pursuant to the RAW and that no additional remedial action is necessary.

2.4.3 Phase II Soil and Groundwater Investigation

In 2001, the subject property was being considered as a possible location of a planned Ohlone College Campus. In association with the proposed development, a Phase II Soil and Groundwater Investigation of the site was performed by Treadwell & Rollo (2001). The report describes work completed at the Magnesia Waste Pile and NSC site areas, which were

summarized above in Section 2.4.1 and 2.4.2. Additionally, Treadwell & Rollo evaluated groundwater quality at the site and evaluated soil quality at an on-site pistol range; this work is summarized below.

Pistol Range Soil Quality Evaluation

The City of Newark has reportedly leased a portion of the subject property (located north of the NSC) since 1975, and continues to use the area as a pistol firing range for local police departments. The pistol range consists of an approximately 15-foot high soil berm located between two serpentenite rock outcrops. Eighteen soil samples were collected from the pistol range area and analyzed for total lead and/or copper (Treadwell & Rollo 2001). Lead was detected in soil within the berm at up to 11,000 mg/kg and up to 190 mg/kg in areas up- and down-range from the berm. Copper was detected at up to 270 mg/kg in soil from the berm and up to 44 mg/kg in other samples.

4-Parties Groundwater Plume

Treadwell & Rollo (2001) noted that several phases of soil and groundwater investigations and remediation have been completed by others at properties adjacent to the subject property. A regional groundwater contamination plume, which has affected the shallow aquifer at properties to the north and west, has been identified by the RWQCB. Four off-site facilities (Ashland Chemical, FMC Corporation, Romic Chemical [currently SHH], and Jones-Hamilton) have reportedly been named by the RWQCB as the responsible parties and are referred to as the "4-Parties". The shallow groundwater below these facilities, as well as below a portion of the subject property has been impacted with VOCs. The western edge of the 4-Parties plume extends below the northern portion of the subject property, where four, on-site groundwater monitoring wells are present. Based on sampling data from the on-site and nearby wells, concentrations of several VOCs (predominantly DCA and EDB) exceed drinking water maximum contaminant levels (MCLs).

Groundwater Sampling

To further evaluate on-site groundwater quality, Treadwell & Rollo (2001) collected grab groundwater samples from five additional locations across the site. The samples were analyzed for VOCs and petroleum hydrocarbons. Groundwater at the site is reported to be present in two zones, shallow groundwater between depths of 2 and 20 feet, and within the deeper Newark Aquifer at depths between 50 and 70 feet.

VOCs including dichloroethane (DCA), carbon tetrachloride and benzene were detected in the grab samples at up to 18, 6.2 and 2.4 micrograms per liter (ug/l), respectively. Treadwell & Rollo stated that the VOCs appeared likely to originate from an off-site source. Total petroleum

hydrocarbons in the gasoline range (TPHg), TPHd (diesel) and TPHmo (motor oil) were detected at up to 63, 1,800 and 4,500 ug/l, respectively. The highest petroleum hydrocarbon levels were detected in a groundwater sample collected on the southwest side of the former magnesia waste pile. Treadwell & Rollo concluded that the TPH concentrations are not high enough to warrant further investigation.

2.4.4 Naturally Occurring Asbestos

In 2006 and 2007, Berlogar Geotechnical Consultants performed a geotechnical study of the site and evaluate the site for the presence of naturally-occurring asbestos (NOA). The reports describe the site as containing a partially buried ridgeline of Franciscan Assemblage bedrock trending northwest/southeast, with two exposed portions. The northwest portion (the location of the former magnesia waste pile) was determined by Berlogar to not contain NOA. Serpentinite, which can contain NOA, was identified within the southern area of exposed bedrock (near the pistol range). Analyses of samples collected from the southern hill area detected NOA at concentrations ranging from 0.25 to 6.25 percent.

2.4.5 Cargill Preliminary Environmental Evaluation

During our meeting with Cargill representatives, a Preliminary Environmental Evaluation (PEE) document was provided, which was described as an internal Cargill document that summarizes the environmental setting the subject property. The PEE reportedly was prepared on behalf of Cargill by Teri Peterson of Bureau Veritas (a former Cargill Employee). The following is a brief summary of the information presented in the October 27, 2008 PEE. Much of the information presented in the PEE is consistent with that described above in Sections 2.4.1 through 2.4.4; to avoid repetition, only information not previously summarized is presented below.

Current site uses include 1) bittern truck loading, 2) leased area to Southern Alameda County Radio Controllers (subleased to dog training schools), 3) leased area to City of Newark for use as a pistol range, 4) a license agreement allowing contractors to store equipment on-site, and 5) stockpiling of soil by Cargill.

<u>Bittern Truck Loading Overflow Ponds</u>
A bittern truck-loading area on the southwest corner of the site is noted to be unpaved, surrounded by an earth berm, and sloped such that storm water and excess bittern drains to a lined overflow pond. Evidence of bittern spills to the dirt area is reportedly apparent. The bittern is noted to be non-hazardous, but may result in elevated levels of salts in the soil or

groundwater. An empty out-of-service aboveground storage tank (AST) is noted to be present at the bittern truck-loading area, which formerly contained sodium citrate.

The current lined overflow pond was historically not lined, and a second nearby unlined pond was historically present. In about 1987, a liner was installed within the current pond and the other unlined pond was backfilled with soil. It is noted that the trucks used to haul bittern also may have been used to haul oil. There were reportedly several instances of trucks unloading residual oil into the overflow ponds prior to being loaded with bittern. At least once in 1987, Cargill required the trucking company to cleanup free floating oil from the overflow pond. There has been no sampling in the area of the current or former overflow ponds.

Septic Tank

A septic tank is noted to be present on the north side of the dog training clubhouse.

Wetlands

An evaluation of wetlands is not within the scope of this Phase I ESA; however, the PEE notes that several wetlands assessments have been conducted for various portions of the subject property and wetlands may exist on other portions of the property.

Easements

Two easements reportedly exist on the subject property, one by Pacific Gas and Electric for high-tension power lines that bisect the site, and one by Union Sanitary District for sewer pipelines.

Storm Water Management

The site reportedly is covered by a State General Industrial Storm Water Discharge Permit due to residual magnesia material remaining on-site. Information from the State Water Resources Control Board website indicates that the General Industrial Permit requires the implementation of management measures that will achieve the performance standard of best available technology economically achievable (BAT) and best conventional pollutant control technology (BCT). The General Industrial Permit also requires the development of a Storm Water Pollution Prevention Plan (SWPPP) and a monitoring plan. Through the SWPPP, sources of pollutants are to be identified and the means to manage the sources to reduce storm water pollution are described. The General Industrial Permit requires that an annual report be submitted each July 1.

Cargill reportedly conducts sampling of storm water discharge from the site, and maintains a SWPPP and monitoring plan. From January 2002 through February 2008, the pH has reportedly averaged 8.5, total suspended solids (TSS) has averaged 137 mg/l, and specific

conductance has averaged 26,830 micro-mhos per centimeter (umhos/cm). Iron has been detected at an average of 7.2 mg/l. The sampling results were compared by Cargill to EPA benchmark values. The benchmark for pH was exceeded in one sample, the benchmark for TSS was exceeded in five samples, the benchmark for iron was exceeded in four samples and the benchmark for specific conductance was exceeded in all samples. The PEE notes that elevated pH, TSS and specific conductance are consistent with small amounts of residual magnesia solids in the storm water. The benchmarks are not numeric storm-water effluent limits, are not related to or necessarily protective of any specific receiving water, and exceedances of the benchmarks are not automatically considered permit violations. When sample results exceed one or more of the benchmarks, the U.S. Environmental Protection Agency (EPA) recommends dischargers reevaluate the effectiveness of their Best business management practices (BMPs) and develop, when appropriate, additional BMPs.

Imported Soil

Based on the PEE and discussions with Cargill representatives, soil has been imported to the site from multiple off-site sources. Some of the soil is subsequently used by Cargill on-site and at other Cargill properties during construction activities, such as levee maintenance. As shown on Figure 3, imported soil is present on several areas of the site. Prior to accepting soil at the site, Cargill requires that laboratory analyses be performed, which are reviewed by Cargill staff. Cargill provided a list of 45 properties from which soil has been imported, along with the laboratory analytical data for soil samples collected from the properties. The list included the import source property address/location and stated the current use of each property (i.e., the property use at the time the soil was exported). Based on hand written notes present on the records, the total volume of imported soil is approximately 110,000 cubic yards; the volume imported from individual properties appears to range between 150 cubic yards to 15,000 cubic yards (cy).

Based on TRCs review of the provided data, analyses for organochlorine pesticides, metals (17 CAM Metals); and gasoline, diesel and oil range petroleum hydrocarbons were typically performed. Many of the samples were additionally analyzed for VOCs, semi-volatile organic compounds (SVOCs), polychlorinated biphenyls (PCBs) and asbestos. The number of samples analyzed from each source property was variable, but commonly ranged from one to four. Based on a cursory review of the data, the reported analyte concentrations were generally well below residential screening levels (ESLs [RWQCB 2008] and California Human Health Screening Levels [CHHSLs] [CalEPA 2005 and 2009]). One noted exception was a sample from an 8,000 cy import source (2855 Story Road, San Jose) in which oil and grease was detected at 1,400 mg/kg in one of the soil samples. The ESL for oil range hydrocarbons (RWQCB 2008) is 370 mg/kg. Oil and grease was reported at 36.2 and 12.0 mg/kg in two other samples; no TPHg,

TPHd, benzene, toluene, ethylbenzene, xylenes (BTEX), organochlorine pesticides or PCBs were detected.

3.0 CURRENT AND HISTORICAL USES OF SUBJECT PROPERTY AND ADJOINING PROPERTIES

3.1 History of Ownership

Based on the documents reviewed during this study, the subject property was purchased from August and Agnes Schilling by The Arden Salt Company in 1926. Leslie Salt Company merged with Arden Salt Company in 1936 and was subsequently acquired in 1979 by Cargill (the current site owner).

3.2 Title Records and Environmental Liens

A chain-of-title was not provided by the current owner and operator of the subject property. No information was reviewed during this study that indicates the presence of environmental liens against the subject property.

3.3 Current and Historical Use

3.3.1 Current and Historical Use of the Site

Based on the documents reviewed, the northwestern portion of the site subject property was leased between 1929 and 1968 to Westvaco Chemicals and FMC. During that time, the site was used by Westvaco and FMC to discard waste products as described in Section 2.4.1. Between 1969 and 1995, the Newark Sportsman's Club (NSC) leased approximately 18-acres on the southern portion of the subject property and used the site as a recreational outdoor shooting range. The NSC area is currently leased to Southern Alameda County Radio Controllers and subleased to Witmer-Tyson Dog School and the Menlo Park Schutzhund Club (both dog training operations). The City of Newark has reportedly leased a portion of the subject property (located north of the NSC) since 1975, and continues to use the area as a pistol firing range for local police departments. Current and historic used by Cargill include bittern truck-loading operations and stockpiling/storage of soil from off-site sources. Cargill also currently leases the former waste pile area to contractors for the purpose of storing equipment.

3.3.2 Current and Historical Uses of Adjoining and Nearby Properties

Based on the information reviewed during this study, current and historic uses of adjacent and nearby properties are described below.

Ashland Chemical

The former Ashland Chemical Company operated between 1973 and 2000 on the 10.9 acre parcel located adjacent to the northeast of the subject property (across Hickory Street). Former Ashland activities included packaging, storage, and handling of chemicals including solvents, acids, and bases. Approximately 45 VOCs and SVOCs were first discovered in soil, shallow groundwater, and the Newark Aquifer at the facility in 1981. The highest contaminant concentrations were found between the warehouse and former AST farm in the center of the property, most likely originating from spills and leaks in this area. Remedial measures have included operating a shallow groundwater treatment system and excavation of approximately 1,600 cy of impacted soil in 2003 and 2004 followed by 16,300 cy in September of 2005. The groundwater extraction system was demolished in October and November of 2008 under regulatory oversight. Groundwater monitoring continues on a semiannual basis.

Torian Parcel

A property currently owned by Torian Holdings is located adjacent to the east of the subject property (across Hickory Street). The approximately 42-acre property (37555 Willow Street) is currently vacant except for a building foundation, several concrete pads, and the remains of an asphalt parking lot. Former business operations included brick manufacturing (E.J. Lavino and Co.), an automotive and van conversion company (Mobility Industries), and fiberglass manufacturer (J CAM Fiberglass). Prior studies have identified a variety of contaminants in soil and groundwater, including VOCs, SVOCs, PAHs, petroleum hydrocarbons and metals. Some of the contaminants have been attributed to off-site regional sources (4-parties plume), while others are reported to likely be associated with past industrial uses of the Torian property.

FMC Corporation

Between 1929 and 1995, FMC Corporation and predecessor companies manufactured chemicals on five parcels totaling approximately 39 acres adjacent to the north of the subject property. Environmental investigations have been taking place at the FMC parcels since 1980. The primary constituents of concern in groundwater are 1,2-DCA and EDB; however, several other VOCs and metals, including chromium and arsenic, have been detected at the site exceeding MCLs. Groundwater has been extracted from the site since 1989.

Cargill Bittern Storage Ponds

Bittern storage ponds, owned and operated by Cargill, are located adjacent to the west of the subject property and are anticipated to remain in use for salt production activities. Bittern is the concentrated brine which remains after sodium chloride (common salt) has been removed from sea water concentrated in evaporation ponds. Bittern contains some residual sodium chloride as well as various other salts, including magnesium sulfate, magnesium chloride, potassium chloride and magnesium bromide (San Francisco Bay Conservation and Development Commission [SFBCDC], 2005). Bittern currently is pumped from the ponds to the bittern truck-loading facility located on the subject property. Following a purification process at an off-site Cargill facility, the bittern yields three products that are marketed under the names *Dust-Off* (used for dust control on unimproved roads), *Hydro Melt* (highway de-icing product), and *ClearLane* (an additive used to make the de-icing product). Bittern also is mixed with Bay water and sent back to salt crystallizers as part of salt production activities. Salinity in the bittern ponds can exceed 300 parts per trillion (ppt) (SFBCDC, 2005). Due to its potential toxicity, bittern cannot be discharged into the Bay without prior approval from the SFBCDC (SFBCDC, 2005). The discharge of bittern and brines into Bay waters is regulated pursuant to the federal Clean Water Act and the state Porter-Cologne Water Quality Control Act.

Plummer Creek Wetland Area

Undeveloped property, which is part of the Plummer Creek wetlands mitigation area, is located to the south of the site.

Foster Chemical Corporation

Between 1975 and 1987, the former Foster Chemical Corporation operated at 37445 Willow Street (now owned by SHH, L.L.C.) located approximately 400 feet to the northeast of the subject property. Activities included custom blending, production, handling, and storage of a variety of organic and inorganic chemicals, including chlorinated solvents. Chemicals were transported to and from the facility by rail cars and by tank trucks. Chemicals were stored in an aboveground tank farm and drum storage area west of a 6,000 square-foot warehouse. The SHH property is currently used for storage of reclaimed asphalt, concrete and gravel, and trailers. A 6,000 square-foot warehouse is used to store laboratory ventilation hoods. Shallow groundwater contamination was first discovered at the SHH property in 1982, which was attributed to Foster Chemical Company. Site investigations, remediation, and groundwater monitoring has been occurring a since 1989.

Jones-Hamilton Company

Between 1956 and 2001, Jones-Hamilton Company operated a chemical manufacturing, blending, packaging, and storage facility located on the east side of Willow Street, approximately

1,200 feet northeast of the subject property. In 1985, pentachlorophenol and 1,2-DCA were discovered in several monitoring wells that were installed in the shallow water-bearing zone; however, documentation of operations at the facility indicated that 1,2-DCA was never used at the facility. Remedial measures have included closure of a gasoline underground storage tank (UST), closure by encapsulation of two-former surface water impoundments, groundwater extraction and treatment between 1989 and 2001, and soil excavation in 1985, 2004, and 2006. Groundwater monitoring continues at the site to monitor natural attenuation of contaminants as the final remedy.

Baron & Blakeslee

Baron & Blakeslee, Inc. operated a facility at the intersection of Aleppo Drive and Enterprise Drive, approximately 1,700 feet northeast of the subject property. Historic activities at the facility included the storage and distribution of chemicals and recovery of chlorinated and fluorinated solvents. In 1993, Baron & Blakeslee ceased operations. Currently, the property is owned by Honeywell and Gallade Chemical Inc. which operates the chemical storage and distribution facility. Numerous environmental investigation have taken place since 1998, which have identified soil and groundwater impacted with VOCs; including trichloroethene (TCE), tetrachloroethene (PCE), methylene chloride, Freon 112, 1,1,1-trichloroethane, and DCA. Honeywell proposed to mitigate impacted soil and groundwater with in-situ thermal treatment, which was scheduled to begin fall of 2009.

3.3.3 Historic Topographic Map Review

Historic topographic maps depicting the site and surrounding properties were available from EDR for the years 1899, 1947, 1948, 1959, 1968, 1973, 1980, and 1993 (Appendix C). The 1899 topographic map depicts the site and adjacent properties as undeveloped land; no structures or other site features are depicted. The 1947 topographic map depicts the currently present E-1 drainage ditch that extends to the south from the adjacent FMC property and traverses the site. Additionally, what appear to be salt evaporation ponds are shown adjacent to the west of the site (i.e., the ponds currently used by Cargill for bittern storage), as well as on-site to the east of the drainage ditch. Several structures and circular features (likely aboveground tanks) are depicted on the adjacent FMC property, which is labeled as "chlorine works." The 1948 topographic map shows fewer site details, however, a symbol indicating a quarry or open pit mine is depicted on the site.

One the 1959 topographic map, the site appears similar to that shown on the 1947 map. A building complex on the adjacent Torian property is apparent on the 1959 topographic map. In addition, a building structure occupies the northern portion of the nearby Jones-Hamilton

property. Sewage disposal ponds and treatment facilities are also shown off-site to the northwest, between the Hetch Hetchy Aqueduct and a barge canal that extends west from the northwest corner of the site.

On subsequent topographic maps, no site details are depicted except for overhead electric power transmission lines and elevation contours representing the native rock outcrops that traverse the site. Additionally, a general increase in development in the general site vicinity is apparent. On the 1993 topographic map, the building structures on the Jones-Hamilton property and FMC property are no longer depicted.

3.3.4 Aerial Photo Review

Aerial photographs of the subject property and surrounding properties were available from EDR for the years 1939, 1946, 1958, 1965, 1974, 1982, 1993, 1999, and 2005 (Appendix C). The 1939 and 1946 aerial photographs show the currently present E-1 drainage ditch. What appears to be a detention basin is shown on-site at the location where the E-1 ditch intersects with the adjacent FMC property. Railroad track spurs are visible on the northwest portion of the site. Several on-site areas to the west and southwest of the drainage ditch appear to be white in color. The white material appears to possibly be associated with salt evaporation ponds, which are located adjacent to the west, and/or related to activities at the adjacent FMC property to the north. The remainder of the site appears to be undeveloped land. What appear to be several structures and industrial operations are present on the FMC property to the north. Adjacent property to the east and south appears to be undeveloped.

On the 1958 aerial photograph, the site appears similar to that shown on the prior photographs; however, a portion of the site located to the east of the drainage ditch is shown to be developed with salt evaporation ponds. What appears to be water is present within low-lying areas on the northwest corner of the site and the detention basin noted on the prior photograph appears to have been backfilled with soil, but the outline is still visible. Additionally, a portion of the on-site hill at the location of the current police shooting range appears to have been graded similar to its current appearance; an indication that it may have been in use as a shooting range. Only the eastern portion of the site is shown on the 1965 aerial photograph, which appears similar to that shown on the 1958 aerial photograph. Additionally, structures are shown on the southeast portion of the site that appear to be associated with the NSC shooting range. Development on adjacent properties shown on the 1958 and 1965 aerial photographs appears generally similar to the prior photographs, except that several buildings are additionally shown on adjacent property to the east (i.e., the Torian property).

On the 1974 and 1982 aerial photographs, an increase in white colored material is apparent on-site, mainly to the west and southwest of the E-1 ditch. Additionally, the on-site salt evaporation ponds to the east of the drainage ditch do not appear to be in use. Several structures on the northerly adjacent FMC property appear to have been removed; a general increase in development of off-site properties to the northeast is apparent.

On the 1993 and 1999 aerial photographs, the majority of white material noted on prior photographs appears to have been removed and the area appears to be recently disturbed soil. Light colored/white material and possibly water are still apparent in low-lying areas on the northwest corner of the site. Additionally, what appear to be structures and a detention basin appear to be present at the location of the current on-site bittern truck-loading facility. The site appears similar to the current conditions on the 2005 aerial photograph.

3.3.5 City Directory Review

A search of city directories dated between 1920 and 2006 was performed by EDR. No listings for the subject property were identified. A copy of the city directory search report is attached in Appendix C.

3.3.6 Sanborn Map Review

Historic EDR fire insurance maps were requested from EDR; however, no Sanborn maps were available.

4.0 RECORDS REVIEW

4.1 Regulatory Agency Database Report

A computerized radius search of pertinent Federal, State, and Local environmental records databases was performed to investigate sites with known adverse environmental conditions that have the potential to impact the site and surrounding vicinity. The search was performed pursuant to ASTM Standard E1527-05 using an electronic database maintained by an independent consultant, Environmental Data Resources, Inc. (EDR), and was based on the latitude and longitude of the subject property. A copy of the complete computer database search report is included in Appendix B.

Based on the EDR report, the subject property is listed on several databases, including, 1) as Cargill Hill Parcel on the National Pollutant Discharge Elimination System (NPDES) and CA

Waste Discharge System (WD) databases related to an industrial storm water discharge permit, 2) as Cargill Salt on the Hazardous Waste Information System (HAZNET) database noting off-site disposal of contaminated soil from site clean-ups, 3) as Leslie Salt Company Magnesia Pile Property on the CERCLIS-NFRAP (No Further Remedial Action Planned) database and on the ENVIROSTOR database with the status listed as "certified," 4) as Leslie Salt on the CA Bond Expenditure Plan database associated with the former magnesia waste pile, and 5) as Newark Sportsman's Club on the Cortese and SLIC databases. The spills, leaks, investigation and cleanup (SLIC) database lists the Newark Sportsman's Club twice, once under RWQCB oversight with the case status noted as "open-inactive," and a second listing under Alameda County Water District oversight with the case status listed as "open."

There are several off-site facilities within one mile of the subject property, which have been identified as spill incidents and are under active regulatory oversight for characterization, remediation and/or monitoring. These facilities are listed below.

1. Torrian Holdings: at 37555 Willow Street, listed on the SLIC database.
2. Foster Chemical Corporation and Romic Environmental Technologies: at 37445 Willow Street; both are listed on the ENVIROSTOR and SLIC database.
3. FMC Corporation: 8787 Enterprise Drive, listed on ENVIROSTOR, SLIC, Alameda County CS, among others.
4. S.P. Dumbarton Branch R.O.W.: 8785 Enterprise Drive, listed on the SLIC database.
5. Ashland Chemical Corporation: 8600 Enterprise Drive, listed on the ENVIROSTOR and SLIC, databases, among others.
6. Jones-Hamilton Company: 8400 Enterprise Drive, listed on ENVIROSTOR and SLIC, databases, among others.
7. Baron-Blakeslee: 8333 Enterprise Drive, listed on the SLIC database, among others.
8. Steffensen Property: 8140 Enterprise Drive and 8040 Wells Avenue, listed on the SLIC and LUST databases.
9. Consolidated Freightways Corporation: 8130 Enterprise Drive, listed on the SLIC and HIST CORTESE databases.
10. A. O. Smith Corporation: 37171 Sycamore Street, listed on the ENVIROSTOR database.
11. Lewis Property: 7969 Enterprise Drive, listed on the SLIC database.

4.2 Other Environmental Record Sources

In accordance with ASTM E 1527-05 standards and All Appropriate Inquiry rules, TRC conducted record searches and file reviews of the following agencies: Alameda County Water

District (ACWD), City of Newark Building Department (NDB), the City of Newark Fire Department (NFD) and the Alameda County Department of Environmental Health (ACDEH).

The NBD files contained various building and electrical permits and plans dated between 1962 and 1967 indicating that the site was occupied by the Newark Sportsman's Club and used as a shooting range. The files also contained a letter from the County Health Department indicating that the site was unsatisfactory for a septic tank due to high groundwater and past use for waste disposal (former dumping site); an associated site plan shows what appears to be a septic tank (or proposed septic tank) located on the north side of the clubhouse building. The NBD files listed an address of 37701 Hickory Street for the Newark Sportsman's Club facility. The files additionally contained a grading permit and plan, dated in 2000 and listed under 37201 Hickory Street. The grading plan indicates that 33,700 cubic yards of soil were to be excavated from the Plummer Creek Wetlands Mitigation property (located south of the site) and shows that 900 cubic yards were to be placed on-site at the dog training facility and an additional 31,000 cubic yards of soil were to be placed on the northwest portion of the site (west of the E-1 drainage ditch).

The NFD files contained a copy of the RWQCB closure letter for the Newark Sportsman's Club facility (RWQCB, 2004) and various other agency correspondence and copies biological/ecological related studies. Similarly, a copy of the NFD letter dated July 15, 2002 was present, which indicates that closure activities for the magnesia pile have been completed as required. A copy of a related email, dated February 1, 2000, from Jackie Bretschneider of the NFD states that most of the magnesia material had been removed to native soil and that post-removal sampling would be performed. The email states that some magnesia material and gypsum remain at the site and that the remaining material is not considered a hazardous waste and is unlikely to create any environmental hazard. It is also noted that because the remaining material is somewhat caustic it may need to be removed or redistributed depending upon future development plans.

The files provided by ACDEH pertained mainly to the adjacent FMC property at 8787 Enterprise Drive and the nearby Cargill facility at 7220 Central Avenue. A copy of the February 1, 2000, email from Jackie Bretschneider (described above) was contained in the FMC file.

The files provided by the ACWD pertained mainly to the adjacent FMC property at 8787 Enterprise Drive. A few documents pertained to the Newark Sportsman's Club including a tentative RWQCB clean-up order and related correspondence; the information was consistent with that summarized above in Section 2.4.2.

5.0 SITE RECONNAISSANCE

Stason Foster, P.E. conducted the site reconnaissance on June 22, 2010, and was accompanied by Mr. Terry Lewis, Project Forman of Cargill. Mr. Lewis indicated that he has been employed by Cargill and has been familiar with the site for the past 32 years. The reconnaissance was conducted by walking each representative area of the site, including the former waste pile area, the former NSC area and the areas currently used as a pistol range and for stockpiling of soil. The site also was viewed while driving perimeter roadways.

Limiting Conditions

The interior of the NSC clubhouse was not accessible at the time of our visit, and storage containers adjacent to the clubhouse and adjacent to the pistol range were locked. Based on the current use of these areas, these limiting conditions are not considered to be significant; no evidence of significant hazardous material storage at the clubhouse or pistol range was readily apparent. Portions of the site were covered by tall grass and weeds; thus, limiting our ability to view those areas. No other limiting conditions were encountered during the site reconnaissance.

5.1 Current Use(s) of the Property

Former Waste Pile Area and Northern Portion of Site

The former waste pile area on the northwest portion of the site was observed to be used for storage of construction equipment, materials, and vehicles, along with a trailer mounted water tank. Mr. Lewis indicated that Cargill leases this area to a contractor. The area consisted of a northwest/southeast trending hill; portions of the hill had been graded to create relatively flat areas and dirt roadways. On the western side of the hill (between the hill and adjacent bittern ponds) was a relatively low lying area containing white colored material, which was reported to be gypsum in prior environmental reports discussed in Section 2.4.1. Several areas of what appeared to be residual magnesia (white in color) also were observed on-site in the vicinity of the hill (west of the E-1 drainage ditch). The magnesia material was observed on the ground surface mainly along the fence lines and perimeter road, and at the base of on-site towers and poles supporting electrical power lines. Residual magnesia material also was observed off-site on FMC and Cargill property near the former barge canal at the northwest corner of the site.

Three pole mounted electrical transformers were observed on the northwest portion of the site. No evidence of transformer oil leakage was readily apparent. Abandoned railroad tracks also were observed on the northwest portion of the site.

The E-1 drainage ditch was observed to the east of the hill. The northern portion of the ditch appeared relatively dry; standing water was observed in the southern portion of the ditch. Imported soil was observed to have been placed on several areas of the site. Based on our observations and discussions with Mr. Lewis, the soil placement areas are mainly located within the area between the E-1 ditch and the former waste pile hill (north, south and east sides of the hill), as well as on the northeast portion of the site (east of the E-1 ditch and north of the pistol range).

Mr. Lewis indicated that four groundwater monitoring wells are present on the northern portion of the site that are used for monitoring of the regional groundwater contamination plume. Two of the wells were observed during our visit.

Pistol Range Area

The pistol range area was observed to consist of a gravel-covered firing range area. An approximately 15-foot-tall earth berm located between two bedrock outcrops was located down-range, into which pistols were fired. Disturbed soil within the berm was observed to contain lead and copper bullets and fragments. Copper casings were observed to be distributed within the gravel surface of the range. A small partially enclosed seating area and a 4-room plywood structure used for munitions training were located at the range area, along with two locked storage containers.

A small, un-named drainage ditch was observed to the north of the pistol range. The ditch appeared to drain low lying areas of the site near Hickory Street and north of the pistol range, and discharge into the E-1 ditch near the center of the site.

Former NSC Area

The former NSC area was observed to consist of a single-story, wood framed clubhouse and adjacent storage containers. A gravel covered parking lot was present on the eastern side of the building. The surrounding area consisted of low-lying grass and weed covered land. Based on posted signs, the area appeared to be used for dog training and by Southern Alameda County Radio Controllers (a radio controlled model airplane flying club).

Bittern Truck Loading Area

A bittern truck loading area was observed on the southwest corner of the site. The facility consisted of below and above ground piping and control systems that conveyed bittern from the westerly adjacent storage ponds into tanker trucks. Two truck scales (with electronic load sensors), a control house structure and a geomembrane-lined overflow pond were observed. A

concrete structure that was formerly used to support a sodium citrate aboveground storage tank (AST) also was observed; the AST was not present.

The truck loading area was gravel covered and surrounded by a soil berm. The gravel generally appeared wet and stained, presumably with bittern. Spilled bittern was apparent on the gravel surface at the truck filling locations. The area appeared to slope generally towards the overflow pond. What appeared to be bittern (brown colored liquid) was present in the pond.

A storage container was present on the south side of the truck loading area that was used to store miscellaneous equipment. A small shed within the central loading area contained two 55-gallon drums located on a secondary containment pallet. The drums contained an anti-foaming agent (Foamtrol AF3561 manufactured by GE Water & Process Technologies). The labels indicated that the product was not hazardous, and contained water and a proprietary fatty alcohol. A small hazardous materials storage cabinet (yellow metal cabinet) was observed near the control house that contained several aerosol paint cans, three quarts of oil and three 5-gallon gasoline cans (one of the gasoline cans was labeled "bittern"). No evidence of significant spills or leaks from the cabinet was readily apparent.

5.2 Hazardous Substances and Petroleum Products in Connection with Identified Current Uses

Except for lead and copper bullet debris at the pistol range, no significant quantities of hazardous materials associated with the current site uses were observed on-site at the time of our reconnaissance.

5.3 Storage Tanks

No ASTs or USTs were observed, except for a trailer mounted, water tank stored along with other construction equipment on the northern portion of the site.

5.4 Odors

No unusual odors were noted at the subject property during the site reconnaissance.

5.5 Pools of Liquid

Pooled liquid, presumably water, was observed within the low-lying gypsum area located west of the former waste pile location. Bittern was observed within the lined overflow pond at the truck

loading facility. Water was observed within the southern portion of the on-site E-1 drainage ditch; algae growth was observed on portions of the water in the ditch.

5.6 Drums

Two 55-gallon drums of non-hazardous anti-foaming agent were observed at the bittern truck loading area. No indications of significant spills were readily apparent.

5.7 Hazardous Substance and Petroleum Products Containers

As noted above, a small hazardous-materials storage cabinet was observed at the bittern truck loading area that contained several aerosol paint cans, three quarts of oil and three 5-gallon gasoline cans (one of the gasoline cans was labeled "bittern"). No evidence of significant spills or leaks from the cabinet was readily apparent.

5.8 Polychlorinated Biphenyls (PCBs)

TRC observed three pole-mounted transformers at the northwestern corner of the site. The transformers appeared to be in good condition and no oil leaks were observed. Although oil is typically not highly toxic or mobile in the environment, transformer oil may contain polychlorinated biphenyls (PCBs). If the transformers are to be removed or if leaks are observed, testing of the oil for PCBs should be performed. The manufacturer may also be able to provide information regarding the PCB content, if any.

5.9 Stained Soil or Pavement

As noted above, the gravel within the bittern truck loading area appeared to be stained with bittern.

5.10 Stressed Vegetation

Limited vegetation growth was observed in areas where residual gypsum and magnesia materials were present. Elevated pH and/or salinity levels may inhibit growth.

5.11 Fill Areas

As previously noted, several areas of the site are used by Cargill for storage of imported soil. Approximately ½ to 1 foot of soil was also reportedly imported from an adjacent area to the

south and used to form a pad at the dog training facility. Additionally, a former bittern overflow pond reportedly was backfilled with fill during the late 1980s.

5.12 Solid Waste

White material reported to be gypsum was observed on-site to the west of the former waste pile location. Additional residual white material, presumably from the prior magnesia waste pile, was observed on some portions of the site, mainly to the west of the E-1 drainage ditch. The material was generally white in color and observed on the ground surface mainly along the fence lines and perimeter road, and at the base of on-site towers and poles supporting electrical power lines.

5.13 Waste Water

The current site uses do not generate waste water.

5.14 Wells

Four groundwater monitoring wells are present on the northern portion of the site that are used for monitoring of the regional groundwater contamination plume.

6.0 INTERVIEWS

On June 22, 2010, TRC staff met with Cargill representatives, Ms. Penny Streff, Land Project Manager, and Ms. Barbara Ransom, Environmental Manager. Ms. Ransom indicated that she has been familiar with the site for more than 20 years and was involved during remediation of the magnesia waste pile, as well as subsequent investigations and remedial actions on other portions of the property. During our meeting, Ms. Ransom discussed the history and general environmental setting of the site. The information provided was generally consistent with that described in the 2008 PEE document (see Section 2.4.5). She additionally noted that waste oil may historically have been applied to gravel roadways for dust control purposes.

7.0 FINDINGS AND OPINIONS

TRC has performed a Phase I ESA in general conformance with the scope and limitations ASTM Practice E 1527-05 of the 54.53-acre subject property owned by Cargill located at the western terminus of Enterprise Drive in Newark, Alameda County, California.

Based on the documents reviewed, Westvaco Chemicals and subsequently FMC historically leased the site and discarded waste products on the northern portion of the site that consisted of magnesia and other materials. Newark Sportsman's Club historically leased a portion of the site for use as a recreational outdoor shooting range. Portions of the site historically were used as salt evaporation ponds. The City of Newark has historically and currently uses a portion of the site as a pistol range. Other current site uses include 1) bittern truck loading, 2) use by Southern Alameda County Radio Controllers and dog training schools, 3) storage of construction equipment and materials, and 4) stockpiling of soil by Cargill.

This Phase I ESA has revealed the following Recognized Environmental Conditions (RECs) in connection with the subject property.

1. **Former Magnesia Waste Pile Area:** As summarized in Section 2.4.2, remediation work performed in 1991 focused on removal of waste materials classified as hazardous waste (i.e., containing contaminant concentrations that exceeded TTLCs). Additional non-hazardous waste material was removed in 1998 and 1999. During the prior remediation work, residential use of the site was not anticipated and it does not appear that residential use was considered when establishing site clean-up goals. However, analyses of verification soil samples collected following both removal actions generally did not detect copper, mercury or thallium (the primary contaminants) above current residential screening levels (California Human Health Screening Levels [CHHSLs], CalEPA 2005). The sampling results appear to suggest that the site is suitable for residential use. However, regulatory agency concurrence would be required prior to proceeding with residential development. Obtaining such concurrence would likely involve, at a minimum, additional confirmation sampling.

   Some residual waste material that is generally white in color remains at the site. The material reportedly is alkaline (high pH), which can cause irritation to human tissue. The DTSC noted that some of the materials have a pH comparable to laundry soap. The residual waste materials may not be suitable in a residential setting; thus, we recommend that they be removed or otherwise managed on-site to limit exposure to residential occupants.

   In an October 28, 1991 letter, the DTSC stated that the remedial actions have addressed the concerns expressed in the Remedial Action Plan. The letter also requested that the final report be revised to remove references to "final closure" and indicated that *the actions taken did not achieve the standards as prescribed in 40 CFR 264.258, nor did they include the requirements of 40 CFR 264, Subpart G. Therefore, the Department*

cannot approve the "certification of site closure" or the "final closure report." The reason that the DTSC included the above quote in the certification letter is not clear. The DTSC is not currently requiring any further work at site. Consideration should be given to contacting the DTSC to obtain clarification.

2. **Impacted Groundwater:** Former investigations of groundwater at the site indicate that the regional plume of VOCs (predominantly DCA) has encroached onto the northern portion of the site; these VOCs appear to be from off-site sources. TPHg, TPHd, TPHmo and benzene also were detected in groundwater near the former-magnesia waste pile location; the source of these compounds is not known. Because of the planned residential development of the site, we recommend that soil vapor sampling be conducted in the vicinity of the former waste pile and areas overlying impacted groundwater to evaluate the potential for vapor intrusion into occupied structures and potential health risks, if any. We also recommend that the petroleum hydrocarbon and benzene sampling data be provided to the RWQCB and/or ACWD to evaluate if these agencies may require further actions associated with these contaminants.

3. **Bittern Truck Loading Area:** Spilled bittern was apparent on the gravel surface at the truck loading area. Bittern reportedly contains residual sodium chloride as well as various other salts, including magnesium sulfate, magnesium chloride, potassium chloride and magnesium bromide. It is reported by Cargill to be non-hazardous, but may result in elevated levels of salts in the soil or groundwater. Thus, bittern impacted soil may require special handling or disposal during site development. Additionally, oil reportedly was discharged to overflow ponds at the truck loading area. One lined pond is currently present; it was historically un-lined. A second un-lined pond also was historically present that was backfilled with soil. We recommend that soil and groundwater quality in the vicinity of the truck loading area and overflow ponds be evaluated.

4. **Former NSC Area:** During remedial activities in 2002 and 2003, identified lead and PAH impacted soil and clay pigeon debris exceeding the established clean-up criteria were removed from the Newark Sportsman's Club area. The clean-up goal for lead was set at the then current residential Preliminary Remediation Goal (PRG) (EPA Region 9, 2000) for lead of 400 milligrams per kilogram (mg/kg). The cleanup goal used for PAHs was a total PAH concentration of 10 mg/kg.

   Lead reportedly was detected at concentrations ranging from 6.6 to 270 mg/kg, with an average lead concentration of 67 mg/kg; twenty-six 4-point composite verification

samples were analyzed for lead. Total PAHs were detected, but did not exceed the cleanup goal of 10 mg/kg; five 4-point composite verification samples were analyzed for PAHs.

CalEPA recently revised their screening level for lead; the revised residential CHHSL for lead is 80 mg/kg (CalEPA, 2009). The average lead level detected in verification soil samples does not exceed the current CHHSL of 80 mg/kg; however, lead concentrations in some of the individual samples are above this level. Additionally, some of the individual PAH concentrations detected in verification soil samples are above the current Environmental Screening Levels (ESLs) established by the RWQCB (2008).

In a March 10, 2004 letter, the RWQCB indicated that remedial actions at the former NSC area were completed pursuant to the RAW and that no additional remedial action is necessary. Prior to purchasing the site, we recommend that the RWQCB be informed that the site is now being considered for residential development and that confirmation be obtained that no further remedial action is necessary.

As noted in Section 4.1, the SLIC database contains two listings for the Newark Sportsman's Club (NSC), one under RWQCB oversight with the case status noted as "open-inactive," and a second listing under Alameda County Water District oversight with the case status listed as "open." We suspect that the duplicate listing is an administrative error and recommend that a request be submitted to both agencies to update the database listings so that the case status is shown as "closed."

5. **Pistol Range:** The City of Newark Police Department has used a portion of the site since 1975 as a pistol firing range. Lead and copper were detected in soil from the pistol range area at up to 11,000 mg/kg and 270 mg/kg, respectively. The lead concentrations exceed both the residential CHHSL (80 mg/kg) and the TTLC (1,000 mg/kg). Waste material with concentrations above the TTLC is classified as a hazardous waste. We recommend that a remedial action plan be developed for this area and that remediation be completed under regulatory agency oversight.

6. **Naturally-Occurring Asbestos:** Serpentinite that contains Naturally-Occurring Asbestos (NOA) was identified within the southern area of exposed bedrock (near the pistol range). Analyses of samples collected from the southern hill area detected NOA at concentrations ranging from 0.25 to 6.25 percent. Mitigation measures to prevent the release of asbestos fibers from this material will be required during site development activities. Capping of the material below clean fill is often an approved mitigation

measure. Air monitoring likely will be required if the NOA is disturbed. The Bay Area Air Quality Management District enforces the California Airborne Toxic Control Measure (ATCM) which regulates the NOA.

7. **E-1 Drainage Ditch:** The currently present E-1 drainage ditch bisects the site. As described in Section 2.4.1, historically, the ditch began on the adjacent FMC property and was used by FMC for various discharges. Although current water quality in the ditch is not likely to be impacted by historic discharges, sediment within the ditch could contain residual contaminants. We recommend that sediment quality in the ditch be evaluated prior to site development.

8. **Evaporation Ponds and Detention Basin:** During the 1940s through at least the 1960s, portions of the site to the east of the E-1 drainage ditch appear to have been used as salt evaporation ponds. Additionally, what appears to be a detention basin is apparent on aerial photographs from the 1930s and 1940, located on the site at the location where the E-1 ditch intersects with adjacent FMC property. Because residual contaminant concentrations can accumulate in sediments within detention basins and evaporation ponds, we recommend that general soil quality in these areas be evaluated prior to purchasing the site for residential development.

9. **Railroad Tracks and Roadways:** Abandoned railroad tracks were observed on the northwest portion of the site. Assorted chemicals were often historically used for dust suppression and weed control along rail lines. Consideration should be given to evaluating soil quality along the tracks. Also, the wooden rail ties typically contain toxic preservatives and should be removed and appropriately disposed prior to development. Cargill reported that waste oil may historically have been applied to on-site gravel roadways for dust control purposes. Soil quality along the roadways should be evaluated.

10. **Site Management Plan:** Based on the long industrial history of the site, previously unidentified buried structures, debris or impacted soil may be encountered during site development activities; these materials may require special handling and disposal. To limit construction delays, we recommend that a Site Management Plan (SMP) be developed to establish management practices for handling these materials/structures if encountered. We also recommend consulting with an environmental attorney to develop a protective purchase/sales agreement and assist in evaluating potential liabilities associated with acquiring the site.

The following additional site features were identified during this Phase I ESA. These items are not considered Recognized Environmental Conditions; they are noted here only for informational purposes.

Septic Tanks and Monitoring Wells: A septic tank is reportedly present on the north side of the dog training facility clubhouse. The septic system should be properly abandoned in accordance with applicable regulations prior to site development. Additionally, four groundwater monitoring wells are present on-site. These wells should be protected during development or properly abandoned prior to development. This work should be coordinated with the RWQCB. Relocation of the wells may be necessary if their continued use is anticipated.

Imported Soil: Approximately ½ to 1 foot of soil was reportedly imported from an adjacent area to the south and used to form a pad at the dog training facility. Based on a grading plan contained in City of Newark Fire Department (NFD) files, this soil (noted as 900 cubic yards) appears to have been obtained from the southerly adjacent Plummer Creek Wetlands Mitigation property, along with an additional 31,000 cubic yards of soil that were to be placed on the northwest portion of the site (west of the E-1 drainage ditch). The source property for this soil does not appear to have historically been developed based on our review historic aerial photographs; thus, the potential for the soil to have been impacted appears low.

As described in Section 2.4.5, approximately 110,000 cubic yards of soil has been imported from an additional 45 off-site sources. Based on a cursory review of the provided laboratory data, the reported analyte concentrations were generally well below residential screening levels (ESLs [RWQCB 2008] and CHHSLs [CalEPA 2005 and 2009]). One noted exception was a sample from an 8,000-cubic yard import source (2855 Story Road, San Jose) in which oil and grease was detected at 1,400 mg/kg in one of the soil samples. The ESL for oil range hydrocarbons (RWQCB 2008) is 370 mg/kg. Oil and grease was reported at 36.2 and 12.0 mg/kg in two other samples; no TPHg, TPHd, BTEX, organochlorine pesticides or PCBs were detected. Because relatively low oil and grease levels were reported in two of the three samples and since no BTEX or other contaminants were detected, this soil does not appear likely to have a significant adverse impact on the planned residential use of the site.

The samples of imported soil from the 45 properties appear to have been analyzed for commonly encountered contaminants and the provided laboratory data suggests that the imported soil is suitable for use on residential property; however, there is a level of uncertainty that should be understood. Information regarding the historic uses of the soil source properties was not available. Similarly, information regarding sample collection and handling protocols, sampling depths and sampling locations was typically not available. We have assumed that 1) the samples

were properly collected, stored and transported, 2) the samples were collected from appropriate locations and depths (based on an understanding of potential contaminant sources), 3) a sufficient number of samples was collected so that the data is representative of the soil imported, and 4) the types analyses performed were appropriate based on the potential contaminant sources at the soil source property. If a higher degree of confidence regarding import soil quality is desired, additional soil samples could be collected.

8.0 DEVIATIONS, DELETIONS, AND DATA GAPS

ASTM Standard Designation E 1527-05 requires the environmental professional to comment on significant data gaps that affect our ability to identify Recognized Environmental Conditions. A data gap is a lack of or inability to obtain information required by ASTM Standard Designation E 1527-05 despite good faith efforts by the environmental professional to gather such information. A data gap by itself is not inherently significant; it only becomes significant if it raises reasonable concerns. No significant data gaps were identified during this Phase I ESA. Additionally, this assessment was conducted without significant deviations from or deletions to ASTM E 1527-05.

9.0 REFERENCES

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APPENDIX A

Site Photographs

PHOTOGRAPHIC REPORTING DATA SHEET

Client: Integral Communities
Project: Cargill Parcel Phase I
Location: Newark, CA

Date Taken: June 22, 2010
Photographer(s): S. Foster
Direction facing: Southeast

Photograph 1: Top of hill (former waste pile area) on northwest portion of the site. Contractor equipment storage items shown at center.

PHOTOGRAPHIC REPORTING DATA SHEET

Client: Integral Communities
Project: Cargill Parcel Phase I
Location: Newark, CA

Date Taken: June 22, 2010
Photographer(s): S. Foster
Direction facing: Northeast

Photograph 2: White material, reportedly gypsum, at northwest corner of the site (southwest side of hill). A Cargill brine pipeline, located off-site, is shown at bottom.

PHOTOGRAPHIC REPORTING DATA SHEET

Client: Integral Communities
Project: Cargill Parcel Phase I
Location: Newark, CA

Date Taken: June 22, 2010
Photographer(s): S. Foster
Direction facing: North

Photograph 3: Residual white material, presumably magnesia, below PG&E tower.

PHOTOGRAPHIC REPORTING DATA SHEET

Client: Integral Communities
Project: Cargill Parcel Phase I
Location: Newark, CA

Date Taken: June 22, 2010
Photographer(s): S. Foster
Direction facing: South

Photograph 4: E-1 drainage ditch (northern portion). Imported soil mounds are apparent on both sides the ditch.

PHOTOGRAPHIC REPORTING DATA SHEET

Client: Integral Communities
Project: Cargill Parcel Phase I
Location: Newark, CA

Date Taken: June 22, 2010
Photographer(s): S. Foster
Direction facing: East

Photograph 5: Abandoned railroad track on northwest portion of site.

PHOTOGRAPHIC REPORTING DATA SHEET

Client: Integral Communities
Project: Cargill Parcel Phase I
Location: Newark, CA

Date Taken: June 22, 2010
Photographer(s): S. Foster
Direction facing: Southeast

Photograph 6: Imported soil piles.

PHOTOGRAPHIC REPORTING DATA SHEET

Client: Integral Communities
Project: Cargill Parcel Phase I
Location: Newark, CA

Date Taken: June 22, 2010
Photographer(s): S. Foster
Direction facing: Southwest

Photograph 7: Pistol Range. Serpentine outcrop hill shown at top.

PHOTOGRAPHIC REPORTING DATA SHEET

Client: Integral Communities
Project: Cargill Parcel Phase I
Location: Newark, CA

Date Taken: June 22, 2010
Photographer(s): S. Foster
Direction facing: NA

Photograph 8: Lead and copper bullet casings in soil at pistol range.

PHOTOGRAPHIC REPORTING DATA SHEET

Client: Integral Communities
Project: Cargill Parcel Phase I
Location: Newark, CA

Date Taken: June 22, 2010
Photographer(s): S. Foster
Direction facing: NA

Photograph 9: Copper bullet casings on gravel within pistol range area.

PHOTOGRAPHIC REPORTING DATA SHEET

Client: Integral Communities
Project: Cargill Parcel Phase I
Location: Newark, CA

Date Taken: June 22, 2010
Photographer(s): S. Foster
Direction facing: Northwest

Photograph 10: Clubhouse at Former NSC (current dog training use)

PHOTOGRAPHIC REPORTING DATA SHEET

Client: Integral Communities
Project: Cargill Parcel Phase I
Location: Newark, CA

Date Taken: June 22, 2010
Photographer(s): S. Foster
Direction facing: South

Photograph 11: Area used for dog training.

PHOTOGRAPHIC REPORTING DATA SHEET

Client: Integral Communities
Project: Cargill Parcel Phase I
Location: Newark, CA

Date Taken: June 22, 2010
Photographer(s): S. Foster
Direction facing: East

Photograph 12: Bittern truck loading facility.

PHOTOGRAPHIC REPORTING DATA SHEET

Client: Integral Communities
Project: Cargill Parcel Phase I
Location: Newark, CA

Date Taken: June 22, 2010
Photographer(s): S. Foster
Direction facing: North

Photograph 1: Truck filling location at bittern loading facility. Spilled bittern and stained gravel are apparent.

PHOTOGRAPHIC REPORTING DATA SHEET

Client: Integral Communities
Project: Cargill Parcel Phase I
Location: Newark, CA

Date Taken: June 22, 2010
Photographer(s): S. Foster
Direction facing: Northeast

Photograph 1: Lined bittern overflow pond.

PHOTOGRAPHIC REPORTING DATA SHEET

Client: Integral Communities
Project: Cargill Parcel Phase I
Location: Newark, CA

Date Taken: June 22, 2010
Photographer(s): S. Foster
Direction facing: North

Photograph 1: Southern portion of E-1 drainage ditch at southwest corner of the site. The fenced bittern truck loading area is present to the right.

APPENDIX B

ASTM Radius Report and Summary

APPENDIX C

Historical Research Documentation

APPENDIX D

Qualifications of the Environmental Professional

ENVIRONMENTAL PROFESSIONAL STATEMENT

DEFINITION OF ENVIRONMENTAL PROFESSIONAL AND RELEVANT EXPERIENCE THERETO PURSUANT TO 40 CFR 312

(1) a person who possesses sufficient specific education, training, and experience necessary to exercise professional judgment to develop opinions and conclusions regarding conditions indicative of releases or threatened releases (see §312.1(c)) on, at, in, or to a property, sufficient to meet the objectives and performance factors in §312.20(e) and (f).

(2) Such a person must: (i) hold a current Professional Engineer's or Professional Geologist's license or registration from a state, tribe, or U.S. territory (or the Commonwealth of Puerto Rico) and have the equivalent of three (3) years of full-time relevant experience; or (ii) be licensed or certified by the federal government, a state, tribe, or U.S. territory (or the Commonwealth of Puerto Rico) to perform environmental inquiries as defined in §312.21 and have the equivalent of three (3) years of full-time *relevant experience*; or (iii) have a
Baccalaureate or higher degree from an accredited institution of higher education in a discipline of engineering or science and the equivalent of five (5) years of full-time relevant experience; or (iv) have the equivalent of ten (10) years of full-time relevant experience.

(3) An environmental professional should remain current in his or her field through participation in continuing education or other activities.

(4) The definition of environmental professional provided above does not preempt state professional licensing or registration requirements such as those for a professional geologist, engineer, or site remediation professional. Before commencing work, a person should determine the applicability of state professional licensing or registration laws to the activities to be undertaken as part of the inquiry identified in §312.21(b). (5) A person who does not qualify as an environmental professional under the foregoing definition may assist in the conduct of all appropriate inquiries in accordance with this part if such person is under the supervision or responsible charge of a person meeting the definition of an environmental professional provided above when conducting such activities.

Relevant experience, as used in the definition of environmental professional in this section, means: participation in the performance of all appropriate inquiries investigations, environmental site assessments, or other site investigations that may include environmental analyses, investigations, and remediation which involve the understanding of surface and subsurface environmental conditions and the processes used to evaluate these conditions and for which professional judgment was used to develop opinions regarding conditions indicative of releases or threatened releases (see §312.1(c)) to the subject property.

I declare that, to the best of my professional knowledge and belief, I meet the definition of Environmental professional as defined in §312.10 of 40 CFR 312.

I have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the subject property. I have developed and performed the all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.

Signature of Environmental Professional: _____ Date: 8/30/10

Expiration Date 4/30/12

SOURCE: Google Earth Aerial Photo, October 2009.

SITE PLAN

Cargill Inc.
Newark, California

TRC

FIGURE 2

FILE NAME: N:\CAD\Cargill_Newark\Fig2_Site Plan.dwg | Layout Tab: 8x11

ACCESS AGREEMENT

COPY

THIS AGREEMENT, made and entered into this ___4 day of January, 2008, by and between **CARGILL, INCORPORATED**, a Delaware corporation, with offices and principal place of business at 15407 McGinty Road West, Wayzata, MN through it's Cargill Land Management Business Unit ("Cargill") and Ashland, Inc., a Kentucky Corporation, whose principal address is: 50 East River Center Blvd., Covington, KY 41012, and who owns the property located at 8600 Enterprise Drive, Newark, California, 94560. ("Ashland").

WITNESSETH:

WHEREAS, Ashland seeks access to property owned by Cargill referred to as Parcel 2 of Parcel Map 7505, APN: 537-852-07 & APN: 537-852-08, shown outlined in red on the attached Exhibit A, and located adjacent to Enterprise Drive and Hickory Street,

WHEREAS, Ashland seeks this access to performing quarterly ground water monitoring tests on property owned by Cargill. This data is being collected in compliance with Provision C.3., of the Site Cleanup Requirements Order 89-109 adopted by the Regional Water Quality Control Board (RWQCB) on June 21, 1989, and issued to Ashland on July 11, 1989.

NOW, THEREFORE, it is agreed by and between the parties as follows:

1. Cargill grants to Ashland the right to enter the Premises to collect groundwater samples from the existing groundwater monitoring wells, which shall be designated the "Work".

2. Ashland agrees that any samples, waste materials, soil cuttings, hazardous wastes, hazardous substances, pollutants, contaminants or free product ("Wastes") which results from the Work shall be the sole property of Ashland. Ashland shall handle, store, treat, transport, and dispose of the Wastes in accordance with all applicable government requirements and at Ashland's expense. In no event shall any Wastes be stored on the premises for more than ten days, or treated or disposed of at the Premises.

3. Ashland shall conduct its activities in a manner that does not interfere with Cargill's business activities at the Premises and in a manner that minimizes disturbance to the existing condition of the Premises. Any disturbance to the Premises resulting from the Work shall be repaired or corrected promptly. At its expense, Ashland shall restore the Premises to its original condition and remove all equipment, tools or other property brought onto the site in relation to the Work immediately after completing the Work.

4. Ashland agrees to analyze ground water samples it gathers from the Premises solely for the purpose of documenting and quantifying contamination as specified in Order 89-109 adopted by the RWQCB and to provide to Cargill with a copy of all analytical results and final reports submitted to the RWQCB which include the information gathered on Cargill's Premises.

5. Access shall be limited to Cargill's normal business hours at the Premises during which a Cargill manager is present. Ashland shall provide Cargill no less than seventy-two hours advance notice of its intent to seek access.

6. Ashland agrees that it, and its employees, agents, licensees, invitees, and contractors shall present proper credentials when seeking access to the Premises; shall comply with all applicable safety and environmental laws and regulations, including Cargill's safety requirements, when on or about the Premises; and as a condition of access to the Premises shall participate in any Cargill's required review of its safety requirements. Ashland further agrees that Cargill may, at the sole cost and risk of Ashland, stop work and deny future access to the Premises to any person or entity for failure to comply with applicable safety and environmental laws and regulations or Cargill's safety requirements.

7. Ashland shall conduct the Work at its sole risk and expense and in compliance with all applicable laws, rules, ordinances, codes and orders. Ashland shall be responsible for and pay all charges made, levied, or assessed by any third party in connection with the Work, including without limitation any taxes, charges, licensing fees, and the like, levied against Ashland or Cargill.

8. Prior to the execution of this Agreement and upon the renewal of any policy, Ashland and each permitted subcontractor shall furnish to Cargill copies of insurance certificates evidencing that it maintains the following coverages or any higher amounts as required by law or regulation:

Types of Insurance	Limits
Workers' Compensation	Statutory
Employer's Liability	$1,000,000 each occurrence
Commercial General Liability including Contractual Liability and Automobile Liability	Bodily injury and death: $2,000,000 combined single limit Property damage: $2,000,000 combined single limit
Professional Liability (for Ashland's contractors)	$2,000,000 each occurrence

The certificates of Commercial General Liability and Professional Liability insurance shall provide that Cargill shall be given not less than thirty (30) days written notice before cancellation or any material change in the insurance. The insurance coverage shall be written on an occurrence rather than on a claims made basis; shall be written by carriers satisfactory to Cargill; and shall remain in effect during the term of this Agreement.

9. Ashland shall release, hold harmless, defend and indemnify Cargill from and against all claims arising from the Work or the Wastes, including but not limited to claims

arising under the Comprehensive Environmental Response, Compensation and Liability Act of 1980, as amended, the Resource Conservation and Recovery Act of 1976, and similar state laws.

10. This Agreement and any referenced exhibits (which are hereby incorporated by this reference) are the entire agreement between the parties with respect to the Work and shall not be modified in any manner except in writing executed by both parties.

11. This Agreement shall bind and inure to the benefit of the parties hereto and their respective heirs, successors and assigns. Neither party shall assign this Agreement without the prior written consent of the other.

12. In the event a dispute arises under this Agreement, such dispute shall be resolved in arbitration conducted in accordance with the Uniform Arbitration Act, and the Rules of the American Arbitration Association shall govern. Any award which might be rendered by an arbitrator shall be final and binding upon the parties.

13. The law of the State of California shall apply to the interpretation of this Agreement notwithstanding the conflicts of laws rules.

14. Cargill and Ashland agree that notices hereunder will be addressed in the first instance to the following contact people:

For Cargill:

Cargill, Incorporated
7220 Central Avenue
Newark, CA 94560-4206
Phone: 510-790-8610
Fax: 510-790-8180
Attn: Patrick. D. Mapelli

For Ashland:

Mark Metcalf
EH&S Department
Ashland Inc.
5200 Blazer Parkway
Dublin, OH 43017

15. Except for the provisions of paragraph 9 which shall continue indefinitely, this Agreement shall terminate on December 31, 2012, and Ashland shall remove all waste from and complete all restoration at the Premises prior to that time. Either party may terminate this Agreement upon thirty (30) days written notice to the other.

16. Any provision of this Agreement which shall prove to be invalid, void or

illegal will in no way affect, impair or invalidate any other provision hereof and such remaining provisions shall remain in full force and effect. The failure of either of the parties hereto to exercise any of its rights or remedies under this Agreement shall not operate as a waiver of any such right or remedy on later occasions.

IN WITNESS WHEREOF, the parties hereto have hereunto set their hands and seals the day and year first above written.

CARGILL, INCORPORATED
Cargill Land Management

By: _____

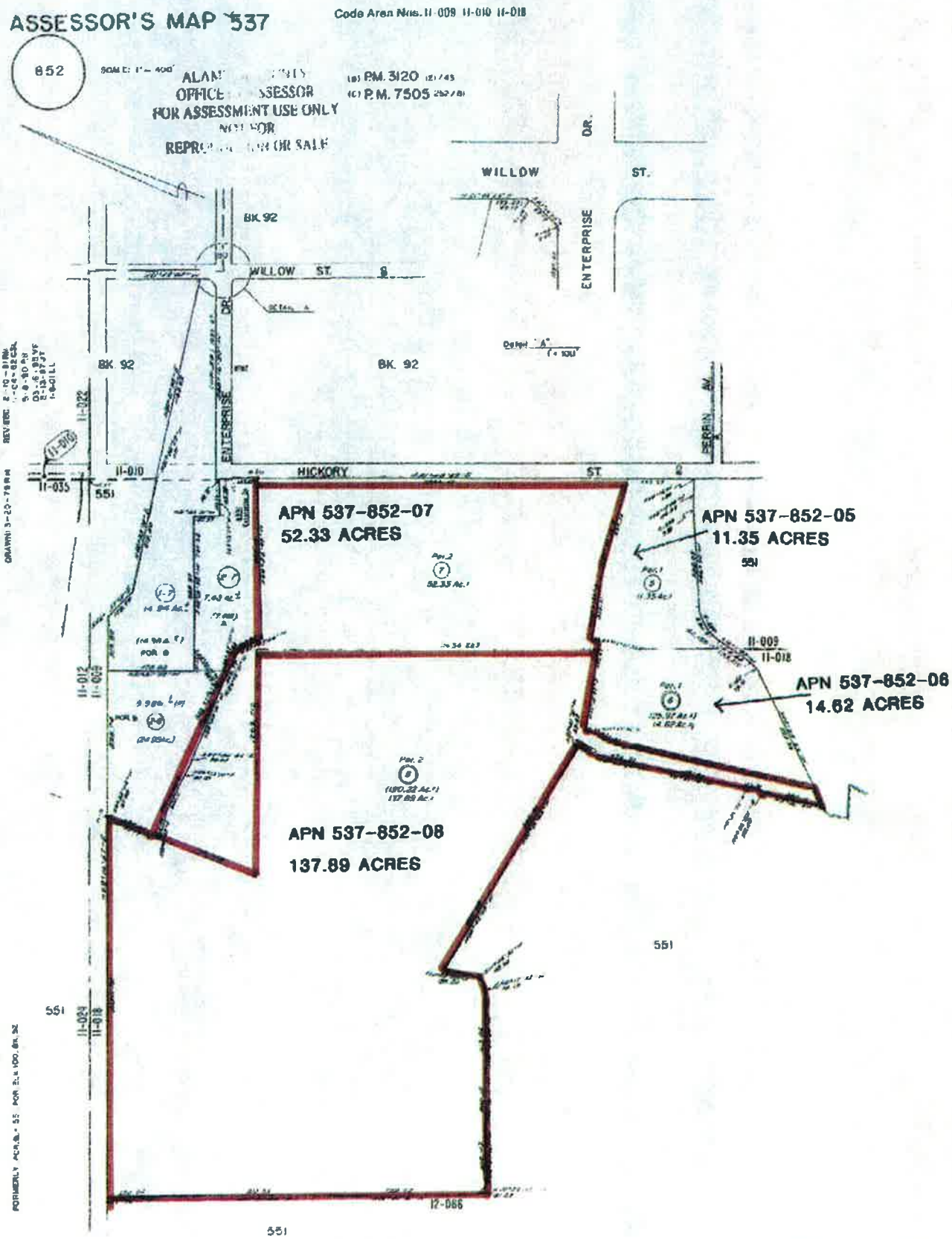
Its: Manager, Real Property

ASHLAND INC.

By: _____

Its: Manager - Env. Remediation

EXHIBIT A


ASSESSOR'S MAP 537
Code Area Nos. 11-009 11-010 11-018
852
OFFICE OF ASSESSOR
FOR ASSESSMENT USE ONLY
NOT FOR
REPRODUCTION OR SALE
(B) P.M. 3120
(C) P.M. 7505
WILLOW ST.
DR.
ENTERPRISE
BK. 92
WILLOW ST.
BK. 92
BK. 92
ENTERPRISE
HICKORY ST.
11-010
11-035
551
APN 537-852-07
52.33 ACRES
APN 537-852-05
11.35 ACRES
551
11-009
11-018
APN 537-852-06
14.62 ACRES
APN 537-852-08
137.89 ACRES
551
551
12-066
551

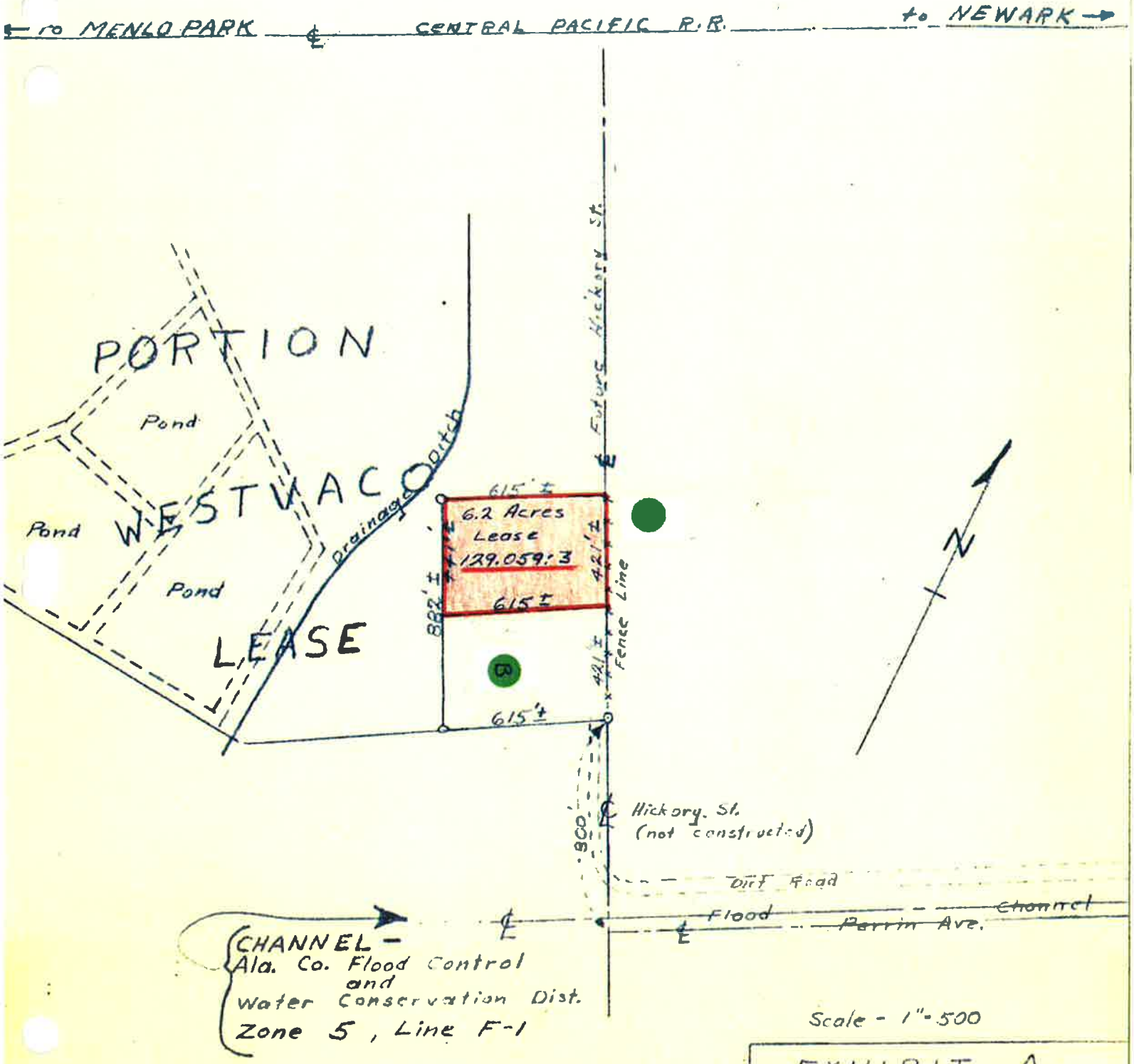
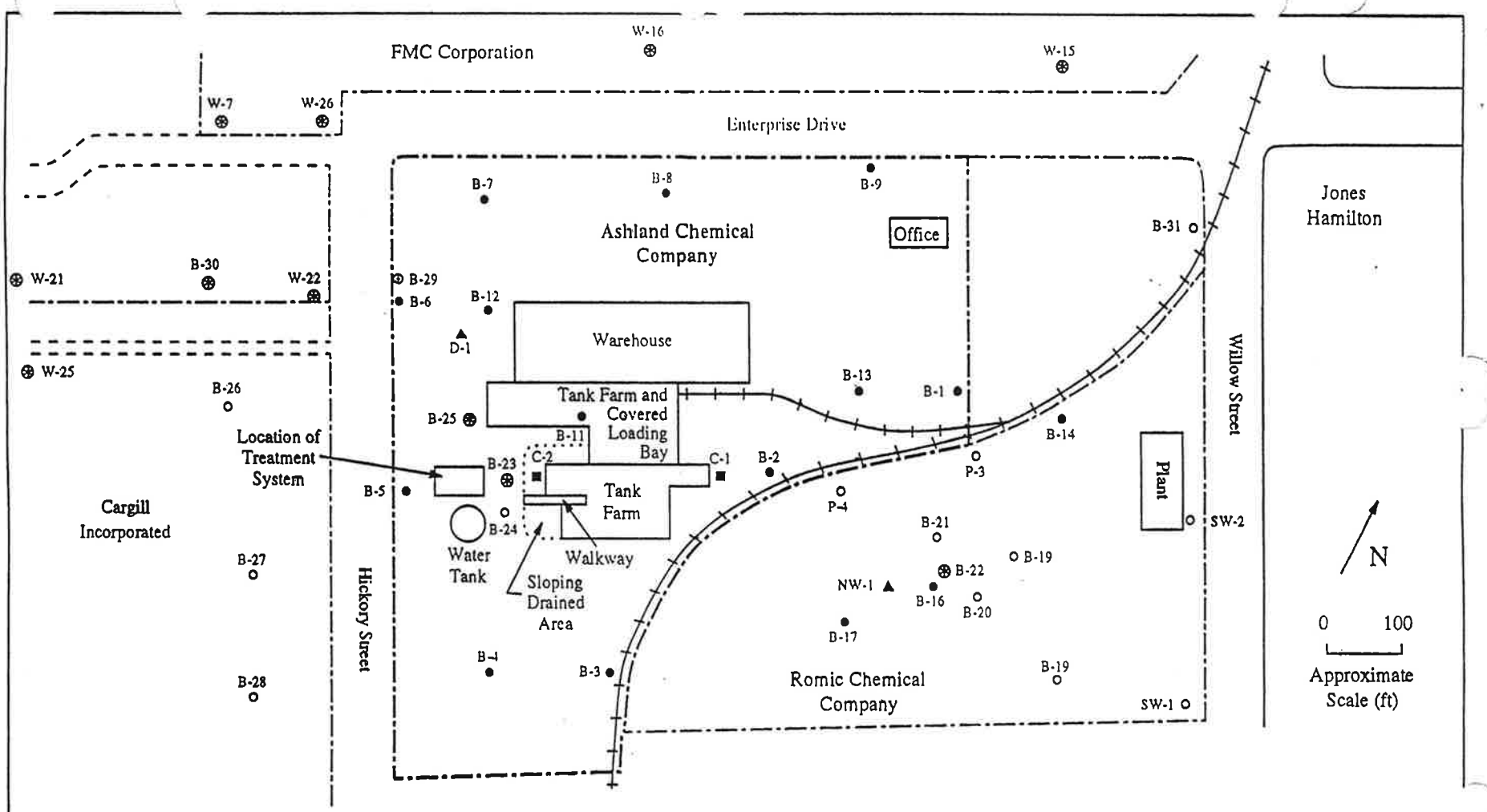


EXHIBIT A
Lease No. 129.059:3
City of Newark
Smallarm &
Rifle Range

6.2 Acres ±
February, 1961



ESC

ENVIRONMENTAL STRATEGIES CORPORATION
101 Metro Drive Suite 650
San Jose, California 95110
408-453-6100

Figure 1
Site Plan
Ashland Chemical
Newark, California

J:\LOTUS\ASHLAND\NEWARK-2

EXHIBIT B

First Amendment to Property Access Agreement
Cargill File No. 2001.008:3

This Frist Amendment Agreement ("First Amendment Agreement"), is made and entered into as of January 1,2013, by and between **CARGILL, INCORPORATED**, a Delaware corporation, with offices and principal place of business at 15407 McGinty Road West, Wayzata, MN, through its Cargill Land Management Business Unit ("Cargill"), and **ASHLAND INC.,** a Kentucky Corporation, with offices and principal place of business at 50 East Rivercenter Boulevard, Covington , KY 41011 ("Ashland").

WHEREAS, Cargill and Ashland, entered into an Access Agreement ("Agreement') dated January 4, 2008, attached hereto as Exhibit A, wherein Cargill granted Ashland the temporary right to access property owned by Cargill referred to as Parcel 2 of Parcel Map 7505, APN: 537-852-07 & APN: 537-85208, shown outlined in Exhibit A to the Agreement, for the purpose of carrying out the work set forth in the Work Plan attached to the Agreement.

WHEREAS, Cargill and Ashland desire to amend the Agreement as follows:

1. Pursuant to Paragraph 6 of the Agreement the term shall be renewed for a one (1) year period, commencing January 1, 2013 and ending December 31, 2013, unless sooner revoked or terminated pursuant to said Access Agreement.
2. Except as amended by this First Amendment Agreement, the other terms and conditions of the Agreement shall remain the same in full force and effect.

CARGILL, INCORPORATED

By: _____

Its: Pat Mapelli, Manager, Real Property

Date: June 7, 2013

MPP

ASHLAND INC.

By: _____

Its: Mark Metcalf, Senior Manager, Remediation, EH&S Department

Date: June 7, 2013

2001.008:3c

OP ID: LS

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY) 09/14/12

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER
Insurance Solutions & Services
619 Amboy Avenue
Edison, NJ 08837
Frank G. Jacobs
732-738-6080
732-738-6081

CONTACT NAME:
PHONE (A/C, No, Ext):
FAX (A/C, No):
E-MAIL ADDRESS:
PRODUCER CUSTOMER ID #: GES-011

INSURED
Groundwater & Environmental Services, Inc.
5046 Commercial Circle Suite F
Concord, CA 94520

INSURER(S) AFFORDING COVERAGE	NAIC #
INSURER A : Zurich American Insurance Co.	16535
INSURER B : Nautilus Insurance Company	17370
INSURER C :	
INSURER D :	
INSURER E :	
INSURER F :	

COVERAGES CERTIFICATE NUMBER: REVISION NUMBER:

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSR	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS		
A	GENERAL LIABILITY X COMMERCIAL GENERAL LIABILITY CLAIMS-MADE X OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: X POLICY PRO-JECT LOC			GLO3671386	07/01/12	07/01/13	EACH OCCURRENCE	$	2,000,000
							DAMAGE TO RENTED PREMISES (Ea occurrence)	$	300,000
							MED EXP (Any one person)	$	10,000
							PERSONAL & ADV INJURY	$	2,000,000
							GENERAL AGGREGATE	$	4,000,000
							PRODUCTS - COMP/OP AGG	$	4,000,000
								$	
A	AUTOMOBILE LIABILITY X ANY AUTO ALL OWNED AUTOS SCHEDULED AUTOS X HIRED AUTOS X NON-OWNED AUTOS			BAP3671392	07/01/12	07/01/13	COMBINED SINGLE LIMIT (Ea accident)	$	1,000,000
							BODILY INJURY (Per person)	$	
							BODILY INJURY (Per accident)	$	
							PROPERTY DAMAGE (Per accident)	$	
								$	
								$	
	UMBRELLA LIAB OCCUR EXCESS LIAB CLAIMS-MADE DEDUCTIBLE RETENTION $						EACH OCCURRENCE	$	
							AGGREGATE	$	
								$	
								$	
A	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? Y/N N (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below	N/A		WC3671385	07/01/12	07/01/13	X WC STATU-TORY LIMITS / OTH-ER		
							E.L. EACH ACCIDENT	$	1,000,000
							E.L. DISEASE - EA EMPLOYEE	$	1,000,000
							E.L. DISEASE - POLICY LIMIT	$	1,000,000
B	Professional			CCP2005634-10	07/01/12	07/01/13	Limit		5,000,000
							Aggregate		10,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (Attach ACORD 101, Additional Remarks Schedule, if more space is required)

*10 days notice for nonpayment of premium.

CERTIFICATE HOLDER

GES1266

Cargill, Incorporated
Attn: Patrick D. Mapelli
7220 Central Avenue
Newark, CA 94560-4206

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

Fred Gfeller

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The ACORD name and logo are registered marks of ACORD

2701.008.3

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY) 11/28/2012

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER
Marsh USA Inc.
1717 Arch Street
Philadelphia, PA 19103-2797
Attn: philadelphia.certs@marsh.com/866-966-4664

765400-ALL-CAS-12-13

CONTACT NAME:
PHONE (A/C, No, Ext):
FAX (A/C, No):
E-MAIL ADDRESS:

INSURER(S) AFFORDING COVERAGE	NAIC #
INSURER A : ACE American Insurance Company	22667
INSURER B : Indemnity Ins Co Of North America	43575
INSURER C : N/A	N/A
INSURER D :	
INSURER E :	
INSURER F :	

INSURED
ASHLAND INC.
5200 BLAZER PARKWAY
DUBLIN, OH 43017

COVERAGES **CERTIFICATE NUMBER:** CLE-003431964-11 **REVISION NUMBER:** 2

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSR	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	GENERAL LIABILITY			HDOG27014768	12/01/2012	12/01/2013	EACH OCCURRENCE	$ 1,000,000
	X COMMERCIAL GENERAL LIABILITY						DAMAGE TO RENTED PREMISES (Ea occurrence)	$ N/A
	CLAIMS-MADE X OCCUR						MED EXP (Any one person)	$ N/A
							PERSONAL & ADV INJURY	$ 1,000,000
							GENERAL AGGREGATE	$ 1,000,000
	GEN'L AGGREGATE LIMIT APPLIES PER:						PRODUCTS - COMP/OP AGG	$ 1,000,000
	X POLICY PRO-JECT LOC							$
A	AUTOMOBILE LIABILITY			ISAH08712906	12/01/2012	12/01/2013	COMBINED SINGLE LIMIT (Ea accident)	$ 6,000,000
	X ANY AUTO						BODILY INJURY (Per person)	$
	ALL OWNED AUTOS / SCHEDULED AUTOS						BODILY INJURY (Per accident)	$
	HIRED AUTOS / NON-OWNED AUTOS						PROPERTY DAMAGE (Per accident)	$
								$
	UMBRELLA LIAB / OCCUR						EACH OCCURRENCE	$
	EXCESS LIAB / CLAIMS-MADE						AGGREGATE	$
	DED / RETENTION $							$
B	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY			WLRC47127543 (AOS)	12/01/2012	12/01/2013	X WC STATU-TORY LIMITS / OTH-ER	
A	ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? Y/N N	N/A		SCFC4712752A (WI)	12/01/2012	12/01/2013	E.L. EACH ACCIDENT	$ 1,000,000
A	(Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below			WLRC47127531 (CA, MA)	12/01/2012	12/01/2013	E.L. DISEASE - EA EMPLOYEE	$ 1,000,000
							E.L. DISEASE - POLICY LIMIT	$ 1,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (Attach ACORD 101, Additional Remarks Schedule, if more space is required)
Groundwater Monitoring on in Newark, CA.

CERTIFICATE HOLDER

Cargill, Incorporated
Attn: Deborah Brothers
7220 Central Avenue
Newark, CA 94560-4206

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE
of Marsh USA Inc.
Manashi Mukherjee Manashi Mukherjee

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The ACORD name and logo are registered marks of ACORD

Jan. 1, 2010 -
May 31, 2010

LICENSE AGREEMENT
(R.J. Gordon Construction - Hill Parcel)
2001.008:18

THIS AGREEMENT, made this 1st day of January 2010, between CARGILL, INCORPORATED, a Delaware corporation (hereinafter called "Licensor"), and R.J. GORDON CONSTRUCTION, a California Corporation (hereinafter called "Licensee"), whose address is P.O. Box 23204, Pleasant Hill, CA 94523-3418.

WITNESSETH

Licensor hereby permits Licensee, its agents, contractors, and employees to enter certain portions of land owned by Licensor, commonly known as Parcel No.1 of Parcel Map No. 9837, located adjacent to intersection of Enterprise Drive and Hickory Street in Newark, California (hereinafter called "Property"), such Property as shown outlined in red on the attached Exhibit A, for the sole purpose of storing equipment and materials.

1. The foregoing permission is given subject to the following conditions:

(a) Licensee shall pay to Licensor as rental the sum of two hundred fifty dollars ($250.00), lawful money of the United States, which Licensee agrees to pay to Licensor in advance the first day of each month, without deduction of offset, at Licensor's office in Newark, California, or such other place as Licensor may from time to time designate.

(b) Licensee agrees that it will not, during the term hereof, allow or permit any toxic or hazardous substance to be used on the Property, which causes the Property to become subject to the terms of Environmental Cleanup Responsibility Act ("ECRA"), or any environmental law or regulation, and that it will not allow or permit any hazardous use of occupancy of the Property which would cause the loss of fire insurance upon the Property. Licensee further agrees to indemnify and hold Licensor harmless from any and all liabilities, losses, claims, demands, costs, expenses, including attorney's fees and expenses, and judgments of any nature arising out of the obligations in this Section, including without limitation, the Comprehensive Environmental Response, Compensation and Liability Act of 1980 as amended (42 U.S.c. Sections 6901, et seq.). Additionally, upon the termination of this License, Licensee must deliver to Licensor any and all ECRA waivers, certificates, or other environmental certificates Licensee is either obligated to provide or able to obtain.

(c) Licensor by written notice may revoke this License at any time irrespective of expense incurred or labor expended by Licensee. Any such written notice of revocation, mailed and addressed to the Licensee at the address set forth above or delivered to the Licensee, shall be notice hereunder by the Licensor.

(d) In the event of revocation, Licensee shall not be entitled to obtain from Licensor any reimbursement for expenses of Licensee, or for any other purpose.

(e) In the event of revocation of this License, Licensee shall have thirty (30) days to evacuate Licensor's Property and remove all equipment and materials there from, and shall leave Licensor's Property in a condition equal to or better than its present condition.

(f) Licensee shall acquire no interest or estate in land of Licensor under this License.

(g) This License shall expire and be ended May 31, 2010, unless previously revoked

by Licensor.

(h) Licensor does not warrant or represent that the Property are safe, healthful, or suitable for the purpose for which they are permitted to be used under the terms of the License, and Licensee agrees to conduct its own investigations and make its independent determination of such matters, and

(i) Prior to entry upon said Property of licensor, Licensee shall, at its own expense, obtain from a reputable insurance company admitted to do business in California, a standard comprehensive general liability policy (including contractual liability on any written agreement) insuring Licensor against liability or loss (whether from personal injuries or Property damage, or both) arising from or connected with Licensee's entry upon and use of said Property pursuant to this Agreement. Said policy shall name Licensor as Additional Insured and shall have a limit of liability of not less than $2,000,000 per occurrence (combined single limit), and shall be primary insurance.

2. Licensee hereby accepts this License subject to the conditions set forth in Section 2 above, and by acceptance of said License and in consideration thereof, Licensee:

(a) Assumes any and all risks in connection with entry upon or use of Licensor's Property;

(b) Waives any claim against Licensor, its employees and agents, for injuries that may be sustained by Licensee upon said Property and for damage to Property of Licensee; and

(c) Agrees to indemnify Licensor against any loss and damage which shall be caused by the exercise of rights and privileges herein granted, or by any wrongful or negligent act or omission of Licensee or of its agents or employees in the course of their employment, provided, however, that this indemnity shall not extend to that portion of such loss or damage that shall have been caused by Licensor's comparative negligence or willful misconduct;

(d) Agrees to pay reasonable compensation to Licensor for any damage that Licensee should inflict or allow upon the Property pursuant to the exercise of the rights and privileges herein granted.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement the day and year first written above.

CARGILL INCORPORATED, a Delaware Corporation

By: Patrick D. Mapelli
Its: Manager, Real Property

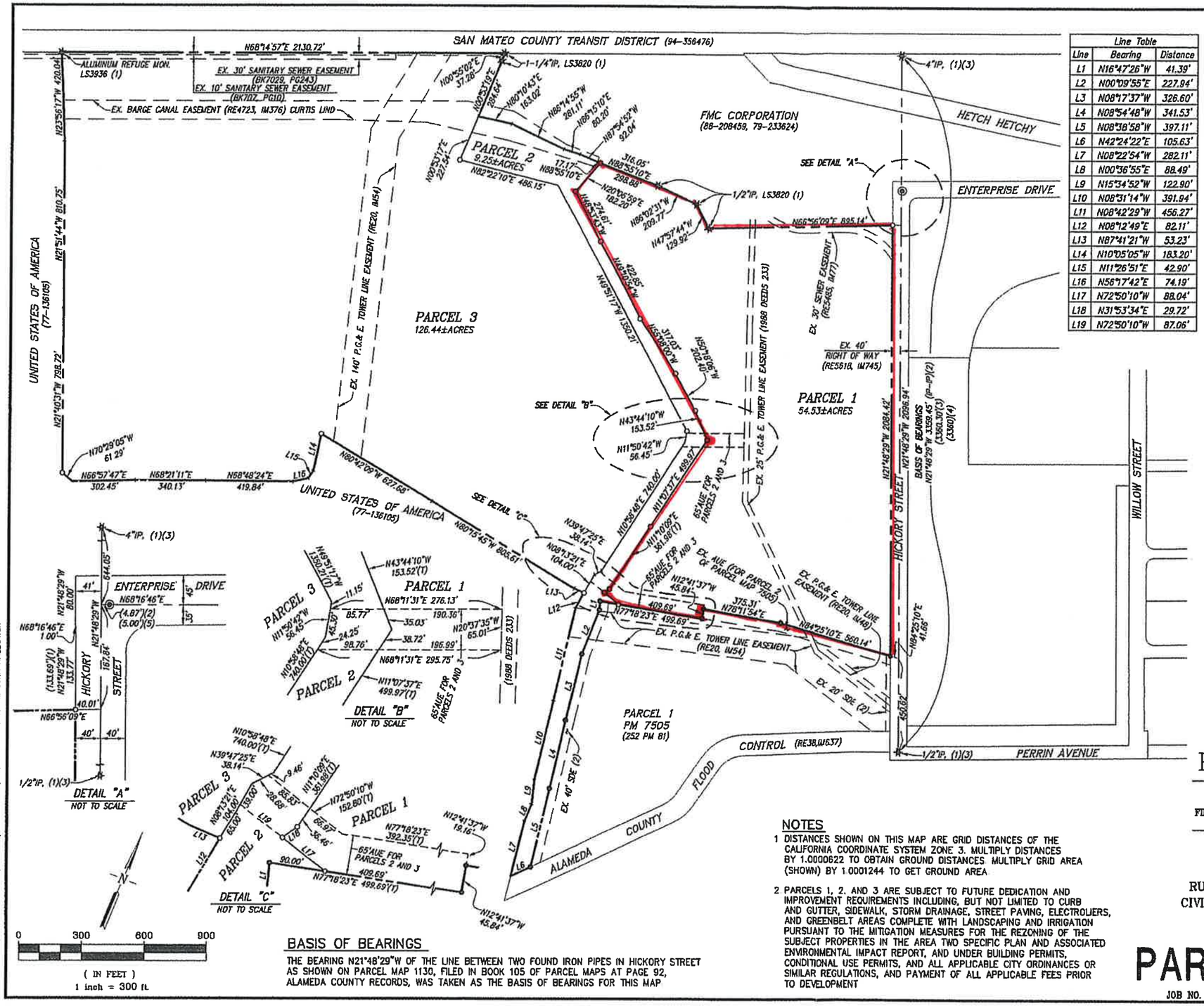
R.J. GORDON CONSTRUCTION, a California Corporation

By: John G. Johnson
Its: President

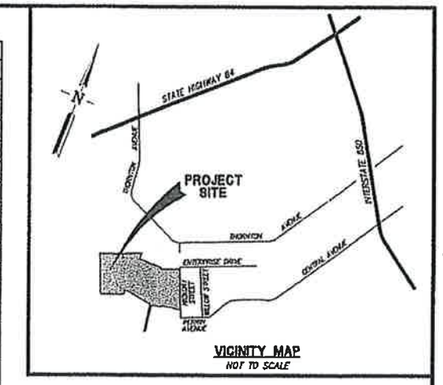
[HIBIT A

Parcel Map 9837

Map BK 315 pg. 85



Line Table		
Line	Bearing	Distance
L1	N16°47'26"W	41.39'
L2	N00°09'55"E	227.94'
L3	N08°17'37"W	326.60'
L4	N08°54'48"W	341.53'
L5	N08°38'58"W	397.11'
L6	N42°24'22"E	105.63'
L7	N08°22'54"W	282.11'
L8	N00°36'55"E	88.49'
L9	N15°34'52"W	122.90'
L10	N08°31'14"W	391.94'
L11	N08°42'29"W	456.27'
L12	N08°12'49"E	82.11'
L13	N87°41'21"W	53.23'
L14	N10°05'05"W	183.20'
L15	N11°26'51"E	42.90'
L16	N56°17'42"E	74.19'
L17	N72°50'10"W	88.04'
L18	N31°53'34"E	29.72'
L19	N72°50'10"W	87.06'



VICINITY MAP
NOT TO SCALE

REFERENCES:

(1) PARCEL MAP 1130 (105 PM 92)
(2) PARCEL MAP 7505 (252 PM 81)
(3) RECORD OF SURVEY NO. 551 (10 R/S 29)
(4) MAP OF THE TOWN OF NEWARK (17 M 10)
(5) CITY OF NEWARK A.I.D. 24A (90058)

LEGEND

	PARCEL MAP BOUNDARY
	PARCEL LINE
	MONUMENT LINE
	MONUMENT TIE LINE
	EXISTING EASEMENT LINE
	NEW EASEMENT LINE
	EXISTING LOT LINE
✱	EXISTING POINT PER REFERENCE AS NOTED
•	EXISTING 3/4" IRON PIPE W/CAP, RCE31917 (4)
◉	EXISTING CITY STANDARD MONUMENT
○	SET 3/4" IRON PIPE WITH PLASTIC PLUG, STAMPED RCE 25281
SDE	STORM DRAIN EASEMENT
SSE	SANITARY SEWER EASEMENT
P.G.& E.	PACIFIC GAS AND ELECTRIC COMPANY
AUE	ACCESS AND UTILITY EASEMENT
(M-M)	MONUMENT TO MONUMENT
(R)	RADIAL
(T)	TOTAL
IP	IRON PIPE
(DATA)(1)	RECORD DATA & REFERENCE
EX	EXISTING

BASIS OF BEARINGS

THE BEARING N21°48'29"W OF THE LINE BETWEEN TWO FOUND IRON PIPES IN HICKORY STREET AS SHOWN ON PARCEL MAP 1130, FILED IN BOOK 105 OF PARCEL MAPS AT PAGE 92, ALAMEDA COUNTY RECORDS, WAS TAKEN AS THE BASIS OF BEARINGS FOR THIS MAP

NOTES

1 DISTANCES SHOWN ON THIS MAP ARE GRID DISTANCES OF THE CALIFORNIA COORDINATE SYSTEM ZONE 3. MULTIPLY DISTANCES BY 1.0000622 TO OBTAIN GROUND DISTANCES. MULTIPLY GRID AREA (SHOWN) BY 1.0001244 TO GET GROUND AREA

2 PARCELS 1, 2, AND 3 ARE SUBJECT TO FUTURE DEDICATION AND IMPROVEMENT REQUIREMENTS INCLUDING, BUT NOT LIMITED TO CURB AND GUTTER, SIDEWALK, STORM DRAINAGE, STREET PAVING, ELECTROLIERS, AND GREENBELT AREAS COMPLETE WITH LANDSCAPING AND IRRIGATION PURSUANT TO THE MITIGATION MEASURES FOR THE REZONING OF THE SUBJECT PROPERTIES IN THE AREA TWO SPECIFIC PLAN AND ASSOCIATED ENVIRONMENTAL IMPACT REPORT, AND UNDER BUILDING PERMITS, CONDITIONAL USE PERMITS, AND ALL APPLICABLE CITY ORDINANCES OR SIMILAR REGULATIONS, AND PAYMENT OF ALL APPLICABLE FEES PRIOR TO DEVELOPMENT

PARCEL MAP 9837

BEING A THREE (3) PARCEL SUBDIVISION OF PARCEL 2 AS SHOWN ON PARCEL MAP 7505, FILED IN BOOK 252 OF PARCEL MAPS AT PAGE 81 OFFICIAL RECORDS OF ALAMEDA COUNTY

CITY OF NEWARK
ALAMEDA COUNTY, CALIFORNIA

RUGGERI-JENSEN-AZAR & ASSOCIATES
CIVIL ENGINEERS, PLANNERS, SURVEYORS
PLEASANTON, CALIFORNIA
OCTOBER 2009

PARCEL MAP 9837

JOB NO. 081007

SHEET 2 OF 2 SHEETS

G:\JOB2008\081007\MAPPING\PM9837\PMS02.DWG 3/26/2010 12:36:49 PM JOHN KNEZOVICH

EXHIBIT A

Enterprise Dr
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© 2010 Google
Data SIO, NOAA, U.S. Navy, NGA, GEBCO
© 2010 Europa Technologies
Google

LICENSE AGREEMENT
AMENDMENT NO. 5
(R.J. Gordon Construction – Hill Parcel, Newark, CA)
2001.008:18

This LICENSE AGREEMENT - AMENDMENT NO. 5, made and entered into as of December 1, 2012, *shall amend* said LICENSE AGREEMENT dated, January 1, 2010, between Cargill, Incorporated, a Delaware corporation, (hereinafter, "Licensor"), and R.J. Gordon Construction, Incorporated, a California corporation (hereinafter, "Licensee"), and, said LICENSE AGREEMENT-AMENDMENT NO. ~~2~~ 4, dated ~~September~~ December 1, 2010, between Licensor and Licensee.

Whereas, Licensor desires to amend said LICENSE AGREEMENT, and, said LICENSE AGREEMENT AMENDMENT NO. ~~5~~ 4;

Licensor and Licensee hereby agree to the following:

1. Pursuant to Paragraph 1(g) of that LICENSE AGREEMENT, dated January 1, 2010, as amended under LICENSE AGREEMENT - AMENDMENT NO. ~~5~~ 4, the term of said agreement shall be extended for one (1), thirteen (13) month period, commencing **December 1, 2012**, and ending **December 31, 2013**, unless sooner revoked by Licensor.

2. All other terms, provisions, and conditions shall continue to remain in full force and effect.

IN WITNESS WHEROF, the parties hereto have executed this LICENSE AGREEMENT - AMENDMENT NO. 5, this 1st day of December, 2012.

CARGILL, INCORPORATED, a Delaware corporation

By: _____
Pat Mapelli

Its: Land Property Manager

Date: December 1, 2012

R.J. GORDON, INCORPORATED, a California corporation

By: _____
John G. Johnson

Its: President

Date: December 1, 2012

LICENSE AGREEMENT
AMENDMENT NO. 4
(R.J. Gordon Construction – Hill Parcel, Newark, CA)
2001.008:18

This LICENSE AGREEMENT - AMENDMENT NO. 4, made and entered into as of December 1, 2011, *shall amend* said LICENSE AGREEMENT dated, January 1, 2010, between Cargill, Incorporated, a Delaware corporation, (hereinafter, "Licensor"), and R.J. Gordon Construction, Incorporated, a California corporation (hereinafter, "Licensee"), and, said LICENSE AGREEMENT-AMENDMENT NO. ~~2~~ 3, dated ~~September~~ December 1, 2010, between Licensor and Licensee.

Whereas, Licensor desires to amend said LICENSE AGREEMENT, and, said LICENSE AGREEMENT AMENDMENT NO. ~~2~~ 3;

Licensor and Licensee hereby agree to the following:

1. Pursuant to Paragraph 1(g) of that LICENSE AGREEMENT, dated January 1, 2010, as amended under LICENSE AGREEMENT - AMENDMENT NO. ~~4~~ 3, the term of said agreement shall be extended for one (1), thirteen (13) month period, commencing **December 1, 2011**, and ending **December 31, 2012**, unless sooner revoked by Licensor.

2. All other terms, provisions, and conditions shall continue to remain in full force and effect.

IN WITNESS WHEROF, the parties hereto have executed this LICENSE AGREEMENT - AMENDMENT NO. 4, this 1st day of December, 2011.

CARGILL, INCORPORATED, a Delaware corporation

By: _____
Pat Mapelli

Its: Land Property Manager

Date: December 1, 2011

R.J. GORDON, INCORPORATED, a California corporation

By: _____
John G. Johnson

Its: President

Date: December 1, 2011

LICENSE AGREEMENT

AMENDMENT NO. 3

(R.J. Gordon Construction – Hill Parcel, Newark, CA)

2001.008:18

This LICENSE AGREEMENT - AMENDMENT NO. 3, made and entered into as of December 1, 2010, *shall amend* said LICENSE AGREEMENT dated, January 1, 2010, between Cargill, Incorporated, a Delaware corporation, (hereinafter, "Licensor"), and R.J. Gordon Construction, Incorporated, a California corporation (hereinafter, "Licensee"), and, said LICENSE AGREEMENT-AMENDMENT NO. 2, dated September 1, 2010, between Licensor and Licensee.

Whereas, Licensor desires to amend said LICENSE AGREEMENT, and, said LICENSE AGREEMENT AMENDMENT NO. 2;

Licensor and Licensee hereby agree to the following:

1. Pursuant to Paragraph 1(g) of that LICENSE AGREEMENT, dated January 1, 2010, as amended under LICENSE AGREEMENT - AMENDMENT NO. 2, the term of said agreement shall be extended for one, thirteen (13) month period, commencing **December 1, 2010**, and ending **December 31, 2011**, unless sooner revoked by Licensor.

2. All other terms, provisions, and conditions shall continue to remain in full force and effect.

IN WITNESS WHEROF, the parties hereto have executed this LICENSE AGREEMENT - AMENDMENT NO. 3, this 1st day of December, 2010.

CARGILL, INCORPORATED, a Delaware corporation

By: _____
Penny Streff

Its: Land Project Manager

Date: December 1, 2010

R.J. GORDON, INCORPORATED, a California corporation

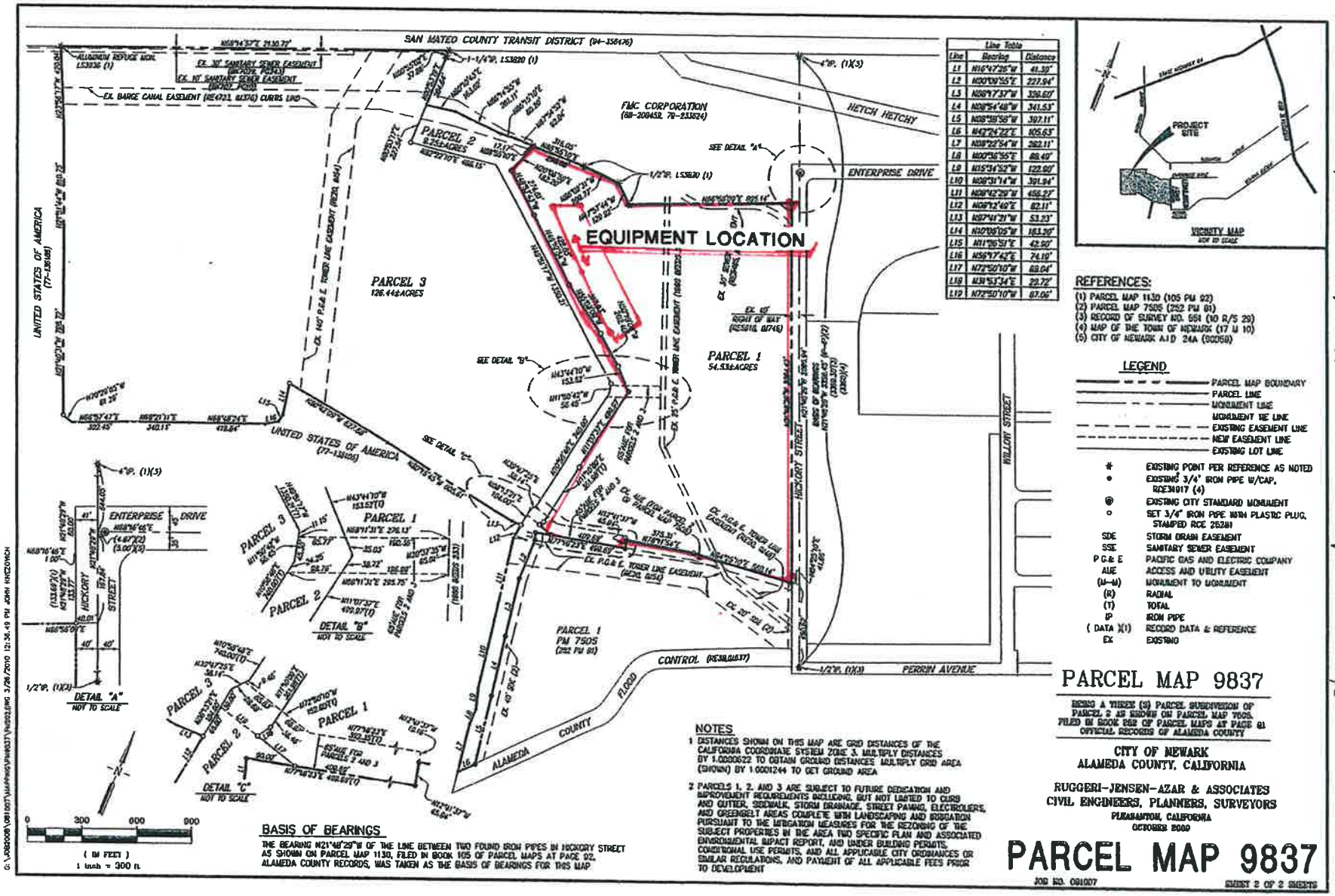
By: _____
John G. Johnson

Its: President

Date: December 1, 2010

RJ GORDON CO_STRUCTION

EQUIPMENT LOCATION



Parcel Map 9837 Map Bk 315 pg. 85

Sept. 1, 2010 -
Nov. 30, 2010

LICENSE AGREEMENT
AMENDMENT NO. 2
(R.J. GORDON – HILL PARCEL)
2001.008:18

This **License Agreement Amendment No. 2** is hereby made this 1st day of September, 2010, between Cargill, Incorporated, a Delaware Corporation (hereafter called "Licensor"), and R.J. GORDON CONSTRUCTION, INCORPORATED, a California Corporation (hereafter called "LICENSEE").

Whereas, Licensor desires to amend said License Agreement dated the 1st of January, 2010, between Cargill, Incorporated, a Delaware Corporation (hereafter called "Licensor"), and R.J. GORDON CONSTRUCTION, INCORPORATED, a California Corporation (hereafter called "LICENSEE"):

It is hereby agreed to as follows:

TERM: Pursuant to Paragraph 2(g) of that License Agreement dated January 1, 2010, term of said License Agreement shall be extended for three (3) months, commencing September 1, 2010, and ending November 30, 2010, unless sooner revoked by Licensor.

All other terms, provisions, and conditions of said License Agreement shall continue to remain in full force and effect.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement Amendment the date and year first written above.

CARGILL, INCORPORATED, a Delaware Corporation

By: Patrick D. Mapelli
Its: Manager, Real Property

R.J. GORDON CONSTRUCTION, a California Corporation

By: John G. Johnson
Its: President

June 1, 2010 -
Aug 31, 2010

LICENSE AGREEMENT
AMENDMENT NO.1
(R.J. GORDON – HILL PARCEL)
2001.008:18

This License Agreement **Amendment No. 1** is hereby made this 1st day of June, 2010, between CARGILL, INCORPORATED, a Delaware Corporation (hereafter called "Licensor"), and R.J. GORDON CONSTRUCTION, INCORPORATED, a California Corporation (hereafter called "Licensee").

WHEREAS, Licensor desires to amend said License Agreement dated the 1st of January, 2010, between CARGILL, INCORPORATED, a Delaware Corporation, (hereafter called "Licensor"), and R.J. GORDON CONSTRUCTION, INCORPORATED, a California Corporation (hereafter called "Licensee"):

It is hereby agreed to as follows:

Term: Pursuant to Paragraph 2(g) of that License Agreement dated January 1, 2010, term of said License Agreement shall be extended for a sixty (60) day period, commencing June 1, 2010, and ending August 31, 2010, unless sooner revoked by Licensor.

All other terms, provisions, and conditions of said License Agreement shall continue to remain in full force and effect.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement the date and year first written above.

CARGILL, INCORPORATED,
a Delaware Corporation

By: Patrick D. Mapelli
Its: Manager, Real Property

R.J. GORDON CONSTRUCTION,
a California Corporation

By: John G. Johnson
Its: President

LEASE AGREEMENT

AMENDMENT NO. 16

(Southern Alameda County Radio Controllers- Hill Parcel, Newark, CA)

2001.008:13 (supersedes 129.059:9)

This LEASE AGREEMENT - AMENDMENT NO. 16, made and entered into as of December 30, 2011, *shall amend* said LEASE AGREEMENT dated July 1, 1995, between Cargill, Incorporated, a Delaware corporation, (hereinafter, "Lessor"), and Southern Alameda County Radio Controllers, Incorporated, a California corporation, (hereinafter, "Lessee"), and, said LEASE AGREEMENT-AMENDMENT NO. ~~14~~ 15, dated December ~~14~~ 30, ~~2009~~ 2010, between Lessor and Lessee.

Whereas, Lessor desires to amend said LEASE AGREEMENT, and, said LEASE AGREEMENT - AMENDMENT NO. ~~14~~ 15;

Lessor and Lessee hereby agree to the following:

1. Pursuant to Paragraph 1(g) of that LEASE AGREEMENT, dated July 1, 1995, as amended under LEASE AGREEMENT - AMENDMENT NO. ~~14~~ 15, the term of said agreement shall be extended for one, twelve (12) month period, commencing **January 1, 2012**, and ending **December 31, 2012**, unless sooner terminated or revoked by Licensor.

2. All other terms, provisions, and conditions shall continue to remain in full force and effect. This shall include Lessor's sole right, pursuant to Paragraph 14 of LEASE AGREEMENT dated July 1, 1995, to terminate and revoke this LEASE AGREEMENT (and any AMENDMENTS thereto), by giving Lessee, a 30-day written notice to terminate.

3. Pursuant to Paragraph 9 - ASSIGNMENT AND SUBLETTING, of that LEASE AGREEMENT dated July 1, 1995, and, subject to Lessor's final review and written approval of any extensions or modifications to said Lease Agreement (Sub Lease), identified below, Lessor hereby agrees to and grants permission for Lessee to extend the term of that Lease Agreement (Sub Lease), dated January 1, 2010, by and between SOUTHERN ALAMEDA COUNTY RADIO CONTROLLERS, Inc. ("Sub-Lessor") and MENLO PARK SCHUTZHULND CLUB ("Sub-Lessee"), for one, twelve (12) month period, commencing **January 1, 2012**, and ending **December 31, 2012**, unless sooner terminated or revoked by Lessor, pursuant to Paragraph 14 of said LEASE AGREEMENT dated July 1, 1995, and as amended herein.

4. Any amendment to that Lease Agreement (Sub Lease), dated January 1, 2010, by and between Sub-Lessor and Sub-Lessee, shall be subject to the termination dates, and termination provisions, as provided in the LEASE AGREEMENT dated July 1, 1995, and, as amended pursuant to the provisions of this AMENDMENT NO. 16.

5. All other terms, provisions and conditions of that LEASE AGREEMENT(Sub Lease), dated January 1, 2011, by and between Sub Lessor and Sub Lessee, shall continue to remain in full force and effect.

IN WITNESS WHEROF, the parties hereto have executed this LICENSE AGREEMENT - AMENDMENT NO. 16, this 30th day of December, 2011.

CARGILL, INCORPORATED, a Delaware corporation

By: _____
Pat Mapelli

Its: Land Property Manager

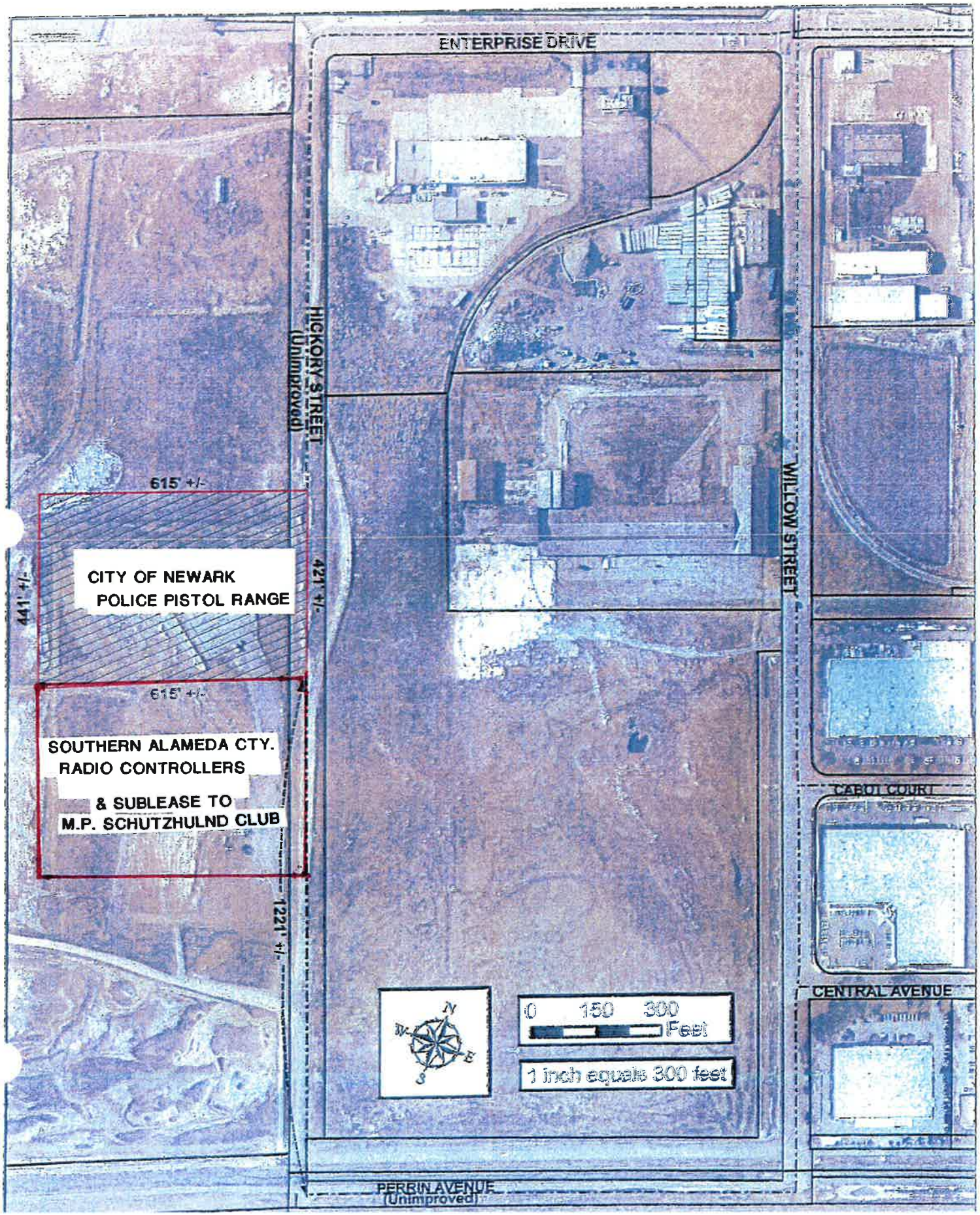
Date: December 30, 2011

SOUTHERN ALAMEDA COUNTY RADIO CONTROLLERS, INCORPORATED, a California corporation

By: _____
Jim R. Utley

Its: Treasurer

Date: December 30, 2011


ENTERPRISE DRIVE
HICKORY STREET
(Unimproved)
WILLOW STREET
615' +/-
441' +/-
421' +/-
CITY OF NEWARK
POLICE PISTOL RANGE
615' +/-
SOUTHERN ALAMEDA CTY.
RADIO CONTROLLERS
& SUBLEASE TO
M.P. SCHUTZHULND CLUB
1221' +/-
CABOT COURT
CENTRAL AVENUE
N
W
E
S
0 150 300
Feet
1 inch equals 300 feet
PERRIN AVENUE
(Unimproved)

LEASE AGREEMENT

AMENDMENT NO. 17

(Southern Alameda County Radio Controllers- Hill Parcel, Newark, CA)

2001.008:13 (supersedes 129.059:9)

This LEASE AGREEMENT - AMENDMENT NO. ~~16~~ 17, made and entered into as of December 31, 2012, *shall amend* said LEASE AGREEMENT dated July 1, 1995, between Cargill, Incorporated, a Delaware corporation, (hereinafter, "Lessor"), and Southern Alameda County Radio Controllers, Incorporated, a California corporation, (hereinafter, "Lessee"), and, said LEASE AGREEMENT-AMENDMENT NO. ~~14~~ 16, dated December ~~14, 2009~~ 30, 2011, between Lessor and Lessee.

Whereas, Lessor desires to amend said LEASE AGREEMENT, and, said LEASE AGREEMENT - AMENDMENT NO. ~~17~~ 16,

Lessor and Lessee hereby agree to the following:

1. Pursuant to Paragraph 1(g) of that LEASE AGREEMENT, dated July 1, 1995, as amended under LEASE AGREEMENT - AMENDMENT NO. ~~14~~ 16, the term of said agreement shall be extended for one, twelve (12) month period, commencing **January 1, 2013**, and ending **December 31, 2013**, unless sooner terminated or revoked by Licensor.

2. All other terms, provisions, and conditions shall continue to remain in full force and effect. This shall include Lessor's sole right, pursuant to Paragraph 14 of LEASE AGREEMENT dated July 1, 1995, to terminate and revoke this LEASE AGREEMENT (and any AMENDMENTS thereto), by giving Lessee, a 30-day written notice to terminate.

3. Pursuant to Paragraph 9 - ASSIGNMENT AND SUBLETTING, of that LEASE AGREEMENT dated July 1, 1995, and, subject to Lessor's final review and written approval of any extensions or modifications to said Lease Agreement (Sub Lease), identified below, Lessor hereby agrees to and grants permission for Lessee to extend the term of that Lease Agreement (Sub Lease), dated January 1, 2010, by and between SOUTHERN ALAMEDA COUNTY RADIO CONTROLLERS, Inc. ("Sub-Lessor") and MENLO PARK SCHUTZHULND CLUB ("Sub-Lessee"), for one, twelve (12) month period, commencing **January 1, 2013**, and ending **December 31, 2013**, unless sooner terminated or revoked by Lessor, pursuant to Paragraph 14 of said LEASE AGREEMENT dated July 1, 1995, and as amended herein.

4. Any amendment to that Lease Agreement (Sub Lease), dated January 1, 2010, by and between Sub-Lessor and Sub-Lessee, shall be subject to the termination dates, and termination provisions, as provided in the LEASE AGREEMENT dated July 1, 1995, and, as amended pursuant to the provisions of this AMENDMENT NO. ~~16~~ 17.

5. All other terms, provisions and conditions of that LEASE AGREEMENT(Sub Lease), dated January 1, 2012, by and between Sub Lessor and Sub Lessee, shall continue to remain in full force and effect.

IN WITNESS WHEROF, the parties hereto have executed this LICENSE AGREEMENT - AMENDMENT NO. 17, this 31th day of December, 2012.

CARGILL, INCORPORATED, a Delaware corporation

By: _____
Pat Mapelli

Its: Land Property Manager

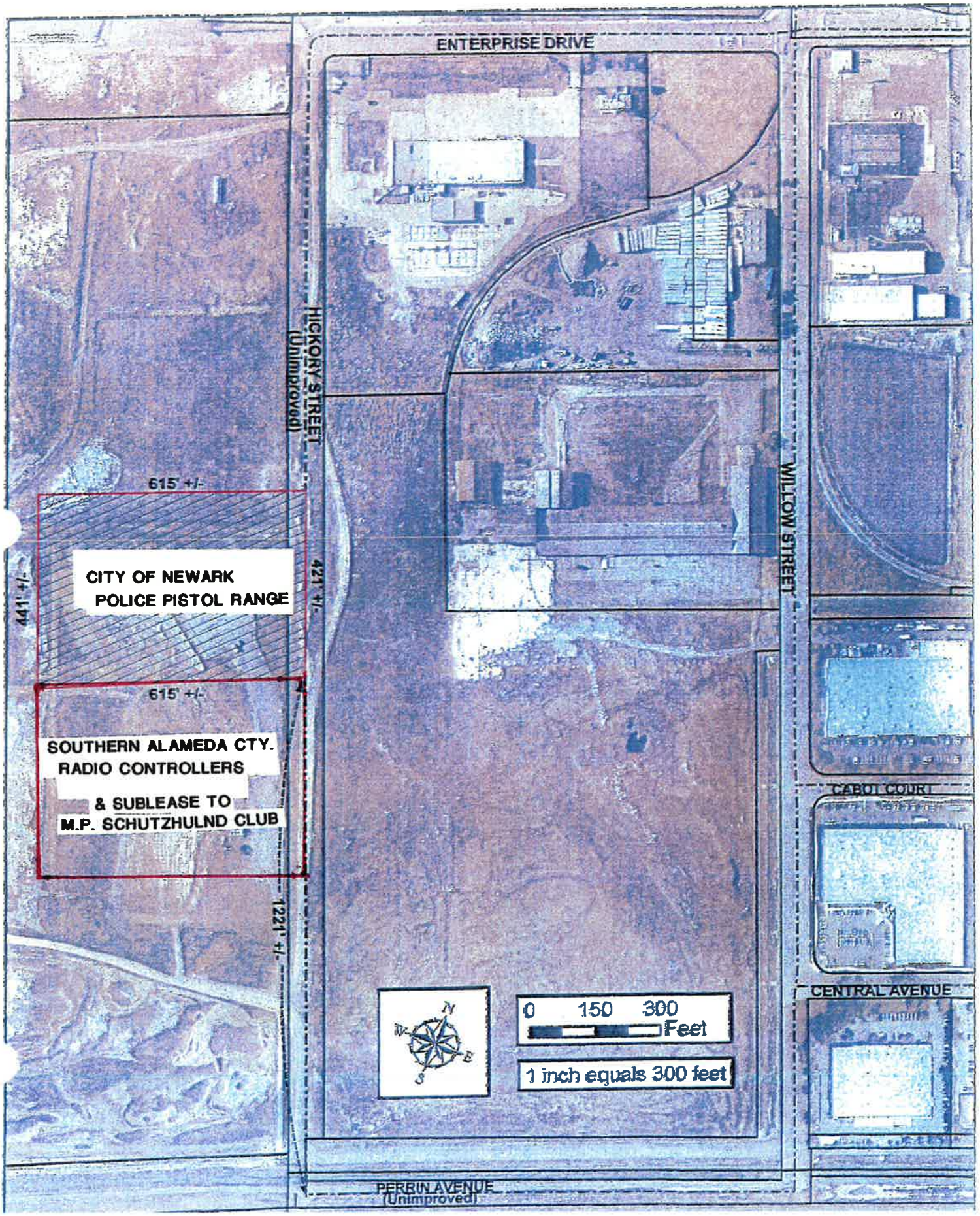
Date: December 31, 2012

SOUTHERN ALAMEDA COUNTY RADIO CONTROLLERS, INCORPORATED, a California corporation

By: _____
Jim R. Utley

Its: Treasurer

Date: December 31, 2012


ENTERPRISE DRIVE
HICKORY STREET
(Unimproved)
WILLOW STREET
615' +/-
441' +/-
421' +/-
CITY OF NEWARK
POLICE PISTOL RANGE
615' +/-
SOUTHERN ALAMEDA CTY.
RADIO CONTROLLERS
& SUBLEASE TO
M.P. SCHUTZHULND CLUB
1221' +/-
CABOT COURT
CENTRAL AVENUE
N
W
E
S
0 150 300
Feet
1 inch equals 300 feet
PERRIN AVENUE
(Unimproved)

LEASE AGREEMENT
AMENDMENT NO. 15
(Southern Alameda County Radio Controllers- Hill Parcel, Newark, CA)
2001.008:13 (supersedes 129.059:9)

This LEASE AGREEMENT - AMENDMENT NO. 15, made and entered into as of December 30, 2010, *shall amend* said LEASE AGREEMENT dated July 1, 1995, between Cargill, Incorporated, a Delaware corporation, (hereinafter, "Lessor"), and Southern Alameda County Radio Controllers, Incorporated, a California corporation, (hereinafter, "Lessee"), and, said LEASE AGREEMENT-AMENDMENT NO. 14, dated December 14, 2009, between Lessor and Lessee.

Whereas, Lessor desires to amend said LEASE AGREEMENT, and, said LEASE AGREEMENT - AMENDMENT NO. 14;

Lessor and Lessee hereby agree to the following:

1. Pursuant to Paragraph 1(g) of that LEASE AGREEMENT, dated July 1, 1995, as amended under LEASE AGREEMENT - AMENDMENT NO. 14, the term of said agreement shall be extended for one, twelve (12) month period, commencing **January 1, 2011**, and ending **December 31, 2011**, unless sooner terminated or revoked by Licensor.

2. All other terms, provisions, and conditions shall continue to remain in full force and effect. This shall include Lessor's sole right, pursuant to Paragraph 14 of LEASE AGREEMENT dated July 1, 1995, to terminate and revoke this LEASE AGREEMENT (and any AMENDMENTS thereto), by giving Lessee, a 30-day written notice to terminate.

3. Pursuant to Paragraph 9 - ASSIGNMENT AND SUBLETTING, of that LEASE AGREEMENT dated July 1, 1995, and, subject to Lessor's final review and written approval of any extensions or modifications to said Lease Agreement (Sub Lease), identified below, Lessor hereby agrees to and grants permission for Lessee to extend the term of that Lease Agreement (Sub Lease), dated January 1, 2010, by and between SOUTHERN ALAMEDA COUNTY RADIO CONTROLLERS, Inc. ("Sub-Lessor") and MENLO PARK SCHUTZHULND CLUB ("Sub-Lessee"), for one, twelve (12) month period, commencing **January 1, 2011**, and ending **December 31, 2011**, unless sooner terminated or revoked by Lessor, pursuant to Paragraph 14 of said LEASE AGREEMENT dated July 1, 1995, and as amended herein.

4. Any amendment to that Lease Agreement (Sub Lease), dated January 1, 2010, by and between Sub-Lessor and Sub-Lessee, shall be subject to the termination dates, and termination provisions, as provided in the LEASE AGREEMENT dated July 1, 1995, and, as amended pursuant to the provisions of this AMENDMENT NO. 15.

5. All other terms, provisions and conditions of that LEASE AGREEMENT(Sub Lease), dated January 1, 2010, by and between Sub Lessor and Sub Lessee, shall continue to remain in full force and effect.

IN WITNESS WHEROF, the parties hereto have executed this LICENSE AGREEMENT - AMENDMENT NO. 15, this 30th day of December, 2010.

CARGILL, INCORPORATED, a Delaware corporation

By: _____
Penny Streff

Its: Land Project Manager

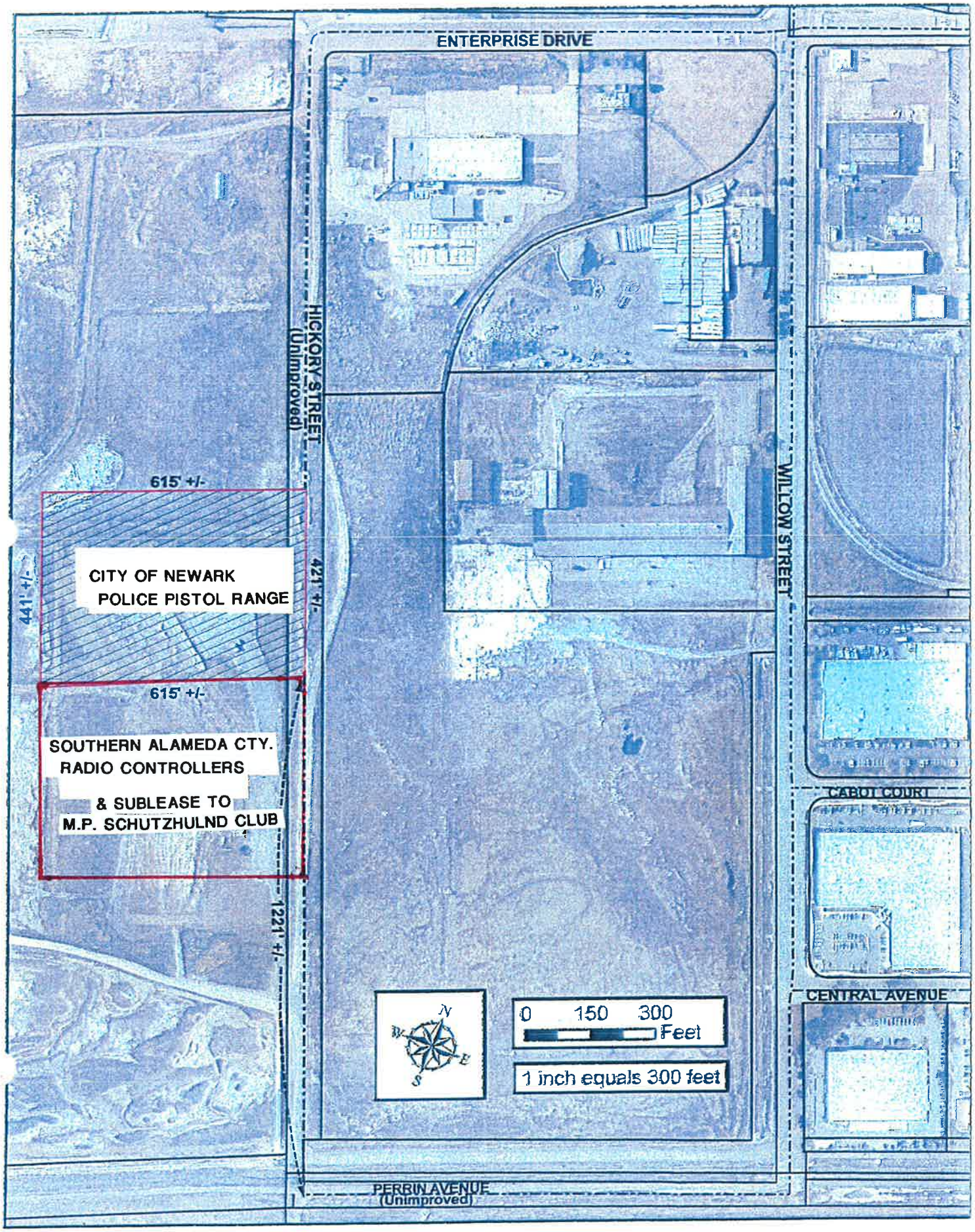
Date: December 30, 2010

SOUTHERN ALAMEDA COUNTY RADIO CONTROLLERS, INCORPORATED, a California corporation

By: _____
Jim R. Utley

Its: Treasurer

Date: December 30, 2010


ENTERPRISE DRIVE
HICKORY STREET
(Unimproved)
WILLOW STREET
615' +/-
441' +/-
421' +/-
CITY OF NEWARK
POLICE PISTOL RANGE
615' +/-
SOUTHERN ALAMEDA CTY.
RADIO CONTROLLERS
& SUBLEASE TO
M.P. SCHUTZHULND CLUB
1221' +/-
CABOT COURT
CENTRAL AVENUE
N
W
E
S
0 150 300
Feet
1 inch equals 300 feet
PERRIN AVENUE
(Unimproved)

Original

LEASE

129.059:9

This lease, made as of the 1st day of July, 1995, by and between CARGILL, INCORPORATED, a Delaware corporation (hereinafter called "Lessor"), and SOUTHERN ALAMEDA COUNTY RADIO CONTROLLERS, INC (hereinafter called "Lessee"),

PREMISES

Lessor hereby leases to Lessee, and Lessee hires from Lessor, as is, upon the terms and conditions hereinafter set forth, those certain premises situated in the County of ALAMEDA, State of California, and known as A PORTION OF THE HILL PARCEL AS SHOWN ON EXHIBIT A, the same consisting of approximately 6.2 acres more or less, and being more particularly delineated on the map attached hereto, marked Exhibit "A" and incorporated herein.

USE

The said premises shall be used by Lessee for FLYING RADIO-CONTROLLED MODEL AIRPLANES AND MEETING FACILITY and related purposes, and for no other purpose without the written consent of Lessor.

TERM

The term of this lease shall be for the period commencing on the 1st day of JULY, 1995, and ending on the 30th day of JUNE, 1996, subject to the provisions of Paragraph 11 hereof.

RENTAL

Lessee shall pay to Lessor as rental the sum of FOUR HUNDRED AND 00/100 Dollars ($400.00), lawful money of the United States, which Lessee agrees to pay to Lessor in advance, without deduction or offset, at Lessor's office in Newark, California, or such other place as Lessor may from time to time designate.

It is further mutually agreed between the parties as follows:

USES PROHIBITED

(1) Except as by Paragraph (7) provided, Lessee shall not use or permit the premises or any part thereof to be used for any purpose or purposes other than the purposes for which the said premises are hereby leased.

Z:\WINWORD\CPT\DH\LEASESACRAT

WASTE

(2) Lessee shall not commit, or suffer to be committed, any waste upon the premises, any nuisance, or any act which may interfere with, impair or impede the conduct of the operations of Lessor, its subsidiaries or affiliates, upon the premises, or upon Lessor's adjoining land, Lessor, its subsidiaries and affiliates having, at all times, the right to conduct such operations upon the premises or upon Lessor's adjoining land as they, or any of them, may elect.

ALTERATIONS

(3) Lessee shall not make, or permit to be made, any excavation, construction, alteration or improvement of or upon the premises or any part thereof, or erect any signs or advertisements thereon, without the written consent of Lessor first had and obtained. All additions, alterations and improvements--whether constructed by Lessee, Lessor, or by a third party--excepting Lessee's personal property and trade fixtures, shall become a part of the realty and belong to Lessor unless Lessor notifies Lessee to remove any such items.

COMPLIANCE WITH LAW

(4) Lessee at his sole cost shall comply or cause compliance with all requirements pertaining to the premises of all governmental authorities including all regulations, orders, rules, ordinances, and statutes now in force or which may hereafter be in force, foreseen or unforeseen.

FREEDOM FROM LIENS

(5) Lessee shall not suffer or permit any liens to be filed or asserted against the leased premises or against Lessor's property of which the premises are a part by reason of any work of improvement or any labor or materials furnished or supplied thereto or any obligation incurred by Lessee, and Lessee shall indemnify and hold Lessor and its property harmless from all liability and loss arising therefrom, together with reasonable attorneys' fees incurred by Lessor in disposing of any such lien claim.

UTILITIES

(6) At Lessor's option, Lessee shall either pay directly for all water, gas, heat, light, power, telephone service and any other utilities and services supplied to the premises, or shall reimburse Lessor for Lessee's reasonable share thereof. Lessor shall have no responsibility for the furnishing of any utilities or services to the premises. No utility facilities shall be installed or maintained on the premises except with the express written consent of Lessor and its approval of the location thereof and then only at Lessee's sole risk, cost and expense.

ENTRY BY LESSOR

(7) Lessor, any subsidiary or affiliated company of Lessor, or any person, firm or corporation licensed or permitted by Lessor, may enter upon the premises at any time for the purpose of conducting such operations thereon as it deems necessary or advisable, for the purpose of making any repairs, improvements or alterations or erecting any signs or advertisements which it may in its discretion undertake to perform or erect, or for the purpose of inspecting the premises.

INDEMNIFICATION

(8) Lessee hereby releases and waives all claims against Lessor, its employees, subsidiaries and affiliates for damage to property in, upon or about the premises and for injuries to persons on or about the premises from any cause arising at any time, and agrees to hold harmless, indemnify and protect Lessor, its employees and agents, from any claims, demands, liabilities, including reasonable attorneys' fees, or suits for bodily injuries, personal injuries, property damage, or for loss of life or property, whether based on tort, contract or otherwise, arising out of or connected with, the condition or use of the premises covered by this lease, or any means of ingress thereto or egress therefrom, occasioned, in whole or in part, by the sole negligence of Lessee, its agents, employees, or contractors, or any combination thereof, or by the sole negligence of Lessor, its agents, employees, or contractors, or any combination thereof.

ASSIGNMENT AND SUBLETTING

(9) Lessee shall not assign this lease, or any interest herein, and shall not sublet the premises, or any part thereof, without the written consent of Lessor first obtained. Any such purported assignment or subletting, whether voluntary, involuntary or by operation of law, without such consent, shall be invalid and void, and at the option of Lessor, shall terminate this lease. A consent to one assignment or subletting shall not be deemed to be a consent to any subsequent assignment or subletting.

INSOLVENCY

(10) The appointment of a receiver to take possession of property of Lessee, an assignment by Lessee for the benefit of creditors, or any action taken or suffered by Lessee under any insolvency or bankruptcy act shall constitute a breach of this lease.

REMEDIES

(11) In the event of any breach of this lease by Lessee, Lessor shall have, besides all rights and remedies of a landlord provided by California Civil Code Sections 1951.2 and 1951.4 plus all other rights and remedies conferred by law and equity, the immediate right of re-entry and may remove any and all persons and property from the premises.

ATTORNEYS' FEES

(12) Should Lessor refer this lease to an attorney for collection of rent or seek legal advice following a default hereunder or should suit be brought for any unlawful detainer of the premises, for the recovery of any rent due hereunder, or because of the breach hereof, Lessee shall pay to Lessor its reasonable attorneys' fees plus all costs and expenses incurred incident to such employment and such amounts shall be paid whether or not any such action is prosecuted to judgment.

LESSOR'S RULES

(13) Lessee shall keep and observe all rules and regulations of general applicability which Lessor has or may during the term of this lease adopt relating to the use of, entry upon and ingress and egress over and across its property or any part thereof, including, without limitation, such rules and regulations relating to levees and the issuance, maintenance or withdrawal of entry permits. Lessor expressly reserves the right to grant, withdraw and deny the issuance of entry permits to any person as it may in the exercise of its discretion so elect. Any violation of any of the rules and regulations shall be deemed a breach of this lease.

TERMINATION

(14) Lessor shall have the right to terminate this lease at any time upon giving Lessee thirty (30) days prior written notice of its election to do so. In the event that Lessor terminates this lease in accordance with this paragraph and at the time of such termination Lessee has complied with all of the terms, conditions and covenants to be kept and observed by it, Lessor shall refund to Lessee such proportion of the rental paid hereunder as the otherwise unexpired term of this lease would bear its total term.

CONDEMNATION

(15) Lessee agrees that if the said premises, or any part thereof, shall be taken, damaged, or condemned (including inverse condemnation) for public or quasi-public use or purpose by any appropriate authority, Lessee shall have no claim against Lessor and shall not have any claim or right to any portion of the amount that may be awarded as damages or paid as a result of any such condemnation; and all right of the Lessee to damages therefor, if any, are hereby assigned by the Lessee to the Lessor. This lease shall cease and terminate upon the earlier of (a) transfer of possession pursuant to the date of such taking or condemnation, or (b) the date the right to compensation and damages accrues, and Lessee shall have no claim against Lessor for the value of any unexpired term of lease.

INSURANCE

(16) Prior to entry upon property of Lessor, Lessee shall, at its own expense, obtain from a reputable insurance company admitted to do business in California, a standard comprehensive general liability policy (including contractual liability on any written agreement) insuring Lessor against liability or loss (whether from personal injuries or property damage or both) arising from or connected with Lessee's entry upon and use of said property pursuant to this agreement. Said policy shall name Lessor as

insured and shall have a limit of liability of not less than $500,000.00 per occurrence (combined single limit). Lessee shall provide Lessor with either the original or a duplicate original of such policy or an original certificate thereof, but Lessor shall not be deemed to have waived the conditions of this section if entry is made before the policy or certificate is delivered to Lessor.

WAIVER

(17) The waiver by Lessor of any breach of any term, condition or covenant herein contained shall not be deemed to be a waiver of such term, condition or covenant, or any subsequent breach of the same, or any other term, condition or covenant herein contained. The subsequent acceptance of rent hereunder by Lessor shall not be deemed to be a waiver of any preceding breach of any term, condition or covenant of this lease, other than the failure of Lessee to pay the particular rental so accepted, regardless of Lessor's knowledge of such preceding breach at the time of acceptance of such rent.

SUCCESSORS ASSIGNS

(18) The terms, conditions and covenants herein contained, and subject to the provisions of Paragraph (9), shall apply to and bind the successors and assigns of the respective parties hereto.

SURRENDER

(19) On the last day of the term or earlier termination hereof, Lessee shall surrender the premises to Lessor in good order and repair, reasonable use thereof only excepted and shall, subject to the provisions of Paragraph (3), remove all of Lessee's property therefrom.

NON-MERGER

(20) Surrender of this lease by Lessee or mutual cancellation thereof shall not work a merger but shall, at Lessor's option, either terminate all subleases or operate as an assignment thereof to Lessor.

NOTICES

(21) All notices to be given or which may be given hereunder, shall be given in writing and shall be deemed to have been given when deposited in the United States mail, either certified or registered, with proper postage prepaid, addressed to the party to be notified at its following address:

Lessor: Cargill Incorporated
Land Department
7220 Central Avenue
Newark, California 94560

Lessee: Southern Alameda County Radio Controllers Inc.
c/o Don Laniewski
30100 Mission Blvd.
Heyward, CA 94544

Either party may change its address for the receipt of notice by giving to the other notice of such change in accordance with this paragraph.

NO WARRANTIES

(22) Lessor makes no warranty or representation respecting the possible flooding conditions or any other condition of the premises, or that the premises are safe or suitable for Lessee's intended uses, and Lessee agrees to make its own investigations and independent determinations upon such matters.

TIME

(23) Time is of the essence of this lease.

MARGINAL CAPTIONS

(24) The captions in the margins of this lease are for convenience only and are not a part of this lease. Those captions do not in any way limit or amplify the terms, conditions or covenants of this lease.

IN WITNESS WHEREOF, Lessor and Lessee have executed this lease, in duplicate, as of the day and year first above written.

Lessor: CARGILL INCORPORATED

By _____

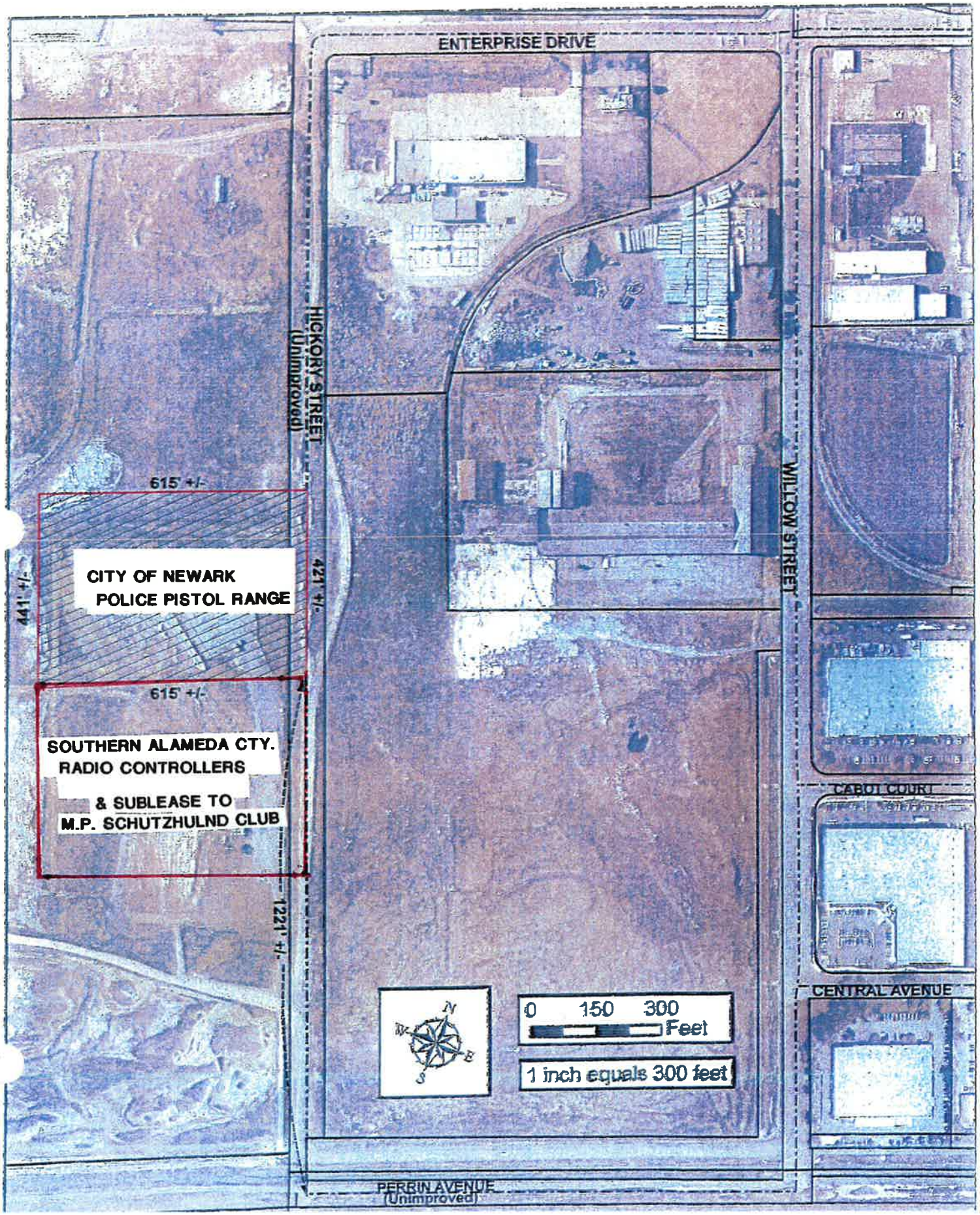
Robert C. Douglass
Its Manager, Real Property

Lessee: _____

Don Laniewski, President

Z\WINWORD\CPT\DH\SACRAT

Z:\WINWORD\CPT\DH\LEASES\ACRAT


ENTERPRISE DRIVE
HICKORY STREET
(Unimproved)
WILLOW STREET
615' +/-
441' +/-
421' +/-
CITY OF NEWARK
POLICE PISTOL RANGE
615' +/-
SOUTHERN ALAMEDA CTY.
RADIO CONTROLLERS
& SUBLEASE TO
M.P. SCHUTZHULND CLUB
1221' +/-
CABOT COURT
CENTRAL AVENUE
N
W
E
S
0 150 300
Feet
1 inch equals 300 feet
PERRIN AVENUE
(Unimproved)

LICENSE AGREEMENT

THIS AGREEMENT, made this 5th day of December, 2008, by CARGILL, INCORPORATED, a Delaware corporation (hereinafter called "Licensor"), whose address is 7220 Central Avenue, Newark, CA 94560-4206 and THE CITY OF NEWARK, CA (hereinafter called "Licensee"), whose address is 37101 Newark Boulevard, Newark, CA 94560 (the "License") (collectively, the "Parties").

WITNESSETH

1. Licensor hereby permits Licensee, its agents, contractors, employees and equipment to enter certain lands of Licensor located in the County of Alameda, State of California and known as the Newark Police Practice Range, adjacent to Hickory Street in the City of Newark, consisting of 6.2 acres and further defined on Exhibit A attached hereto and made a part hereof (the "Premises).

2. Licensee and Licensor acknowledge that Licensee has leased and operated the Premises as a police training facility, including pistol shooting range, prior to the granting of this License under the terms of that lease between Licensor and Licensee dated July 14, 1975 (the "Lease") and said Lease has expired.

3. The foregoing License is given subject to the following conditions:

   a. Rent. Licensee shall pay to Licensor as rental the sum of One Dollar ($1.00), and other good and valuable consideration which Licensee agrees to pay to Licensor in advance, without deduction or offset, at Licensor's office in Newark, California or such other place as Licensor may from time to time designate.

   b. Use. The Premises is to be used solely as a police training facility including pistol shooting and related purposes and for no other purposes without the written consent of the Licensor. Licensee shall have exclusive use of the Premises during the term of this License.

   c. Environmental Condition. "Environmental Condition" means any adverse condition relating to any Hazardous Materials or the environment, including surface water, groundwater, drinking water supply, land, soil, surface or subsurface strata or the ambient air and includes air, land and water pollutants, noise, vibration, light and odors.

   d. Environmental Law. "Environmental Law" means any and all federal, state and local environmental, health and/or safety-related laws, regulations, standards, decisions of courts, ordinances, rules, codes, orders, decrees, directives, guidelines, permits or permit conditions, currently existing and as amended, enacted, issued or adopted in the future, relating to the environment or to any Hazardous Material (including, without limitation, the Comprehensive

Environmental Response, Compensation and Liability Act of 1980 (42 U.S.C. §9601 et seq.)), which are or become applicable to Licensee or its use of the Premises.

e. Hazardous Materials. "Hazardous Materials" means any chemical, substance, material, controlled substance, object, condition, waste, living organism or combination thereof which is or may be hazardous to human health or safety or to the environment (whether potentially injurious to persons and Premises and whether potentially injurious by themselves or in combination with other materials) due to its radioactivity, ignitability, corrosivity, reactivity, explosivity, toxicity, carcinogenicity, mutagencity, phytotoxicity, infectiousness or other harmful or potentially harmful properties or effects, including, without limitation, petroleum and petroleum products, lead (including, without limitation, lead bullets and shot), asbestos, radon, polychlorinated biphenyls (PCBs) and all of those chemicals, substances, materials, controlled substances, objects, conditions, wastes, living organisms or combinations thereof which are now or become in the future listed in the United States Department of Transportation Hazardous Materials Table, 49 C.F.R. §172.101, as amended from time to time, or listed, defined or regulated in any manner by any Environmental Law.

f. Environmental Compliance. Licensee and Licensee's employees, agents, customers, visitors, invitees, licensees, contractors, assignees or sublicensees (collectively, "Licensee's Parties") shall comply with all Environmental Law. Licensee shall promptly notify Licensor in writing of (a) any notices of violation or potential or alleged violation of any Environmental Law which are received by Licensee from any governmental agency; (b) any and all inquiry, investigation, enforcement, clean-up, removal or other governmental or regulatory actions instituted or threatened relating to the Premises; and (c) all claims made or threatened by any third-party against Licensee related to the Premises and any Hazardous Materials. Licensor shall have the right, upon not less than forty-eight (48) hours written notice to Licensee, to enter upon and inspect the Premises and to conduct tests, monitoring and investigations, including the right to test for soil and groundwater contamination. If such tests indicate the presence of any Environmental Condition which occurred as a result of, or in connection with, Licensee's use or occupancy of the Premises at any time, Licensee shall reimburse Licensor for the cost of conducting such tests.

g. Condition of Premises and Prior Use. Licensee is familiar with the Premises due to its continuing occupancy and acknowledges and accepts the condition of the Premises. Licensee acknowledges that it has used and continues to use lead bullets at the Premises, lead is present on the Premises due to use of the Premises as a police training facility, and that lead is recognized as a Hazardous Material. Licensee further acknowledges that its continued use of the Premises as a practice range may result in the deposit of additional lead or related Environmental Condition. Licensee has reviewed the Phase II Soil and Groundwater Investigation, Proposed Ohlone College Campus Area 2 (19 June 2001) ("Phase II Assessment"), prepared by Treadwell & Rollo, and acknowledges that it includes

an accurate assessment of the Environmental Condition of the Premises and immediately surrounding area as of the date of the assessment. Licensee further acknowledges that the lead contamination at the Premises, as identified in the Phase II Assessment investigation of the Pistol Range, was caused by its prior use and occupancy of the Premises.

h. Termination and Cleanup. No later than one hundred and twenty (120) days prior to the Expiration Date, or within sixty (60) days of receiving a notice of termination per section 3(m), whichever is earlier, Licensee shall complete a Phase II Environmental Assessment of the Premises, consistent with ASTM standards and reasonable commercial practice, and provide Licensor with a copy of same. In the event any Environmental Condition is identified in the Phase II Environmental Assessment or otherwise, then Licensee shall, within thirty (30) days after completion of the Phase II Environmental Assessment, meet with Licensor and, at Licensor's election which shall be reasonably exercised, shall, subject to subparagraph 3(j), herein below, either: a) promptly take any and all steps necessary to rectify those Environmental Conditions to Licensor's reasonable satisfaction (provided that if there shall be in effect any governmental order respecting the nature and scope of the rectification of such Environmental Condition the terms of such governmental order shall be controlling with respect to the nature and scope of such rectification but not as to any other matters such as non-environmental repair or restoration of the Premises) or b) reimburse Licensor, upon demand, for the reasonable cost to Licensor of performing said rectifying work. Notwithstanding the above, if Licensor determines that Licensee shall perform such work, Licensee shall receive prior written approval of Licensor for the scope of any and all proposed work or actions to be taken with regard to the Environmental Condition. Without limitation, all steps necessary to rectify any Environmental Condition shall include any remediation as required to obtain a certificate of completion from the relevant local, state and federal environmental agencies and shall allow for the future unrestricted use of the Premises. To allow for the future unrestricted use of the Premises, remediation of any Environmental Condition includes, but is not limited to, compliance with applicable residential cleanup standard(s) as specified by any relevant local, state and/or federal agencies or applicable Environmental Law. If Licensor performs the rectifying work, the reimbursement shall be paid to Licensor in advance of Licensor's performing such work, based upon Licensor's reasonable estimate of the cost thereof; and upon completion of such work by Licensor, Licensee shall pay to Licensor any shortfall within thirty (30) days after Licensor bills Licensee therefore or Licensor shall within thirty (30) days refund to Licensee any excess deposit, as the case may be. In addition, Licensee shall comply, at its sole cost and expense, with such recommendations contained in any environmental assessment as Licensor may reasonably require with respect to such Environmental Condition, provided that if there shall be in effect any governmental order respecting rectification of such Environmental Condition the terms of such governmental order shall be controlling (including, without limitation, any recommendations with respect to precautions which should be

taken with respect to activities on the Premises, and additional testing and studies to detect the presence of Hazardous Materials).

i. Environmental Indemnification. Licensee shall indemnify, protect, defend by counsel acceptable to Licensor and hold harmless Licensor and its affiliates, subsidiaries, partners, directors, officers, employees, agents, shareholders, lenders, Premises managers and attorneys, and each of their respective successors and assigns, from and against any and all claims, judgments, causes of action, damages, penalties, fines, taxes, costs, liabilities, losses and expenses (including, without limitation, reasonable attorneys' fees, court costs, and experts' fees and costs) or death or injury to any person or damage to any premises or property whatsoever, arising from or in connection with, or caused in whole or in part, directly or indirectly, by (a) Licensee and/or any of Licensee's Parties' breach of any prohibition or provision of this License; (b) Licensee and/or any of Licensee's Parties breach of any Environmental Law; or (c) the presence of Hazardous Materials on, under or about the Premises or other properties as a result (directly or indirectly) of Licensee's and/or any of Licensee's Parties' use of, activities on, or failure to act in connection with, the Premises at any time. This indemnity shall include the cost of any required or necessary investigation, repair, response, removal, cleanup or detoxification, and the preparation and implementation of any closure, monitoring or other required plans, to address any Environmental Condition at, or originating from, the Premises, whether such action is required or necessary prior to or following the termination of this License. Specifically, this indemnification shall include, without limitation, the cost of any required or necessary repair, response, removal, cleanup or detoxification, and the preparation and implementation of any closure, monitoring or other required plans associated with use of lead bullets and/or shot at the Premises, at any time, by Licensee and/or Licensee's Parties. This indemnification is intended to constitute an indemnity agreement within the meaning of Section 9607(e)(i) of the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (42 U.S.C. §9607(e)(i)). Neither the written consent, nor knowledge, by Licensor of the presence of Hazardous Materials on, under or about the Premises, nor the strict compliance by Licensee with all Environmental Law, shall excuse Licensee from Licensee's obligation of indemnification pursuant hereto. Licensee's obligations pursuant to the foregoing indemnity shall survive the termination of this License.

j. Limitation of Liability. If Licensee believes that an Environmental Condition identified in the Environmental Assessment did not occur as result of, or in connection with Licensee's use or occupancy of the Premises at any time, then Licensee shall engage a third party expert who shall submit reliable, responsible scientific and technical evidence to Licensor, no later than sixty (60) days after completion of the Phase II Environmental Assessment required by Paragraph 3 (h), in support of Licensee's position. Licensor shall have up to sixty (60) days to review such evidence. In the event that Licensor does not agree with the conclusions of said analysis, Licensor may obtain its own independent expert analysis. If the Licensee's and Licensor's third-party experts agree, the matter

shall be deemed resolved and Licensee shall not be required to perform any environmental remediation required to address that Environmental Condition as otherwise required by Paragraph 3(h), and or indemnify Licensor as other wise required by Paragraph 3 (i) for costs and/or liability associated solely with that Environmental Condition. If they disagree, then the parties shall select a neutral arbitrator, with experience addressing environmental disputes, from JAMS San Francisco to arbitrate the causes(s) of the Environmental Condition, whose decision shall be final. The parties shall split the costs of the arbitrator equally. If the parties cannot agree on the selection of a neutral arbitrator, they shall request a list of available neutral arbitrators with experience addressing environmental disputes from JAMS San Francisco and select an arbitrator by alternating strikes, with Licensor making the first strike.

k. No Interest. Licensee shall acquire no interest or estate in land of Licensor under this License.

l. Term. This license shall expire on December 31, 2009 ("Expiration Date"). The Parties may extend the term of this License by mutual written agreement.

m. Termination. Licensor shall have the option to terminate and revoke this license, irrespective of expense incurred or labor expended by Licensee, prior to the Expiration Date upon giving at least 30 days prior written notice to the Licensee. Any such written notice shall be mailed and addressed to the Licensee at the address set forth above. Termination of the License upon written notice shall not alter or eliminate any rights or obligations of the Parties specified by this License including, but not limited to, the Termination and Cleanup requirements specified in Paragraph 3(h) and Environmental Indemnification requirements specified in 3(i).

n. Reimbursement. In the event of termination, pursuant to paragraph 3(m), Licensee shall not be entitled to obtain from Licensor any reimbursement for expenses of Licensee or for any other purpose.

o. Evacuation. Upon the Expiration Date, or date of termination pursuant to Paragraph 3(m), whichever is earlier, Licensee shall evacuate the Premises and remove all equipment and materials therefrom, and shall leave the Premises in a condition equal to or better than its present condition subject to paragraph 3(h) above.

p. Assignment. Licensor may assign all or part of its rights and obligations under this License upon 30 days written notice to Licensee.

q. Warranties by Licensor. Licensor does not warrant or represent that the Premises are safe, healthful, or suitable for the purpose for which they are permitted to be used under the terms of this license, and Licensee agrees to conduct its own investigations and make its independent determination of such matters.

r. Insurance. If insurance required by this Paragraph is not already held by Licensee, Licensee shall at its own expense, within seven (7) days of executing this License, either a) obtain from a reputable insurance company admitted to do business in California, a standard comprehensive general liability policy (including contractual liability on any written agreement) insuring Licensor against liability or loss (whether from personal injuries or property damage, or both) arising from or connected with Licensee's entry upon and use of the Premises pursuant to this Agreement, or b) provide Licensor evidence of coverage of a standard comprehensive general liability policy (including contractual liability on any written agreement) insuring Licensor against liability or loss (whether from personal injuries or property damage, or both) arising from or connected with Licensee's entry upon and use of the Premises pursuant to this Agreement, issued by the Association of Bay Area California Joint Powers Insurance Authority. Said policy shall name Licensor as an additional insured and shall have a limit of liability of not less than $2,000,000 per occurrence (combined single limit) and shall be primary insurance.

s. Data Collection. Licensee shall notify Licensor, by telephone or letter, at least forty-eight (48) hours prior to any visit to assess any Environmental Condition at the Premises. Such notification shall identify the contractor and/or individuals collecting data and the areas to be studied. Within twenty-four hours following any such visit, Licensee shall furnish Licensor with copies of all data derived from the visit, including, but not limited to, field notes, photographs, etc. Within five (5) days of receipt, Licensee further agrees to furnish Licensor a copy of any reports evaluating any Environmental Condition at the Premises.

4. Licensee hereby accepts this License subject to all of the conditions set forth in this Agreement, and by acceptance of said License and in consideration thereof, Licensee:

a. Assumes any and all risks in connection with its entry upon or use of the Premises;

b. Waives any claim against Licensor, and all of its employees and agents, for injuries that may be sustained by Licensee upon the Premises and for damage to property of Licensee;

c. Agrees to indemnify Licensor against any loss and damage which shall be caused by the exercise of rights and privileges herein granted, or by any wrongful or negligent act or omission of Licensee or its agents or employees in the course of their employment, provided, however, that this indemnity shall not extend to that portion of such loss or damage that shall have been caused by Licensor's comparative negligence or willful misconduct; and

d. Agrees to pay reasonable compensation to Licensor for any damage other than normal wear and tear that Licensee should inflict or allow upon the Premises pursuant to the exercise of the rights and privileges herein granted.

IN WITNESS WHEREOF, the Parties hereto have executed this agreement the day and year first above written.

CARGILL, INCORPORATED

By: _____

Its: VICE PRESIDENT

CITY OF NEWARK, CALIFORNIA

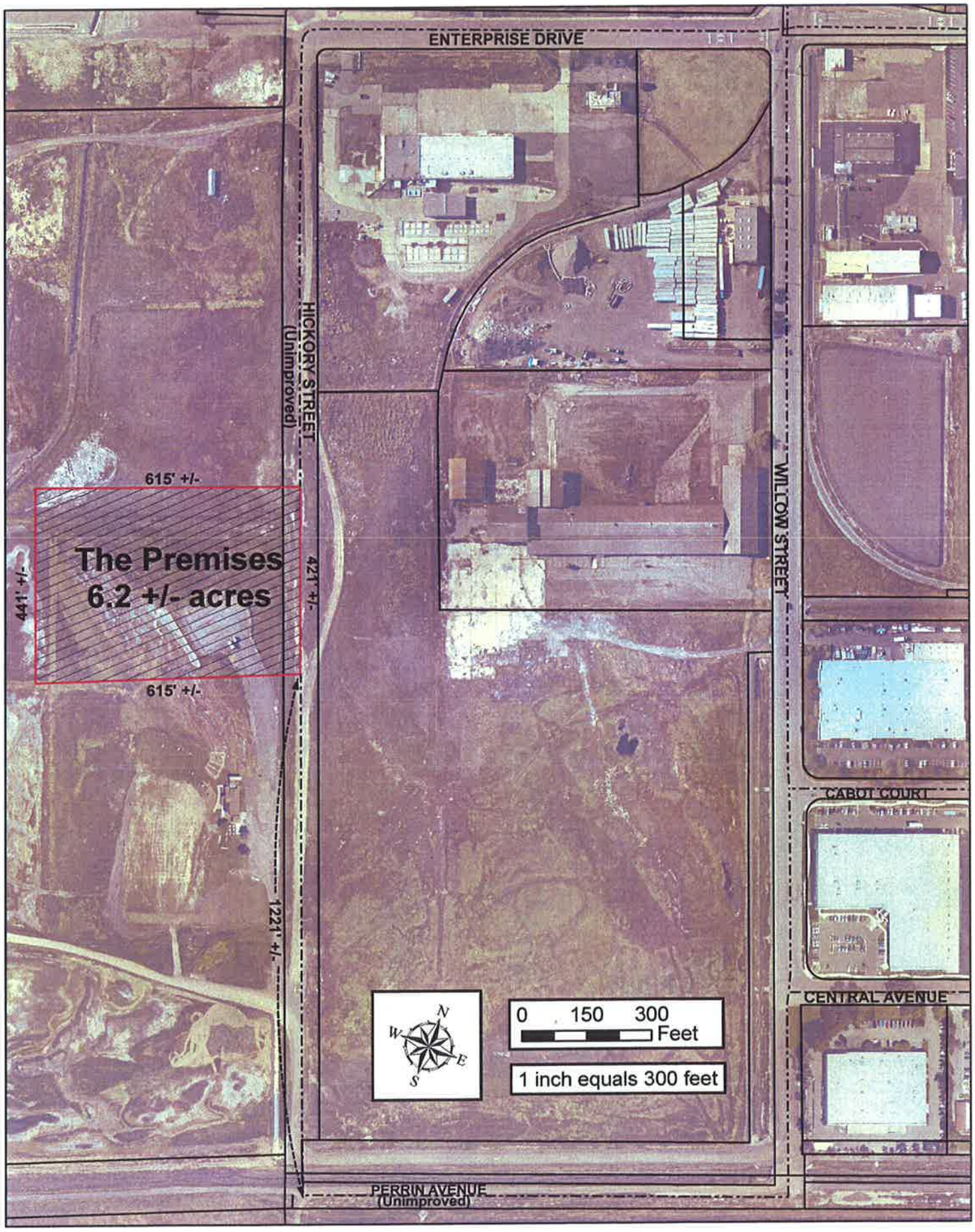
By: _____
David Smith
Mayor

Attest: _____
City Clerk

Approved
as to form: _____
City Attorney

EXHIBIT A

"The Premises"



Cargill Site
Hickory Street/Enterprise Drive
Newark, CA 94560

Inquiry Number: 3738660.5
September 29, 2013

The EDR Aerial Photo Decade Package

EDR® Environmental Data Resources Inc

440 Wheelers Farms Road
Milford, CT 06461
800.352.0050
www.edrnet.com

EDR Aerial Photo Decade Package

Environmental Data Resources, Inc. (EDR) Aerial Photo Decade Package is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's professional researchers provide digitally reproduced historical aerial photographs, and when available, provide one photo per decade.

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Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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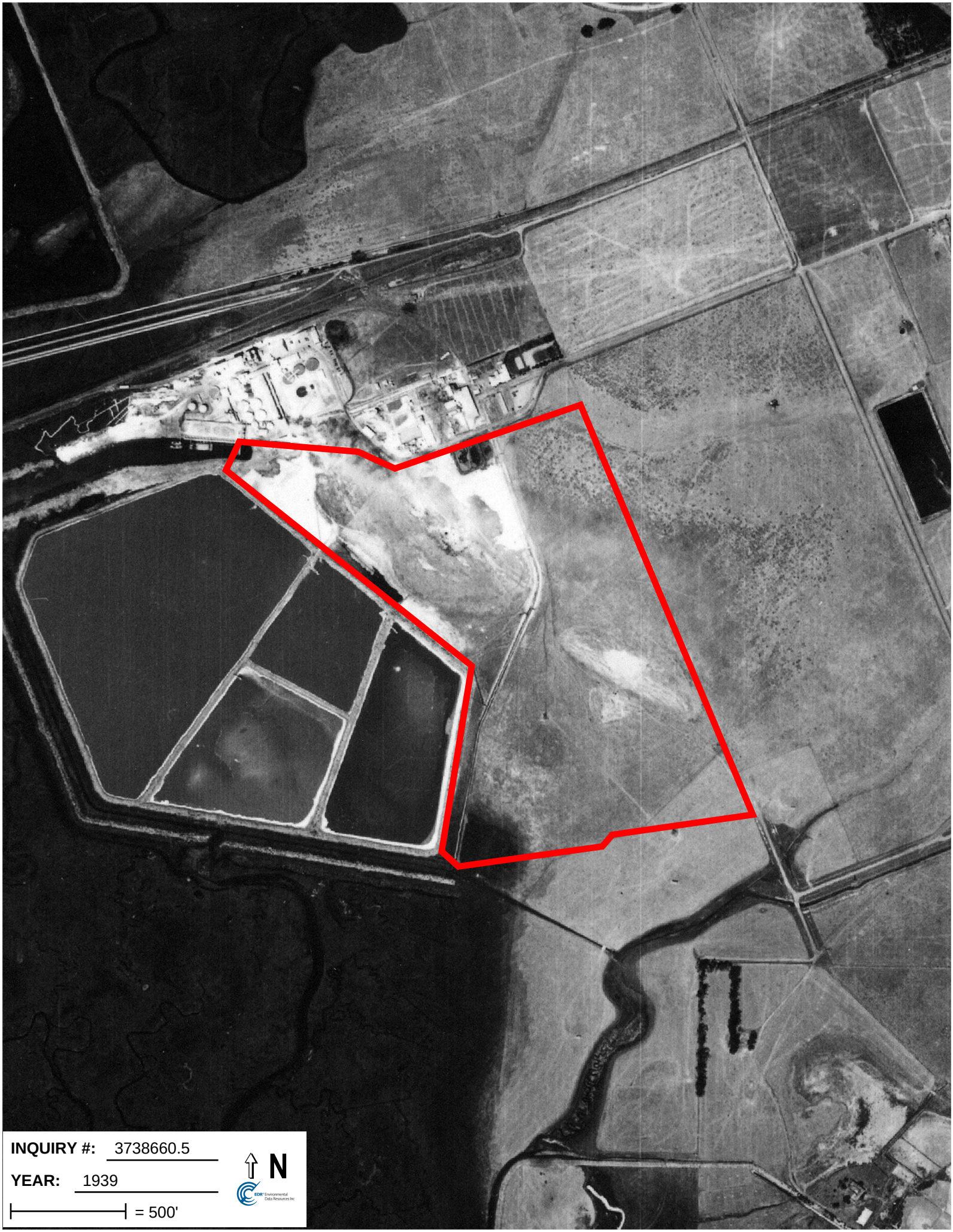
Date EDR Searched Historical Sources:

Aerial Photography September 29, 2013

Target Property:

Hickory Street/Enterprise Drive
Newark, CA 94560

Year	***Scale***	***Details***	***Source***
1939	Aerial Photograph. Scale: 1"=500'	Flight Year: 1939	Fairchild
1946	Aerial Photograph. Scale: 1"=500'	Flight Year: 1946	Jack Ammann
1958	Aerial Photograph. Scale: 1"=500'	Flight Year: 1958	USGS
1968	Aerial Photograph. Scale: 1"=500'	Flight Year: 1968	USGS
1979	Aerial Photograph. Scale: 1"=500'	Flight Year: 1979	WAC
1982	Aerial Photograph. Scale: 1"=500'	Flight Year: 1982	WSA
1993	Aerial Photograph. Scale: 1"=500'	/DOQQ - acquisition dates: 1993	EDR
1999	Aerial Photograph. Scale: 1"=500'	Flight Year: 1999	WAC
2005	Aerial Photograph. Scale: 1"=500'	Flight Year: 2005	EDR
2006	Aerial Photograph. Scale: 1"=500'	Flight Year: 2006	EDR
2009	Aerial Photograph. Scale: 1"=500'	Flight Year: 2009	EDR
2010	Aerial Photograph. Scale: 1"=500'	Flight Year: 2010	EDR
2012	Aerial Photograph. Scale: 1"=500'	Flight Year: 2012	EDR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YEAR: 1939
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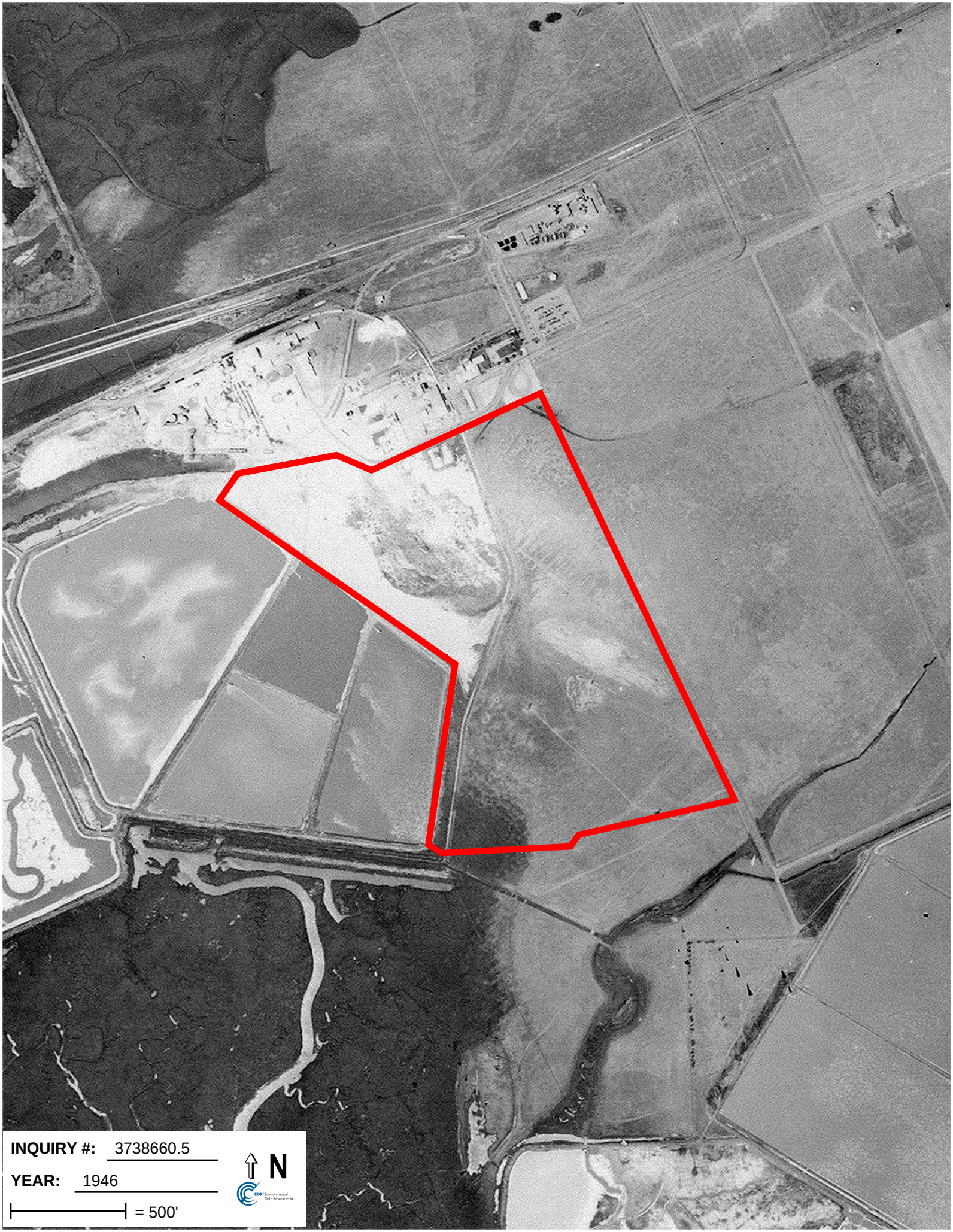
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INQUIRY #: 3738660.5
YEAR: 1993
= 500'
N
EDR Environmental Data Resources Inc

INQUIRY #: 3738660.5
YEAR: 1999
= 500'
N
EDR Environmental Data Resources Inc

INQUIRY #: 3738660.5
YEAR: 2005
= 500'
N

INQUIRY #: 3738660.5
YEAR: 2006
= 500'
N

INQUIRY #: 3738660.5
YEAR: 2009
= 500'
N

Prologis
INQUIRY #: 3738660.5
YEAR: 2010
= 500'
N
EDR Environmental Data Resources Inc

INQUIRY #: 3738660.5
YEAR: 2012
= 500'
N

Cargill Site
Hickory Street/Enterprise Drive
Newark, CA 94560

Inquiry Number: 3738660.4
September 24, 2013

EDR Historical Topographic Map Report

Environmental Data Resources Inc

440 Wheelers Farms Road
Milford, CT 06461
800.352.0050
www.edrnet.com

EDR Historical Topographic Map Report

Environmental Data Resources, Inc.s (EDR) Historical Topographic Map Report is designed to assist professionals in evaluating potential liability on a target property resulting from past activities. EDRs Historical Topographic Map Report includes a search of a collection of public and private color historical topographic maps, dating back to the early 1900s.

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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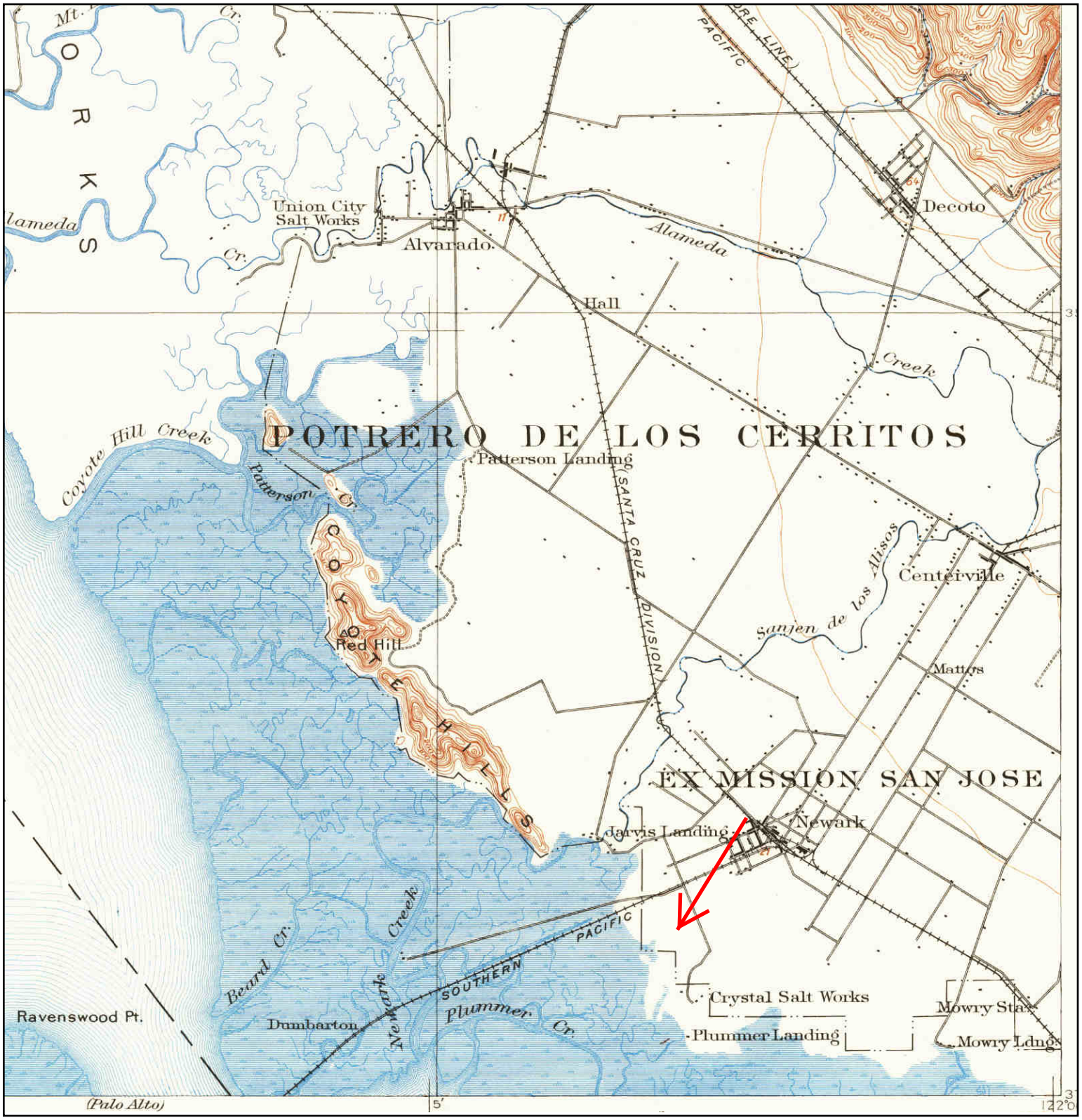
Historical Topographic Map

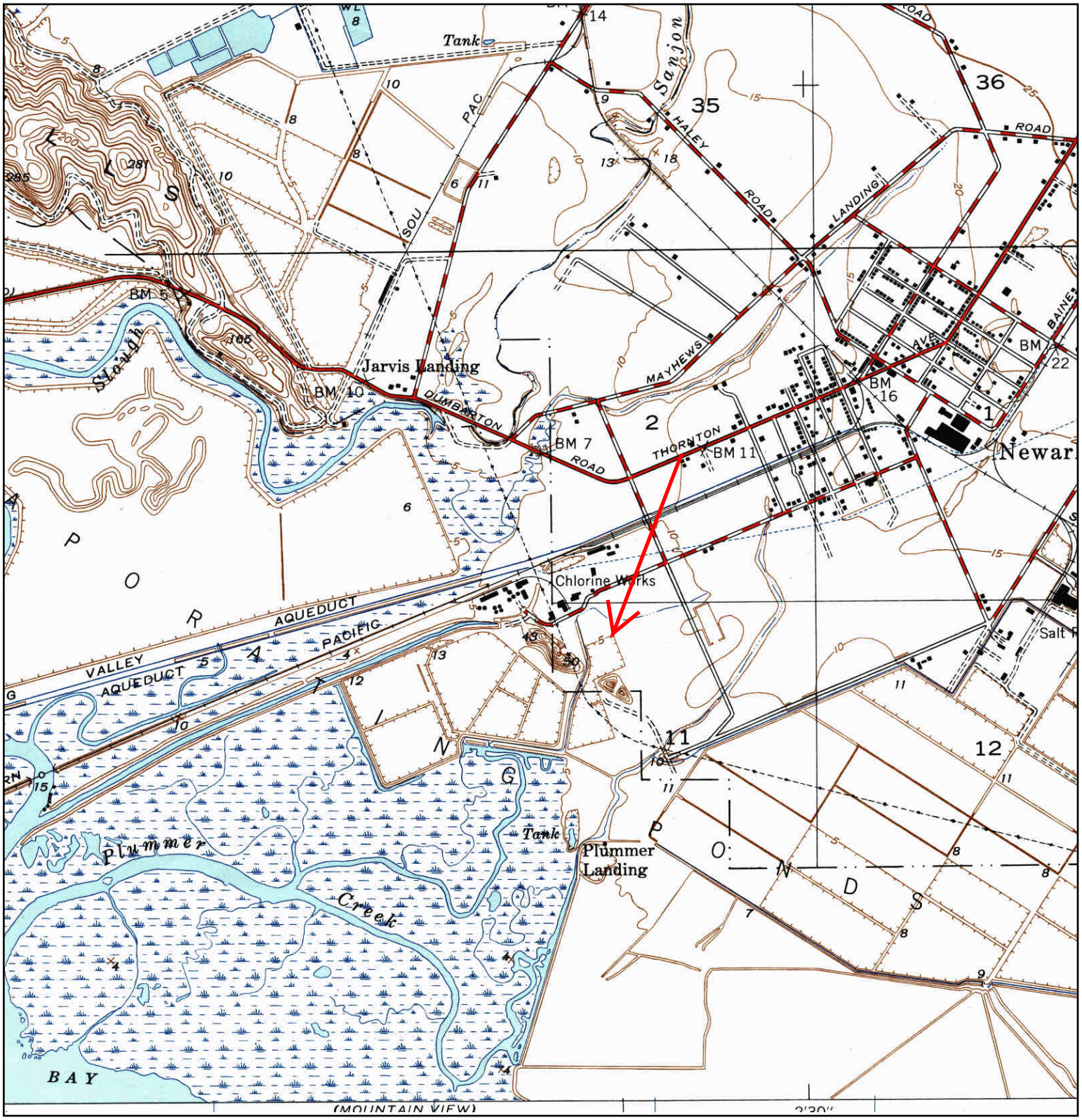
N	TARGET QUAD NAME: HAYWARDS MAP YEAR: 1899 SERIES: 15 SCALE: 1:62500	SITE NAME: Cargill Site ADDRESS: Hickory Street/Enterprise Drive Newark, CA 94560 LAT/LONG: 37.5177 / -122.0544	CLIENT: Haley & Aldrich, Inc. CONTACT: Marie Rose Javier INQUIRY#: 3738660.4 RESEARCH DATE: 09/24/2013

Historical Topographic Map



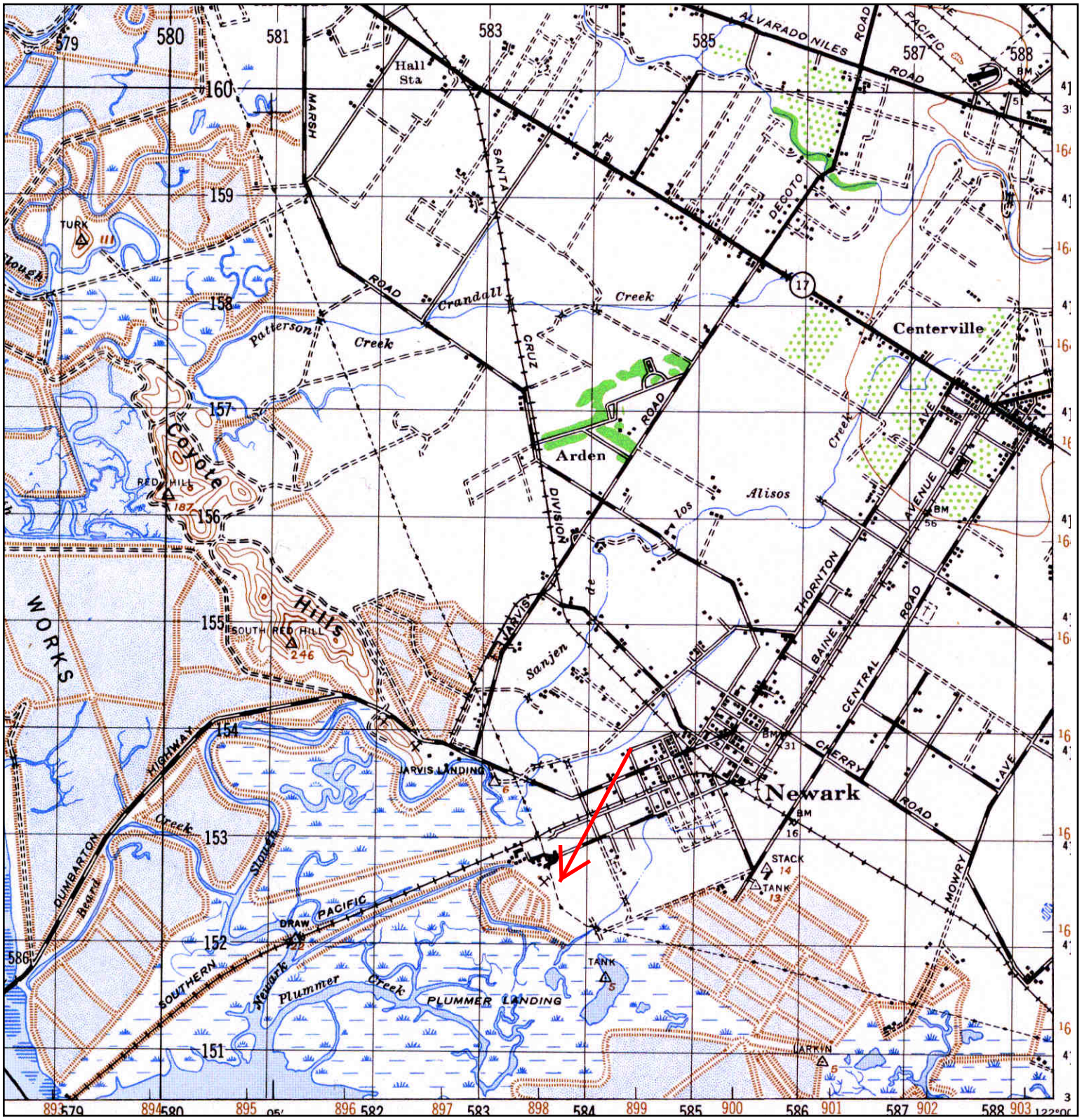
N	TARGET QUAD NAME: HAYWARD MAP YEAR: 1915 SERIES: 15 SCALE: 1:62500	SITE NAME: Cargill Site ADDRESS: Hickory Street/Enterprise Drive Newark, CA 94560 LAT/LONG: 37.5177 / -122.0544	CLIENT: Haley & Aldrich, Inc. CONTACT: Marie Rose Javier INQUIRY#: 3738660.4 RESEARCH DATE: 09/24/2013

Historical Topographic Map



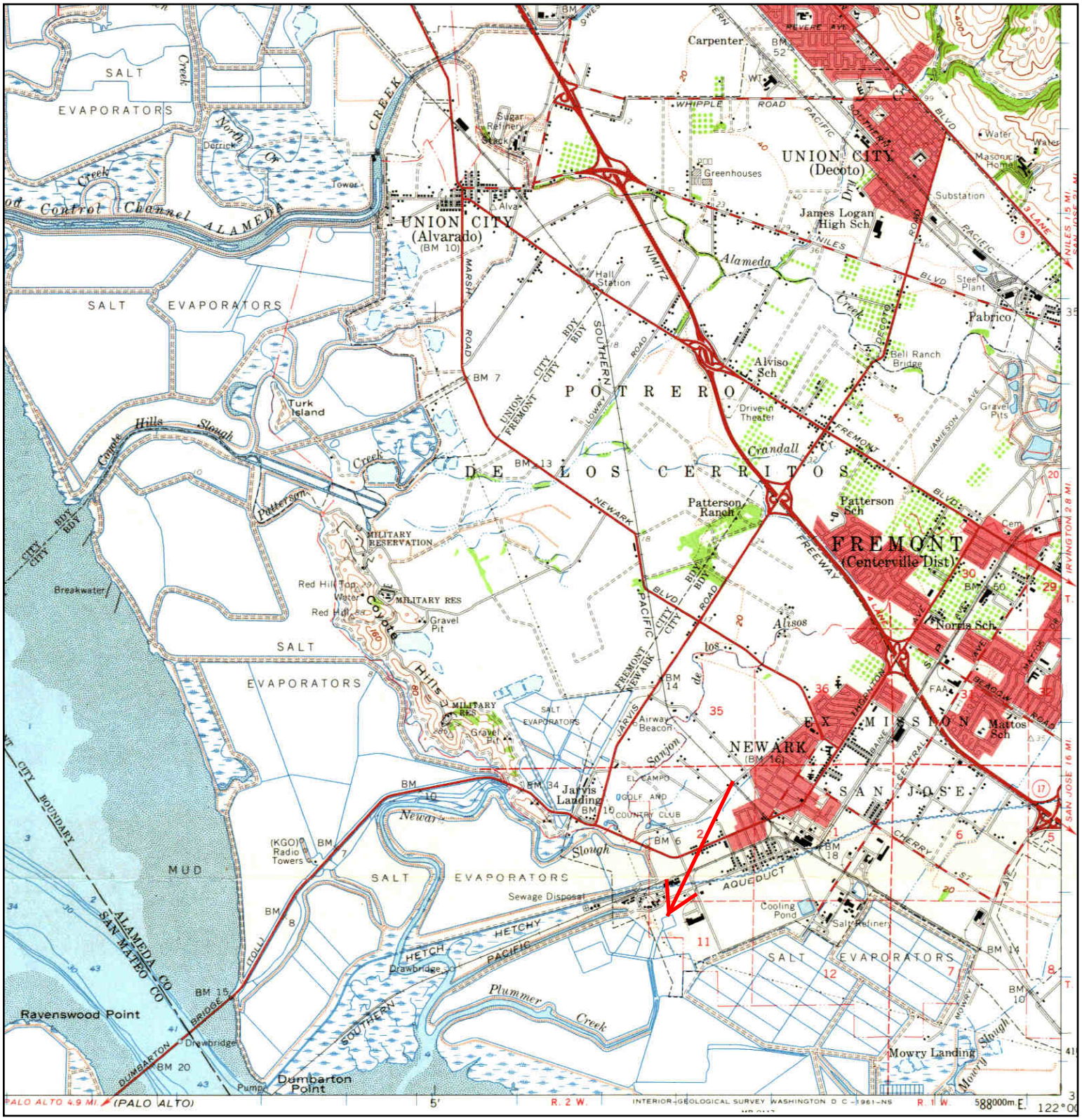
N	TARGET QUAD NAME: NEWARK MAP YEAR: 1947 SERIES: 7.5 SCALE: 1:24000	SITE NAME: Cargill Site ADDRESS: Hickory Street/Enterprise Drive Newark, CA 94560 LAT/LONG: 37.5177 / -122.0544	CLIENT: Haley & Aldrich, Inc. CONTACT: Marie Rose Javier INQUIRY#: 3738660.4 RESEARCH DATE: 09/24/2013

Historical Topographic Map



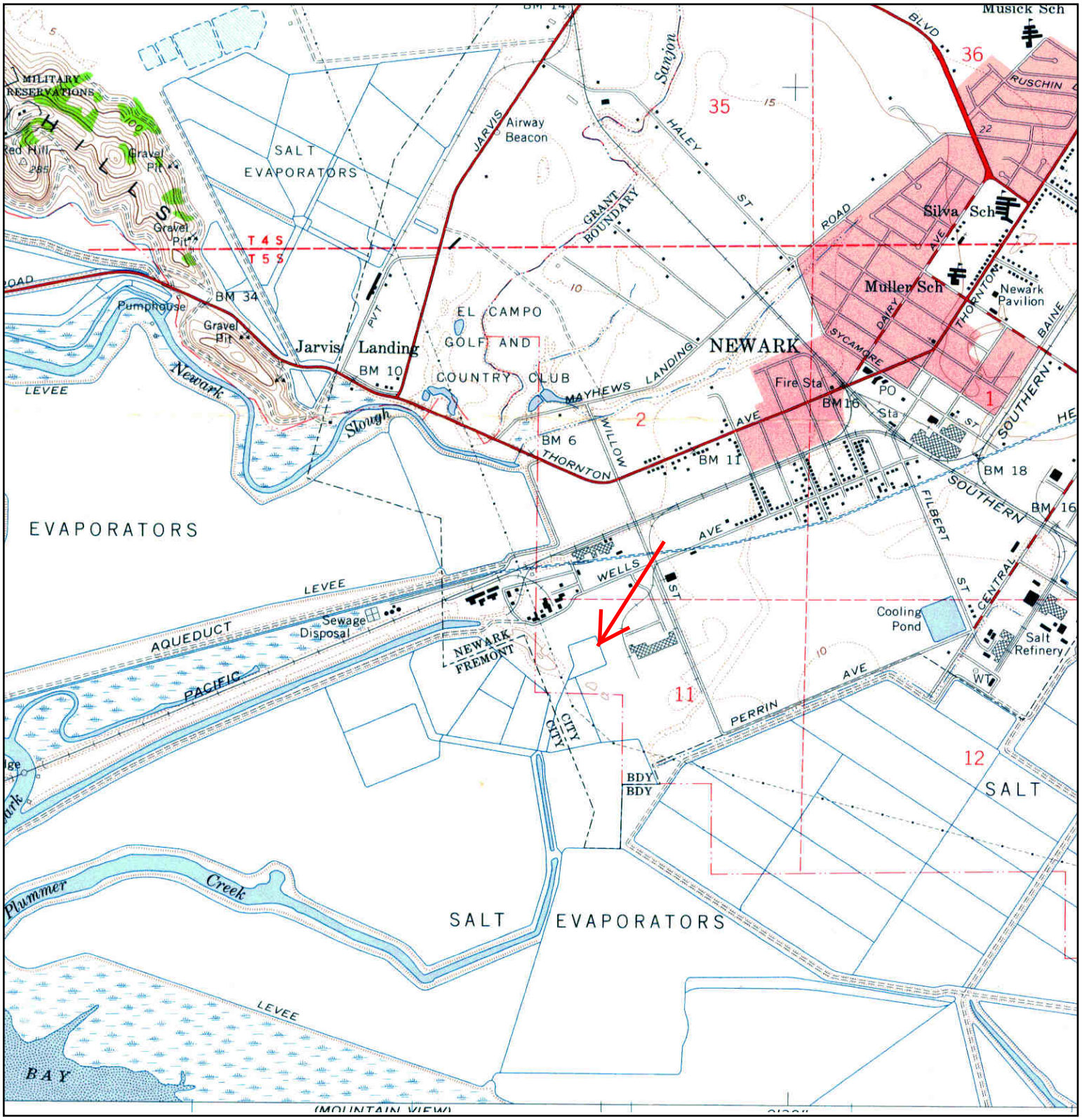
N	TARGET QUAD NAME: HAYWARD MAP YEAR: 1948 SERIES: 15 SCALE: 1:50000	SITE NAME: Cargill Site ADDRESS: Hickory Street/Enterprise Drive Newark, CA 94560 LAT/LONG: 37.5177 / -122.0544	CLIENT: Haley & Aldrich, Inc. CONTACT: Marie Rose Javier INQUIRY#: 3738660.4 RESEARCH DATE: 09/24/2013

Historical Topographic Map



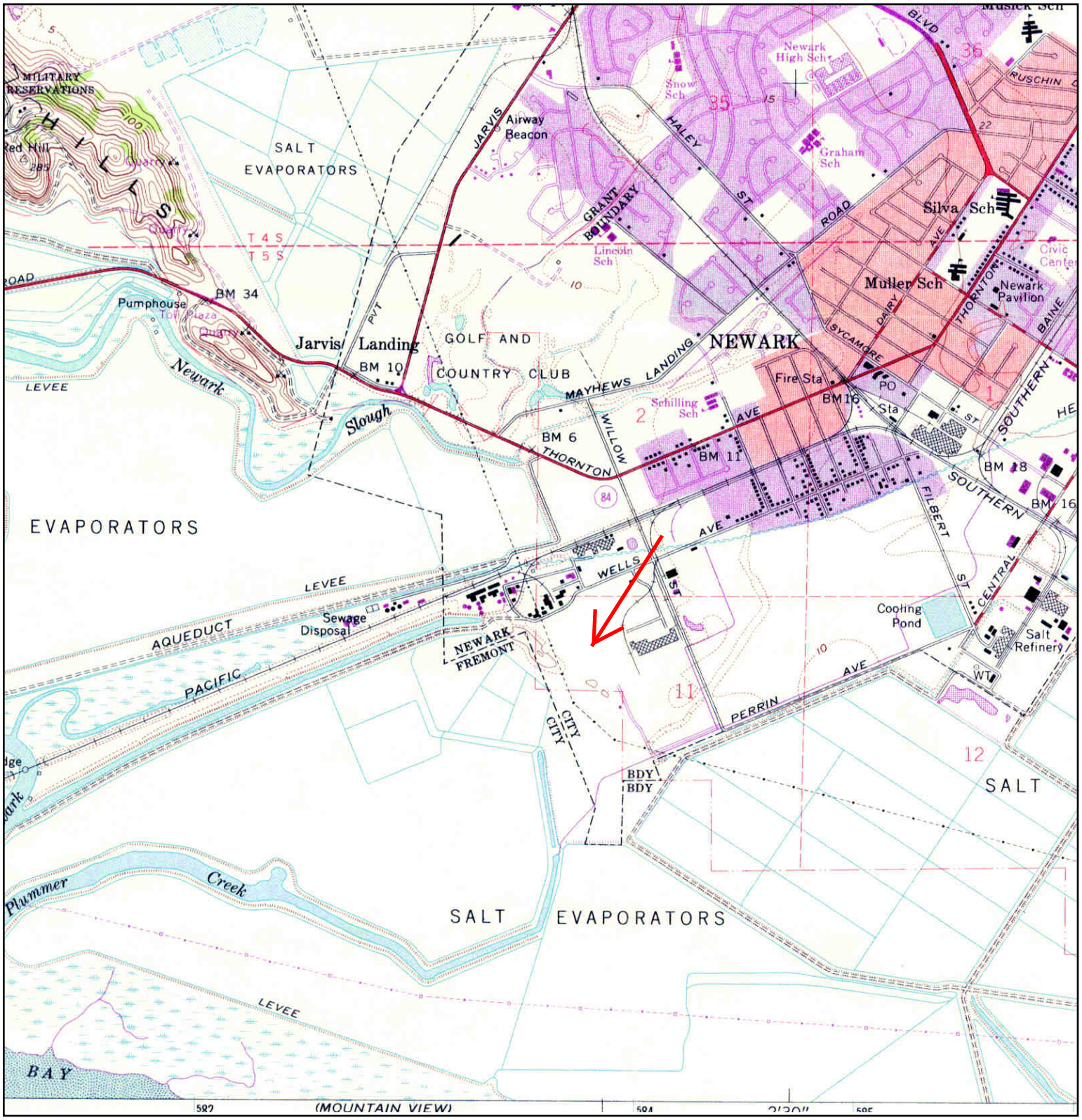
N	**TARGET QUAD** NAME: HAYWARD MAP YEAR: 1959 SERIES: 15 SCALE: 1:62500	SITE NAME: Cargill Site ADDRESS: Hickory Street/Enterprise Drive Newark, CA 94560 LAT/LONG: 37.5177 / -122.0544	CLIENT: Haley & Aldrich, Inc. CONTACT: Marie Rose Javier INQUIRY#: 3738660.4 RESEARCH DATE: 09/24/2013

Historical Topographic Map



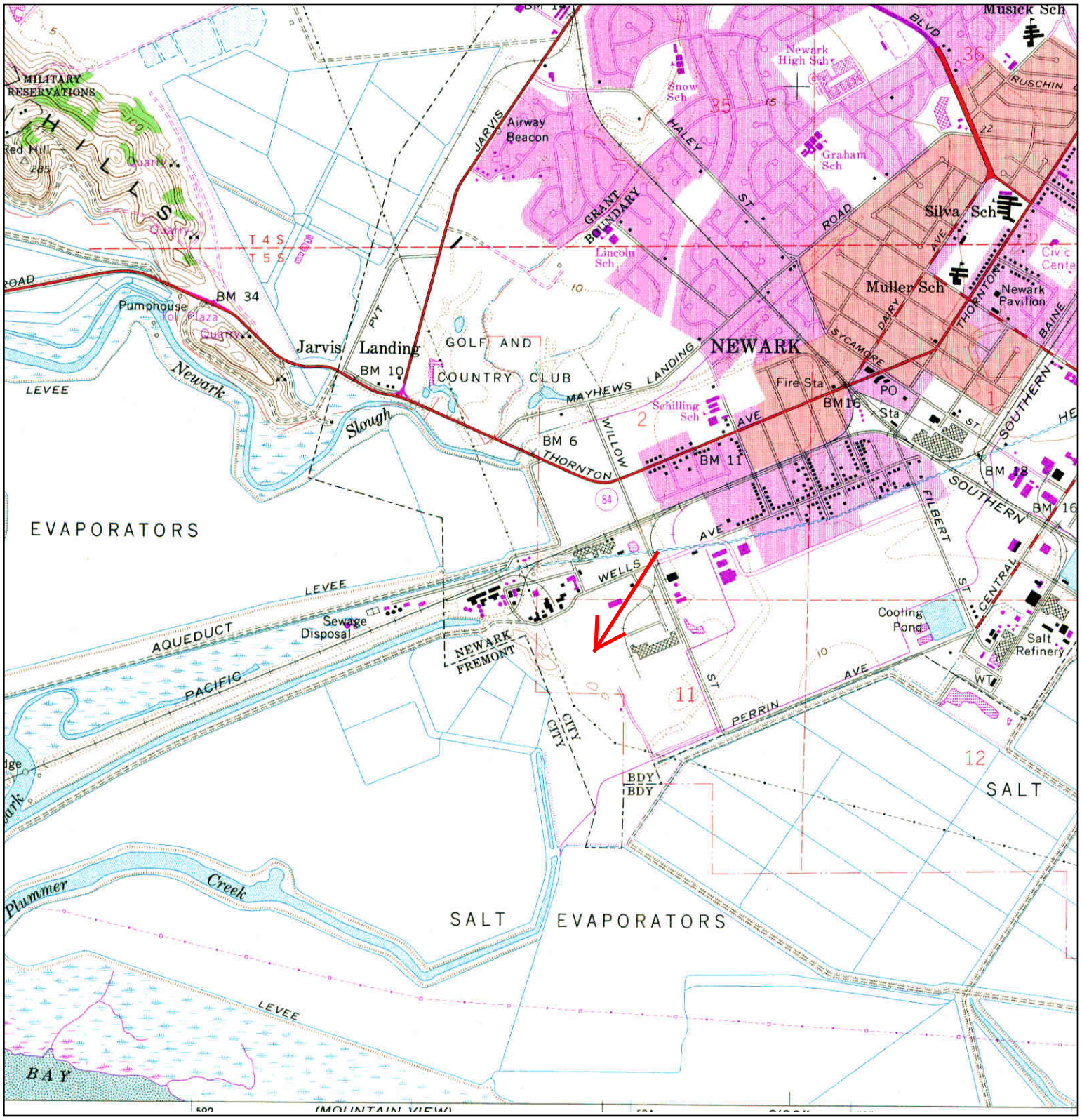
N	TARGET QUAD NAME: NEWARK MAP YEAR: 1959 SERIES: 7.5 SCALE: 1:24000	SITE NAME: Cargill Site ADDRESS: Hickory Street/Enterprise Drive Newark, CA 94560 LAT/LONG: 37.5177 / -122.0544	CLIENT: Haley & Aldrich, Inc. CONTACT: Marie Rose Javier INQUIRY#: 3738660.4 RESEARCH DATE: 09/24/2013

Historical Topographic Map



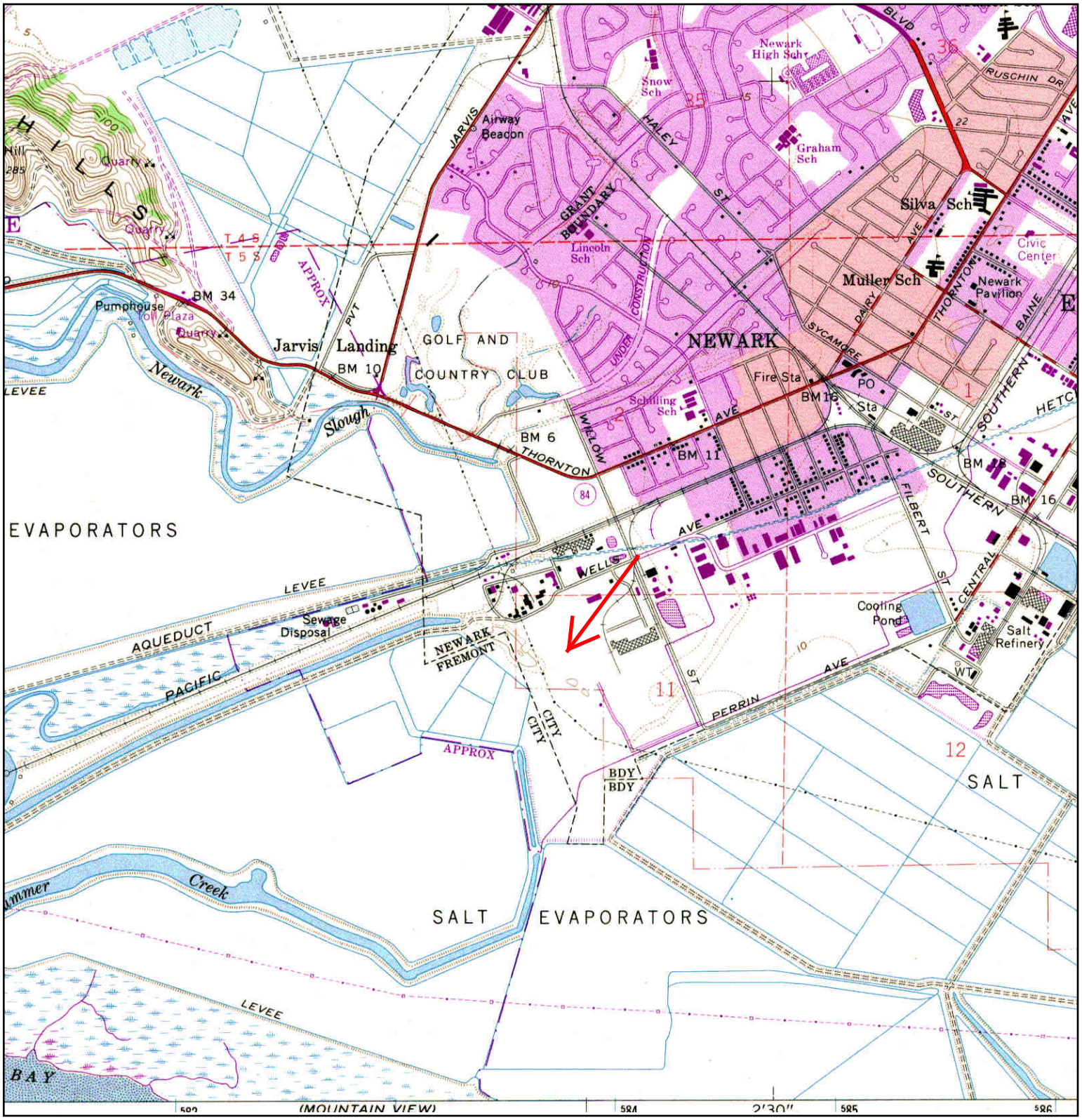
N	TARGET QUAD NAME: NEWARK MAP YEAR: 1968 PHOTOREVISED FROM :1959 SERIES: 7.5 SCALE: 1:24000	SITE NAME: Cargill Site ADDRESS: Hickory Street/Enterprise Drive Newark, CA 94560 LAT/LONG: 37.5177 / -122.0544	CLIENT: Haley & Aldrich, Inc. CONTACT: Marie Rose Javier INQUIRY#: 3738660.4 RESEARCH DATE: 09/24/2013

Historical Topographic Map



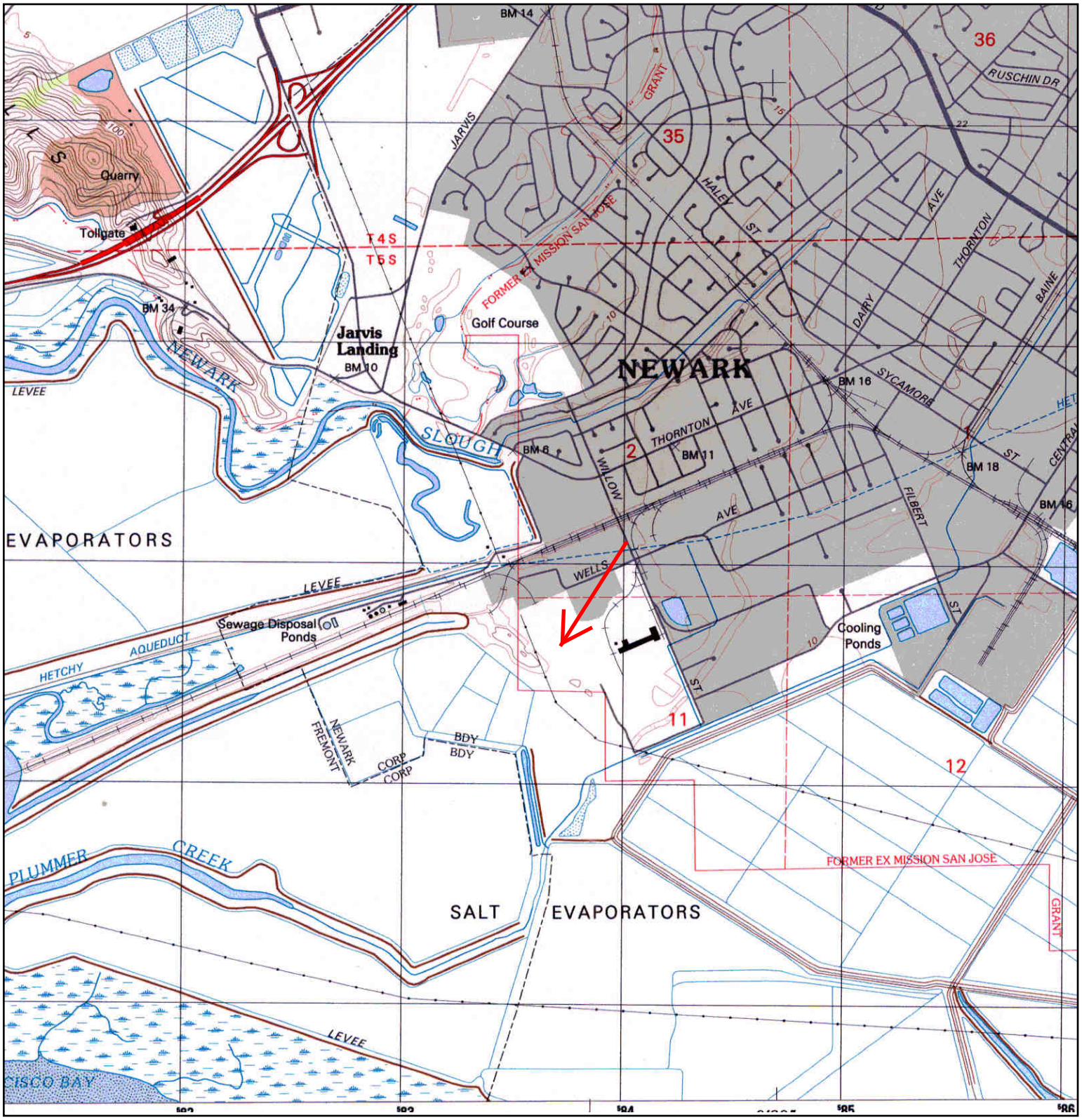
N	TARGET QUAD NAME: NEWARK MAP YEAR: 1973 PHOTOREVISED FROM :1959 SERIES: 7.5 SCALE: 1:24000	SITE NAME: Cargill Site ADDRESS: Hickory Street/Enterprise Drive Newark, CA 94560 LAT/LONG: 37.5177 / -122.0544	CLIENT: Haley & Aldrich, Inc. CONTACT: Marie Rose Javier INQUIRY#: 3738660.4 RESEARCH DATE: 09/24/2013

Historical Topographic Map



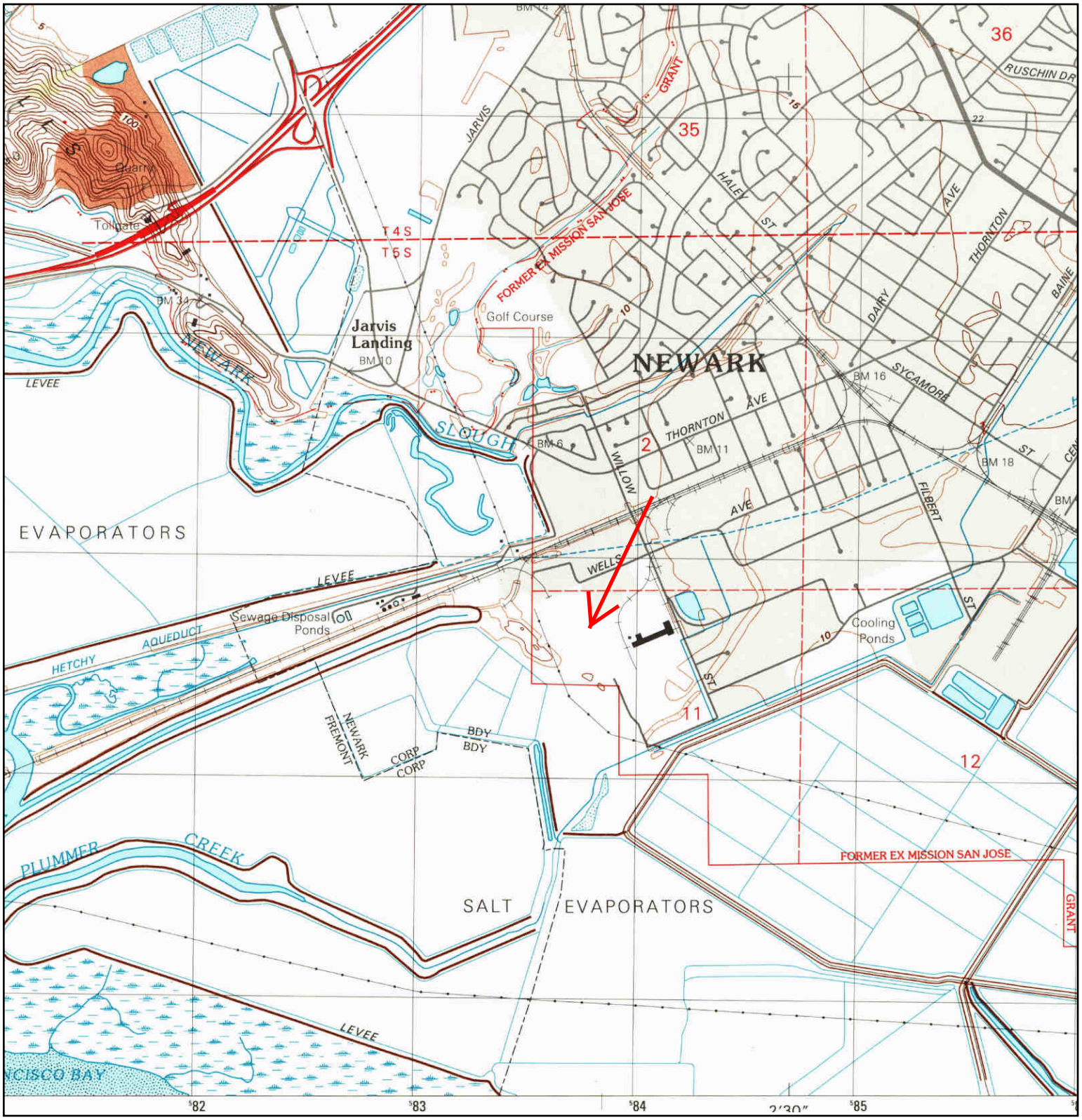
N	TARGET QUAD NAME: NEWARK MAP YEAR: 1980 PHOTOREVISED FROM :1959 SERIES: 7.5 SCALE: 1:24000	SITE NAME: Cargill Site ADDRESS: Hickory Street/Enterprise Drive Newark, CA 94560 LAT/LONG: 37.5177 / -122.0544	CLIENT: Haley & Aldrich, Inc. CONTACT: Marie Rose Javier INQUIRY#: 3738660.4 RESEARCH DATE: 09/24/2013

Historical Topographic Map



N	TARGET QUAD NAME: NEWARK MAP YEAR: 1993 SERIES: 7.5 SCALE: 1:24000	SITE NAME: Cargill Site ADDRESS: Hickory Street/Enterprise Drive Newark, CA 94560 LAT/LONG: 37.5177 / -122.0544	CLIENT: Haley & Aldrich, Inc. CONTACT: Marie Rose Javier INQUIRY#: 3738660.4 RESEARCH DATE: 09/24/2013

Historical Topographic Map



N	TARGET QUAD NAME: NEWARK MAP YEAR: 1997 SERIES: 7.5 SCALE: 1:24000	SITE NAME: Cargill Site ADDRESS: Hickory Street/Enterprise Drive Newark, CA 94560 LAT/LONG: 37.5177 / -122.0544	CLIENT: Haley & Aldrich, Inc. CONTACT: Marie Rose Javier INQUIRY#: 3738660.4 RESEARCH DATE: 09/24/2013

Cargill Site
Hickory Street/Enterprise Drive
Newark, CA 94560

Inquiry Number: 3738660.6
September 24, 2013

The EDR-City Directory Abstract

Environmental Data Resources Inc

440 Wheelers Farms Road
Milford, CT 06461
800.352.0050
www.edrnet.com

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EXECUTIVE SUMMARY

DESCRIPTION

Environmental Data Resources, Inc.'s (EDR) City Directory Abstract is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's City Directory Abstract includes a search and abstract of available city directory data. For each address, the directory lists the name of the corresponding occupant at five year intervals.

Business directories including city, cross reference and telephone directories were reviewed, if available, at approximately five year intervals for the years spanning 1920 through 2012. This report compiles information gathered in this review by geocoding the latitude and longitude of properties identified and gathering information about properties within 660 feet of the target property.

A summary of the information obtained is provided in the text of this report.

RESEARCH SUMMARY

The following research sources were consulted in the preparation of this report. An "X" indicates where information was identified in the source and provided in this report.

Year	Source	TP	Adjoining	Text Abstract	Source Image
2012	Cole Information Services	-	-	-	-
2007	Cole Information Services	-	-	-	-
2006	Haines Company, Inc.	-	-	-	-
2002	Haines	-	X	X	-
	R. L. Polk & Co.	-	X	X	-
2000	Pacific Bell	-	-	-	-
1996	PACIFIC BELL DIRECTORY	-	-	-	-
1993	Pacific Bell	-	-	-	-
1992	PACIFIC BELL DIRECTORY	-	-	-	-
1991	PACIFIC BELL WHITE PAGES	-	-	-	-
1986	Pacific Bell	-	-	-	-
1984	Pacific Bell	-	-	-	-
1982	Pacific Telephone	-	X	X	-
1980	Pacific Telephone	-	X	X	-
1979	Pacific Telephone	-	X	X	-
1976	R. L. Polk & Co.	-	X	X	-
1975	Pacific Telephone	-	X	X	-
1973	Pacific Telephone	-	X	X	-
1970	Pacific Telephone	-	-	-	-
1967	R. L. Polk & Co.	-	-	-	-
1965	Pacific Telephone	-	-	-	-
1962	Pacific Telephone	-	-	-	-
1960	Pacific Telephone	-	-	-	-
1959	R. L. Polk & Co.	-	-	-	-
1956	Pacific Telephone	-	-	-	-

EXECUTIVE SUMMARY

Year	Source	TP	Adjoining	Text Abstract	Source Image
1955	The Pacific Telephone & Telegraph Co.	-	-	-	-
1954	R. L. Polk & Co. of California	-	-	-	-
1951	R. L. Polk & Co.	-	-	-	-
1950	The Pacific Telephone & Telegraph Co.	-	-	-	-
1946	R. L. Polk & Co.	-	-	-	-
1945	The Pacific Telephone & Telegraph Co.	-	-	-	-
1943	R. L. Polk & Co.	-	-	-	-
1940	R. L. Polk & Co.	-	-	-	-
1938	Pacific Telephone	-	-	-	-
1933	R. L. Polk & Co.	-	-	-	-
1932	R. L. Polk & Co. of California	-	-	-	-
1928	R. L. Polk & Co. of California	-	-	-	-
1926	R. L. Polk & Co.	-	-	-	-
1925	The Pacific Telephone & Telegraph Co.	-	-	-	-
1920	R. L. Polk & Co. of California	-	-	-	-

FINDINGS

TARGET PROPERTY INFORMATION

ADDRESS

Hickory Street/Enterprise Drive
Newark, CA 94560

FINDINGS DETAIL

Target Property research detail.

FINDINGS

ADJOINING PROPERTY DETAIL

The following Adjoining Property addresses were researched for this report. Detailed findings are provided for each address.

ENTERPRISE DR

8787 ENTERPRISE DR

Year	Uses	Source
2002	FMCCORP	Haines
	FMCCORP	R. L. Polk & Co.
1982	INDUSTRIAL CHEMICAL DIV FMC CORP NEWARK	Pacific Telephone
	FMC CORPORATION	Pacific Telephone
1979	EZZELL JAMES K	Pacific Telephone
1976	MONTEREY MECHANICAL CO	R. L. Polk & Co.
	INDUSTRIAL CHEMICAL DIV FMC CORP	R. L. Polk & Co.
	EZY WAY SYSTEMS CO	R. L. Polk & Co.
1975	FOOD PROCESSING MACHINERY DIV	Pacific Telephone
1973	INORGANIC CHEMICALS DIV FMC CORP	Pacific Telephone
	FMC CORPORATION INDUSTRIAL CHEMICAL DIV	Pacific Telephone

8789 ENTERPRISE DR

Year	Uses	Source
2002	XXXX	Haines
	XXXX	R. L. Polk & Co.

8891 ENTERPRISE DR

Year	Uses	Source
2002	XXXX	Haines
	XXXX	R. L. Polk & Co.
1982	TOCO INC NEWARK	Pacific Telephone
	FACILITIES LEASING CO NEWARK	Pacific Telephone
	DESIGNED BUILDING SYSTEMS NEWARK	Pacific Telephone
1980	FACILITIES LEASING CO	Pacific Telephone
1979	OLSEN HOMER J INC	Pacific Telephone
	KENNEDY ENGINEERS	Pacific Telephone
	KENNEDY ENGINEERS	Pacific Telephone

FINDINGS

Year	Uses	Source
1979	EXECUTIVE OFFICES	Pacific Telephone
	CAL EQUIPMENT	Pacific Telephone
	METAL CRAFT	Pacific Telephone

FINDINGS

TARGET PROPERTY: ADDRESS NOT IDENTIFIED IN RESEARCH SOURCE

The following Target Property addresses were researched for this report, and the addresses were not identified in the research source.

Address Researched	Address Not Identified in Research Source
Hickory Street/Enterprise Drive	2012, 2007, 2006, 2002, 2000, 1996, 1993, 1992, 1991, 1986, 1984, 1982, 1980, 1979, 1976, 1975, 1973, 1970, 1967, 1965, 1962, 1960, 1959, 1956, 1955, 1954, 1951, 1950, 1946, 1945, 1943, 1940, 1938, 1933, 1932, 1928, 1926, 1925, 1920

ADJOINING PROPERTY: ADDRESSES NOT IDENTIFIED IN RESEARCH SOURCE

The following Adjoining Property addresses were researched for this report, and the addresses were not identified in research source.

Address Researched	Address Not Identified in Research Source
8787 ENTERPRISE DR	2012, 2007, 2006, 2000, 1996, 1993, 1992, 1991, 1986, 1984, 1980, 1970, 1967, 1965, 1962, 1960, 1959, 1956, 1955, 1954, 1951, 1950, 1946, 1945, 1943, 1940, 1938, 1933, 1932, 1928, 1926, 1925, 1920
8789 ENTERPRISE DR	2012, 2007, 2006, 2000, 1996, 1993, 1992, 1991, 1986, 1984, 1982, 1980, 1979, 1976, 1975, 1973, 1970, 1967, 1965, 1962, 1960, 1959, 1956, 1955, 1954, 1951, 1950, 1946, 1945, 1943, 1940, 1938, 1933, 1932, 1928, 1926, 1925, 1920
8891 ENTERPRISE DR	2012, 2007, 2006, 2000, 1996, 1993, 1992, 1991, 1986, 1984, 1976, 1975, 1973, 1970, 1967, 1965, 1962, 1960, 1959, 1956, 1955, 1954, 1951, 1950, 1946, 1945, 1943, 1940, 1938, 1933, 1932, 1928, 1926, 1925, 1920

Cargill Site
Hickory Street/Enterprise Drive
Newark, CA 94560

Inquiry Number: 3738660.3
September 24, 2013

Certified Sanborn® Map Report

EDR® Environmental Data Resources Inc

440 Wheelers Farms Road
Milford, CT 06461
800.352.0050
www.edrnet.com

Certified Sanborn® Map Report

9/24/13

Site Name:
Cargill Site
Hickory Street/Enterprise Drive
Newark, CA 94560

Client Name:
Haley & Aldrich, Inc.
2033 N. Main Street
Walnut Creek, CA 94596

EDR Inquiry # 3738660.3

Contact: Marie Rose Javier

EDR® Environmental Data Resources Inc

The complete Sanborn Library collection has been searched by EDR, and fire insurance maps covering the target property location provided by Haley & Aldrich, Inc. were identified for the years listed below. The certified Sanborn Library search results in this report can be authenticated by visiting www.edrnet.com/sanborn and entering the certification number. Only Environmental Data Resources Inc. (EDR) is authorized to grant rights for commercial reproduction of maps by Sanborn Library LLC, the copyright holder for the collection.

Certified Sanborn Results:

Site Name: Cargill Site
Address: Hickory Street/Enterprise Drive
City, State, Zip: Newark, CA 94560
Cross Street:
P.O. # NA
Project: NA
Certification # 9AF6-4109-9BFF

Sanborn® Library search results
Certification # 9AF6-4109-9BFF

UNMAPPED PROPERTY

This report certifies that the complete holdings of the Sanborn Library, LLC collection have been searched based on client supplied target property information, and fire insurance maps covering the target property were not found.

The Sanborn Library includes more than 1.2 million Sanborn fire insurance maps, which track historical property usage in approximately 12,000 American cities and towns. Collections searched:

- ✔ Library of Congress
- ✔ University Publications of America
- ✔ EDR Private Collection

The Sanborn Library LLC Since 1866™

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USER RESPONSIBILITIES QUESTIONNAIRE
All Appropriate Inquires under ASTM E1527-05

Date: October 2, 2013
Project: Cargill Property – Phase I ESA
Address: 54.53-acre parcel (APNs 537-0852-009, 537-0852-010 and 537-0852-011), Newark, California
Prepared By: James Schwartz, Haley & Aldrich, Inc.
Completed By: Peter Lezak, Dumbarton Area 2, LLC

In order to qualify for one of the Landowner Liability Protections offered by the Small Business Liability Relief and Brownfields Revitalization Act of 2001 (the "Brownfields Amendments"), the user must conduct "All Appropriate Inquiry (AAI)," which includes consideration of the following information (if available). Though it is not required that this information be provided to the environmental professional for the completion of the ASTM E1527-05 Phase I Site Assessment, failure of the user to consider this information could result in a determination that "All Appropriate Inquiry" is not complete.

(1.) Environmental cleanup liens that are filed or recorded against the site (40 CPA 31225).
Are you aware of any environmental cleanup liens against the *property* that are filed or recorded under federal, tribal, state or local law? If yes, give a description and attach copies of the liens.

No.

(2.) Activity and land use limitations that are in place on the site or that have been filed or recorded in a registry (40 CFR 312.26).
Are you aware of any AULs, such as *engineering controls,* land use restrictions or *institutional controls* that are in place at the site or have been filed or recorded in a registry under federal, tribal, slate or local law?

No.

(3.) Specialized knowledge or experience of the person seeking to qualify for the LLP (40 CER 312.28).
As the *user* of this *ESA* do you have any specialized knowledge or experience related to the *property* or nearby properties? For example, are you involved in the same line of business as the current or former *occupants* of the *property* or an adjoining *property* so that you would have specialized knowledge of the chemicals and processes used by this type of business?

No.

(4.) Relationship of the purchase price to the fair market value of the property if it were not contaminated (40 CFR 312.29).
Does the purchase price being paid for this *property* reasonably reflect the market value of the *property?* If you conclude that there is a difference, have you considered whether the lower purchase price is because contamination is known or believed to be present at the *property?*

No.

(5.) Commonly known or reasonably ascertainable information about the property (40 CFR312.30).
Are you aware of commonly known, or *reasonably ascertainable* information about the *property* that would help the *environmental professional to* identify conditions indicative of releases or threatened releases? For example, as *user,*

(a.) Do you know the past uses of the *property?*

No.

(b.) Do you know the specific chemicals that are present or once were present at the property?

No.

(c.) Do you know of spills or other chemical releases that have taken place at the property?

No.

(d.) Do you know of any environmental cleanups that have taken pace at the property?

No.

(6.) The degree of obviousness of the presence of likely presence of contamination at the *property,* and the ability to detect the contamination by appropriate investigation (40 CFR 312.311).
As the *user* of this *ESA,* based on your knowledge and experience related to the *property* are there any *obvious* indicators that point to the presence or likely presence of contamination at the *property?*

No.

APPENDIX C

Regulatory Records Documentation

Cargill Site
Hickory Street/Enterprise Drive
Newark, CA 94560

Inquiry Number: 3738660.2s
September 24, 2013

The EDR Radius Map™ Report with GeoCheck®

EDR® Environmental Data Resources Inc

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Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-05) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

HICKORY STREET/ENTERPRISE DRIVE
NEWARK, CA 94560

COORDINATES

Latitude (North):	37.5177000 - 37˚ 31' 3.72''
Longitude (West):	122.0544000 - 122˚ 3' 15.84''
Universal Tranverse Mercator:	Zone 10
UTM X (Meters):	583565.0
UTM Y (Meters):	4152520.5
Elevation:	13 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map:	37122-E1 NEWARK, CA
Most Recent Revision:	1999

AERIAL PHOTOGRAPHY IN THIS REPORT

Photo Year:	2012
Source:	USDA

TARGET PROPERTY SEARCH RESULTS

The target property was not listed in any of the databases searched by EDR.

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the search radius around the target property for the following databases:

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL..... National Priority List

EXECUTIVE SUMMARY

Proposed NPL ..... Proposed National Priority List Sites
NPL LIENS ..... Federal Superfund Liens

Federal Delisted NPL site list

Delisted NPL ..... National Priority List Deletions

Federal CERCLIS list

CERCLIS ..... Comprehensive Environmental Response, Compensation, and Liability Information System
FEDERAL FACILITY ..... Federal Facility Site Information listing

Federal RCRA generators list

RCRA-CESQG ..... RCRA - Conditionally Exempt Small Quantity Generator

Federal institutional controls / engineering controls registries

US ENG CONTROLS ..... Engineering Controls Sites List
US INST CONTROL ..... Sites with Institutional Controls
LUCIS ..... Land Use Control Information System

Federal ERNS list

ERNS ..... Emergency Response Notification System

State and tribal landfill and/or solid waste disposal site lists

CA SWF/LF ..... Solid Waste Information System

State and tribal leaking storage tank lists

INDIAN LUST ..... Leaking Underground Storage Tanks on Indian Land

State and tribal registered storage tank lists

CA UST ..... Active UST Facilities
CA AST ..... Aboveground Petroleum Storage Tank Facilities
INDIAN UST ..... Underground Storage Tanks on Indian Land
FEMA UST ..... Underground Storage Tank Listing

State and tribal voluntary cleanup sites

CA VCP ..... Voluntary Cleanup Program Properties
INDIAN VCP ..... Voluntary Cleanup Priority Listing

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS ..... A Listing of Brownfields Sites

Local Lists of Landfill / Solid Waste Disposal Sites

ODI ..... Open Dump Inventory

EXECUTIVE SUMMARY

DEBRIS REGION 9	Torres Martinez Reservation Illegal Dump Site Locations
CA SWRCY	Recycler Database
CA HAULERS	Registered Waste Tire Haulers Listing
INDIAN ODI	Report on the Status of Open Dumps on Indian Lands

Local Lists of Hazardous waste / Contaminated Sites

US CDL	Clandestine Drug Labs
CA SCH	School Property Evaluation Program
CA CDL	Clandestine Drug Labs
US HIST CDL	National Clandestine Laboratory Register

Local Lists of Registered Storage Tanks

CA FID UST	Facility Inventory Database

Local Land Records

LIENS 2	CERCLA Lien Information
CA LIENS	Environmental Liens Listing

Records of Emergency Release Reports

HMIRS	Hazardous Materials Information Reporting System
CA LDS	Land Disposal Sites Listing
CA MCS	Military Cleanup Sites Listing
CA SPILLS 90	SPILLS 90 data from FirstSearch

Other Ascertainable Records

DOT OPS	Incident and Accident Data
DOD	Department of Defense Sites
FUDS	Formerly Used Defense Sites
CONSENT	Superfund (CERCLA) Consent Decrees
ROD	Records Of Decision
UMTRA	Uranium Mill Tailings Sites
US MINES	Mines Master Index File
TRIS	Toxic Chemical Release Inventory System
TSCA	Toxic Substances Control Act
FTTS	FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
HIST FTTS	FIFRA/TSCA Tracking System Administrative Case Listing
ICIS	Integrated Compliance Information System
PADS	PCB Activity Database System
MLTS	Material Licensing Tracking System
RADINFO	Radiation Information Database
RAATS	RCRA Administrative Action Tracking System
RMP	Risk Management Plans
CA BOND EXP. PLAN	Bond Expenditure Plan
CA UIC	UIC Listing
CA CUPA Listings	CUPA Resources List
CA DRYCLEANERS	Cleaner Facilities
CA WIP	Well Investigation Program Case List
INDIAN RESERV	Indian Reservations
SCRD DRYCLEANERS	State Coalition for Remediation of Drycleaners Listing

EXECUTIVE SUMMARY

CA HWT..... Registered Hazardous Waste Transporter Database
CA PROC..... Certified Processors Database
CA MWMP..... Medical Waste Management Program Listing
COAL ASH DOE..... Steam-Electric Plant Operation Data
COAL ASH EPA..... Coal Combustion Residues Surface Impoundments List
LEAD SMELTERS..... Lead Smelter Sites
PCB TRANSFORMER..... PCB Transformer Registration Database
US AIRS..... Aerometric Information Retrieval System Facility Subsystem
PRP..... Potentially Responsible Parties
EPA WATCH LIST..... EPA WATCH LIST

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP..... EDR Proprietary Manufactured Gas Plants
EDR US Hist Cleaners..... EDR Exclusive Historic Dry Cleaners

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified in the following databases.

Elevations have been determined from the USGS Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property.
Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

STANDARD ENVIRONMENTAL RECORDS

Federal CERCLIS NFRAP site List

CERC-NFRAP: Archived sites are sites that have been removed and archived from the inventory of CERCLIS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list this site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. This decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be a potential NPL site.

A review of the CERC-NFRAP list, as provided by EDR, and dated 04/26/2013 has revealed that there are 6 CERC-NFRAP sites within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
FMC CORP NEWARK	***8787 ENTERPRISE DR***	***NNE 0 - 1/8 (0.085 mi.)***	***B5***	***12***
ASHLAND CHEMICAL CO	***8610 ENTERPRISE DRIVE***	***NE 1/8 - 1/4 (0.212 mi.)***	***C11***	***42***
ROMIC ENVIRONMENTAL TECHNOLOGI	***37445 WILLOW ST***	***E 1/8 - 1/4 (0.217 mi.)***	***E17***	***82***
JONES HAMILTON CO	***8400 ENTERPRISE DR***	***NE 1/8 - 1/4 (0.245 mi.)***	***D24***	***109***
BARON BLAKESLEE INC	***8333 ENTERPRISE DR***	***NE 1/4 - 1/2 (0.357 mi.)***	***G27***	***134***
ABE OIL INC	***8130 ENTERPRISE DR***	***ENE 1/4 - 1/2 (0.436 mi.)***	***I35***	***183***

EXECUTIVE SUMMARY

Federal RCRA CORRACTS facilities list

CORRACTS: CORRACTS is a list of handlers with RCRA Corrective Action Activity. This report shows which nationally-defined corrective action core events have occurred for every handler that has had corrective action activity.

A review of the CORRACTS list, as provided by EDR, and dated 07/11/2013 has revealed that there are 4 CORRACTS sites within approximately 1 mile of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
FMC CORP NEWARK	*8787 ENTERPRISE DR*	*NNE 0 - 1/8 (0.085 mi.)*	*B5*	*12*
ASHLAND CHEMICAL CO	*8610 ENTERPRISE DRIVE*	*NE 1/8 - 1/4 (0.212 mi.)*	*C11*	*42*
ROMIC ENVIRONMENTAL TECHNOLOGI	*37445 WILLOW ST*	*E 1/8 - 1/4 (0.217 mi.)*	*E17*	*82*
BARON BLAKESLEE INC	*8333 ENTERPRISE DR*	*NE 1/4 - 1/2 (0.357 mi.)*	*G27*	*134*

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF: RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

A review of the RCRA-TSDF list, as provided by EDR, and dated 07/11/2013 has revealed that there are 4 RCRA-TSDF sites within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
FMC CORP NEWARK	*8787 ENTERPRISE DR*	*NNE 0 - 1/8 (0.085 mi.)*	*B5*	*12*
ASHLAND CHEMICAL CO	*8610 ENTERPRISE DRIVE*	*NE 1/8 - 1/4 (0.212 mi.)*	*C11*	*42*
ROMIC ENVIRONMENTAL TECHNOLOGI	*37445 WILLOW ST*	*E 1/8 - 1/4 (0.217 mi.)*	*E17*	*82*
BARON BLAKESLEE INC	*8333 ENTERPRISE DR*	*NE 1/4 - 1/2 (0.357 mi.)*	*G27*	*134*

Federal RCRA generators list

RCRA-LQG: RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

A review of the RCRA-LQG list, as provided by EDR, and dated 07/11/2013 has revealed that there is 1 RCRA-LQG site within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
FMC CORP NEWARK	*8787 ENTERPRISE DR*	*NNE 0 - 1/8 (0.085 mi.)*	*B5*	*12*

EXECUTIVE SUMMARY

RCRA-SQG: RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

A review of the RCRA-SQG list, as provided by EDR, and dated 07/11/2013 has revealed that there are 4 RCRA-SQG sites within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
ASHLAND CHEMICAL CO	*8610 ENTERPRISE DRIVE*	*NE 1/8 - 1/4 (0.212 mi.)*	*C11*	*42*
ROMIC ENVIRONMENTAL TECHNOLOGI	*37445 WILLOW ST*	*E 1/8 - 1/4 (0.217 mi.)*	*E17*	*82*
JONES HAMILTON CO	*8400 ENTERPRISE DR*	*NE 1/8 - 1/4 (0.245 mi.)*	*D24*	*109*

Lower Elevation	Address	Direction / Distance	Map ID	Page
MOBILITY INDUSTRIES INC	*3755 WILLOW ST*	*ESE 1/8 - 1/4 (0.240 mi.)*	*F19*	*95*

State- and tribal - equivalent NPL

CA RESPONSE: Identifies confirmed release sites where DTSC is involved in remediation, either in a lead or oversight capacity. These confirmed release sites are generally high-priority and high potential risk.

A review of the CA RESPONSE list, as provided by EDR, and dated 08/05/2013 has revealed that there are 3 CA RESPONSE sites within approximately 1 mile of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
ASHLAND CHEMICAL CO	*8610 ENTERPRISE DRIVE*	*NE 1/8 - 1/4 (0.212 mi.)*	*C11*	*42*
LESLIE SALT/FMC MAGNESIA WASTE	*WEST OF ENTERPRISE DRIV*	*NE 1/4 - 1/2 (0.350 mi.)*	*G26*	*124*
POZAS BROTHERS TRUCKING	*8130 ENTERPRISE DR*	*ENE 1/4 - 1/2 (0.436 mi.)*	*I36*	*186*

State- and tribal - equivalent CERCLIS

CA ENVIROSTOR: The Department of Toxic Substances Control's (DTSC's) Site Mitigation and Brownfields Reuse Program's (SMBRP's) EnviroStor database identifes sites that have known contamination or sites for which there may be reasons to investigate further. The database includes the following site types: Federal Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. EnviroStor provides similar information to the information that was available in CalSites, and provides additional site information, including, but not limited to, identification of formerly-contaminated properties that have been released for reuse, properties where environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites.

A review of the CA ENVIROSTOR list, as provided by EDR, and dated 08/05/2013 has revealed that there are 9 CA ENVIROSTOR sites within approximately 1 mile of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
FMC CORP NEWARK Status: Refer: RWQCB	*8787 ENTERPRISE DR*	*NNE 0 - 1/8 (0.085 mi.)*	*B5*	*12*
ASHLAND CHEMICAL CO Status: Refer: RWQCB	*8610 ENTERPRISE DRIVE*	*NE 1/8 - 1/4 (0.212 mi.)*	*C11*	*42*

EXECUTIVE SUMMARY

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
ROMIC ENVIRONMENTAL TECHNOLOGI Status: Refer: RWQCB	***37445 WILLOW ST***	***E 1/8 - 1/4 (0.217 mi.)***	***E15***	***77***
JONES-HAMILTON Status: Refer: RWQCB	***8400 ENTERPRISE***	***NE 1/8 - 1/4 (0.245 mi.)***	***D21***	***98***
LESLIE SALT/FMC MAGNESIA WASTE Status: Certified	***WEST OF ENTERPRISE DRIV***	***NE 1/4 - 1/2 (0.350 mi.)***	***G26***	***124***
BARON BLAKESLEE FACILITY Status: * Completed	***8333 ENTERPRISE***	***NE 1/4 - 1/2 (0.357 mi.)***	***G28***	***156***
POZAS BROTHERS TRUCKING Status: Certified	***8130 ENTERPRISE DR***	***ENE 1/4 - 1/2 (0.436 mi.)***	***I36***	***186***

Lower Elevation	Address	Direction / Distance	Map ID	Page
FORMER ASHLAND CHEMICAL SITE Status: Refer: RWQCB	***8610 ENTERPRISE DRIVE***	***NNE 0 - 1/8 (0.073 mi.)***	***B3***	***8***
LTD CERAMICS, INC. Status: Inactive - Needs Evaluation	7411 CENTRAL AVENUE	ENE 1/2 - 1 (0.950 mi.)	43	204

State and tribal leaking storage tank lists

CA LUST: The Leaking Underground Storage Tank Incident Reports contain an inventory of reported leaking underground storage tank incidents. The data come from the State Water Resources Control Board Leaking Underground Storage Tank Information System.

A review of the CA LUST list, as provided by EDR, and dated 07/26/2013 has revealed that there are 5 CA LUST sites within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
SILVEY-- LIQUID AIR PROPERTY	8175 WELLS AVENUE	NE 1/4 - 1/2 (0.483 mi.)	J41	198
SILVEY TRANSPORTATION, INC. Status: Completed - Case Closed	***8175 WELLS AVE***	***NE 1/4 - 1/2 (0.483 mi.)***	***J42***	***198***

Lower Elevation	Address	Direction / Distance	Map ID	Page
UNION SANITARY DISTRICT-NEWARK	***8700 THORNTON AVE***	***N 1/4 - 1/2 (0.427 mi.)***	***H31***	***170***
MILITARY FAMILY HOUSING Status: Completed - Case Closed	***8700 THORNTON***	***N 1/4 - 1/2 (0.427 mi.)***	***H32***	***179***
THORNTON BUSINESS CENTER Status: Completed - Case Closed	***8500 THORNTON & WILLOW***	***N 1/4 - 1/2 (0.442 mi.)***	***H38***	***195***

CA SLIC: SLIC Region comes from the California Regional Water Quality Control Board.

A review of the CA SLIC list, as provided by EDR, and dated 07/26/2013 has revealed that there are 19 CA SLIC sites within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
FMC CORP. - NEWARK	8787 ENTERPRISE DRIVE	NNE 0 - 1/8 (0.085 mi.)	B4	12

EXECUTIVE SUMMARY

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
FMC CORP NEWARK	***8787 ENTERPRISE DR***	***NNE 0 - 1/8 (0.085 mi.)***	***B5***	***12***
Facility Status: Open - Remediation				
S.P. DUMBARTON BRANCH R.O.W.	8785 ENTERPRISE DRIVE	NNE 0 - 1/8 (0.086 mi.)	B7	39
Facility Status: Open - Verification Monitoring				
NEWARK SPORTSMAN CLUB		NE 1/8 - 1/4 (0.211 mi.)	D9	41
Facility Status: Open - Inactive				
ASHLAND CHEMICAL CO	***8600 ENTERPRISE DR***	***NE 1/8 - 1/4 (0.212 mi.)***	***C10***	***42***
NEWARK SPORTSMAN'S CLUB	37447 WILLOW STREET	E 1/8 - 1/4 (0.215 mi.)	E12	75
Facility Status: Open - Site Assessment				
ROMIC ENVIRONMENTAL TECHNOLOGI	***37445 WILLOW ST***	***E 1/8 - 1/4 (0.217 mi.)***	***E15***	***77***
Facility Status: Open - Remediation				
ROMIC	37445 WILLOW STREET	E 1/8 - 1/4 (0.217 mi.)	E16	82
JONES-HAMILTON	***8400 ENTERPRISE***	***NE 1/8 - 1/4 (0.245 mi.)***	***D21***	***98***
Facility Status: Open - Site Assessment				
JONES-HAMILTON	8400 ENTERPRISE DRIVE	NE 1/8 - 1/4 (0.245 mi.)	D22	106
EDWARDS ENTERPRISES	***8455 CABOT COURT***	***E 1/4 - 1/2 (0.274 mi.)***	***25***	***116***
Facility Status: Completed - Case Closed				
BARON BLAKESLEE FACILITY	***8333 ENTERPRISE***	***NE 1/4 - 1/2 (0.357 mi.)***	***G28***	***156***
Facility Status: Open - Remediation				
STEFFENSEN PROPERTY-ENTERPRISE	8140 ENTERPRISE DRIVE	ENE 1/4 - 1/2 (0.432 mi.)	I33	181
Facility Status: Open - Verification Monitoring				
POZAS BROTHERS TRUCKING	***8130 ENTERPRISE DR***	***ENE 1/4 - 1/2 (0.436 mi.)***	***I36***	***186***
Facility Status: Open - Remediation				
DUTRA ART STONE FACILITY	8175 WELLS AVE	NE 1/4 - 1/2 (0.483 mi.)	J40	197
SILVEY TRANSPORTATION, INC.	***8175 WELLS AVE***	***NE 1/4 - 1/2 (0.483 mi.)***	***J42***	***198***
Facility Status: Completed - Case Closed				

Lower Elevation	Address	Direction / Distance	Map ID	Page
FORMER ASHLAND CHEMICAL SITE	***8610 ENTERPRISE DRIVE***	***NNE 0 - 1/8 (0.073 mi.)***	***B3***	***8***
Facility Status: Open - Verification Monitoring				
TORIAN HOLDINGS	37555 WILLOW STREET	ESE 1/8 - 1/4 (0.216 mi.)	F13	75
Facility Status: Open - Site Assessment				
FORMER NEWARK SPORTSMEN'S CLUB	HICKORY STREET AND PERR	N 1/4 - 1/2 (0.478 mi.)	39	197
Facility Status: Open - Inactive				

CA Alameda County CS: A listing of contaminated sites overseen by the Toxic Release Program (oil and groundwater contamination from chemical releases and spills) and the Leaking Underground Storage Tank Program (soil and ground water contamination from leaking petroleum USTs).

A review of the CA Alameda County CS list, as provided by EDR, and dated 07/25/2013 has revealed that there is 1 CA Alameda County CS site within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
FMC CORP NEWARK	***8787 ENTERPRISE DR***	***NNE 0 - 1/8 (0.085 mi.)***	***B5***	***12***

EXECUTIVE SUMMARY

ADDITIONAL ENVIRONMENTAL RECORDS

Local Lists of Landfill / Solid Waste Disposal Sites

CA WMUDS/SWAT: The Waste Management Unit Database System is used for program tracking and inventory of waste management units. The source is the State Water Resources Control Board.

A review of the CA WMUDS/SWAT list, as provided by EDR, and dated 04/01/2000 has revealed that there are 2 CA WMUDS/SWAT sites within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
FMC NEWARK		NE 1/8 - 1/4 (0.197 mi.)	C8	40
Not reported	***8400 ENTERPRISE DR.***	***NE 1/8 - 1/4 (0.245 mi.)***	***D23***	***106***

Local Lists of Hazardous waste / Contaminated Sites

CA HIST Cal-Sites: Formerly known as ASPIS, this database contains both known and potential hazardous substance sites. The source is the California Department of Toxic Substance Control. No longer updated by the state agency. It has been replaced by ENVIROSTOR.

A review of the CA HIST Cal-Sites list, as provided by EDR, and dated 08/08/2005 has revealed that there are 2 CA HIST Cal-Sites sites within approximately 1 mile of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
LESLIE SALT/FMC MAGNESIA WASTE	***WEST OF ENTERPRISE DRIV***	***NE 1/4 - 1/2 (0.350 mi.)***	***G26***	***124***
HOLLAND OIL	8130 ENTERPRISE DRIVE	ENE 1/4 - 1/2 (0.436 mi.)	I37	192

CA Toxic Pits: The Toxic Pits Cleanup Act Sites database identifies sites suspected of containing hazardous substances where cleanup has not yet been completed. The data come from the State Water Resources Control Board.

A review of the CA Toxic Pits list, as provided by EDR, and dated 07/01/1995 has revealed that there is 1 CA Toxic Pits site within approximately 1 mile of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
Not reported	***8400 ENTERPRISE DRIVE***	***NE 1/8 - 1/4 (0.245 mi.)***	***D20***	***97***
Closure Date: 06/01/89				

Local Lists of Registered Storage Tanks

CA HIST UST: Historical UST Registered Database.

A review of the CA HIST UST list, as provided by EDR, and dated 10/15/1990 has revealed that there are 3 CA HIST UST sites within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
FMC CORP NEWARK	***8787 ENTERPRISE DR***	***NNE 0 - 1/8 (0.085 mi.)***	***B5***	***12***
ASHLAND CHEMICAL CO	***8610 ENTERPRISE DRIVE***	***NE 1/8 - 1/4 (0.212 mi.)***	***C11***	***42***

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
JONES HAMILTON CO	*8400 ENTERPRISE DR*	*NE 1/8 - 1/4 (0.245 mi.)*	*D24*	*109*

Local Land Records

CA DEED: The use of recorded land use restrictions is one of the methods the DTSC uses to protect the public from unsafe exposures to hazardous substances and wastes .

A review of the CA DEED list, as provided by EDR, and dated 06/10/2013 has revealed that there is 1 CA DEED site within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
BARON BLAKESLEE FACILITY	*8333 ENTERPRISE*	*NE 1/4 - 1/2 (0.357 mi.)*	*G28*	*156*

Other Ascertainable Records

RCRA NonGen / NLR: RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

A review of the RCRA NonGen / NLR list, as provided by EDR, and dated 07/11/2013 has revealed that there is 1 RCRA NonGen / NLR site within approximately 0.25 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
OMEGA CHEM NORTH	*37521 WILLOW ST*	*E 1/8 - 1/4 (0.216 mi.)*	*F14*	*76*

CA Cortese: The sites for the list are designated by the State Water Resource Control Board (LUST), the Integrated Waste Board (SWF/LS), and the Department of Toxic Substances Control (Cal-Sites).

A review of the CA Cortese list, as provided by EDR, and dated 07/05/2013 has revealed that there are 4 CA Cortese sites within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
FMC CORP NEWARK	*8787 ENTERPRISE DR*	*NNE 0 - 1/8 (0.085 mi.)*	*B5*	*12*
ASHLAND CHEMICAL CO	*8610 ENTERPRISE DRIVE*	*NE 1/8 - 1/4 (0.212 mi.)*	*C11*	*42*
JONES-HAMILTON	*8400 ENTERPRISE*	*NE 1/8 - 1/4 (0.245 mi.)*	*D21*	*98*
BARON BLAKESLEE FACILITY	*8333 ENTERPRISE*	*NE 1/4 - 1/2 (0.357 mi.)*	*G28*	*156*

CA HIST CORTESE: The sites for the list are designated by the State Water Resource Control Board [LUST], the Integrated Waste Board [SWF/LS], and the Department of Toxic Substances Control [CALSITES]. This listing is no longer updated by the state agency.

A review of the CA HIST CORTESE list, as provided by EDR, and dated 04/01/2001 has revealed that

there are 9 CA HIST CORTESE sites within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
FMC CORP NEWARK	***8787 ENTERPRISE DR***	***NNE 0 - 1/8 (0.085 mi.)***	***B5***	***12***
ASHLAND CHEMICAL CO	***8610 ENTERPRISE DRIVE***	***NE 1/8 - 1/4 (0.212 mi.)***	***C11***	***42***
JONES-HAMILTON	***8400 ENTERPRISE***	***NE 1/8 - 1/4 (0.245 mi.)***	***D21***	***98***
BARON BLAKESLEE FACILITY	***8333 ENTERPRISE***	***NE 1/4 - 1/2 (0.357 mi.)***	***G28***	***156***
UNKNOWN	8240 ENTERPRISE	NE 1/4 - 1/2 (0.424 mi.)	30	170
POZAS BROTHERS TRUCKING	***8130 ENTERPRISE DR***	***ENE 1/4 - 1/2 (0.436 mi.)***	***I36***	***186***
SILVEY TRANSPORTATION, INC.	***8175 WELLS AVE***	***NE 1/4 - 1/2 (0.483 mi.)***	***J42***	***198***

Lower Elevation	Address	Direction / Distance	Map ID	Page
MILITARY FAMILY HOUSING	***8700 THORNTON***	***N 1/4 - 1/2 (0.427 mi.)***	***H32***	***179***
THORNTON BUSINESS CENTER	***8500 THORNTON & WILLOW***	***N 1/4 - 1/2 (0.442 mi.)***	***H38***	***195***

CA Notify 65: Listings of all Proposition 65 incidents reported to counties by the State Water Resources Control Board and the Regional Water Quality Control Board. This database is no longer updated by the reporting agency.

A review of the CA Notify 65 list, as provided by EDR, and dated 10/21/1993 has revealed that there is 1 CA Notify 65 site within approximately 1 mile of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
FMC, PHOSPHORUS CHEMICALS DIV.	8787 ENTERPRISE DRIVE	NNE 0 - 1/8 (0.085 mi.)	B6	39

CA HAZNET: The data is extracted from the copies of hazardous waste manifests received each year by the DTSC. The annual volume of manifests is typically 700,000-1,000,000 annually, representing approximately 350,000-500,000 shipments. Data from non-California manifests & continuation sheets are not included at the present time. Data are from the manifests submitted without correction, and therefore many contain some invalid values for data elements such as generator ID, TSD ID, waste category, & disposal method. The source is the Department of Toxic Substance Control is the agency

A review of the CA HAZNET list, as provided by EDR, and dated 12/31/2012 has revealed that there are 2 CA HAZNET sites within approximately 0.001 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
UNION SANITARY DISTRICT	37159 HICKORY ST	0 - 1/8 (0.000 mi.)	A1	8
UNION SANITARY DISTRICT NEWARK	37159 HICKORY ST	0 - 1/8 (0.000 mi.)	A2	8

CA HWP: Detailed information on permitted hazardous waste facilities and corrective action ("cleanups") tracked in EnviroStor.

A review of the CA HWP list, as provided by EDR, and dated 05/28/2013 has revealed that there are 5 CA HWP sites within approximately 1 mile of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
FMC CORP NEWARK	***8787 ENTERPRISE DR***	***NNE 0 - 1/8 (0.085 mi.)***	***B5***	***12***
ASHLAND CHEMICAL CO	***8610 ENTERPRISE DRIVE***	***NE 1/8 - 1/4 (0.212 mi.)***	***C11***	***42***
ROMIC ENVIRONMENTAL TECHNOLOGI	***37445 WILLOW ST***	***E 1/8 - 1/4 (0.217 mi.)***	***E15***	***77***
HONEYWELL INTERNATIONAL INC	8333 ENTERPRISE DR	NE 1/4 - 1/2 (0.357 mi.)	G29	164
CONSOLIDATED FREIGHTWAYS	***8130 ENTERPRISE DR***	***ENE 1/4 - 1/2 (0.436 mi.)***	***I34***	***181***

EXECUTIVE SUMMARY

2020 COR ACTION: The EPA has set ambitious goals for the RCRA Corrective Action program by creating the 2020 Corrective Action Universe. This RCRA cleanup baseline includes facilities expected to need corrective action. The 2020 universe contains a wide variety of sites. Some properties are heavily contaminated while others were contaminated but have since been cleaned up. Still others have not been fully investigated yet, and may require little or no remediation. Inclusion in the 2020 Universe does not necessarily imply failure on the part of a facility to meet its RCRA obligations.

A review of the 2020 COR ACTION list, as provided by EDR, and dated 11/11/2011 has revealed that there are 3 2020 COR ACTION sites within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
FMC CORP NEWARK	***8787 ENTERPRISE DR***	***NNE 0 - 1/8 (0.085 mi.)***	***B5***	***12***
ASHLAND CHEMICAL CO	***8610 ENTERPRISE DRIVE***	***NE 1/8 - 1/4 (0.212 mi.)***	***C11***	***42***
ROMIC ENVIRONMENTAL TECHNOLOGI	***37445 WILLOW ST***	***E 1/8 - 1/4 (0.217 mi.)***	***E17***	***82***

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR US Hist Auto Stat: EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

A review of the EDR US Hist Auto Stat list, as provided by EDR, has revealed that there is 1 EDR US Hist Auto Stat site within approximately 0.25 miles of the target property.

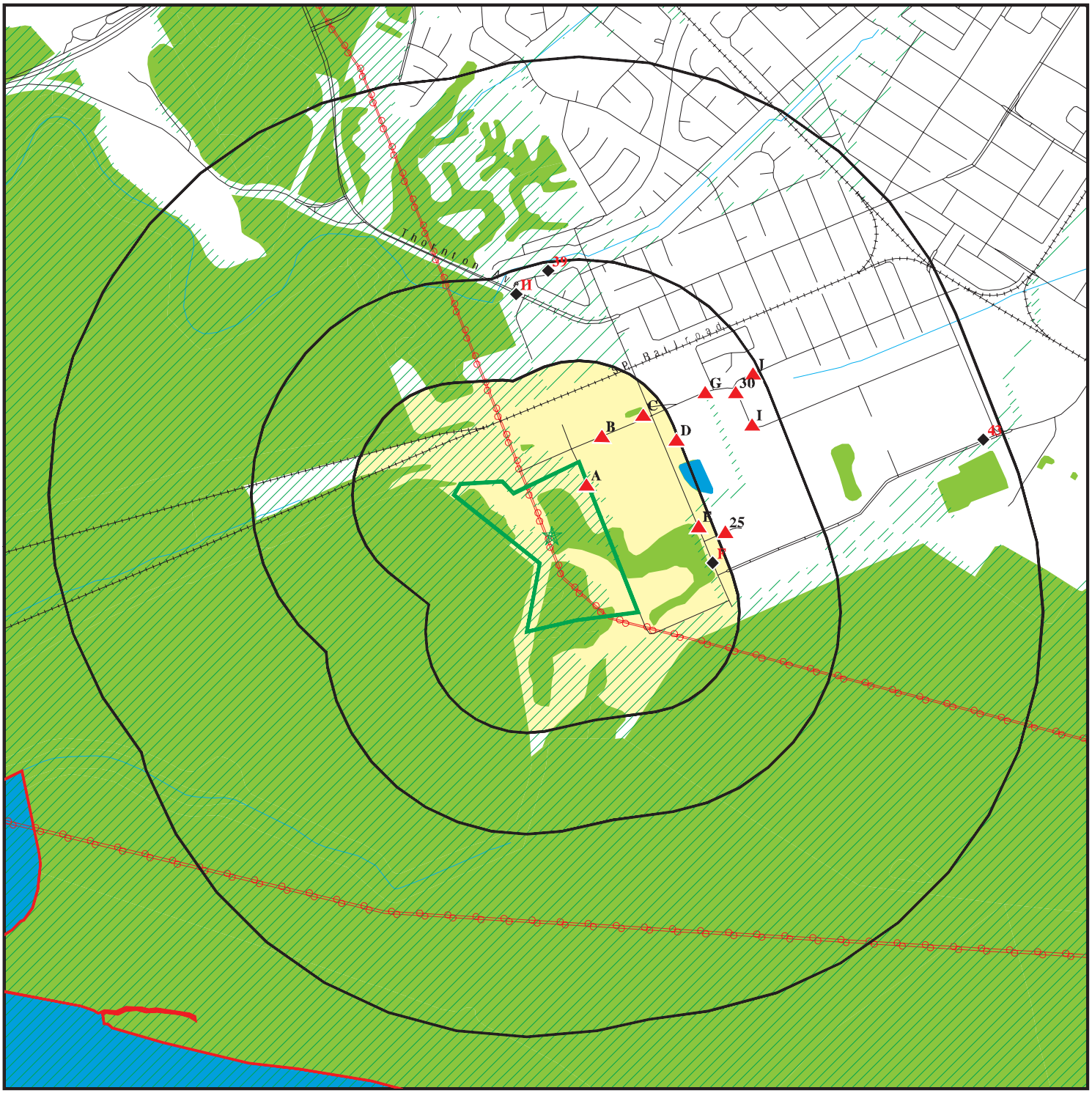
Lower Elevation	Address	Direction / Distance	Map ID	Page
Not reported	8484 CENTRAL AVE	ESE 1/8 - 1/4 (0.238 mi.)	F18	95

EXECUTIVE SUMMARY

Due to poor or inadequate address information, the following sites were not mapped. Count: 15 records.

Site Name	Database(s)
CARGILL INC HILL PARCEL AREA	CA NPDES, CA WDS
	CA CDL
SUN MICROSYSTEMS, NEWARK	CERCLIS, FINDS
LESLIE SALT CO MAGNESIA PILE PROPE	CERC-NFRAP
TOSCO CORPORATION SITE NO. 257003	CA UST
AMERICAN METAL & IRON INC	CA HAZNET
CARGILL SALT	CA HAZNET
CARGILL SALT	CA HAZNET
OHLONE COMMUNITY COLLEGE DISTRICT	FINDS
CARGILL INC.	FINDS
LESLIE SALT	CA BOND EXP. PLAN
CAL DEPT OF TRANS- STATE RTE 4	CA WDS
CARGILL INC/LESLIE SALT	US MINES
CARGILL INC.	ICIS
KIRKS BODY SHOP	CA EMI

OVERVIEW MAP - 3738660.2s



- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- National Priority List Sites
- Dept. Defense Sites

0 1/4 1/2 1 Miles

- Indian Reservations BIA
- County Boundary
- Power transmission lines
- Oil & Gas pipelines from USGS
- 100-year flood zone
- 500-year flood zone
- National Wetland Inventory
- Areas of Concern

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: Cargill Site	CLIENT: Haley & Aldrich, Inc.
ADDRESS: Hickory Street/Enterprise Drive Newark CA 94560	CONTACT: Marie Rose Javier
LAT/LONG: 37.5177 / 122.0544	INQUIRY #: 3738660.2s
	DATE: September 24, 2013 5:06 pm

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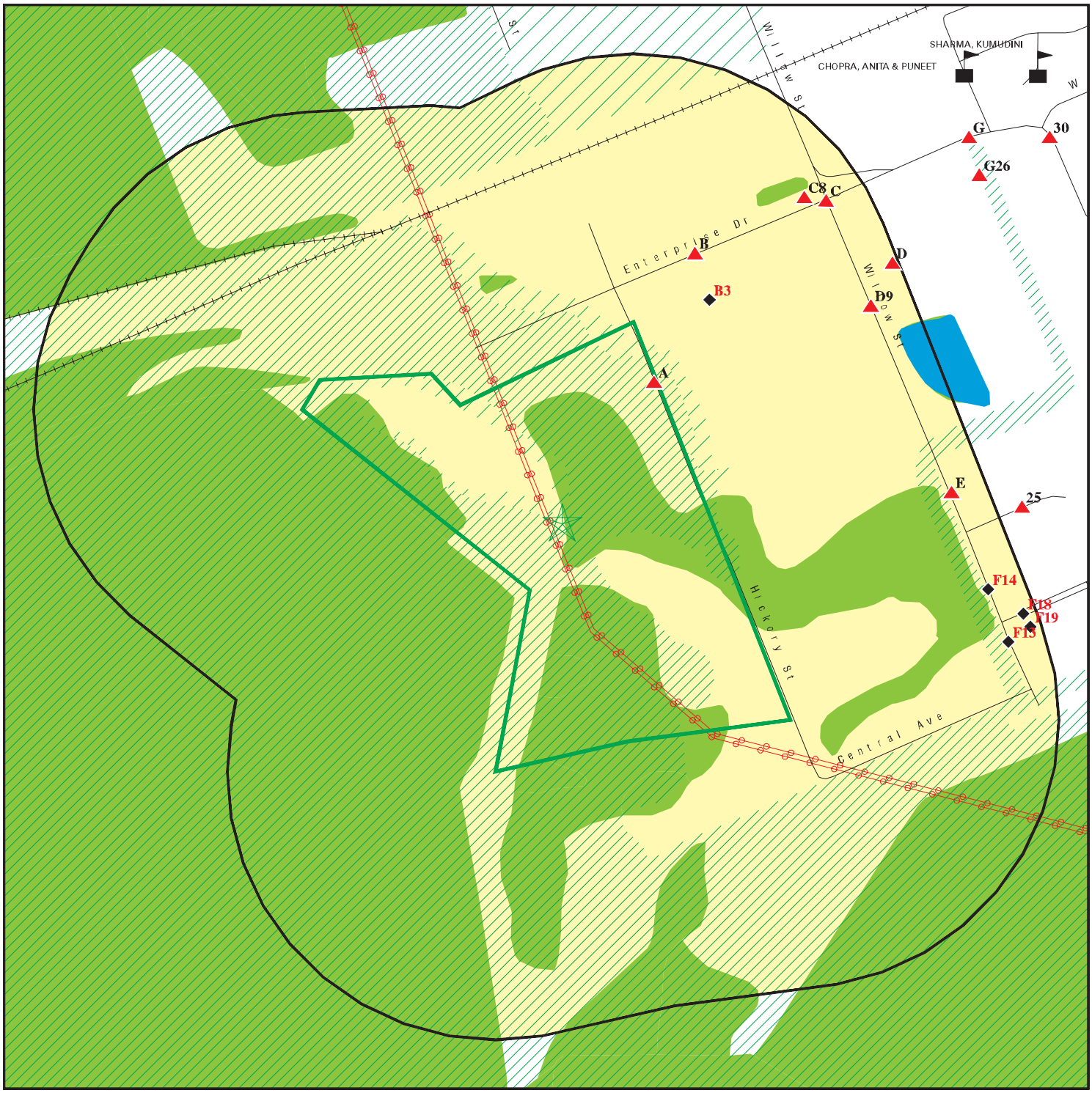
DETAIL MAP - 3738660.2s



0 1/8 1/4 1/2 Miles

- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- Sensitive Receptors
- National Priority List Sites
- Dept. Defense Sites
- Indian Reservations BIA
- Power transmission lines
- Oil & Gas pipelines from USGS
- 100-year flood zone
- 500-year flood zone
- National Wetland Inventory
- Areas of Concern

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: Cargill Site	CLIENT: Haley & Aldrich, Inc.
ADDRESS: Hickory Street/Enterprise Drive Newark CA 94560	CONTACT: Marie Rose Javier
LAT/LONG: 37.5177 / 122.0544	INQUIRY #: 3738660.2s
	DATE: September 24, 2013 5:10 pm

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MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
STANDARD ENVIRONMENTAL RECORDS								
Federal NPL site list								
NPL	1.000		0	0	0	0	NR	0
Proposed NPL	1.000		0	0	0	0	NR	0
NPL LIENS	0.001		0	NR	NR	NR	NR	0
Federal Delisted NPL site list								
Delisted NPL	1.000		0	0	0	0	NR	0
Federal CERCLIS list								
CERCLIS	0.500		0	0	0	NR	NR	0
FEDERAL FACILITY	0.500		0	0	0	NR	NR	0
Federal CERCLIS NFRAP site List								
CERC-NFRAP	0.500		1	3	2	NR	NR	6
Federal RCRA CORRACTS facilities list								
CORRACTS	1.000		1	2	1	0	NR	4
Federal RCRA non-CORRACTS TSD facilities list								
RCRA-TSDF	0.500		1	2	1	NR	NR	4
Federal RCRA generators list								
RCRA-LQG	0.250		1	0	NR	NR	NR	1
RCRA-SQG	0.250		0	4	NR	NR	NR	4
RCRA-CESQG	0.250		0	0	NR	NR	NR	0
Federal institutional controls / engineering controls registries								
US ENG CONTROLS	0.500		0	0	0	NR	NR	0
US INST CONTROL	0.500		0	0	0	NR	NR	0
LUCIS	0.500		0	0	0	NR	NR	0
Federal ERNS list								
ERNS	0.001		0	NR	NR	NR	NR	0
State- and tribal - equivalent NPL								
CA RESPONSE	1.000		0	1	2	0	NR	3
State- and tribal - equivalent CERCLIS								
CA ENVIROSTOR	1.000		2	3	3	1	NR	9
State and tribal landfill and/or solid waste disposal site lists								
CA SWF/LF	0.500		0	0	0	NR	NR	0
State and tribal leaking storage tank lists								
CA LUST	0.500		0	0	5	NR	NR	5

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
CA SLIC	0.500		4	8	7	NR	NR	19
CA Alameda County CS	0.500		1	0	0	NR	NR	1
INDIAN LUST	0.500		0	0	0	NR	NR	0
State and tribal registered storage tank lists								
CA UST	0.250		0	0	NR	NR	NR	0
CA AST	0.250		0	0	NR	NR	NR	0
INDIAN UST	0.250		0	0	NR	NR	NR	0
FEMA UST	0.250		0	0	NR	NR	NR	0
State and tribal voluntary cleanup sites								
CA VCP	0.500		0	0	0	NR	NR	0
INDIAN VCP	0.500		0	0	0	NR	NR	0
ADDITIONAL ENVIRONMENTAL RECORDS								
Local Brownfield lists								
US BROWNFIELDS	0.500		0	0	0	NR	NR	0
Local Lists of Landfill / Solid Waste Disposal Sites								
ODI	0.500		0	0	0	NR	NR	0
DEBRIS REGION 9	0.500		0	0	0	NR	NR	0
CA WMUDS/SWAT	0.500		0	2	0	NR	NR	2
CA SWRCY	0.500		0	0	0	NR	NR	0
CA HAULERS	0.001		0	NR	NR	NR	NR	0
INDIAN ODI	0.500		0	0	0	NR	NR	0
Local Lists of Hazardous waste / Contaminated Sites								
US CDL	0.001		0	NR	NR	NR	NR	0
CA HIST Cal-Sites	1.000		0	0	2	0	NR	2
CA SCH	0.250		0	0	NR	NR	NR	0
CA Toxic Pits	1.000		0	1	0	0	NR	1
CA CDL	0.001		0	NR	NR	NR	NR	0
US HIST CDL	0.001		0	NR	NR	NR	NR	0
Local Lists of Registered Storage Tanks								
CA FID UST	0.250		0	0	NR	NR	NR	0
CA HIST UST	0.250		1	2	NR	NR	NR	3
CA SWEEPS UST	0.250		0	0	NR	NR	NR	0
Local Land Records								
LIENS 2	0.001		0	NR	NR	NR	NR	0
CA LIENS	0.001		0	NR	NR	NR	NR	0
CA DEED	0.500		0	0	1	NR	NR	1
Records of Emergency Release Reports								
HMIRS	0.001		0	NR	NR	NR	NR	0
CA CHMIRS	0.001		0	NR	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
CA LDS	0.001		0	NR	NR	NR	NR	0
CA MCS	0.001		0	NR	NR	NR	NR	0
CA SPILLS 90	0.001		0	NR	NR	NR	NR	0
Other Ascertainable Records								
RCRA NonGen / NLR	0.250		0	1	NR	NR	NR	1
DOT OPS	0.001		0	NR	NR	NR	NR	0
DOD	1.000		0	0	0	0	NR	0
FUDS	1.000		0	0	0	0	NR	0
CONSENT	1.000		0	0	0	0	NR	0
ROD	1.000		0	0	0	0	NR	0
UMTRA	0.500		0	0	0	NR	NR	0
US MINES	0.250		0	0	NR	NR	NR	0
TRIS	0.001		0	NR	NR	NR	NR	0
TSCA	0.001		0	NR	NR	NR	NR	0
FTTS	0.001		0	NR	NR	NR	NR	0
HIST FTTS	0.001		0	NR	NR	NR	NR	0
SSTS	0.001		0	NR	NR	NR	NR	0
ICIS	0.001		0	NR	NR	NR	NR	0
PADS	0.001		0	NR	NR	NR	NR	0
MLTS	0.001		0	NR	NR	NR	NR	0
RADINFO	0.001		0	NR	NR	NR	NR	0
FINDS	0.001		0	NR	NR	NR	NR	0
RAATS	0.001		0	NR	NR	NR	NR	0
RMP	0.001		0	NR	NR	NR	NR	0
CA BOND EXP. PLAN	1.000		0	0	0	0	NR	0
CA UIC	0.001		0	NR	NR	NR	NR	0
CA NPDES	0.001		0	NR	NR	NR	NR	0
CA Cortese	0.500		1	2	1	NR	NR	4
CA HIST CORTESE	0.500		1	2	6	NR	NR	9
CA CUPA Listings	0.250		0	0	NR	NR	NR	0
NY MANIFEST	0.250		0	0	NR	NR	NR	0
CA Notify 65	1.000		1	0	0	0	NR	1
CA DRYCLEANERS	0.250		0	0	NR	NR	NR	0
CA WIP	0.250		0	0	NR	NR	NR	0
CA ENF	0.001		0	NR	NR	NR	NR	0
CA HAZNET	0.001		2	NR	NR	NR	NR	2
CA EMI	0.001		0	NR	NR	NR	NR	0
INDIAN RESERV	1.000		0	0	0	0	NR	0
SCRD DRYCLEANERS	0.500		0	0	0	NR	NR	0
CA HWT	0.250		0	0	NR	NR	NR	0
CA HWP	1.000		1	2	2	0	NR	5
CA Financial Assurance	0.001		0	NR	NR	NR	NR	0
CA WDS	0.001		0	NR	NR	NR	NR	0
CA PROC	0.500		0	0	0	NR	NR	0
CA MWMP	0.250		0	0	NR	NR	NR	0
COAL ASH DOE	0.001		0	NR	NR	NR	NR	0
COAL ASH EPA	0.500		0	0	0	NR	NR	0
LEAD SMELTERS	0.001		0	NR	NR	NR	NR	0
2020 COR ACTION	0.250		1	2	NR	NR	NR	3
PCB TRANSFORMER	0.001		0	NR	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
US AIRS	0.001		0	NR	NR	NR	NR	0
PRP	0.001		0	NR	NR	NR	NR	0
EPA WATCH LIST	0.001		0	NR	NR	NR	NR	0
US FIN ASSUR	0.001		0	NR	NR	NR	NR	0
EDR HIGH RISK HISTORICAL RECORDS								
EDR Exclusive Records								
EDR MGP	1.000		0	0	0	0	NR	0
EDR US Hist Auto Stat	0.250		0	1	NR	NR	NR	1
EDR US Hist Cleaners	0.250		0	0	NR	NR	NR	0

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

A1 **UNION SANITARY DISTRICT** **CA HAZNET** **S112970686**
37159 HICKORY ST **N/A**
< 1/8 **NEWARK, CA 94560**
1 ft.

Site 1 of 2 in cluster A

Relative:
Higher

Actual:
14 ft.

HAZNET:

Year:	2008
Gepaid:	CAC002631089
Contact:	RAYMOND CHOU
Telephone:	5104777606
Mailing Name:	Not reported
Mailing Address:	5072 BENSON RD
Mailing City,St,Zip:	UNION CITY, CA 945870000
Gen County:	Not reported
TSD EPA ID:	CAD088504881
TSD County:	Not reported
Waste Category:	Other inorganic solid waste
Disposal Method:	Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Tons:	0.1075
Facility County:	Alameda

A2 **UNION SANITARY DISTRICT NEWARK PUMP STATION** **CA HAZNET** **S113162360**
37159 HICKORY ST **N/A**
< 1/8 **NEWARK, CA 94560**
1 ft.

Site 2 of 2 in cluster A

Relative:
Higher

Actual:
14 ft.

HAZNET:

Year:	2011
Gepaid:	CAL000367249
Contact:	MIKE MARZANO
Telephone:	5103715082
Mailing Name:	Not reported
Mailing Address:	5072 BENSON RD
Mailing City,St,Zip:	UNION CITY, CA 945870000
Gen County:	Not reported
TSD EPA ID:	CAD980887418
TSD County:	Not reported
Waste Category:	Waste oil and mixed oil
Disposal Method:	Other Recovery Of Reclamation For Reuse Including Acid Regeneration, Organics Recovery Ect
Tons:	0.209
Facility County:	Alameda

B3 **FORMER ASHLAND CHEMICAL SITE** **CA NPDES** **S105646276**
NNE **8610 ENTERPRISE DRIVE** **CA SLIC** **N/A**
< 1/8 **NEWARK, CA 92801** **CA CHMIRS**
0.073 mi. **CA ENVIROSTOR**
388 ft. **Site 1 of 5 in cluster B**

Relative:
Lower

Actual:
12 ft.

NPDES:

Npdes Number:	CAS000002
Facility Status:	Terminated
Agency Id:	0
Region:	2
Regulatory Measure Id:	273912

FORMER ASHLAND CHEMICAL SITE (Continued) **S105646276**

Order No:	2009-0009-DWQ
Regulatory Measure Type:	Enrollee
Place Id:	Not reported
WDID:	2 01C336342
Program Type:	Construction
Adoption Date Of Regulatory Measure:	Not reported
Effective Date Of Regulatory Measure:	09/01/2005
Expiration Date Of Regulatory Measure:	Not reported
Termination Date Of Regulatory Measure:	06/30/2010
Discharge Name:	Ashland Chemical Co
Discharge Address:	5200 Blazer Pkwy
Discharge City:	Dublin
Discharge State:	Ohio
Discharge Zip:	43017

SLIC:

Region:	STATE
Facility Status:	**Open - Verification Monitoring**
Status Date:	04/06/2009
Global Id:	SL20225843
Lead Agency:	SAN FRANCISCO BAY RWQCB (REGION 2)
Lead Agency Case Number:	0018
Latitude:	37.5205846412336
Longitude:	-122.052183151245
Case Type:	Cleanup Program Site
Case Worker:	CCM
Local Agency:	ALAMEDA COUNTY WATER DISTRICT
RB Case Number:	01S0024
File Location:	Regional Board
Potential Media Affected:	Other Groundwater (uses other than drinking water)
Potential Contaminants of Concern:	1,1,1-Trichloroethane (TCA), Acetone, Benzene, Other Chlorinated Hydrocarbons, Other Solvent or Non-Petroleum Hydrocarbon, Tetrachloroethylene (PCE), Toluene, Trichloroethylene (TCE), Vinyl chloride, Xylene, * Semi-Volatile Organic Compounds
Site History:	Ashland operated a shallow groundwater pump and treatment sytem from 1982 to 2005. 22,700 cubic yards of VOC impacted soil was excavated in 2005-2006 in the tank farm area and former warehouse area. In Dec. 2008, Ashland conducted a soils investigation in the former excavation areas to determine if the backfilled soils are a protective cap, and to evaluate soil gas concentrations outside of the excavation areas, and to update the risk assessment. In 2003, a deed restriction was filed and recorded with Alameda County. All buildings and structures have been razed and the property is presently vacant. It likely be redeveloped in accordance with the City of Newark.'s AREA 2 Specifc Plan.

Click here to access the California GeoTracker records for this facility:

CHMIRS:

OES Incident Number:	013314
OES notification:	Not reported
OES Date:	4/17/1996
OES Time:	12:02:06 PM
Incident Date:	Not reported
Date Completed:	**Not reported**
Property Use:	Not reported

FORMER ASHLAND CHEMICAL SITE (Continued) **S105646276**

Agency Id Number:	Not reported
Agency Incident Number:	Not reported
Time Notified:	Not reported
Time Completed:	Not reported
Surrounding Area:	Not reported
Estimated Temperature:	Not reported
Property Management:	Not reported
Special Studies 1:	Not reported
Special Studies 2:	Not reported
Special Studies 3:	Not reported
Special Studies 4:	Not reported
Special Studies 5:	Not reported
Special Studies 6:	Not reported
More Than Two Substances Involved?:	Not reported
Resp Agncy Personel # Of Decontaminated:	Not reported
Responding Agency Personel # Of Injuries:	Not reported
Responding Agency Personel # Of Fatalities:	Not reported
Others Number Of Decontaminated:	Not reported
Others Number Of Injuries:	Not reported
Others Number Of Fatalities:	Not reported
Vehicle Make/year:	Not reported
Vehicle License Number:	Not reported
Vehicle State:	Not reported
Vehicle Id Number:	Not reported
CA/DOT/PUC/ICC Number:	Not reported
Company Name:	Not reported
Reporting Officer Name/ID:	Not reported
Report Date:	Not reported
Comments:	Not reported
Facility Telephone:	Not reported
Waterway Involved:	YES
Waterway:	Not reported
Spill Site:	Not reported
Cleanup By:	ASHLAND PERSONNEL
Containment:	Not reported
What Happened:	Not reported
Type:	CHEMICAL
Measure:	Not reported
Other:	Not reported
Date/Time:	Not reported
Year:	1996
Agency:	NEWARK FD
Incident Date:	1000 17APR96
Admin Agency:	Not reported
Amount:	1000 LBS
Contained:	NO
Site Type:	OTHER
E Date:	Not reported
Substance:	HF 49%
Quantity Released:	Not reported
BBLS:	Not reported
Cups:	Not reported
CUFT:	Not reported
Gallons:	Not reported
Grams:	Not reported
Pounds:	Not reported
Liters:	Not reported

FORMER ASHLAND CHEMICAL SITE (Continued) **S105646276**

Ounces:	Not reported
Pints:	Not reported
Quarts:	Not reported
Sheen:	Not reported
Tons:	Not reported
Unknown:	Not reported
Evacuations:	NO
Number of Injuries:	NO
Number of Fatalities:	NO
Description:	DURING TRANSFER OF PRODUCT FROFM TANK TO DRUM THE SPILL OCCURRED. STILL UNDER INVESTIGATION. REMINS IN SECONDARY CONTAINMENT.

ENVIROSTOR:

Site Type:	Tiered Permit
Site Type Detailed:	Tiered Permit
Acres:	0
NPL:	NO
Regulatory Agencies:	NONE SPECIFIED
Lead Agency:	NONE SPECIFIED
Program Manager:	Not reported
Supervisor:	Referred - Not Assigned
Division Branch:	Cleanup Berkeley
Facility ID:	71002530
Site Code:	Not reported
Assembly:	25
Senate:	10
Special Program:	Not reported
Status:	Refer: RWQCB
Status Date:	01/01/2008
Restricted Use:	NO
Site Mgmt. Req.:	NONE SPECIFIED
Funding:	Not reported
Latitude:	37.52009
Longitude:	-122.0519
APN:	NONE SPECIFIED
Past Use:	NONE SPECIFIED
Potential COC:	NONE SPECIFIED
Confirmed COC:	NONE SPECIFIED, NONE SPECIFIED
Potential Description:	NONE SPECIFIED
Alias Name:	CAD066562521
Alias Type:	EPA Identification Number
Alias Name:	71002530
Alias Type:	Envirostor ID Number

Completed Info:

Completed Area Name:	Not reported
Completed Sub Area Name:	Not reported
Completed Document Type:	Not reported
Completed Date:	Not reported
Comments:	Not reported
Future Area Name:	Not reported
Future Sub Area Name:	Not reported
Future Document Type:	Not reported
Future Due Date:	Not reported
Schedule Area Name:	Not reported
Schedule Sub Area Name:	Not reported

FORMER ASHLAND CHEMICAL SITE (Continued) **S105646276**

Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

B4
NNE
< 1/8
0.085 mi.
448 ft.

FMC CORP. - NEWARK
8787 ENTERPRISE DRIVE
NEWARK, CA 94560

Site 2 of 5 in cluster B

Relative:
Higher

Actual:
13 ft.

CA SLIC **S106234866**
N/A

SLIC REG 2:
Region: 2
Facility ID: 01S0131
Facility Status: Remedial action (cleanup) Underway
Date Closed: Not reported
Local Case #: Not reported
How Discovered: Not reported
Leak Cause: Not reported
Leak Source: Not reported
Date Confirmed: Not reported
Date Prelim Site Assmnt Workplan Submitted: Not reported
Date Preliminary Site Assessment Began: Not reported
Date Pollution Characterization Began: Not reported
Date Remediation Plan Submitted: Not reported
Date Remedial Action Underway: Not reported
Date Post Remedial Action Monitoring Began: Not reported

B5
NNE
< 1/8
0.085 mi.
448 ft.

FMC CORP NEWARK
8787 ENTERPRISE DR
NEWARK, CA 94560

Site 3 of 5 in cluster B

Relative:
Higher

Actual:
13 ft.

RCRA-TSDF **1000109341**
CERC-NFRAP **CAD009147000**
CORRACTS
RCRA-LQG
FINDS
CA Cortese
CA HIST CORTESE
CA SLIC
CA Alameda County CS
CA HIST UST
CA CHMIRS
CA ENF
CA EMI
CA ENVIROSTOR
CA HWP
2020 COR ACTION

RCRA-TSDF:
Date form received by agency: 03/08/2013
Facility name: FMC CORPORATION
Facility address: 8787 ENTERPRISE DRIVE
NEWARK, CA 94560
EPA ID: CAD009147000
Mailing address: MARKET STREET
MARKET STREET
PHILADELPHIA, PA 19103
Contact: BRIAN M MCGINNIS
Contact address: MARKET STREET
PHILADELPHIA, PA 19103

FMC CORP NEWARK (Continued) **1000109341**

Contact country:	Not reported
Contact telephone:	(215) 299-6047
Contact email:	BRIAN.MCGINNIS@FMC.COM
EPA Region:	09
Land type:	Private
Classification:	TSDF
Description:	Handler is engaged in the treatment, storage or disposal of hazardous waste
Classification:	Large Quantity Generator
Description:	Handler: generates 1,000 kg or more of hazardous waste during any calendar month; or generates more than 1 kg of acutely hazardous waste during any calendar month; or generates more than 100 kg of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste during any calendar month; or generates 1 kg or less of acutely hazardous waste during any calendar month, and accumulates more than 1 kg of acutely hazardous waste at any time; or generates 100 kg or less of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste during any calendar month, and accumulates more than 100 kg of that material at any time

Owner/Operator Summary:

Owner/operator name:	FMC CORPORATION
Owner/operator address:	MARKET STREET PHILADELPHIA, PA 19103
Owner/operator country:	Not reported
Owner/operator telephone:	(215) 299-6047
Legal status:	Private
Owner/Operator Type:	Owner
Owner/Op start date:	01/01/1948
Owner/Op end date:	Not reported

Owner/operator name:	FMC CORPORATION
Owner/operator address:	Not reported Not reported
Owner/operator country:	Not reported
Owner/operator telephone:	Not reported
Legal status:	Private
Owner/Operator Type:	Operator
Owner/Op start date:	01/01/1948
Owner/Op end date:	Not reported

Handler Activities Summary:

U.S. importer of hazardous waste:	No
Mixed waste (haz. and radioactive):	No
Recycler of hazardous waste:	No
Transporter of hazardous waste:	No
Treater, storer or disposer of HW:	No
Underground injection activity:	No
On-site burner exemption:	No
Furnace exemption:	No
Used oil fuel burner:	No
Used oil processor:	No
User oil refiner:	No
Used oil fuel marketer to burner:	No

FMC CORP NEWARK (Continued) **1000109341**

Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

Historical Generators:

Date form received by agency: 02/04/2010
Facility name: FMC CORPORATION
Classification: Large Quantity Generator

Date form received by agency: 02/22/2008
Facility name: FMC CORPORATION
Classification: Large Quantity Generator

Date form received by agency: 02/17/2006
Facility name: FMC CORPORATION
Classification: Large Quantity Generator

Date form received by agency: 02/18/2004
Facility name: FMC CORPORATION
Classification: Large Quantity Generator

Date form received by agency: 02/05/2002
Facility name: FMC CORPORATION
Classification: Large Quantity Generator

Date form received by agency: 10/12/2000
Facility name: FMC CORPORATION
Site name: FMC CORP NEWARK DISTRIBUTION CENTER
Classification: Large Quantity Generator

Date form received by agency: 03/04/1999
Facility name: FMC CORPORATION
Classification: Large Quantity Generator

Date form received by agency: 09/01/1996
Facility name: FMC CORPORATION
Site name: F M C CORP
Classification: Large Quantity Generator

Date form received by agency: 03/13/1996
Facility name: FMC CORPORATION
Classification: Large Quantity Generator

Date form received by agency: 03/10/1994
Facility name: FMC CORPORATION
Classification: Large Quantity Generator

Date form received by agency: 01/26/1993
Facility name: FMC CORPORATION
Site name: F M C CORP
Classification: Large Quantity Generator

Date form received by agency: 02/24/1992
Facility name: FMC CORPORATION
Site name: FMC CORP
Classification: Large Quantity Generator

FMC CORP NEWARK (Continued) **1000109341**

Date form received by agency: 04/03/1991
Facility name: FMC CORPORATION
Site name: FMC CORP
Classification: Large Quantity Generator

Hazardous Waste Summary:
Waste code: 351
Waste name: 351

Waste code: D028
Waste name: 1,2-DICHLOROETHANE

Corrective Action Summary:
Event date: 06/05/2001
Event: RFA Completed

Event date: 12/20/2007
Event: CA029

Event date: 03/04/2010
Event: Igration of Contaminated Groundwater under Control, Yes, Migration of Contaminated Groundwater Under Control has been verified. Based on a review of information contained in the EI determination, it has been determined that migration of contaminated groundwater is under control at the facility. Specifically, this determination indicates that the migration of contaminated groundwater is under control, and that monitoring will be conducted to confirm that contaminated groundwater remains within the existing area of contaminated groundwater. This determination will be re-evaluated when the Agency becomes aware of significant changes at the facility.

Event date: 03/04/2010
Event: CA800YE

Event date: 03/04/2010
Event: Igration of Contaminated Groundwater under Control, Yes, Migration of Contaminated Groundwater Under Control has been verified. Based on a review of information contained in the EI determination, it has been determined that migration of contaminated groundwater is under control at the facility. Specifically, this determination indicates that the migration of contaminated groundwater is under control, and that monitoring will be conducted to confirm that contaminated groundwater remains within the existing area of contaminated groundwater. This determination will be re-evaluated when the Agency becomes aware of significant changes at the facility.

Event date: 03/04/2010
Event: CA550RC

Event date: 03/04/2010
Event: CA550RC

Event date: 03/04/2010
Event: Current Human Exposures under Control, Yes, Current Human Exposures Under Control has been verified. Based on a review of information contained in the EI determination, current human exposures are

FMC CORP NEWARK (Continued) **1000109341**

expected to be under control at the facility under current and reasonably expected conditions. This determination will be re-evaluated when the Agency/State becomes aware of significant changes at the facility.

Event date: 03/04/2010
Event: Current Human Exposures under Control, Yes, Current Human Exposures Under Control has been verified. Based on a review of information contained in the EI determination, current human exposures are expected to be under control at the facility under current and reasonably expected conditions. This determination will be re-evaluated when the Agency/State becomes aware of significant changes at the facility.

Facility Has Received Notices of Violations:
Regulation violated: Not reported
Area of violation: Generators - General
Date violation determined: 01/16/1984
Date achieved compliance: 06/24/1985
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 01/16/1984
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Evaluation Action Summary:
Evaluation date: 10/10/2006
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 12/21/2004
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State Contractor/Grantee

Evaluation date: 12/13/2001
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State Contractor/Grantee

Evaluation date: 04/01/1991
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State Contractor/Grantee

Evaluation date: 06/16/1986
Evaluation: FOCUSED COMPLIANCE INSPECTION

FMC CORP NEWARK (Continued) **1000109341**

Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State Contractor/Grantee

Evaluation date: 06/24/1985
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 04/17/1985
Evaluation: GROUNDWATER MONITORING EVALUATION
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 01/16/1984
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Generators - General
Date achieved compliance: 06/24/1985
Evaluation lead agency: State

Evaluation date: 12/03/1980
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: EPA

CERC-NFRAP:
Site ID: 0901167
Federal Facility: Not a Federal Facility
NPL Status: Not on the NPL
Non NPL Status: NFRAP-Site does not qualify for the NPL based on existing information

CERCLIS-NFRAP Site Contact Details:
Contact Sequence ID: 13051971.00000
Person ID: 9271184.00000

Contact Sequence ID: 13290004.00000
Person ID: 13003854.00000

Contact Sequence ID: 13295599.00000
Person ID: 13003858.00000

Contact Sequence ID: 13301457.00000
Person ID: 13004003.00000

CERCLIS-NFRAP Site Alias Name(s):
Alias Name: FMC CORP-MAGNESIA PILE
Alias Address: FOOT OF ENTERPRISE DR
NEWARK, CA 94560

CERCLIS-NFRAP Assessment History:
Action: PRELIMINARY ASSESSMENT
Date Started: 05/01/84
Date Completed: 03/01/85

FMC CORP NEWARK (Continued) **1000109341**

Priority Level: Low priority for further assessment

Action: ARCHIVE SITE
Date Started: / /
Date Completed: 03/01/85
Priority Level: Not reported

Action: SITE INSPECTION
Date Started: / /
Date Completed: 03/01/85
Priority Level: NFRAP-Site does not qualify for the NPL based on existing information

Action: DISCOVERY
Date Started: / /
Date Completed: 11/01/79
Priority Level: Not reported

CORRACTS:

EPA ID: CAD009147000
EPA Region: 09
Area Name: ENTIRE FACILITY
Actual Date: 20100304
Action: CA550RC
NAICS Code(s): 56291
Remediation Services
Original schedule date: 20100304
Schedule end date: Not reported

EPA ID: CAD009147000
EPA Region: 09
Area Name: ENTIRE FACILITY
Actual Date: 20100304
Action: CA750YE - Migration of Contaminated Groundwater under Control, Yes, Migration of Contaminated Groundwater Under Control has been verified
NAICS Code(s): 56291
Remediation Services
Original schedule date: 20100304
Schedule end date: Not reported

EPA ID: CAD009147000
EPA Region: 09
Area Name: ENTIRE FACILITY
Actual Date: 20100304
Action: CA725YE - Current Human Exposures Under Control, Yes, Current Human Exposures Under Control has been verified
NAICS Code(s): 56291
Remediation Services
Original schedule date: 20100304
Schedule end date: Not reported

EPA ID: CAD009147000
EPA Region: 09
Area Name: ENTIRE FACILITY
Actual Date: 20100304
Action: CA800YE

FMC CORP NEWARK (Continued) **1000109341**

NAICS Code(s): 56291
Remediation Services
Original schedule date: 20100304
Schedule end date: Not reported

EPA ID: CAD009147000
EPA Region: 09
Area Name: ENTIRE FACILITY
Actual Date: 20010605
Action: CA050 - RFA Completed
NAICS Code(s): 56291
Remediation Services
Original schedule date: 20010605
Schedule end date: Not reported

EPA ID: CAD009147000
EPA Region: 09
Area Name: ENTIER FACILITY
Actual Date: 20010605
Action: CA050 - RFA Completed
NAICS Code(s): 56291
Remediation Services
Original schedule date: 20010605
Schedule end date: Not reported

EPA ID: CAD009147000
EPA Region: 09
Area Name: ENTIRE FACILITY
Actual Date: 20071220
Action: CA029
NAICS Code(s): 56291
Remediation Services
Original schedule date: Not reported
Schedule end date: Not reported

FINDS:

Registry ID: 110000748228

Environmental Interest/Information System
The NEI (National Emissions Inventory) database contains information on stationary and mobile sources that emit criteria air pollutants and their precursors, as well as hazardous air pollutants (HAPs).

California Hazardous Waste Tracking System - Datamart (HWTS-DATAMART) provides California with information on hazardous waste shipments for generators, transporters, and treatment, storage, and disposal facilities.

US EPA TRIS (Toxics Release Inventory System) contains information from facilities on the amounts of over 300 listed toxic chemicals that these facilities release directly to air, water, land, or that are transported off-site.

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport,

FMC CORP NEWARK (Continued) **1000109341**

and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

HAZARDOUS WASTE BIENNIAL REPORTER

CRITERIA AND HAZARDOUS AIR POLLUTANT INVENTORY

CORTESE:

Region:	CORTESE
Envirostor Id:	Not reported
Site/Facility Type:	Not reported
Cleanup Status:	Not reported
Status Date:	Not reported
Site Code:	Not reported
Latitude:	Not reported
Longitude:	Not reported
Owner:	Not reported
Enf Type:	Not reported
Swat R:	Not reported
Flag:	CORTESE
Order No:	Not reported
Waste Discharge System No:	Not reported
Effective Date:	Not reported
Region 2:	Not reported
WID Id:	Not reported
Solid Waste Id No:	Not reported
Waste Management Uit Name:	Not reported

Region:	CORTESE
Envirostor Id:	Not reported
Site/Facility Type:	Not reported
Cleanup Status:	Not reported
Status Date:	Not reported
Site Code:	Not reported
Latitude:	Not reported
Longitude:	Not reported
Owner:	Not reported
Enf Type:	Not reported
Swat R:	Not reported
Flag:	CORTESE
Order No:	Not reported
Waste Discharge System No:	Not reported
Effective Date:	Not reported
Region 2:	Not reported
WID Id:	Not reported
Solid Waste Id No:	Not reported
Waste Management Uit Name:	Not reported

Region:	CORTESE
Envirostor Id:	Not reported
Site/Facility Type:	Not reported
Cleanup Status:	Not reported
Status Date:	Not reported
Site Code:	Not reported
Latitude:	Not reported

FMC CORP NEWARK (Continued) **1000109341**

Longitude:	Not reported
Owner:	Not reported
Enf Type:	Not reported
Swat R:	Not reported
Flag:	CORTESE
Order No:	Not reported
Waste Discharge System No:	Not reported
Effective Date:	Not reported
Region 2:	Not reported
WID Id:	Not reported
Solid Waste Id No:	Not reported
Waste Management Uit Name:	Not reported

CORTESE:

Region:	CORTESE
Facility County Code:	1
Reg By:	WBC&D
Reg Id:	2 019064N02

SLIC:

Region:	STATE
Facility Status:	**Open - Remediation**
Status Date:	06/10/2009
Global Id:	SL20240858
Lead Agency:	SAN FRANCISCO BAY RWQCB (REGION 2)
Lead Agency Case Number:	0049
Latitude:	37.5209590543727
Longitude:	-122.054543495178
Case Type:	Cleanup Program Site
Case Worker:	CCM
Local Agency:	ALAMEDA COUNTY WATER DISTRICT
RB Case Number:	01S0131
File Location:	Regional Board
Potential Media Affected:	Other Groundwater (uses other than drinking water)
Potential Contaminants of Concern:	1,1,1-Trichloroethane (TCA), Other Chlorinated Hydrocarbons, Other Solvent or Non-Petroleum Hydrocarbon, Tetrachloroethylene (PCE), Trichloroethylene (TCE), Vinyl chloride, Xylene, Arsenic, Chromium, Lead, Nickel, Other Metal, Kerosene, * * ETHYLENE DIBROMIDE (EDB), * * PHOSPHATE
Site History:	Not reported

Click here to access the California GeoTracker records for this facility:

Alameda County CS:

Status:	11
Record Id:	RO0002806
PE:	5502

HIST UST:

Region:	STATE
Facility ID:	00000019552
Facility Type:	Other
Other Type:	MANUFACTURING
Total Tanks:	0004
Contact Name:	Not reported

FMC CORP NEWARK (Continued) **1000109341**

Telephone: 4157931230
Owner Name: FMC CORPORATION
Owner Address: 200 E. RANDOLPH DRIVE
Owner City,St,Zip: CHICAGO, IL 60601

Tank Num: 001
Container Num: B54
Year Installed: 1956
Tank Capacity: 00001000
Tank Used for: PRODUCT
Type of Fuel: UNLEADED
Tank Construction: Not reported
Leak Detection: Stock Inventor

Tank Num: 002
Container Num: 3894
Year Installed: 1978
Tank Capacity: 00300000
Tank Used for: WASTE
Type of Fuel: Not reported
Tank Construction: Not reported
Leak Detection: Visual, Groundwater Monitoring Well

Tank Num: 003
Container Num: 3548
Year Installed: 1968
Tank Capacity: 00200000
Tank Used for: PRODUCT
Type of Fuel: Not reported
Tank Construction: 12 inches
Leak Detection: Stock Inventor, Groundwater Monitoring Well

Tank Num: 004
Container Num: 3206
Year Installed: 1964
Tank Capacity: 00140000
Tank Used for: PRODUCT
Type of Fuel: Not reported
Tank Construction: 12 inches
Leak Detection: Stock Inventor, Groundwater Monitoring Well

CHMIRS:
OES Incident Number: 9990662
OES notification: Not reported
OES Date: Not reported
OES Time: Not reported
Incident Date: 02-DEC-88
Date Completed: 02-DEC-88
Property Use: 762
Agency Id Number: 1070
Agency Incident Number: 80487
Time Notified: 1444
Time Completed: 1509
Surrounding Area: 600
Estimated Temperature: 65
Property Management: P
Special Studies 1: Not reported

FMC CORP NEWARK (Continued) **1000109341**

Special Studies 2:	Not reported
Special Studies 3:	Not reported
Special Studies 4:	Not reported
Special Studies 5:	Not reported
Special Studies 6:	Not reported
More Than Two Substances Involved?:	N
Resp Agncy Personel # Of Decontaminated:	Not reported
Responding Agency Personel # Of Injuries:	Not reported
Responding Agency Personel # Of Fatalities:	Not reported
Others Number Of Decontaminated:	Not reported
Others Number Of Injuries:	Not reported
Others Number Of Fatalities:	Not reported
Vehicle Make/year:	Not reported
Vehicle License Number:	Not reported
Vehicle State:	Not reported
Vehicle Id Number:	Not reported
CA/DOT/PUC/ICC Number:	Not reported
Company Name:	Not reported
Reporting Officer Name/ID:	CAPT. SILVA
Report Date:	02-DEC-88
Comments:	N
Facility Telephone:	415 790-7247
Waterway Involved:	Not reported
Waterway:	Not reported
Spill Site:	Not reported
Cleanup By:	Not reported
Containment:	Not reported
What Happened:	Not reported
Type:	Not reported
Measure:	Not reported
Other:	Not reported
Date/Time:	Not reported
Year:	88-92
Agency:	Not reported
Incident Date:	Not reported
Admin Agency:	Not reported
Amount:	Not reported
Contained:	Not reported
Site Type:	Not reported
E Date:	14-FEB-89
Substance:	Not reported
Quantity Released:	Not reported
BBLS:	Not reported
Cups:	Not reported
CUFT:	Not reported
Gallons:	Not reported
Grams:	Not reported
Pounds:	Not reported
Liters:	Not reported
Ounces:	Not reported
Pints:	Not reported
Quarts:	Not reported
Sheen:	Not reported
Tons:	Not reported
Unknown:	Not reported
Evacuations:	Not reported
Number of Injuries:	Not reported

FMC CORP NEWARK (Continued) **1000109341**

Number of Fatalities:	Not reported
Description:	Not reported
OES Incident Number:	9014328
OES notification:	Not reported
OES Date:	Not reported
OES Time:	Not reported
Incident Date:	09-DEC-90
Date Completed:	**09-DEC-90**
Property Use:	762
Agency Id Number:	1070
Agency Incident Number:	H00093
Time Notified:	1102
Time Completed:	0
Surrounding Area:	762
Estimated Temperature:	62
Property Management:	P
Special Studies 1:	Not reported
Special Studies 2:	Not reported
Special Studies 3:	Not reported
Special Studies 4:	Not reported
Special Studies 5:	Not reported
Special Studies 6:	Not reported
More Than Two Substances Involved?:	N
Resp Agncy Personel # Of Decontaminated:	0
Responding Agency Personel # Of Injuries:	0
Responding Agency Personel # Of Fatalities:	0
Others Number Of Decontaminated:	0
Others Number Of Injuries:	0
Others Number Of Fatalities:	0
Vehicle Make/year:	Not reported
Vehicle License Number:	Not reported
Vehicle State:	Not reported
Vehicle Id Number:	Not reported
CA/DOT/PUC/ICC Number:	Not reported
Company Name:	Not reported
Reporting Officer Name/ID:	CAPT. RAY W. PERRY
Report Date:	09-DEC-90
Comments:	N
Facility Telephone:	415 790-7218
Waterway Involved:	Not reported
Waterway:	Not reported
Spill Site:	Not reported
Cleanup By:	Not reported
Containment:	Not reported
What Happened:	Not reported
Type:	Not reported
Measure:	Not reported
Other:	Not reported
Date/Time:	Not reported
Year:	88-92
Agency:	Not reported
Incident Date:	Not reported
Admin Agency:	Not reported
Amount:	Not reported
Contained:	Not reported
Site Type:	Not reported

FMC CORP NEWARK (Continued) **1000109341**

E Date:	21-JUN-91
Substance:	Not reported
Quantity Released:	Not reported
BBLS:	Not reported
Cups:	Not reported
CUFT:	Not reported
Gallons:	Not reported
Grams:	Not reported
Pounds:	Not reported
Liters:	Not reported
Ounces:	Not reported
Pints:	Not reported
Quarts:	Not reported
Sheen:	Not reported
Tons:	Not reported
Unknown:	Not reported
Evacuations:	Not reported
Number of Injuries:	Not reported
Number of Fatalities:	Not reported
Description:	Not reported
OES Incident Number:	9990660
OES notification:	Not reported
OES Date:	Not reported
OES Time:	Not reported
Incident Date:	23-NOV-88
Date Completed:	**23-NOV-88**
Property Use:	762
Agency Id Number:	1070
Agency Incident Number:	80474
Time Notified:	855
Time Completed:	1127
Surrounding Area:	950
Estimated Temperature:	60
Property Management:	P
Special Studies 1:	Not reported
Special Studies 2:	Not reported
Special Studies 3:	Not reported
Special Studies 4:	Not reported
Special Studies 5:	Not reported
Special Studies 6:	Not reported
More Than Two Substances Involved?:	N
Resp Agncy Personel # Of Decontaminated:	Not reported
Responding Agency Personel # Of Injuries:	Not reported
Responding Agency Personel # Of Fatalities:	Not reported
Others Number Of Decontaminated:	Not reported
Others Number Of Injuries:	Not reported
Others Number Of Fatalities:	Not reported
Vehicle Make/year:	Not reported
Vehicle License Number:	Not reported
Vehicle State:	Not reported
Vehicle Id Number:	Not reported
CA/DOT/PUC/ICC Number:	Not reported
Company Name:	Not reported
Reporting Officer Name/ID:	CAPT. R. MARSHALL
Report Date:	23-NOV-88
Comments:	N

FMC CORP NEWARK (Continued) **1000109341**

Facility Telephone:	415 790-7247
Waterway Involved:	Not reported
Waterway:	Not reported
Spill Site:	Not reported
Cleanup By:	Not reported
Containment:	Not reported
What Happened:	Not reported
Type:	Not reported
Measure:	Not reported
Other:	Not reported
Date/Time:	Not reported
Year:	88-92
Agency:	Not reported
Incident Date:	Not reported
Admin Agency:	Not reported
Amount:	Not reported
Contained:	Not reported
Site Type:	Not reported
E Date:	14-FEB-89
Substance:	Not reported
Quantity Released:	Not reported
BBLS:	Not reported
Cups:	Not reported
CUFT:	Not reported
Gallons:	Not reported
Grams:	Not reported
Pounds:	Not reported
Liters:	Not reported
Ounces:	Not reported
Pints:	Not reported
Quarts:	Not reported
Sheen:	Not reported
Tons:	Not reported
Unknown:	Not reported
Evacuations:	Not reported
Number of Injuries:	Not reported
Number of Fatalities:	Not reported
Description:	Not reported
OES Incident Number:	9098112
OES notification:	Not reported
OES Date:	Not reported
OES Time:	Not reported
Incident Date:	02-FEB-90
Date Completed:	**02-FEB-90**
Property Use:	762
Agency Id Number:	1070
Agency Incident Number:	00044
Time Notified:	923
Time Completed:	953
Surrounding Area:	600
Estimated Temperature:	65
Property Management:	P
Special Studies 1:	Not reported
Special Studies 2:	Not reported
Special Studies 3:	Not reported
Special Studies 4:	Not reported

FMC CORP NEWARK (Continued) **1000109341**

Special Studies 5:	Not reported
Special Studies 6:	Not reported
More Than Two Substances Involved?:	N
Resp Agncy Personel # Of Decontaminated:	0
Responding Agency Personel # Of Injuries:	0
Responding Agency Personel # Of Fatalities:	0
Others Number Of Decontaminated:	0
Others Number Of Injuries:	0
Others Number Of Fatalities:	0
Vehicle Make/year:	Not reported
Vehicle License Number:	Not reported
Vehicle State:	Not reported
Vehicle Id Number:	Not reported
CA/DOT/PUC/ICC Number:	Not reported
Company Name:	Not reported
Reporting Officer Name/ID:	CAPT. G. MUTO #5
Report Date:	02-FEB-90
Comments:	N
Facility Telephone:	415 790-7218
Waterway Involved:	Not reported
Waterway:	Not reported
Spill Site:	Not reported
Cleanup By:	Not reported
Containment:	Not reported
What Happened:	Not reported
Type:	Not reported
Measure:	Not reported
Other:	Not reported
Date/Time:	Not reported
Year:	88-92
Agency:	Not reported
Incident Date:	Not reported
Admin Agency:	Not reported
Amount:	Not reported
Contained:	Not reported
Site Type:	Not reported
E Date:	26-JUN-91
Substance:	Not reported
Quantity Released:	Not reported
BBLS:	Not reported
Cups:	Not reported
CUFT:	Not reported
Gallons:	Not reported
Grams:	Not reported
Pounds:	Not reported
Liters:	Not reported
Ounces:	Not reported
Pints:	Not reported
Quarts:	Not reported
Sheen:	Not reported
Tons:	Not reported
Unknown:	Not reported
Evacuations:	Not reported
Number of Injuries:	Not reported
Number of Fatalities:	Not reported
Description:	Not reported

FMC CORP NEWARK (Continued) **1000109341**

OES Incident Number:	9990657
OES notification:	Not reported
OES Date:	Not reported
OES Time:	Not reported
Incident Date:	30-NOV-88
Date Completed:	**30-NOV-88**
Property Use:	762
Agency Id Number:	1070
Agency Incident Number:	80484
Time Notified:	249
Time Completed:	405
Surrounding Area:	600
Estimated Temperature:	55
Property Management:	P
Special Studies 1:	Not reported
Special Studies 2:	Not reported
Special Studies 3:	Not reported
Special Studies 4:	Not reported
Special Studies 5:	Not reported
Special Studies 6:	Not reported
More Than Two Substances Involved?:	N
Resp Agncy Personel # Of Decontaminated:	Not reported
Responding Agency Personel # Of Injuries:	Not reported
Responding Agency Personel # Of Fatalities:	Not reported
Others Number Of Decontaminated:	Not reported
Others Number Of Injuries:	Not reported
Others Number Of Fatalities:	Not reported
Vehicle Make/year:	Not reported
Vehicle License Number:	Not reported
Vehicle State:	Not reported
Vehicle Id Number:	Not reported
CA/DOT/PUC/ICC Number:	Not reported
Company Name:	Not reported
Reporting Officer Name/ID:	CAPT. COMFORT
Report Date:	30-NOV-88
Comments:	N
Facility Telephone:	415 790-7247
Waterway Involved:	Not reported
Waterway:	Not reported
Spill Site:	Not reported
Cleanup By:	Not reported
Containment:	Not reported
What Happened:	Not reported
Type:	Not reported
Measure:	Not reported
Other:	Not reported
Date/Time:	Not reported
Year:	88-92
Agency:	Not reported
Incident Date:	Not reported
Admin Agency:	Not reported
Amount:	Not reported
Contained:	Not reported
Site Type:	Not reported
E Date:	14-FEB-89
Substance:	Not reported
Quantity Released:	Not reported

FMC CORP NEWARK (Continued) **1000109341**

BBLS:	Not reported
Cups:	Not reported
CUFT:	Not reported
Gallons:	Not reported
Grams:	Not reported
Pounds:	Not reported
Liters:	Not reported
Ounces:	Not reported
Pints:	Not reported
Quarts:	Not reported
Sheen:	Not reported
Tons:	Not reported
Unknown:	Not reported
Evacuations:	Not reported
Number of Injuries:	Not reported
Number of Fatalities:	Not reported
Description:	Not reported

ENF:

Region:	2
Facility Id:	248289
Agency Name:	Not reported
Place Type:	Facility
Place Subtype:	Not reported
Facility Type:	Industrial
Agency Type:	Not reported
# Of Agencies:	Not reported
Place Latitude:	37.5215219
Place Longitude:	-122.05149
SIC Code 1:	2874
SIC Desc 1:	Phosphatic Fertilizers
SIC Code 2:	Not reported
SIC Desc 2:	Not reported
SIC Code 3:	Not reported
SIC Desc 3:	Not reported
NAICS Code 1:	Not reported
NAICS Desc 1:	Not reported
NAICS Code 2:	Not reported
NAICS Desc 2:	Not reported
NAICS Code 3:	Not reported
NAICS Desc 3:	Not reported
# Of Places:	1
Source Of Facility:	Enf Action
Design Flow:	Not reported
Threat To Water Quality:	Not reported
Complexity:	Not reported
Pretreatment:	Not reported
Facility Waste Type:	Not reported
Facility Waste Type 2:	Not reported
Facility Waste Type 3:	Not reported
Facility Waste Type 4:	Not reported
Program:	UNREGS
# Of Programs:	1
WDID:	Not reported
Reg Measure Id:	Not reported
Reg Measure Type:	Not reported
Region:	Not reported

FMC CORP NEWARK (Continued) **1000109341**

Order #:	Not reported
Npdes# CA#:	Not reported
Major-Minor:	Not reported
Npdes Type:	Not reported
Reclamation:	Not reported
Dredge Fill Fee:	Not reported
301H:	Not reported
Application Fee Amt Received:	Not reported
Status:	Not reported
Status Date:	Not reported
Effective Date:	Not reported
Expiration/Review Date:	Not reported
Termination Date:	Not reported
WDR Review - Amend:	Not reported
WDR Review - Revise/Renew:	Not reported
WDR Review - Rescind:	Not reported
WDR Review - No Action Required:	Not reported
WDR Review - Pending:	Not reported
WDR Review - Planned:	Not reported
Status Enrollee:	Not reported
Individual/General:	Not reported
Fee Code:	Not reported
Direction/Voice:	Not reported
Enforcement Id(EID):	241348
Region:	2
Order / Resolution Number:	R2-2002-0060
Enforcement Action Type:	Clean-up and Abatement Order
Effective Date:	05/22/2002
Adoption/Issuance Date:	Not reported
Achieve Date:	Not reported
Termination Date:	Not reported
ACL Issuance Date:	Not reported
EPL Issuance Date:	Not reported
Status:	Active
Title:	Enforcement - 2 019064N02
Description:	Soil and Groundwater impacted by chemical manufactuing.
Program:	UNREGS
Latest Milestone Completion Date:	Not reported
# Of Programs1:	1
Total Assessment Amount:	0
Initial Assessed Amount:	0
Liability $ Amount:	0
Project $ Amount:	0
Liability $ Paid:	0
Project $ Completed:	0
Total $ Paid/Completed Amount:	0

Region:	2
Facility Id:	248289
Agency Name:	Not reported
Place Type:	Facility
Place Subtype:	Not reported
Facility Type:	Industrial
Agency Type:	Not reported
# Of Agencies:	Not reported
Place Latitude:	37.5215219
Place Longitude:	-122.05149

FMC CORP NEWARK (Continued) **1000109341**

SIC Code 1:	2874
SIC Desc 1:	Phosphatic Fertilizers
SIC Code 2:	Not reported
SIC Desc 2:	Not reported
SIC Code 3:	Not reported
SIC Desc 3:	Not reported
NAICS Code 1:	Not reported
NAICS Desc 1:	Not reported
NAICS Code 2:	Not reported
NAICS Desc 2:	Not reported
NAICS Code 3:	Not reported
NAICS Desc 3:	Not reported
# Of Places:	1
Source Of Facility:	Enf Action
Design Flow:	Not reported
Threat To Water Quality:	Not reported
Complexity:	Not reported
Pretreatment:	Not reported
Facility Waste Type:	Not reported
Facility Waste Type 2:	Not reported
Facility Waste Type 3:	Not reported
Facility Waste Type 4:	Not reported
Program:	UNREGS
# Of Programs:	1
WDID:	Not reported
Reg Measure Id:	Not reported
Reg Measure Type:	Not reported
Region:	Not reported
Order #:	Not reported
Npdes# CA#:	Not reported
Major-Minor:	Not reported
Npdes Type:	Not reported
Reclamation:	Not reported
Dredge Fill Fee:	Not reported
301H:	Not reported
Application Fee Amt Received:	Not reported
Status:	Not reported
Status Date:	Not reported
Effective Date:	Not reported
Expiration/Review Date:	Not reported
Termination Date:	Not reported
WDR Review - Amend:	Not reported
WDR Review - Revise/Renew:	Not reported
WDR Review - Rescind:	Not reported
WDR Review - No Action Required:	Not reported
WDR Review - Pending:	Not reported
WDR Review - Planned:	Not reported
Status Enrollee:	Not reported
Individual/General:	Not reported
Fee Code:	Not reported
Direction/Voice:	Not reported
Enforcement Id(EID):	221946
Region:	2
Order / Resolution Number:	R2-1998-0066
Enforcement Action Type:	Clean-up and Abatement Order
Effective Date:	07/15/1998
Adoption/Issuance Date:	Not reported

FMC CORP NEWARK (Continued) **1000109341**

Achieve Date:	Not reported
Termination Date:	Not reported
ACL Issuance Date:	Not reported
EPL Issuance Date:	Not reported
Status:	Active
Title:	Enforcement - 2 019064N02
Description:	CAO-
Program:	UNREGS
Latest Milestone Completion Date:	Not reported
# Of Programs1:	1
Total Assessment Amount:	0
Initial Assessed Amount:	0
Liability $ Amount:	0
Project $ Amount:	0
Liability $ Paid:	0
Project $ Completed:	0
Total $ Paid/Completed Amount:	0
Region:	2
Facility Id:	248289
Agency Name:	Not reported
Place Type:	Facility
Place Subtype:	Not reported
Facility Type:	Industrial
Agency Type:	Not reported
# Of Agencies:	Not reported
Place Latitude:	37.5215219
Place Longitude:	-122.05149
SIC Code 1:	2874
SIC Desc 1:	Phosphatic Fertilizers
SIC Code 2:	Not reported
SIC Desc 2:	Not reported
SIC Code 3:	Not reported
SIC Desc 3:	Not reported
NAICS Code 1:	Not reported
NAICS Desc 1:	Not reported
NAICS Code 2:	Not reported
NAICS Desc 2:	Not reported
NAICS Code 3:	Not reported
NAICS Desc 3:	Not reported
# Of Places:	1
Source Of Facility:	Enf Action
Design Flow:	Not reported
Threat To Water Quality:	Not reported
Complexity:	Not reported
Pretreatment:	Not reported
Facility Waste Type:	Not reported
Facility Waste Type 2:	Not reported
Facility Waste Type 3:	Not reported
Facility Waste Type 4:	Not reported
Program:	UNREGS
# Of Programs:	1
WDID:	Not reported
Reg Measure Id:	Not reported
Reg Measure Type:	Not reported
Region:	Not reported
Order #:	Not reported

FMC CORP NEWARK (Continued) **1000109341**

Npdes# CA#:	Not reported
Major-Minor:	Not reported
Npdes Type:	Not reported
Reclamation:	Not reported
Dredge Fill Fee:	Not reported
301H:	Not reported
Application Fee Amt Received:	Not reported
Status:	Not reported
Status Date:	Not reported
Effective Date:	Not reported
Expiration/Review Date:	Not reported
Termination Date:	Not reported
WDR Review - Amend:	Not reported
WDR Review - Revise/Renew:	Not reported
WDR Review - Rescind:	Not reported
WDR Review - No Action Required:	Not reported
WDR Review - Pending:	Not reported
WDR Review - Planned:	Not reported
Status Enrollee:	Not reported
Individual/General:	Not reported
Fee Code:	Not reported
Direction/Voice:	Not reported
Enforcement Id(EID):	222750
Region:	2
Order / Resolution Number:	89-05501
Enforcement Action Type:	Clean-up and Abatement Order
Effective Date:	04/19/1989
Adoption/Issuance Date:	Not reported
Achieve Date:	Not reported
Termination Date:	Not reported
ACL Issuance Date:	Not reported
EPL Issuance Date:	Not reported
Status:	Active
Title:	Enforcement - 2 019064N02
Description:	ENF ORDER
Program:	UNREGS
Latest Milestone Completion Date:	Not reported
# Of Programs1:	1
Total Assessment Amount:	0
Initial Assessed Amount:	0
Liability $ Amount:	0
Project $ Amount:	0
Liability $ Paid:	0
Project $ Completed:	0
Total $ Paid/Completed Amount:	0

EMI:

Year:	1987
County Code:	1
Air Basin:	SF
Facility ID:	71
Air District Name:	BA
SIC Code:	2819
Air District Name:	BAY AREA AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	1

FMC CORP NEWARK (Continued) **1000109341**

Reactive Organic Gases Tons/Yr:	0
Carbon Monoxide Emissions Tons/Yr:	7
NOX - Oxides of Nitrogen Tons/Yr:	28
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	9
Part. Matter 10 Micrometers & Smllr Tons/Yr:	8

Year:	1990
County Code:	1
Air Basin:	SF
Facility ID:	71
Air District Name:	BA
SIC Code:	2819
Air District Name:	BAY AREA AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	3
Reactive Organic Gases Tons/Yr:	1
Carbon Monoxide Emissions Tons/Yr:	2
NOX - Oxides of Nitrogen Tons/Yr:	7
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	4
Part. Matter 10 Micrometers & Smllr Tons/Yr:	3

Year:	1993
County Code:	1
Air Basin:	SF
Facility ID:	71
Air District Name:	BA
SIC Code:	2819
Air District Name:	BAY AREA AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	1
Reactive Organic Gases Tons/Yr:	0
Carbon Monoxide Emissions Tons/Yr:	1
NOX - Oxides of Nitrogen Tons/Yr:	4
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	1
Part. Matter 10 Micrometers & Smllr Tons/Yr:	1

Year:	2003
County Code:	1
Air Basin:	SF
Facility ID:	71
Air District Name:	BA
SIC Code:	5088
Air District Name:	BAY AREA AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	0
Reactive Organic Gases Tons/Yr:	0
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers & Smllr Tons/Yr:	0

FMC CORP NEWARK (Continued) **1000109341**

Year:	2005
County Code:	1
Air Basin:	SF
Facility ID:	71
Air District Name:	BA
SIC Code:	5088
Air District Name:	BAY AREA AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	.002
Reactive Organic Gases Tons/Yr:	.0013972
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers & Smllr Tons/Yr:	0

ENVIROSTOR:

Site Type:	Corrective Action
Site Type Detailed:	Corrective Action
Acres:	0
NPL:	NO
Regulatory Agencies:	RWQCB 2 - San Francisco Bay
Lead Agency:	RWQCB 2 - San Francisco Bay
Program Manager:	Not reported
Supervisor:	* Wei Wei Chui
Division Branch:	Cleanup Berkeley
Facility ID:	80001608
Site Code:	Not reported
Assembly:	25
Senate:	10
Special Program:	Not reported
Status:	Refer: RWQCB
Status Date:	01/01/2008
Restricted Use:	NO
Site Mgmt. Req.:	NONE SPECIFIED
Funding:	Not reported
Latitude:	37.52203
Longitude:	-122.0499
APN:	NONE SPECIFIED
Past Use:	NONE SPECIFIED
Potential COC:	NONE SPECIFIED
Confirmed COC:	NONE SPECIFIED, NONE SPECIFIED
Potential Description:	NONE SPECIFIED
Alias Name:	CAD009147000
Alias Type:	EPA Identification Number
Alias Name:	110000748228
Alias Type:	EPA (FRS #)
Alias Name:	SL20240858
Alias Type:	GeoTracker Global ID
Alias Name:	01280012
Alias Type:	Envirostor ID Number
Alias Name:	80001608
Alias Type:	Envirostor ID Number

Completed Info:

Completed Area Name:	Sites With No Operable Unit

FMC CORP NEWARK (Continued) **1000109341**

Completed Sub Area Name: Entier facility
Completed Document Type: RCRA Facility Assessment Report
Completed Date: 06/05/2001
Comments: Analogous RCRA Facility Assessment Completed

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Amendment - Order/Agreement
Completed Date: 12/20/2007
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Remedy Constructed
Completed Date: 03/04/2010
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Groundwater Migration Controlled
Completed Date: 03/04/2010
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Human Exposure Controlled
Completed Date: 03/04/2010
Comments: Not reported

Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

Site Type: Historical
Site Type Detailed: * Historical
Acres: Not reported
NPL: NO
Regulatory Agencies: NONE SPECIFIED
Lead Agency: NONE SPECIFIED
Program Manager: Not reported
Supervisor: Referred - Not Assigned
Division Branch: Cleanup Berkeley
Facility ID: 01280012
Site Code: Not reported
Assembly: 25
Senate: 10
Special Program: * RCRA 3012 - Past Haz Waste Disp Inven Site
Status: Refer: RWQCB
Status Date: 01/01/1989
Restricted Use: NO
Site Mgmt. Req.: NONE SPECIFIED

FMC CORP NEWARK (Continued) **1000109341**

Funding: Not reported
Latitude: 37.52135
Longitude: -122.0546
APN: NONE SPECIFIED
Past Use: NONE SPECIFIED
Potential COC: NONE SPECIFIED, NONE SPECIFIED, * HALOGENATED ORGANIC COMPOUNDS, * OTHER ORGANIC SOLIDS, * OXYGENATED SOLVENTS, * ACID SOLUTION 2>PH WITH METALS, Asbestos Containing Materials (ACM, * UNSPECIFIED ACID SOLUTION, * WASTE OIL & MIXED OIL, * OTHER INORGANIC SOLID WASTE, * SULFUR SLUDGE, Arsenic
Confirmed COC: NONE SPECIFIED, NONE SPECIFIED, * HALOGENATED ORGANIC COMPOUNDS, * OTHER ORGANIC SOLIDS, * OXYGENATED SOLVENTS, * ACID SOLUTION 2>PH WITH METALS, Asbestos Containing Materials (ACM, * UNSPECIFIED ACID SOLUTION, * WASTE OIL & MIXED OIL, * OTHER INORGANIC SOLID WASTE, * SULFUR SLUDGE, Arsenic, NONE SPECIFIED
Potential Description: NONE SPECIFIED
Alias Name: FOOD MACHINERY & CHEMICAL
Alias Type: Alternate Name
Alias Name: CAD009147000
Alias Type: EPA Identification Number
Alias Name: 110000748228
Alias Type: EPA (FRS #)
Alias Name: SL20240858
Alias Type: GeoTracker Global ID
Alias Name: CAD009147000
Alias Type: HWTS Identification Code
Alias Name: 01280012
Alias Type: Envirostor ID Number

Completed Info:
Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Removal Action Completion Report
Completed Date: 10/05/1989
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Assessment Report
Completed Date: 03/21/1984
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: * Discovery
Completed Date: 09/24/1983
Comments: Not reported

Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

FMC CORP NEWARK (Continued) **1000109341**

HWP:

EPA Id:	CAD009147000
Cleanup Status:	CLOSED
Latitude:	37.52203
Longitude:	-122.0499
Facility Type:	Historical - Non-Operating
Facility Size:	Not reported
Team:	Not reported
Supervisor:	Not reported
Site Code:	Not reported
Assembly District:	25
Senate District:	10
Public Information Officer:	Not reported

Activities:

EPA Id:	CAD009147000
Facility Type:	Historical - Non-Operating
Unit Names:	SURFIMP1 (GPRA Unit)
Event Description:	New Operating Permit - APPLICATION PART A RECEIVED
Actual Date:	11/19/1980

EPA Id:	CAD009147000
Facility Type:	Historical - Non-Operating
Unit Names:	SURFIMP1 (GPRA Unit)
Event Description:	New Operating Permit - CALL-IN LETTER ISSUED
Actual Date:	05/08/1985

EPA Id:	CAD009147000
Facility Type:	Historical - Non-Operating
Unit Names:	SURFIMP1 (GPRA Unit)
Event Description:	New Operating Permit - FINAL PERMIT - WITHDRAWAL REQUEST ACKNOWLEDGED
Actual Date:	01/29/1987

EPA Id:	CAD009147000
Facility Type:	Historical - Non-Operating
Unit Names:	SURFIMP1 (GPRA Unit)
Event Description:	New Operating Permit - FINAL PERMIT - WITHDRAWAL REQUEST RECEIVED
Actual Date:	01/02/1986

Closure:

EPA Id:	CAD009147000
Facility Type:	Historical - Non-Operating
Unit Names:	SURFIMP1 (GPRA Unit)
Event Description:	Closure Final - ISSUE CLOSURE VERIFICATION
Actual Date:	06/25/1985

Alias:

EPA Id:	CAD009147000
Facility Type:	Historical - Non-Operating
Alias Type:	Envirostor ID Number
Alias:	01280012

EPA Id:	CAD009147000
Facility Type:	Historical - Non-Operating
Alias Type:	FRS
Alias:	110000748228

FMC CORP NEWARK (Continued) **1000109341**

2020 COR ACTION:
EPA ID: CAD009147000
Region: 9
Action: Not reported

B6
NNE
< 1/8
0.085 mi.
448 ft.

FMC, PHOSPHORUS CHEMICALS DIV. **CA Notify 65** **S100179169**
8787 ENTERPRISE DRIVE **N/A**
NEWARK, CA 92545

Site 4 of 5 in cluster B

Relative:
Higher

Actual:
13 ft.

Notify 65:
Date Reported: Not reported
Staff Initials: Not reported
Board File Number: Not reported
Facility Type: Not reported
Discharge Date: Not reported
Incident Description: 92545

B7
NNE
< 1/8
0.086 mi.
455 ft.

S.P. DUMBARTON BRANCH R.O.W. **CA SLIC** **S106234841**
8785 ENTERPRISE DRIVE **N/A**
NEWARK, CA 94560

Site 5 of 5 in cluster B

Relative:
Higher

Actual:
13 ft.

SLIC:
Region: STATE
Facility Status: Open - Verification Monitoring
Status Date: 08/07/2003
Global Id: SL0600178227
Lead Agency: ALAMEDA COUNTY WATER DISTRICT
Lead Agency Case Number: 0407
Latitude: 37.521463
Longitude: -122.05167
Case Type: Cleanup Program Site
Case Worker: TB
Local Agency: ALAMEDA COUNTY WATER DISTRICT
RB Case Number: 01S0465
File Location: Not reported
Potential Media Affected: Other Groundwater (uses other than drinking water), Soil
Potential Contaminants of Concern: Not reported
Site History: Not reported

Click here to access the California GeoTracker records for this facility:

SLIC REG 2:
Region: 2
Facility ID: Not reported
Facility Status: Not reported
Date Closed: Not reported
Local Case #: Not reported
How Discovered: Not reported
Leak Cause: Not reported
Leak Source: Not reported
Date Confirmed: Not reported

S.P. DUMBARTON BRANCH R.O.W. (Continued) **S106234841**

Date Prelim Site Assmnt Workplan Submitted: Not reported
Date Preliminary Site Assessment Began: Not reported
Date Pollution Characterization Began: Not reported
Date Remediation Plan Submitted: Not reported
Date Remedial Action Underway: Not reported
Date Post Remedial Action Monitoring Began: Not reported

C8 **FMC NEWARK** **CA WMUDS/SWAT** **S103440995**
NE **N/A**
1/8-1/4 **NEWARK, CA**
0.197 mi.
1041 ft. **Site 1 of 3 in cluster C**

Relative:
Higher

Actual:
13 ft.

WMUDS/SWAT:
Edit Date: Not reported
Complexity: Not reported
Primary Waste: Not reported
Primary Waste Type: Not reported
Secondary Waste: Not reported
Secondary Waste Type: Not reported
Base Meridian: Not reported
NPID: Not reported
Tonnage: 0
Regional Board ID: Not reported
Municipal Solid Waste: False
Superorder: False
Open To Public: False
Waste List: False
Agency Type: Not reported
Agency Name: Not reported
Agency Department: Not reported
Agency Address: Not reported
Agency City,St,Zip: Not reported
Agency Contact: Not reported
Agency Telephone: Not reported
Land Owner Name: Not reported
Land Owner Address: Not reported
Land Owner City,St,Zip: CA
Land Owner Contact: Not reported
Land Owner Phone: Not reported
Region: 2
Facility Type: Not reported
Facility Description: Not reported
Facility Telephone: Not reported
SWAT Facility Name: Not reported
Primary SIC: Not reported
Secondary SIC: Not reported
Comments: Not reported
Last Facility Editors: Not reported
Waste Discharge System: False
Solid Waste Assessment Test Program: True
Toxic Pits Cleanup Act Program: False
Resource Conservation Recovery Act: False
Department of Defence: False
Solid Waste Assessment Test Program: Not reported
Threat to Water Quality: Not reported
Sub Chapter 15: False
Regional Board Project Officer: LF

FMC NEWARK (Continued) **S103440995**

Number of WMUDS at Facility:	1
Section Range:	Not reported
RCRA Facility:	Not reported
Waste Discharge Requirements:	Not reported
Self-Monitoring Rept. Frequency:	Not reported
Waste Discharge System ID:	2 019064002
Solid Waste Information ID:	Not reported

D9 **NEWARK SPORTSMAN CLUB** **CA SLIC** **S106235308**
NE **N/A**
1/8-1/4 **NEWARK, CA**
0.211 mi.
1115 ft. **Site 1 of 6 in cluster D**

Relative:
Higher

Actual:
13 ft.

SLIC:

Region:	STATE
Facility Status:	**Open - Inactive**
Status Date:	06/02/2009
Global Id:	SLT2O38111
Lead Agency:	SAN FRANCISCO BAY RWQCB (REGION 2)
Lead Agency Case Number:	Not reported
Latitude:	37.520619
Longitude:	-122.049168
Case Type:	Cleanup Program Site
Case Worker:	UUU
Local Agency:	Not reported
RB Case Number:	SLT2O38111
File Location:	Not reported
Potential Media Affected:	Not reported
Potential Contaminants of Concern:	Not reported
Site History:	Not reported

Click here to access the California GeoTracker records for this facility:

SLIC REG 2:

Region:	2
Facility ID:	SLT2O38111
Facility Status:	Leak being confirmed
Date Closed:	Not reported
Local Case #:	Not reported
How Discovered:	Not reported
Leak Cause:	Not reported
Leak Source:	Not reported
Date Confirmed:	Not reported
Date Prelim Site Assmnt Workplan Submitted:	Not reported
Date Preliminary Site Assessment Began:	Not reported
Date Pollution Characterization Began:	Not reported
Date Remediation Plan Submitted:	Not reported
Date Remedial Action Underway:	Not reported
Date Post Remedial Action Monitoring Began:	Not reported

C10 NE 1/8-1/4 0.212 mi. 1120 ft. | **ASHLAND CHEMICAL CO**
8600 ENTERPRISE DR
NEWARK, CA 94560

Site 2 of 3 in cluster C

SSTS | **1005424681**
CA SLIC | **N/A**

Relative: Higher

Actual: 13 ft.

SSTS:

Product:	PINE OIL
Contact:	Not reported
Status:	Active
Registration Number:	018533CA 002
Report Year:	1996
Permit:	Registered
Product Number:	01853300015
Product Type:	End-use blend, formulation, or concentrate
Product Class:	Not reported
Product Use:	Not reported
UOM:	G
Market:	Marketed in the United States
Region:	Not reported
Zero product:	Not reported
Pesticide RUP report:	Not reported

SLIC REG 2:

Region:	2
Facility ID:	01S0024
Facility Status:	Remedial action (cleanup) Underway
Date Closed:	Not reported
Local Case #:	Not reported
How Discovered:	RBD
Leak Cause:	Not reported
Leak Source:	Not reported
Date Confirmed:	Not reported
Date Prelim Site Assmnt Workplan Submitted:	Not reported
Date Preliminary Site Assessment Began:	Not reported
Date Pollution Characterization Began:	Not reported
Date Remediation Plan Submitted:	Not reported
Date Remedial Action Underway:	Not reported
Date Post Remedial Action Monitoring Began:	Not reported

C11 NE 1/8-1/4 0.212 mi. 1120 ft. | **ASHLAND CHEMICAL CO**
8610 ENTERPRISE DRIVE
NEWARK, CA 94560

Site 3 of 3 in cluster C

RCRA-TSDF | **1000277301**
CERC-NFRAP | **CAD066562521**
CORRACTS
RCRA-SQG
CA Cortese
CA HIST CORTESE
CA HIST UST
CA ENF
CA RESPONSE
CA ENVIROSTOR
CA Financial Assurance
US FIN ASSUR
CA HWP
2020 COR ACTION

Relative: Higher

Actual: 13 ft.

RCRA-TSDF:

Date form received by agency:	10/12/2000
Facility name:	ASHLAND CHEMICAL CO
Site name:	ASHLAND SPECIALTY CHEMICAL

ASHLAND CHEMICAL CO (Continued) **1000277301**

Facility address:	8610 ENTERPRISE DRIVE NEWARK, CA 94560
EPA ID:	CAD066562521
Mailing address:	250 WILLIAM WHITE BLVD. PUEBLO, CO 81001
Contact:	CHRISTIAN COHOON
Contact address:	Not reported Not reported
Contact country:	Not reported
Contact telephone:	(719) 948-5031
Contact email:	Not reported
EPA Region:	09
Land type:	Private
Classification:	TSDF
Description:	Handler is engaged in the treatment, storage or disposal of hazardous waste

Handler Activities Summary:

U.S. importer of hazardous waste:	No
Mixed waste (haz. and radioactive):	No
Recycler of hazardous waste:	No
Transporter of hazardous waste:	No
Treater, storer or disposer of HW:	No
Underground injection activity:	No
On-site burner exemption:	No
Furnace exemption:	No
Used oil fuel burner:	No
Used oil processor:	No
User oil refiner:	No
Used oil fuel marketer to burner:	No
Used oil Specification marketer:	No
Used oil transfer facility:	No
Used oil transporter:	No

Historical Generators:

Date form received by agency:	04/15/1999
Facility name:	ASHLAND CHEMICAL CO
Site name:	ASHLAND CHEMICAL CO.
Classification:	Large Quantity Generator

Date form received by agency:	09/01/1996
Facility name:	ASHLAND CHEMICAL CO
Classification:	Large Quantity Generator

Date form received by agency:	09/01/1996
Facility name:	ASHLAND CHEMICAL CO
Classification:	Small Quantity Generator

Date form received by agency:	06/06/1996
Facility name:	ASHLAND CHEMICAL CO
Classification:	Small Quantity Generator

Date form received by agency:	03/29/1996
Facility name:	ASHLAND CHEMICAL CO
Site name:	ASHLAND CHEMICAL CO.
Classification:	Large Quantity Generator

ASHLAND CHEMICAL CO (Continued) **1000277301**

Date form received by agency: 03/08/1994
Facility name: ASHLAND CHEMICAL CO
Site name: ASHLAND CHEMICAL COMPANY
Classification: Large Quantity Generator

Date form received by agency: 02/10/1992
Facility name: ASHLAND CHEMICAL CO
Site name: ASHLAND CHEMICAL, INC.
Classification: Large Quantity Generator

Corrective Action Summary:

Event date: 11/15/1985
Event: Stabilization Measures Implemented, Primary measure is source removal and/or treatment (e.g., soil or waste excavation, in-situ soil treatment, off-site treatment).

Event date: 12/28/1987
Event: CA Prioritization, Facility or area was assigned a high corrective action priority.

Event date: 12/28/1987
Event: CA074HI

Event date: 12/28/1987
Event: RFA Completed

Event date: 12/28/1987
Event: CA029WQ

Event date: 12/28/1987
Event: CA049PA

Event date: 06/21/1989
Event: CMS Imposition

Event date: 06/21/1989
Event: RFI Workplan Approved

Event date: 06/21/1989
Event: RFI Imposition

Event date: 01/01/1990
Event: Stabilization Measures Implemented, Groundwater extraction and treatment (e.g., to achieve groundwater containment, to achieve MCL).

Event date: 06/01/1990
Event: Stabilization Construction Completed

Event date: 08/11/1994
Event: CA Prioritization, Facility or area was assigned a medium corrective action priority.

Event date: 08/11/1994
Event: Stabilization Measures Evaluation,This facility is not amenable to stabilization activity at the present time for reasons other than 1- it appears to be technically infeasible or inappropriate (NF) or 2- there is a lack of technical information (IN). Reasons for this

ASHLAND CHEMICAL CO (Continued) **1000277301**

conclusion may be the status of closure at the facility, the degree of risk, timing considerations, the status of corrective action work at the facility, or other administrative considerations.

Event date: 08/11/1994
Event: Stabilization Measures Evaluation,This facility is not amenable to stabilization activity at the present time for reasons other than 1- it appears to be technically infeasible or inappropriate (NF) or 2- there is a lack of technical information (IN). Reasons for this conclusion may be the status of closure at the facility, the degree of risk, timing considerations, the status of corrective action work at the facility, or other administrative considerations.

Event date: 09/22/1997
Event: Current Human Exposures under Control, Current human exposures are NOT under control.

Event date: 09/22/1997
Event: Igration of Contaminated Groundwater under Control, Unacceptable migration of contaminated groundwater is observed or expected.

Event date: 09/22/1997
Event: CA Responsibility Referred To A Non-RCRA Federal Authority

Event date: 12/28/2000
Event: Current Human Exposures under Control, Current human exposures are NOT under control.

Event date: 12/28/2000
Event: Igration of Contaminated Groundwater under Control, Unacceptable migration of contaminated groundwater is observed or expected.

Event date: 12/28/2000
Event: Current Human Exposures under Control, Current human exposures are NOT under control.

Event date: 12/28/2000
Event: Igration of Contaminated Groundwater under Control, Unacceptable migration of contaminated groundwater is observed or expected.

Event date: 09/19/2002
Event: Igration of Contaminated Groundwater under Control, Yes, Migration of Contaminated Groundwater Under Control has been verified. Based on a review of information contained in the EI determination, it has been determined that migration of contaminated groundwater is under control at the facility. Specifically, this determination indicates that the migration of contaminated groundwater is under control, and that monitoring will be conducted to confirm that contaminated groundwater remains within the existing area of contaminated groundwater. This determination will be re-evaluated when the Agency becomes aware of significant changes at the facility.

Event date: 09/19/2002
Event: Current Human Exposures under Control, Yes, Current Human Exposures Under Control has been verified. Based on a review of information contained in the EI determination, current human exposures are expected to be under control at the facility under current and

ASHLAND CHEMICAL CO (Continued) **1000277301**

reasonably expected conditions. This determination will be re-evaluated when the Agency/State becomes aware of significant changes at the facility.

Event date: 09/19/2002
Event: Current Human Exposures under Control, Yes, Current Human Exposures Under Control has been verified. Based on a review of information contained in the EI determination, current human exposures are expected to be under control at the facility under current and reasonably expected conditions. This determination will be re-evaluated when the Agency/State becomes aware of significant changes at the facility.

Event date: 09/19/2002
Event: Igration of Contaminated Groundwater under Control, Yes, Migration of Contaminated Groundwater Under Control has been verified. Based on a review of information contained in the EI determination, it has been determined that migration of contaminated groundwater is under control at the facility. Specifically, this determination indicates that the migration of contaminated groundwater is under control, and that monitoring will be conducted to confirm that contaminated groundwater remains within the existing area of contaminated groundwater. This determination will be re-evaluated when the Agency becomes aware of significant changes at the facility.

Event date: Not reported
Event: CA03193

Facility Has Received Notices of Violations:
Regulation violated: F - 262.50-60
Area of violation: Generators - General
Date violation determined: 03/11/1996
Date achieved compliance: 12/02/1997
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 03/11/1996
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: F - 262.40-43.D
Area of violation: Generators - General
Date violation determined: 03/11/1996
Date achieved compliance: 12/02/1997
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 03/11/1996
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

ASHLAND CHEMICAL CO (Continued) **1000277301**

Regulation violated:	F - 264.140-150.H
Area of violation:	TSD - Financial Requirements
Date violation determined:	08/02/1993
Date achieved compliance:	08/16/1993
Violation lead agency:	EPA
Enforcement action:	Not reported
Enforcement action date:	Not reported
Enf. disposition status:	Not reported
Enf. disp. status date:	Not reported
Enforcement lead agency:	Not reported
Proposed penalty amount:	Not reported
Final penalty amount:	Not reported
Paid penalty amount:	Not reported

Regulation violated:	FR - 262.50-60
Area of violation:	Generators - General
Date violation determined:	10/28/1992
Date achieved compliance:	08/24/1993
Violation lead agency:	State
Enforcement action:	WRITTEN INFORMAL
Enforcement action date:	11/23/1992
Enf. disposition status:	Not reported
Enf. disp. status date:	Not reported
Enforcement lead agency:	State
Proposed penalty amount:	Not reported
Final penalty amount:	Not reported
Paid penalty amount:	Not reported

Regulation violated:	FR - 268.7
Area of violation:	LDR - General
Date violation determined:	10/28/1992
Date achieved compliance:	08/24/1993
Violation lead agency:	State
Enforcement action:	WRITTEN INFORMAL
Enforcement action date:	11/23/1992
Enf. disposition status:	Not reported
Enf. disp. status date:	Not reported
Enforcement lead agency:	State
Proposed penalty amount:	Not reported
Final penalty amount:	Not reported
Paid penalty amount:	Not reported

Regulation violated:	FR - 264.70-77.E
Area of violation:	TSD - General
Date violation determined:	03/30/1991
Date achieved compliance:	07/01/1992
Violation lead agency:	State
Enforcement action:	FINAL CIVIL JUDICIAL ACTION FOR COMPLIANCE AND/OR MONETARY PENALTY
Enforcement action date:	07/01/1992
Enf. disposition status:	Not reported
Enf. disp. status date:	Not reported
Enforcement lead agency:	State
Proposed penalty amount:	Not reported
Final penalty amount:	45000
Paid penalty amount:	45000

Regulation violated:	FR - 264.70-77.E

ASHLAND CHEMICAL CO (Continued) **1000277301**

Area of violation: TSD - General
Date violation determined: 03/30/1991
Date achieved compliance: 07/01/1992
Violation lead agency: State
Enforcement action: INITIAL 3008(A) COMPLIANCE
Enforcement action date: 07/12/1991
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 270
Area of violation: TSD - General
Date violation determined: 03/30/1991
Date achieved compliance: 07/01/1992
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 05/29/1991
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 268 ALL
Area of violation: LDR - General
Date violation determined: 03/30/1991
Date achieved compliance: 07/01/1992
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 05/29/1991
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 268 ALL
Area of violation: LDR - General
Date violation determined: 03/30/1991
Date achieved compliance: 07/01/1992
Violation lead agency: State
Enforcement action: INITIAL 3008(A) COMPLIANCE
Enforcement action date: 07/12/1991
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 264.70-77.E
Area of violation: TSD - General

ASHLAND CHEMICAL CO (Continued) **1000277301**

Date violation determined: 03/30/1991
Date achieved compliance: 07/01/1992
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 05/29/1991
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 264.70-77.E
Area of violation: TSD - General
Date violation determined: 03/30/1991
Date achieved compliance: 07/01/1992
Violation lead agency: State
Enforcement action: FINAL CIVIL JUDICIAL ACTION FOR COMPLIANCE AND/OR MONETARY PENALTY
Enforcement action date: 08/31/1989
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: 45000
Paid penalty amount: Not reported

Regulation violated: FR - 268.7
Area of violation: LDR - General
Date violation determined: 03/30/1991
Date achieved compliance: 07/01/1992
Violation lead agency: State
Enforcement action: FINAL CIVIL JUDICIAL ACTION FOR COMPLIANCE AND/OR MONETARY PENALTY
Enforcement action date: 07/01/1992
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: 45000
Paid penalty amount: 45000

Regulation violated: FR - 270
Area of violation: TSD - General
Date violation determined: 03/30/1991
Date achieved compliance: 07/01/1992
Violation lead agency: State
Enforcement action: INITIAL 3008(A) COMPLIANCE
Enforcement action date: 07/12/1991
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 268.7
Area of violation: LDR - General
Date violation determined: 03/30/1991

ASHLAND CHEMICAL CO (Continued) **1000277301**

Date achieved compliance: 07/01/1992
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 05/29/1991
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 268 ALL
Area of violation: LDR - General
Date violation determined: 03/30/1991
Date achieved compliance: 07/01/1992
Violation lead agency: State
Enforcement action: FINAL CIVIL JUDICIAL ACTION FOR COMPLIANCE AND/OR MONETARY PENALTY
Enforcement action date: 07/01/1992
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: 45000
Paid penalty amount: 45000

Regulation violated: FR - 268 ALL
Area of violation: LDR - General
Date violation determined: 03/30/1991
Date achieved compliance: 07/01/1992
Violation lead agency: State
Enforcement action: FINAL CIVIL JUDICIAL ACTION FOR COMPLIANCE AND/OR MONETARY PENALTY
Enforcement action date: 08/31/1989
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: 45000
Paid penalty amount: Not reported

Regulation violated: FR - 270
Area of violation: TSD - General
Date violation determined: 03/30/1991
Date achieved compliance: 07/01/1992
Violation lead agency: State
Enforcement action: FINAL CIVIL JUDICIAL ACTION FOR COMPLIANCE AND/OR MONETARY PENALTY
Enforcement action date: 07/01/1992
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: 45000
Paid penalty amount: 45000

Regulation violated: FR - 268.7
Area of violation: LDR - General
Date violation determined: 03/30/1991
Date achieved compliance: 07/01/1992

ASHLAND CHEMICAL CO (Continued) **1000277301**

Violation lead agency: State
Enforcement action: INITIAL 3008(A) COMPLIANCE
Enforcement action date: 07/12/1991
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 268.7
Area of violation: LDR - General
Date violation determined: 03/30/1991
Date achieved compliance: 07/01/1992
Violation lead agency: State
Enforcement action: FINAL CIVIL JUDICIAL ACTION FOR COMPLIANCE AND/OR MONETARY PENALTY
Enforcement action date: 08/31/1989
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: 45000
Paid penalty amount: Not reported

Regulation violated: FR - 270
Area of violation: TSD - General
Date violation determined: 03/30/1991
Date achieved compliance: 07/01/1992
Violation lead agency: State
Enforcement action: FINAL CIVIL JUDICIAL ACTION FOR COMPLIANCE AND/OR MONETARY PENALTY
Enforcement action date: 08/31/1989
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: 45000
Paid penalty amount: Not reported

Regulation violated: FR - 270
Area of violation: TSD - General
Date violation determined: 08/31/1989
Date achieved compliance: 07/01/1992
Violation lead agency: State
Enforcement action: FINAL CIVIL JUDICIAL ACTION FOR COMPLIANCE AND/OR MONETARY PENALTY
Enforcement action date: 07/01/1992
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: 45000
Paid penalty amount: 45000

Regulation violated: FR - 264.110-120.G
Area of violation: TSD - Closure/Post-Closure
Date violation determined: 08/31/1989
Date achieved compliance: 07/01/1992
Violation lead agency: State

ASHLAND CHEMICAL CO (Continued) **1000277301**

Enforcement action: FINAL CIVIL JUDICIAL ACTION FOR COMPLIANCE AND/OR MONETARY PENALTY
Enforcement action date: 08/31/1989
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: 45000
Paid penalty amount: Not reported

Regulation violated: FR - 270
Area of violation: TSD - General
Date violation determined: 08/31/1989
Date achieved compliance: 07/01/1992
Violation lead agency: State
Enforcement action: Not reported
Enforcement action date: Not reported
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: Not reported
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 268.7
Area of violation: LDR - General
Date violation determined: 08/31/1989
Date achieved compliance: 07/01/1992
Violation lead agency: State
Enforcement action: FINAL CIVIL JUDICIAL ACTION FOR COMPLIANCE AND/OR MONETARY PENALTY
Enforcement action date: 07/01/1992
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: 45000
Paid penalty amount: 45000

Regulation violated: FR - 268 ALL
Area of violation: LDR - General
Date violation determined: 08/31/1989
Date achieved compliance: 07/01/1992
Violation lead agency: State
Enforcement action: Not reported
Enforcement action date: Not reported
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: Not reported
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 268.7
Area of violation: LDR - General
Date violation determined: 08/31/1989
Date achieved compliance: 07/01/1992
Violation lead agency: State
Enforcement action: FINAL CIVIL JUDICIAL ACTION FOR COMPLIANCE AND/OR MONETARY PENALTY

ASHLAND CHEMICAL CO (Continued) **1000277301**

Enforcement action date: 08/31/1989
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: 45000
Paid penalty amount: Not reported

Regulation violated: FR - 268.7
Area of violation: LDR - General
Date violation determined: 08/31/1989
Date achieved compliance: 07/01/1992
Violation lead agency: State
Enforcement action: Not reported
Enforcement action date: Not reported
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: Not reported
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 264.70-77.E
Area of violation: TSD - General
Date violation determined: 08/31/1989
Date achieved compliance: 07/01/1992
Violation lead agency: State
Enforcement action: FINAL CIVIL JUDICIAL ACTION FOR COMPLIANCE AND/OR MONETARY PENALTY
Enforcement action date: 07/01/1992
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: 45000
Paid penalty amount: 45000

Regulation violated: FR - 264.70-77.E
Area of violation: TSD - General
Date violation determined: 08/31/1989
Date achieved compliance: 07/01/1992
Violation lead agency: State
Enforcement action: Not reported
Enforcement action date: Not reported
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: Not reported
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 270
Area of violation: TSD - General
Date violation determined: 08/31/1989
Date achieved compliance: 07/01/1992
Violation lead agency: State
Enforcement action: FINAL CIVIL JUDICIAL ACTION FOR COMPLIANCE AND/OR MONETARY PENALTY
Enforcement action date: 08/31/1989

ASHLAND CHEMICAL CO (Continued) **1000277301**

Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: 45000
Paid penalty amount: Not reported

Regulation violated: FR - 268 ALL
Area of violation: LDR - General
Date violation determined: 08/31/1989
Date achieved compliance: 07/01/1992
Violation lead agency: State
Enforcement action: FINAL CIVIL JUDICIAL ACTION FOR COMPLIANCE AND/OR MONETARY PENALTY
Enforcement action date: 08/31/1989
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: 45000
Paid penalty amount: Not reported

Regulation violated: FR - 264.70-77.E
Area of violation: TSD - General
Date violation determined: 08/31/1989
Date achieved compliance: 07/01/1992
Violation lead agency: State
Enforcement action: FINAL CIVIL JUDICIAL ACTION FOR COMPLIANCE AND/OR MONETARY PENALTY
Enforcement action date: 08/31/1989
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: 45000
Paid penalty amount: Not reported

Regulation violated: FR - 264.110-120.G
Area of violation: TSD - Closure/Post-Closure
Date violation determined: 08/31/1989
Date achieved compliance: 07/01/1992
Violation lead agency: State
Enforcement action: FINAL CIVIL JUDICIAL ACTION FOR COMPLIANCE AND/OR MONETARY PENALTY
Enforcement action date: 07/01/1992
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: 45000
Paid penalty amount: 45000

Regulation violated: FR - 268 ALL
Area of violation: LDR - General
Date violation determined: 08/31/1989
Date achieved compliance: 07/01/1992
Violation lead agency: State
Enforcement action: FINAL CIVIL JUDICIAL ACTION FOR COMPLIANCE AND/OR MONETARY PENALTY
Enforcement action date: 07/01/1992
Enf. disposition status: Not reported

ASHLAND CHEMICAL CO (Continued) **1000277301**

Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: 45000
Paid penalty amount: 45000

Evaluation Action Summary:

Evaluation date: 03/11/1996
Evaluation: FOCUSED COMPLIANCE INSPECTION
Area of violation: Generators - General
Date achieved compliance: 12/02/1997
Evaluation lead agency: State

Evaluation date: 02/11/1996
Evaluation: FOLLOW-UP INSPECTION
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 11/05/1993
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State Contractor/Grantee

Evaluation date: 07/01/1992
Evaluation: NOT A SIGNIFICANT NON-COMPLIER
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 06/18/1992
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: LDR - General
Date achieved compliance: 08/24/1993
Evaluation lead agency: State

Evaluation date: 06/18/1992
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Generators - General
Date achieved compliance: 08/24/1993
Evaluation lead agency: State

Evaluation date: 05/15/1992
Evaluation: FINANCIAL RECORD REVIEW
Area of violation: TSD - Financial Requirements
Date achieved compliance: 08/16/1993
Evaluation lead agency: EPA Contractor/Grantee

Evaluation date: 03/30/1991
Evaluation: SIGNIFICANT NON-COMPLIER
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 02/28/1991
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE

ASHLAND CHEMICAL CO (Continued) **1000277301**

Area of violation: TSD - General
Date achieved compliance: 07/01/1992
Evaluation lead agency: State

Evaluation date: 02/28/1991
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: LDR - General
Date achieved compliance: 07/01/1992
Evaluation lead agency: State

Evaluation date: 02/07/1991
Evaluation: FINANCIAL RECORD REVIEW
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 09/11/1989
Evaluation: FINANCIAL RECORD REVIEW
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 06/30/1989
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: TSD - General
Date achieved compliance: 07/01/1992
Evaluation lead agency: State

Evaluation date: 06/30/1989
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: LDR - General
Date achieved compliance: 07/01/1992
Evaluation lead agency: State

Evaluation date: 06/30/1989
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: TSD - Closure/Post-Closure
Date achieved compliance: 07/01/1992
Evaluation lead agency: State

CERC-NFRAP:
Site ID: 0901520
Federal Facility: Not a Federal Facility
NPL Status: Not on the NPL
Non NPL Status: NFRAP-Site does not qualify for the NPL based on existing information

CERCLIS-NFRAP Site Contact Details:
Contact Sequence ID: 13054722.00000
Person ID: 9271184.00000

Contact Sequence ID: 13285851.00000
Person ID: 13003854.00000

Contact Sequence ID: 13291446.00000
Person ID: 13003858.00000

Contact Sequence ID: 13297304.00000

ASHLAND CHEMICAL CO (Continued) **1000277301**

Person ID: 13004003.00000

CERCLIS-NFRAP Assessment History:

Action: ARCHIVE SITE
Date Started: / /
Date Completed: 06/24/91
Priority Level: Not reported

Action: SITE INSPECTION
Date Started: / /
Date Completed: 06/24/91
Priority Level: NFRAP-Site does not qualify for the NPL based on existing information

Action: DISCOVERY
Date Started: / /
Date Completed: 08/01/80
Priority Level: Not reported

Action: PRELIMINARY ASSESSMENT
Date Started: 01/01/84
Date Completed: 12/01/87
Priority Level: Low priority for further assessment

CORRACTS:

EPA ID: CAD066562521
EPA Region: 09
Area Name: ENTIRE FACILITY
Actual Date: 19900101
Action: CA600GW - Stabilization Measures Implemented, Groundwater extraction and treatment
NAICS Code(s): 325188 42269 42272
All Other Basic Inorganic Chemical Manufacturing
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: CAD066562521
EPA Region: 09
Area Name: ENTIRE FACILITY
Actual Date: 19900601
Action: CA650 - Stabilization Construction Completed
NAICS Code(s): 325188 42269 42272
All Other Basic Inorganic Chemical Manufacturing
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: CAD066562521
EPA Region: 09
Area Name: ENTIRE FACILITY
Actual Date: 19890621
Action: CA250 - CMS Imposition
NAICS Code(s): 325188 42269 42272
All Other Basic Inorganic Chemical Manufacturing
Original schedule date: Not reported
Schedule end date: Not reported

ASHLAND CHEMICAL CO (Continued) **1000277301**

EPA ID:	CAD066562521
EPA Region:	09
Area Name:	ENTIRE FACILITY
Actual Date:	19890621
Action:	CA150 - RFI Workplan Approved
NAICS Code(s):	325188 42269 42272 All Other Basic Inorganic Chemical Manufacturing
Original schedule date:	Not reported
Schedule end date:	Not reported

EPA ID:	CAD066562521
EPA Region:	09
Area Name:	ENTIRE FACILITY
Actual Date:	19890621
Action:	CA100 - RFI Imposition
NAICS Code(s):	325188 42269 42272 All Other Basic Inorganic Chemical Manufacturing
Original schedule date:	Not reported
Schedule end date:	Not reported

EPA ID:	CAD066562521
EPA Region:	09
Area Name:	ENTIRE FACILITY
Actual Date:	19940811
Action:	CA225NR - Stabilization Measures Evaluation, This facility is, not amenable to stabilization activity at the, present time for reasons other than (1) it appears to be technically, infeasible or inappropriate (NF) or (2) there is a lack of technical, information (IN). Reasons for this conclusion may be the status of, closure at the facility, the degree of risk, timing considerations, the status of corrective action work at the facility, or other, administrative considerations
NAICS Code(s):	325188 42269 42272 All Other Basic Inorganic Chemical Manufacturing
Original schedule date:	19940811
Schedule end date:	Not reported

EPA ID:	CAD066562521
EPA Region:	09
Area Name:	ENTIRE FACILITY
Actual Date:	19940811
Action:	CA225NR - Stabilization Measures Evaluation, This facility is, not amenable to stabilization activity at the, present time for reasons other than (1) it appears to be technically, infeasible or inappropriate (NF) or (2) there is a lack of technical, information (IN). Reasons for this conclusion may be the status of, closure at the facility, the degree of risk, timing considerations, the status of corrective action work at the facility, or other, administrative considerations
NAICS Code(s):	325188 42269 42272 All Other Basic Inorganic Chemical Manufacturing
Original schedule date:	Not reported
Schedule end date:	Not reported

EPA ID:	CAD066562521
EPA Region:	09
Area Name:	ENTIRE FACILITY

ASHLAND CHEMICAL CO (Continued) **1000277301**

Actual Date: 19940811
Action: CA075ME - CA Prioritization, Facility or area was assigned a medium corrective action priority
NAICS Code(s): 325188 42269 42272
All Other Basic Inorganic Chemical Manufacturing
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: CAD066562521
EPA Region: 09
Area Name: ENTIRE FACILITY
Actual Date: 20020919
Action: CA750YE - Migration of Contaminated Groundwater under Control, Yes, Migration of Contaminated Groundwater Under Control has been verified
NAICS Code(s): 325188 42269 42272
All Other Basic Inorganic Chemical Manufacturing
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: CAD066562521
EPA Region: 09
Area Name: ENTIRE FACILITY
Actual Date: 20020919
Action: CA750YE - Migration of Contaminated Groundwater under Control, Yes, Migration of Contaminated Groundwater Under Control has been verified
NAICS Code(s): 325188 42269 42272
All Other Basic Inorganic Chemical Manufacturing
Original schedule date: 20020919
Schedule end date: Not reported

EPA ID: CAD066562521
EPA Region: 09
Area Name: ENTIRE FACILITY
Actual Date: 20020919
Action: CA725YE - Current Human Exposures Under Control, Yes, Current Human Exposures Under Control has been verified
NAICS Code(s): 325188 42269 42272
All Other Basic Inorganic Chemical Manufacturing
Original schedule date: 20020919
Schedule end date: Not reported

EPA ID: CAD066562521
EPA Region: 09
Area Name: ENTIRE FACILITY
Actual Date: 20020919
Action: CA725YE - Current Human Exposures Under Control, Yes, Current Human Exposures Under Control has been verified
NAICS Code(s): 325188 42269 42272
All Other Basic Inorganic Chemical Manufacturing
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: CAD066562521
EPA Region: 09
Area Name: ENTIRE FACILITY
Actual Date: 19970922
Action: CA725NO - Current Human Exposures Under Control, Current human

ASHLAND CHEMICAL CO (Continued) **1000277301**

exposures are NOT under control
NAICS Code(s): 325188 42269 42272
All Other Basic Inorganic Chemical Manufacturing
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: CAD066562521
EPA Region: 09
Area Name: ENTIRE FACILITY
Actual Date: 19970922
Action: CA210 - CA Responsibility Referred To A Non-RCRA Federal Authority
NAICS Code(s): 325188 42269 42272
All Other Basic Inorganic Chemical Manufacturing
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: CAD066562521
EPA Region: 09
Area Name: ENTIRE FACILITY
Actual Date: 19970922
Action: CA750NO - Migration of Contaminated Groundwater under Control, Unacceptable migration of contaminated groundwater is observed or expected
NAICS Code(s): 325188 42269 42272
All Other Basic Inorganic Chemical Manufacturing
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: CAD066562521
EPA Region: 09
Area Name: ENTIRE FACILITY
Actual Date: 19851115
Action: CA600SR - Stabilization Measures Implemented, Primary measure is source removal and/or treatment
NAICS Code(s): 325188 42269 42272
All Other Basic Inorganic Chemical Manufacturing
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: CAD066562521
EPA Region: 09
Area Name: ENTIRE FACILITY
Actual Date: 19871228
Action: CA029WQ
NAICS Code(s): 325188 42269 42272
All Other Basic Inorganic Chemical Manufacturing
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: CAD066562521
EPA Region: 09
Area Name: ENTIRE FACILITY
Actual Date: 19871228
Action: CA049PA
NAICS Code(s): 325188 42269 42272
All Other Basic Inorganic Chemical Manufacturing
Original schedule date: Not reported

ASHLAND CHEMICAL CO (Continued) **1000277301**

Schedule end date: Not reported

EPA ID: CAD066562521
EPA Region: 09
Area Name: ENTIRE FACILITY
Actual Date: 19871228
Action: CA075HI - CA Prioritization, Facility or area was assigned a high corrective action priority
NAICS Code(s): 325188 42269 42272
All Other Basic Inorganic Chemical Manufacturing
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: CAD066562521
EPA Region: 09
Area Name: ENTIRE FACILITY
Actual Date: 19871228
Action: CA050 - RFA Completed
NAICS Code(s): 325188 42269 42272
All Other Basic Inorganic Chemical Manufacturing
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: CAD066562521
EPA Region: 09
Area Name: ENTIRE FACILITY
Actual Date: 19871228
Action: CA074HI
NAICS Code(s): 325188 42269 42272
All Other Basic Inorganic Chemical Manufacturing
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: CAD066562521
EPA Region: 09
Area Name: ENTIRE FACILITY
Actual Date: 20001228
Action: CA750NO - Migration of Contaminated Groundwater under Control, Unacceptable migration of contaminated groundwater is observed or expected
NAICS Code(s): 325188 42269 42272
All Other Basic Inorganic Chemical Manufacturing
Original schedule date: 20001228
Schedule end date: Not reported

EPA ID: CAD066562521
EPA Region: 09
Area Name: ENTIRE FACILITY
Actual Date: 20001228
Action: CA750NO - Migration of Contaminated Groundwater under Control, Unacceptable migration of contaminated groundwater is observed or expected
NAICS Code(s): 325188 42269 42272
All Other Basic Inorganic Chemical Manufacturing
Original schedule date: Not reported
Schedule end date: Not reported

ASHLAND CHEMICAL CO (Continued) **1000277301**

EPA ID: CAD066562521
EPA Region: 09
Area Name: ENTIRE FACILITY
Actual Date: 20001228
Action: CA725NO - Current Human Exposures Under Control, Current human exposures are NOT under control
NAICS Code(s): 325188 42269 42272
All Other Basic Inorganic Chemical Manufacturing
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: CAD066562521
EPA Region: 09
Area Name: ENTIRE FACILITY
Actual Date: 20001228
Action: CA725NO - Current Human Exposures Under Control, Current human exposures are NOT under control
NAICS Code(s): 325188 42269 42272
All Other Basic Inorganic Chemical Manufacturing
Original schedule date: 20001228
Schedule end date: Not reported

EPA ID: CAD066562521
EPA Region: 09
Area Name: ENTIRE FACILITY
Actual Date: Not reported
Action: CA03193
NAICS Code(s): 325188 42269 42272
All Other Basic Inorganic Chemical Manufacturing
Original schedule date: 19931001
Schedule end date: Not reported

CORTESE:
Region: CORTESE
Envirostor Id: Not reported
Site/Facility Type: Not reported
Cleanup Status: Not reported
Status Date: Not reported
Site Code: Not reported
Latitude: Not reported
Longitude: Not reported
Owner: Not reported
Enf Type: Not reported
Swat R: Not reported
Flag: CORTESE
Order No: Not reported
Waste Discharge System No: Not reported
Effective Date: Not reported
Region 2: 2
WID Id: 2 019124N02
Solid Waste Id No: Not reported
Waste Management Uit Name: Not reported

CORTESE:
Region: CORTESE
Facility County Code: 1

ASHLAND CHEMICAL CO (Continued) **1000277301**

Reg By: WBC&D
Reg Id: 2 019124N02

HIST UST:
Region: STATE
Facility ID: 00000006132
Facility Type: Other
Other Type: CHEMICAL DISTRIBUTOR
Total Tanks: 0005
Contact Name: GREG WRIGHT
Telephone: 4157969333
Owner Name: ASHLAND CHEMICAL COMPANY, DIVI
Owner Address: 5200 BLAZER PARKWAY
Owner City,St,Zip: DUBLIN, OH 43017

Tank Num: 001
Container Num: UG2
Year Installed: 1981
Tank Capacity: 00002000
Tank Used for: WASTE
Type of Fuel: Not reported
Tank Construction: 1/4 inches
Leak Detection: Groundwater Monitoring Well

Tank Num: 002
Container Num: UG 1
Year Installed: 1981
Tank Capacity: 00002000
Tank Used for: WASTE
Type of Fuel: Not reported
Tank Construction: 1/4 inches
Leak Detection: Groundwater Monitoring Well

Tank Num: 003
Container Num: N2
Year Installed: Not reported
Tank Capacity: 00000700
Tank Used for: WASTE
Type of Fuel: Not reported
Tank Construction: Not reported
Leak Detection: Visual

Tank Num: 004
Container Num: N1
Year Installed: Not reported
Tank Capacity: 00011300
Tank Used for: WASTE
Type of Fuel: Not reported
Tank Construction: Not reported
Leak Detection: Visual

Tank Num: 005
Container Num: UG3
Year Installed: 1981
Tank Capacity: 00001000
Tank Used for: WASTE
Type of Fuel: Not reported

ASHLAND CHEMICAL CO (Continued) **1000277301**

Tank Construction: 1/4 inches
Leak Detection: Groundwater Monitoring Well

ENF:

Region:	2
Facility Id:	206542
Agency Name:	Ashland Chemical Company
Place Type:	Facility
Place Subtype:	Not reported
Facility Type:	Industrial
Agency Type:	Privately-Owned Business
# Of Agencies:	1
Place Latitude:	37.5220770
Place Longitude:	-122.04987
SIC Code 1:	Not reported
SIC Desc 1:	Not reported
SIC Code 2:	Not reported
SIC Desc 2:	Not reported
SIC Code 3:	Not reported
SIC Desc 3:	Not reported
NAICS Code 1:	Not reported
NAICS Desc 1:	Not reported
NAICS Code 2:	Not reported
NAICS Desc 2:	Not reported
NAICS Code 3:	Not reported
NAICS Desc 3:	Not reported
# Of Places:	1
Source Of Facility:	Reg Meas
Design Flow:	Not reported
Threat To Water Quality:	Not reported
Complexity:	Not reported
Pretreatment:	Not reported
Facility Waste Type:	Not reported
Facility Waste Type 2:	Not reported
Facility Waste Type 3:	Not reported
Facility Waste Type 4:	Not reported
Program:	UNREGS
# Of Programs:	1
WDID:	2 019124N02
Reg Measure Id:	163162
Reg Measure Type:	Unregulated
Region:	2
Order #:	Not reported
Npdes# CA#:	Not reported
Major-Minor:	Not reported
Npdes Type:	Not reported
Reclamation:	Not reported
Dredge Fill Fee:	Not reported
301H:	Not reported
Application Fee Amt Received:	Not reported
Status:	Never Active
Status Date:	02/21/2013
Effective Date:	Not reported
Expiration/Review Date:	Not reported
Termination Date:	Not reported
WDR Review - Amend:	Not reported
WDR Review - Revise/Renew:	Not reported

ASHLAND CHEMICAL CO (Continued) **1000277301**

WDR Review - Rescind:	Not reported
WDR Review - No Action Required:	Not reported
WDR Review - Pending:	Not reported
WDR Review - Planned:	Not reported
Status Enrollee:	N
Individual/General:	I
Fee Code:	Not reported
Direction/Voice:	Passive
Enforcement Id(EID):	221942
Region:	2
Order / Resolution Number:	R2-1998-0080
Enforcement Action Type:	Clean-up and Abatement Order
Effective Date:	08/19/1998
Adoption/Issuance Date:	Not reported
Achieve Date:	Not reported
Termination Date:	Not reported
ACL Issuance Date:	Not reported
EPL Issuance Date:	Not reported
Status:	Active
Title:	Enforcement - 2 019124N02
Description:	CAO-
Program:	UNREGS
Latest Milestone Completion Date:	Not reported
# Of Programs1:	1
Total Assessment Amount:	0
Initial Assessed Amount:	0
Liability $ Amount:	0
Project $ Amount:	0
Liability $ Paid:	0
Project $ Completed:	0
Total $ Paid/Completed Amount:	0

Region:	2
Facility Id:	206542
Agency Name:	Ashland Chemical Company
Place Type:	Facility
Place Subtype:	Not reported
Facility Type:	Industrial
Agency Type:	Privately-Owned Business
# Of Agencies:	1
Place Latitude:	37.5220770
Place Longitude:	-122.04987
SIC Code 1:	Not reported
SIC Desc 1:	Not reported
SIC Code 2:	Not reported
SIC Desc 2:	Not reported
SIC Code 3:	Not reported
SIC Desc 3:	Not reported
NAICS Code 1:	Not reported
NAICS Desc 1:	Not reported
NAICS Code 2:	Not reported
NAICS Desc 2:	Not reported
NAICS Code 3:	Not reported
NAICS Desc 3:	Not reported
# Of Places:	1
Source Of Facility:	Reg Meas
Design Flow:	Not reported

ASHLAND CHEMICAL CO (Continued) **1000277301**

Threat To Water Quality:	Not reported
Complexity:	Not reported
Pretreatment:	Not reported
Facility Waste Type:	Not reported
Facility Waste Type 2:	Not reported
Facility Waste Type 3:	Not reported
Facility Waste Type 4:	Not reported
Program:	UNREGS
# Of Programs:	1
WDID:	2 019124N02
Reg Measure Id:	163162
Reg Measure Type:	Unregulated
Region:	2
Order #:	Not reported
Npdes# CA#:	Not reported
Major-Minor:	Not reported
Npdes Type:	Not reported
Reclamation:	Not reported
Dredge Fill Fee:	Not reported
301H:	Not reported
Application Fee Amt Received:	Not reported
Status:	Never Active
Status Date:	02/21/2013
Effective Date:	Not reported
Expiration/Review Date:	Not reported
Termination Date:	Not reported
WDR Review - Amend:	Not reported
WDR Review - Revise/Renew:	Not reported
WDR Review - Rescind:	Not reported
WDR Review - No Action Required:	Not reported
WDR Review - Pending:	Not reported
WDR Review - Planned:	Not reported
Status Enrollee:	N
Individual/General:	I
Fee Code:	Not reported
Direction/Voice:	Passive
Enforcement Id(EID):	222752
Region:	2
Order / Resolution Number:	89-109
Enforcement Action Type:	Clean-up and Abatement Order
Effective Date:	06/21/1989
Adoption/Issuance Date:	Not reported
Achieve Date:	Not reported
Termination Date:	Not reported
ACL Issuance Date:	Not reported
EPL Issuance Date:	Not reported
Status:	Historical
Title:	Enforcement - 2 019124N02
Description:	ENF ORDER
Program:	UNREGS
Latest Milestone Completion Date:	Not reported
# Of Programs1:	1
Total Assessment Amount:	0
Initial Assessed Amount:	0
Liability $ Amount:	0
Project $ Amount:	0
Liability $ Paid:	0

ASHLAND CHEMICAL CO (Continued) **1000277301**

Project $ Completed:	0
Total $ Paid/Completed Amount:	0
Region:	2
Facility Id:	206543
Agency Name:	Not reported
Place Type:	Manufacturing
Place Subtype:	Manufacturing NEC
Facility Type:	Industrial
Agency Type:	Not reported
# Of Agencies:	Not reported
Place Latitude:	37.5220770
Place Longitude:	-122.04987
SIC Code 1:	2824
SIC Desc 1:	Manmade Organic Fibers, Except Cellulosic
SIC Code 2:	Not reported
SIC Desc 2:	Not reported
SIC Code 3:	Not reported
SIC Desc 3:	Not reported
NAICS Code 1:	Not reported
NAICS Desc 1:	Not reported
NAICS Code 2:	Not reported
NAICS Desc 2:	Not reported
NAICS Code 3:	Not reported
NAICS Desc 3:	Not reported
# Of Places:	1
Source Of Facility:	Enf Action
Design Flow:	Not reported
Threat To Water Quality:	Not reported
Complexity:	Not reported
Pretreatment:	Not reported
Facility Waste Type:	Not reported
Facility Waste Type 2:	Not reported
Facility Waste Type 3:	Not reported
Facility Waste Type 4:	Not reported
Program:	NPDES
# Of Programs:	1
WDID:	Not reported
Reg Measure Id:	Not reported
Reg Measure Type:	Not reported
Region:	Not reported
Order #:	Not reported
Npdes# CA#:	Not reported
Major-Minor:	Not reported
Npdes Type:	Not reported
Reclamation:	Not reported
Dredge Fill Fee:	Not reported
301H:	Not reported
Application Fee Amt Received:	Not reported
Status:	Not reported
Status Date:	Not reported
Effective Date:	Not reported
Expiration/Review Date:	Not reported
Termination Date:	Not reported
WDR Review - Amend:	Not reported
WDR Review - Revise/Renew:	Not reported
WDR Review - Rescind:	Not reported

ASHLAND CHEMICAL CO (Continued) **1000277301**

WDR Review - No Action Required:	Not reported
WDR Review - Pending:	Not reported
WDR Review - Planned:	Not reported
Status Enrollee:	Not reported
Individual/General:	Not reported
Fee Code:	Not reported
Direction/Voice:	Not reported
Enforcement Id(EID):	222984
Region:	2
Order / Resolution Number:	88-020
Enforcement Action Type:	Admin Civil Liability
Effective Date:	03/16/1988
Adoption/Issuance Date:	Not reported
Achieve Date:	4/15/1988
Termination Date:	Not reported
ACL Issuance Date:	Not reported
EPL Issuance Date:	Not reported
Status:	Historical
Title:	Enforcement - 2 019124001
Description:	SPILL OF APPROX 3300 GALLONS OF PAINT THINNERS & SOLVENTS TO THE SOIL & G DWTR - VIOL OF BASIN PLAN
Program:	NPDES
Latest Milestone Completion Date:	Not reported
# Of Programs1:	1
Total Assessment Amount:	0
Initial Assessed Amount:	0
Liability $ Amount:	0
Project $ Amount:	0
Liability $ Paid:	0
Project $ Completed:	0
Total $ Paid/Completed Amount:	0

RESPONSE:

Facility ID:	01280046
Site Type:	State Response
Site Type Detail:	State Response or NPL
Acres:	0
National Priorities List:	NO
Cleanup Oversight Agencies:	RWQCB 2 - San Francisco Bay
Lead Agency:	RWQCB 2 - San Francisco Bay
Lead Agency Description:	RWQCB 2 - San Francisco Bay
Project Manager:	Not reported
Supervisor:	Referred - Not Assigned
Division Branch:	Cleanup Berkeley
Site Code:	Not reported
Site Mgmt. Req.:	NONE SPECIFIED
Assembly:	25
Senate:	10
Special Program Status:	* RCRA 3012 - Past Haz Waste Disp Inven Site
Status:	Refer: RWQCB
Status Date:	02/02/1984
Restricted Use:	NO
Funding:	Responsible Party
Latitude:	37.52194
Longitude:	-122.05
APN:	NONE SPECIFIED
Past Use:	NONE SPECIFIED

ASHLAND CHEMICAL CO (Continued) **1000277301**

Potential COC: * OTHER ORGANIC SOLIDS, * UNSPECIFIED ORGANIC LIQUID MIXTURE
Confirmed COC: * OTHER ORGANIC SOLIDS, * UNSPECIFIED ORGANIC LIQUID MIXTURE, NONE SPECIFIED
Potential Description: NONE SPECIFIED
Alias Name: CAD066562521
Alias Type: EPA Identification Number
Alias Name: 110033616102
Alias Type: EPA (FRS #)
Alias Name: CAD066562521
Alias Type: HWTS Identification Code
Alias Name: 01280046
Alias Type: Envirostor ID Number

Completed Info:
Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: * Discovery
Completed Date: 09/24/1983
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: * Discovery
Completed Date: 09/14/1981
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Assessment Report
Completed Date: 02/02/1984
Comments: Not reported

Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

ENVIROSTOR:
Site Type: Corrective Action
Site Type Detailed: Corrective Action
Acres: 0
NPL: NO
Regulatory Agencies: RWQCB
Lead Agency: WQC
Program Manager: Not reported
Supervisor: * Wei Wei Chui
Division Branch: Cleanup Berkeley
Facility ID: 80001455
Site Code: Not reported
Assembly: 25
Senate: 10
Special Program: Not reported

ASHLAND CHEMICAL CO (Continued) **1000277301**

Status: Refer: RWQCB
Status Date: 01/01/2008
Restricted Use: NO
Site Mgmt. Req.: NONE SPECIFIED
Funding: Not reported
Latitude: 37.52217
Longitude: -122.0498
APN: NONE SPECIFIED
Past Use: NONE SPECIFIED
Potential COC: NONE SPECIFIED
Confirmed COC: NONE SPECIFIED, NONE SPECIFIED
Potential Description: NONE SPECIFIED
Alias Name: CAD066562521
Alias Type: EPA Identification Number
Alias Name: 01280046
Alias Type: Envirostor ID Number
Alias Name: 80001455
Alias Type: Envirostor ID Number

Completed Info:
Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Interim Measures Questionnaire
Completed Date: 08/11/1994
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: RCRA Facility Assessment Report
Completed Date: 12/28/1987
Comments: Preliminary Endangerment Assessment (PEA) completed 2-2-84

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Consent Agreement
Completed Date: 06/21/1989
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: RCRA Facility Assessment Report
Completed Date: 12/28/1987
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Groundwater Migration Controlled
Completed Date: 12/28/2000
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Groundwater Migration Controlled
Completed Date: 09/19/2002
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported

ASHLAND CHEMICAL CO (Continued) **1000277301**

Completed Document Type: Human Exposure Controlled
Completed Date: 12/28/2000
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Human Exposure Controlled
Completed Date: 09/19/2002
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Interim Measures Workplan
Completed Date: 11/15/1985
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: RFI Workplan
Completed Date: 06/21/1989
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Assessment Report
Completed Date: 12/28/1987
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Interim Measures Implementation Report
Completed Date: 06/01/1990
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Interim Measures Workplan
Completed Date: 01/01/1990
Comments: Not reported

Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

Site Type: State Response
Site Type Detailed: State Response or NPL
Acres: 0
NPL: NO
Regulatory Agencies: RWQCB 2 - San Francisco Bay
Lead Agency: RWQCB 2 - San Francisco Bay
Program Manager: Not reported

ASHLAND CHEMICAL CO (Continued) **1000277301**

Supervisor:	Referred - Not Assigned
Division Branch:	Cleanup Berkeley
Facility ID:	01280046
Site Code:	Not reported
Assembly:	25
Senate:	10
Special Program:	* RCRA 3012 - Past Haz Waste Disp Inven Site
Status:	Refer: RWQCB
Status Date:	02/02/1984
Restricted Use:	NO
Site Mgmt. Req.:	NONE SPECIFIED
Funding:	Responsible Party
Latitude:	37.52194
Longitude:	-122.05
APN:	NONE SPECIFIED
Past Use:	NONE SPECIFIED
Potential COC:	NONE SPECIFIED, NONE SPECIFIED, * OTHER ORGANIC SOLIDS, * UNSPECIFIED ORGANIC LIQUID MIXTURE
Confirmed COC:	NONE SPECIFIED, NONE SPECIFIED, * OTHER ORGANIC SOLIDS, * UNSPECIFIED ORGANIC LIQUID MIXTURE, NONE SPECIFIED
Potential Description:	NONE SPECIFIED
Alias Name:	CAD066562521
Alias Type:	EPA Identification Number
Alias Name:	110033616102
Alias Type:	EPA (FRS #)
Alias Name:	CAD066562521
Alias Type:	HWTS Identification Code
Alias Name:	01280046
Alias Type:	Envirostor ID Number

Completed Info:

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	* Discovery
Completed Date:	09/24/1983
Comments:	Not reported
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	* Discovery
Completed Date:	09/14/1981
Comments:	Not reported
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Preliminary Assessment Report
Completed Date:	02/02/1984
Comments:	Not reported
Future Area Name:	Not reported
Future Sub Area Name:	Not reported
Future Document Type:	Not reported
Future Due Date:	Not reported
Schedule Area Name:	Not reported
Schedule Sub Area Name:	Not reported
Schedule Document Type:	Not reported
Schedule Due Date:	Not reported
Schedule Revised Date:	Not reported

ASHLAND CHEMICAL CO (Continued) **1000277301**

CA Financial Assurance 1:

EPA ID Number:	CAD066562521
Sudden Amount1:	Not reported
Non Sudden Amount1:	Not reported
Closure Mechanism:	Not reported
Closure Amount:	Not reported
Post Closure Mechanism:	Not reported
Post Closure Amount:	Not reported
Corrective Action Mechanism:	Bond Rider
Corrective Action Amount:	1370186
Sudden Mechanism Type:	Not reported
Sudden Mechanism Amount:	Not reported
Non Sudden Mechanism Type:	Not reported
Non Sudden Mechanism Amount:	Not reported
O&M Mechanism Type:	Not reported
O&M Amount:	Not reported

US FIN ASSUR:

EPA ID:	CAD066562521
Provider:	INDIAN HARBOR INSURANCE CO.
EPA region:	9
County:	ALAMEDA
Mechanism type:	INSURANCE
Mechanism ID:	PEC002835502
Cost estimate:	1317000
Face value:	1317000
Effective date:	4/10/2011

HWP:

EPA Id:	CAD066562521
Cleanup Status:	CLOSED
Latitude:	37.52217
Longitude:	-122.0498
Facility Type:	Historical - Non-Operating
Facility Size:	Not reported
Team:	Not reported
Supervisor:	Not reported
Site Code:	Not reported
Assembly District:	25
Senate District:	10
Public Information Officer:	Not reported

Activities:

EPA Id:	CAD066562521
Facility Type:	Historical - Non-Operating
Unit Names:	CONTAIN1
Event Description:	New Operating Permit - FINAL PERMIT (EFFECTIVE)
Actual Date:	06/24/1985

EPA Id:	CAD066562521
Facility Type:	Historical - Non-Operating
Unit Names:	CONTAIN1
Event Description:	New Operating Permit - FINAL PERMIT
Actual Date:	06/24/1985

EPA Id:	CAD066562521

ASHLAND CHEMICAL CO (Continued) **1000277301**

Facility Type: Historical - Non-Operating
Unit Names: CONTAIN1
Event Description: New Operating Permit - CALL-IN LETTER ISSUED
Actual Date: 02/09/1983

EPA Id: CAD066562521
Facility Type: Historical - Non-Operating
Unit Names: CONTAIN1
Event Description: New Operating Permit - PUBLIC COMMENT (BEGIN)
Actual Date: 05/02/1985

EPA Id: CAD066562521
Facility Type: Historical - Non-Operating
Unit Names: CONTAIN1
Event Description: New Operating Permit - TECHNICAL COMPLETE LETTER
Actual Date: 02/01/1985

EPA Id: CAD066562521
Facility Type: Historical - Non-Operating
Unit Names: CONTAIN1
Event Description: New Operating Permit - FINAL PERMIT (EXPIRES)
Actual Date: 06/24/1990

EPA Id: CAD066562521
Facility Type: Historical - Non-Operating
Unit Names: CONTAIN1
Event Description: New Operating Permit - APPLICATION PART B RECEIVED
Actual Date: 03/31/1983

Closure:
EPA Id: CAD066562521
Facility Type: Historical - Non-Operating
Unit Names: CONTAIN1, SURFTRT1, TANKTRT1 (GPRA Unit)
Event Description: Closure - RECEIVE CLOSURE CERTIFICATION
Actual Date: 06/08/1993

EPA Id: CAD066562521
Facility Type: Historical - Non-Operating
Unit Names: CONTAIN1, SURFTRT1, TANKTRT1 (GPRA Unit)
Event Description: Closure - ISSUE CLOSURE VERIFICATION
Actual Date: 06/30/1993

Alias:
EPA Id: CAD066562521
Facility Type: Historical - Non-Operating
Alias Type: Envirostor ID Number
Alias: 01280046

2020 COR ACTION:
EPA ID: CAD066562521
Region: 9
Action: Not reported

E12 East 1/8-1/4 0.215 mi. 1133 ft. | **NEWARK SPORTSMAN'S CLUB**
37447 WILLOW STREET
NEWARK, CA 94560
Site 1 of 4 in cluster E | **CA SLIC** | **S102405641**
N/A

Relative: Higher
Actual: 13 ft.

SLIC:

Region:	STATE
Facility Status:	**Open - Site Assessment**
Status Date:	08/11/1994
Global Id:	SL0600112387
Lead Agency:	ALAMEDA COUNTY WATER DISTRICT
Lead Agency Case Number:	0402
Latitude:	37.517951
Longitude:	-122.047758
Case Type:	Cleanup Program Site
Case Worker:	MH
Local Agency:	ALAMEDA COUNTY WATER DISTRICT
RB Case Number:	01S0464
File Location:	Not reported
Potential Media Affected:	Not reported
Potential Contaminants of Concern:	Not reported
Site History:	Not reported

Click here to access the California GeoTracker records for this facility:

SLIC REG 2:

Region:	2
Facility ID:	Not reported
Facility Status:	Not reported
Date Closed:	Not reported
Local Case #:	Not reported
How Discovered:	Not reported
Leak Cause:	Not reported
Leak Source:	Not reported
Date Confirmed:	Not reported
Date Prelim Site Assmnt Workplan Submitted:	Not reported
Date Preliminary Site Assessment Began:	Not reported
Date Pollution Characterization Began:	Not reported
Date Remediation Plan Submitted:	Not reported
Date Remedial Action Underway:	Not reported
Date Post Remedial Action Monitoring Began:	Not reported

F13 ESE 1/8-1/4 0.216 mi. 1139 ft. | **TORIAN HOLDINGS**
37555 WILLOW STREET
NEWARK, CA 94560
Site 1 of 4 in cluster F | **CA SLIC** | **S108222969**
N/A

Relative: Lower
Actual: 9 ft.

SLIC:

Region:	STATE
Facility Status:	**Open - Site Assessment**
Status Date:	10/06/2009
Global Id:	T10000001574
Lead Agency:	SAN FRANCISCO BAY RWQCB (REGION 2)
Lead Agency Case Number:	0742
Latitude:	37.518899758857
Longitude:	-122.04980134964
Case Type:	Cleanup Program Site

TORIAN HOLDINGS (Continued) **S108222969**

Case Worker:	CCM
Local Agency:	ALAMEDA COUNTY WATER DISTRICT
RB Case Number:	01S0707
File Location:	Local Agency
Potential Media Affected:	Other Groundwater (uses other than drinking water), Soil
Potential Contaminants of Concern:	Asbestos - Naturally Occurring Asbestos (NOA), Other Solvent or Non-Petroleum Hydrocarbon, Chromium, Lead, Nickel
Site History:	Parcel A (APN 92-115-8) - 37555 Willow Street, former location of E.J. Lavino and Co., Mobility Industries, J CAM fiberglass, and other businesses. Buildings at the property were demolished in 2004. Building foundations., concrete pads, and asphalt surfaces remain. The Parcel A property is approximately 10 acres in size. P Parcel B - no known street address, located immediately south of Parcel A, and bounded by Willow Streeet on the east, an Alameda County flood control channel on the south, and Hickory Street (undeveloped) on the west. There are no buildings or known former buildings at the property.The property is approximately 32 acres in size.

Click here to access the California GeoTracker records for this facility:

F14 **OMEGA CHEM NORTH** **RCRA NonGen / NLR** **1000232424**
East **37521 WILLOW ST** **FINDS** **CAD980880645**
1/8-1/4 **NEWARK, CA 94560**
0.216 mi.
1141 ft. **Site 2 of 4 in cluster F**

Relative:
Lower

Actual:
11 ft.

RCRA NonGen / NLR:

Date form received by agency:	11/14/1983
Facility name:	OMEGA CHEM NORTH
Facility address:	37521 WILLOW ST NEWARK, CA 94560
EPA ID:	CAD980880645
Mailing address:	PO BOX 152 WHITTIER, CA 90608
Contact:	ENVIRONMENTAL MANAGER
Contact address:	37521 WILLOW ST NEWARK, CA 94560
Contact country:	US
Contact telephone:	(213) 698-0991
Contact email:	Not reported
EPA Region:	09
Classification:	Non-Generator
Description:	Handler: Non-Generators do not presently generate hazardous waste

Owner/Operator Summary:

Owner/operator name:	FOSTER CHEM CORP
Owner/operator address:	NOT REQUIRED NOT REQUIRED, ME 99999
Owner/operator country:	Not reported
Owner/operator telephone:	(415) 555-1212
Legal status:	Private
Owner/Operator Type:	Owner
Owner/Op start date:	Not reported
Owner/Op end date:	Not reported

Owner/operator name:	NOT REQUIRED
Owner/operator address:	NOT REQUIRED

OMEGA CHEM NORTH (Continued) **1000232424**

NOT REQUIRED, ME 99999
Owner/operator country: Not reported
Owner/operator telephone: (415) 555-1212
Legal status: Private
Owner/Operator Type: Operator
Owner/Op start date: Not reported
Owner/Op end date: Not reported

Handler Activities Summary:
U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): No
Recycler of hazardous waste: No
Transporter of hazardous waste: No
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: No
Furnace exemption: No
Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

Violation Status: No violations found

FINDS:

Registry ID: 110002672705

Environmental Interest/Information System
RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

E15 East 1/8-1/4 0.217 mi. 1148 ft. | **ROMIC ENVIRONMENTAL TECHNOLOGIES CORP** | **CA SLIC** | **S104573911**
37445 WILLOW ST | **CA ENVIROSTOR** | **N/A**
NEWARK, CA 94560 | **CA HWP**

Site 2 of 4 in cluster E

Relative: Higher

Actual: 13 ft.

SLIC:
Region: STATE
Facility Status: Open - Remediation
Status Date: 03/28/2006
Global Id: SL20227845
Lead Agency: SAN FRANCISCO BAY RWQCB (REGION 2)
Lead Agency Case Number: 0050
Latitude: 37.5201932073065
Longitude: -122.05010175705
Case Type: Cleanup Program Site
Case Worker: ES
Local Agency: ALAMEDA COUNTY WATER DISTRICT

ROMIC ENVIRONMENTAL TECHNOLOGIES CORP (Continued) **S104573911**

RB Case Number:	01S0038
File Location:	Regional Board
Potential Media Affected:	Other Groundwater (uses other than drinking water)
Potential Contaminants of Concern:	* Volatile Organic Compounds (VOC)
Site History:	Site is formerly Foster Chemical Corporation, operated at the Site from 1975 to 1985, and released solvents to the subsurface soil and groundwater. A Final Site Cleanup Plan was adopted by the Water Board 9/12/2008, which is currently uderway. Data Gap and Pre-Remediation Investigation Work Plan submitted Feb. 1, 2009.

Click here to access the California GeoTracker records for this facility:

ENVIROSTOR:

Site Type:	Corrective Action
Site Type Detailed:	Corrective Action
Acres:	0
NPL:	NO
Regulatory Agencies:	RWQCB 2 - San Francisco Bay
Lead Agency:	RWQCB 2 - San Francisco Bay
Program Manager:	Not reported
Supervisor:	Referred - Not Assigned
Division Branch:	Cleanup Berkeley
Facility ID:	80001425
Site Code:	Not reported
Assembly:	25
Senate:	10
Special Program:	Not reported
Status:	Refer: RWQCB
Status Date:	01/01/2008
Restricted Use:	NO
Site Mgmt. Req.:	NONE SPECIFIED
Funding:	Not reported
Latitude:	37.51788
Longitude:	-122.0475
APN:	NONE SPECIFIED
Past Use:	NONE SPECIFIED
Potential COC:	NONE SPECIFIED
Confirmed COC:	NONE SPECIFIED, NONE SPECIFIED
Potential Description:	NONE SPECIFIED
Alias Name:	FOSTER CHEMICAL CORPORATION
Alias Type:	Alternate Name
Alias Name:	CAD056197601
Alias Type:	EPA Identification Number
Alias Name:	110000609645
Alias Type:	EPA (FRS #)
Alias Name:	SL20227845
Alias Type:	GeoTracker Global ID
Alias Name:	01340016
Alias Type:	Envirostor ID Number
Alias Name:	80001425
Alias Type:	Envirostor ID Number

Completed Info:

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Consent Agreement
Completed Date:	06/21/1989

ROMIC ENVIRONMENTAL TECHNOLOGIES CORP (Continued) **S104573911**

Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Interim Measures Questionnaire
Completed Date: 08/15/1994
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: RCRA Facility Assessment Report
Completed Date: 04/28/1989
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: RCRA Facility Assessment Report
Completed Date: 04/28/1989
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Groundwater Migration Controlled
Completed Date: 09/24/1997
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Human Exposure Controlled
Completed Date: 09/24/1997
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Interim Measures Implementation Report
Completed Date: 08/19/1994
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Interim Measures Workplan
Completed Date: 06/21/1989
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: RFI Report
Completed Date: 01/01/1993
Comments: THERE IS NO SINGLE RFI DOCUMENT - INVESTIGATIONS WERE CARRIED OUT BETWEEN 1988 AND 1992 FOR SOILS AND GW. WE SELECTED 1/1/93 AS A DATE BY WHICH THE RWQCB WAS SATISFIED THAT INVESTIGATIONS WERE COMPLETE. RSARACINO 19970924.15:47S

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Assessment Report
Completed Date: 04/28/1989

ROMIC ENVIRONMENTAL TECHNOLOGIES CORP (Continued) **S104573911**

Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Interim Measures Workplan
Completed Date: 06/21/1989
Comments: Not reported

Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Schedule Area Name: PROJECT WIDE
Schedule Sub Area Name: Not reported
Schedule Document Type: Remedy Constructed
Schedule Due Date: 09/30/2012
Schedule Revised Date: Not reported

Site Type: Historical
Site Type Detailed: * Historical
Acres: Not reported
NPL: NO
Regulatory Agencies: RWQCB 2 - San Francisco Bay
Lead Agency: RWQCB 2 - San Francisco Bay
Program Manager: Not reported
Supervisor: Referred - Not Assigned
Division Branch: Cleanup Berkeley
Facility ID: 01340016
Site Code: Not reported
Assembly: 25
Senate: 10
Special Program: Not reported
Status: Refer: RWQCB
Status Date: 05/23/2003
Restricted Use: NO
Site Mgmt. Req.: NONE SPECIFIED
Funding: Not reported
Latitude: 37.52066
Longitude: -122.0496
APN: NONE SPECIFIED
Past Use: NONE SPECIFIED
Potential COC: NONE SPECIFIED, NONE SPECIFIED, NONE SPECIFIED
Confirmed COC: NONE SPECIFIED, NONE SPECIFIED, NONE SPECIFIED, NONE SPECIFIED
Potential Description: NONE SPECIFIED
Alias Name: ROMIC CHEMICAL CORPORATION
Alias Type: Alternate Name
Alias Name: ROMIC ENVIRONMENTAL TECHNOLOGIES CORP
Alias Type: Alternate Name
Alias Name: CAD056197601
Alias Type: EPA Identification Number
Alias Name: 110000609645
Alias Type: EPA (FRS #)
Alias Name: SL20227845
Alias Type: GeoTracker Global ID
Alias Name: 01340016
Alias Type: Envirostor ID Number

ROMIC ENVIRONMENTAL TECHNOLOGIES CORP (Continued) **S104573911**

Completed Info:

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Site Screening
Completed Date:	04/21/1980
Comments:	Not reported
Future Area Name:	Not reported
Future Sub Area Name:	Not reported
Future Document Type:	Not reported
Future Due Date:	Not reported
Schedule Area Name:	Not reported
Schedule Sub Area Name:	Not reported
Schedule Document Type:	Not reported
Schedule Due Date:	Not reported
Schedule Revised Date:	Not reported

HWP:

EPA Id:	CAD056197601
Cleanup Status:	CLOSED
Latitude:	37.51788
Longitude:	-122.0475
Facility Type:	Historical - Non-Operating
Facility Size:	Not reported
Team:	Not reported
Supervisor:	Not reported
Site Code:	Not reported
Assembly District:	25
Senate District:	10
Public Information Officer:	Not reported

Closure:

EPA Id:	CAD056197601
Facility Type:	Historical - Non-Operating
Unit Names:	CONTAIN1
Event Description:	Closure Final - ISSUE CLOSURE VERIFICATION
Actual Date:	03/13/1996

Alias:

EPA Id:	CAD056197601
Facility Type:	Historical - Non-Operating
Alias Type:	Alternate Name
Alias:	FOSTER CHEMICAL CORPORATION
EPA Id:	CAD056197601
Facility Type:	Historical - Non-Operating
Alias Type:	Envirostor ID Number
Alias:	01340016
EPA Id:	CAD056197601
Facility Type:	Historical - Non-Operating
Alias Type:	FRS
Alias:	110000609645

E16 East 1/8-1/4 0.217 mi. 1148 ft. | **ROMIC** | **CA SLIC** | **S106234863** | **N/A**
37445 WILLOW STREET
NEWARK, CA

Site 3 of 4 in cluster E

Relative: Higher

Actual: 13 ft.

SLIC REG 2:

Region:	2
Facility ID:	01S0038
Facility Status:	Remediation Plan
Date Closed:	Not reported
Local Case #:	Not reported
How Discovered:	RBD
Leak Cause:	Not reported
Leak Source:	Not reported
Date Confirmed:	Not reported
Date Prelim Site Assmnt Workplan Submitted:	Not reported
Date Preliminary Site Assessment Began:	Not reported
Date Pollution Characterization Began:	Not reported
Date Remediation Plan Submitted:	Not reported
Date Remedial Action Underway:	Not reported
Date Post Remedial Action Monitoring Began:	Not reported

E17 East 1/8-1/4 0.217 mi. 1148 ft. | **ROMIC ENVIRONMENTAL TECHNOLOGIES CORP** | **RCRA-TSDF** | **1000401575**
37445 WILLOW ST | **CERC-NFRAP** | **CAD056197601**
NEWARK, CA 94560 | **CORRACTS**
RCRA-SQG
CA HAZNET
2020 COR ACTION

Site 4 of 4 in cluster E

Relative: Higher

Actual: 13 ft.

RCRA-TSDF:

Date form received by agency:	09/01/1996
Facility name:	ROMIC ENVIRONMENTAL TECHNOLOGIES CORP
Facility address:	37445 WILLOW ST NEWARK, CA 94560
EPA ID:	CAD056197601
Mailing address:	2081 BAY RD EAST PALO ALTO, CA 94303
Contact:	Not reported
Contact address:	Not reported Not reported
Contact country:	Not reported
Contact telephone:	Not reported
Contact email:	Not reported
EPA Region:	09
Land type:	Facility is not located on Indian land. Additional information is not known.
Classification:	TSDF
Description:	Handler is engaged in the treatment, storage or disposal of hazardous waste

Owner/Operator Summary:

Owner/operator name:	ROMIC CHEMICAL CORP
Owner/operator address:	2081 BAY RD E PALO ALTO, CA 94303
Owner/operator country:	Not reported
Owner/operator telephone:	(415) 324-1638
Legal status:	Private
Owner/Operator Type:	Operator
Owner/Op start date:	Not reported

ROMIC ENVIRONMENTAL TECHNOLOGIES CORP (Continued) **1000401575**

Owner/Op end date: Not reported

Owner/operator name: ROMIC CHEMICAL CORP
Owner/operator address: 2081 BAY RD
E PALO ALTO, CA 94303
Owner/operator country: Not reported
Owner/operator telephone: (415) 324-1638
Legal status: Private
Owner/Operator Type: Owner
Owner/Op start date: Not reported
Owner/Op end date: Not reported

Handler Activities Summary:
U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): No
Recycler of hazardous waste: No
Transporter of hazardous waste: Yes
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: No
Furnace exemption: No
Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

Historical Generators:
Date form received by agency: 06/02/1992
Facility name: ROMIC ENVIRONMENTAL TECHNOLOGIES CORP
Classification: Large Quantity Generator

Corrective Action Summary:
Event date: 04/28/1989
Event: CA029WQ

Event date: 04/28/1989
Event: CA Prioritization, Facility or area was assigned a medium corrective action priority.

Event date: 04/28/1989
Event: RFA Completed

Event date: 04/28/1989
Event: CA049PA

Event date: 06/21/1989
Event: RFI Imposition

Event date: 06/21/1989
Event: Stabilization Measures Implemented, Primary measure is source removal and/or treatment (e.g., soil or waste excavation, in-situ soil treatment, off-site treatment).

ROMIC ENVIRONMENTAL TECHNOLOGIES CORP (Continued) **1000401575**

Event date: 06/21/1989
Event: Stabilization Measures Implemented, Groundwater extraction and treatment (e.g., to achieve groundwater containment, to achieve MCL).

Event date: 06/21/1989
Event: CMS Imposition

Event date: 04/30/1990
Event: CA036WQ

Event date: 04/20/1991
Event: CA Prioritization, Facility or area was assigned a low corrective action priority.

Event date: 01/01/1993
Event: RFI Approved

Event date: 08/15/1994
Event: Stabilization Measures Evaluation,This facility is not amenable to stabilization activity at the present time for reasons other than 1- it appears to be technically infeasible or inappropriate (NF) or 2- there is a lack of technical information (IN). Reasons for this conclusion may be the status of closure at the facility, the degree of risk, timing considerations, the status of corrective action work at the facility, or other administrative considerations.

Event date: 08/19/1994
Event: Stabilization Construction Completed

Event date: 09/24/1997
Event: Current Human Exposures under Control, Yes, Current Human Exposures Under Control has been verified. Based on a review of information contained in the EI determination, current human exposures are expected to be under control at the facility under current and reasonably expected conditions. This determination will be re-evaluated when the Agency/State becomes aware of significant changes at the facility.

Event date: 09/24/1997
Event: Igration of Contaminated Groundwater under Control, Yes, Migration of Contaminated Groundwater Under Control has been verified. Based on a review of information contained in the EI determination, it has been determined that migration of contaminated groundwater is under control at the facility. Specifically, this determination indicates that the migration of contaminated groundwater is under control, and that monitoring will be conducted to confirm that contaminated groundwater remains within the existing area of contaminated groundwater. This determination will be re-evaluated when the Agency becomes aware of significant changes at the facility.

Event date: 09/24/1997
Event: Current Human Exposures under Control, Yes, Current Human Exposures Under Control has been verified. Based on a review of information contained in the EI determination, current human exposures are expected to be under control at the facility under current and reasonably expected conditions. This determination will be re-evaluated when the Agency/State becomes aware of significant

ROMIC ENVIRONMENTAL TECHNOLOGIES CORP (Continued) **1000401575**

changes at the facility.

Event date: 09/24/1997
Event: CA Responsibility Referred To A Non-RCRA Federal Authority

Event date: 09/24/1997
Event: Igration of Contaminated Groundwater under Control, Yes, Migration of Contaminated Groundwater Under Control has been verified. Based on a review of information contained in the EI determination, it has been determined that migration of contaminated groundwater is under control at the facility. Specifically, this determination indicates that the migration of contaminated groundwater is under control, and that monitoring will be conducted to confirm that contaminated groundwater remains within the existing area of contaminated groundwater. This determination will be re-evaluated when the Agency becomes aware of significant changes at the facility.

Event date: Not reported
Event: CA03191

Facility Has Received Notices of Violations:
Regulation violated: FR - 264.140-150.H
Area of violation: TSD - Financial Requirements
Date violation determined: 02/05/1992
Date achieved compliance: 06/18/1993
Violation lead agency: State
Enforcement action: Not reported
Enforcement action date: Not reported
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: Not reported
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 264.110-120.G
Area of violation: TSD - Closure/Post-Closure
Date violation determined: 02/27/1989
Date achieved compliance: 05/14/1990
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 04/05/1989
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 270
Area of violation: TSD - General
Date violation determined: 02/27/1989
Date achieved compliance: 05/14/1990
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 04/05/1989
Enf. disposition status: Not reported

ROMIC ENVIRONMENTAL TECHNOLOGIES CORP (Continued) **1000401575**

Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 264.110-120.G
Area of violation: TSD - Closure/Post-Closure
Date violation determined: 02/27/1989
Date achieved compliance: 05/14/1990
Violation lead agency: State
Enforcement action: FINAL CIVIL JUDICIAL ACTION FOR IMMINENT AND SUBSTANTIAL ENDANGERMENT
Enforcement action date: 12/17/1990
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: 25000
Paid penalty amount: Not reported

Regulation violated: FR - 264.110-120.G
Area of violation: TSD - Closure/Post-Closure
Date violation determined: 02/27/1989
Date achieved compliance: 05/14/1990
Violation lead agency: State
Enforcement action: INITIAL 3008(A) COMPLIANCE
Enforcement action date: 09/07/1989
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: 56000
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 270
Area of violation: TSD - General
Date violation determined: 02/27/1989
Date achieved compliance: 05/14/1990
Violation lead agency: State
Enforcement action: FINAL CIVIL JUDICIAL ACTION FOR IMMINENT AND SUBSTANTIAL ENDANGERMENT
Enforcement action date: 12/17/1990
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: 25000
Paid penalty amount: Not reported

Regulation violated: FR - 270
Area of violation: TSD - General
Date violation determined: 02/27/1989
Date achieved compliance: 05/14/1990
Violation lead agency: State
Enforcement action: INITIAL 3008(A) COMPLIANCE
Enforcement action date: 09/07/1989
Enf. disposition status: Not reported
Enf. disp. status date: Not reported

ROMIC ENVIRONMENTAL TECHNOLOGIES CORP (Continued) **1000401575**

Enforcement lead agency: State
Proposed penalty amount: 56000
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 264.140-150.H
Area of violation: TSD - Financial Requirements
Date violation determined: 02/02/1989
Date achieved compliance: 05/14/1990
Violation lead agency: State
Enforcement action: INITIAL 3008(A) COMPLIANCE
Enforcement action date: 09/07/1989
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: 56000
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 264.140-150.H
Area of violation: TSD - Financial Requirements
Date violation determined: 02/02/1989
Date achieved compliance: 05/14/1990
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 02/14/1989
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 264.70-77.E
Area of violation: TSD - General
Date violation determined: 03/25/1987
Date achieved compliance: 02/27/1989
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 12/02/1987
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 264.110-120.G
Area of violation: TSD - Closure/Post-Closure
Date violation determined: 03/25/1987
Date achieved compliance: 05/14/1990
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 12/02/1987
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State

ROMIC ENVIRONMENTAL TECHNOLOGIES CORP (Continued) **1000401575**

Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 270
Area of violation: TSD - General
Date violation determined: 03/25/1987
Date achieved compliance: 05/14/1990
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 12/02/1987
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Evaluation Action Summary:
Evaluation date: 02/06/1992
Evaluation: FINANCIAL RECORD REVIEW
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 02/05/1992
Evaluation: FINANCIAL RECORD REVIEW
Area of violation: TSD - Financial Requirements
Date achieved compliance: 06/18/1993
Evaluation lead agency: EPA Contractor/Grantee

Evaluation date: 11/22/1991
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 05/17/1990
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 05/14/1990
Evaluation: FINANCIAL RECORD REVIEW
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 02/27/1989
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: TSD - Closure/Post-Closure
Date achieved compliance: 05/14/1990
Evaluation lead agency: State

Evaluation date: 02/27/1989
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE

ROMIC ENVIRONMENTAL TECHNOLOGIES CORP (Continued) **1000401575**

Area of violation: TSD - General
Date achieved compliance: 05/14/1990
Evaluation lead agency: State

Evaluation date: 02/02/1989
Evaluation: FINANCIAL RECORD REVIEW
Area of violation: TSD - Financial Requirements
Date achieved compliance: 05/14/1990
Evaluation lead agency: State

Evaluation date: 03/25/1987
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: TSD - General
Date achieved compliance: 05/14/1990
Evaluation lead agency: State

Evaluation date: 03/25/1987
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: TSD - General
Date achieved compliance: 02/27/1989
Evaluation lead agency: State

Evaluation date: 03/25/1987
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: TSD - Closure/Post-Closure
Date achieved compliance: 05/14/1990
Evaluation lead agency: State

CERC-NFRAP:
Site ID: 0900060
Federal Facility: Not a Federal Facility
NPL Status: Not on the NPL
Non NPL Status: NFRAP-Site does not qualify for the NPL based on existing information

CERCLIS-NFRAP Site Contact Details:
Contact Sequence ID: 13050647.00000
Person ID: 9271184.00000

Contact Sequence ID: 13289726.00000
Person ID: 13003854.00000

Contact Sequence ID: 13295321.00000
Person ID: 13003858.00000

Contact Sequence ID: 13301179.00000
Person ID: 13004003.00000

CERCLIS-NFRAP Assessment History:
Action: DISCOVERY
Date Started: / /
Date Completed: 01/01/88
Priority Level: Not reported

Action: ARCHIVE SITE
Date Started: / /
Date Completed: 04/28/89
Priority Level: Not reported

ROMIC ENVIRONMENTAL TECHNOLOGIES CORP (Continued) **1000401575**

Action: PRELIMINARY ASSESSMENT
Date Started: / /
Date Completed: 04/28/89
Priority Level: NFRAP-Site does not qualify for the NPL based on existing information

CORRACTS:

EPA ID: CAD056197601
EPA Region: 09
Area Name: ENTIRE FACILITY
Actual Date: 19930101
Action: CA200 - RFI Approved
NAICS Code(s): 42272 561499
All Other Business Support Services
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: CAD056197601
EPA Region: 09
Area Name: ENTIRE FACILITY
Actual Date: 19910420
Action: CA075LO - CA Prioritization, Facility or area was assigned a low corrective action priority
NAICS Code(s): 42272 561499
All Other Business Support Services
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: CAD056197601
EPA Region: 09
Area Name: ENTIRE FACILITY
Actual Date: 19890428
Action: CA075ME - CA Prioritization, Facility or area was assigned a medium corrective action priority
NAICS Code(s): 42272 561499
All Other Business Support Services
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: CAD056197601
EPA Region: 09
Area Name: ENTIRE FACILITY
Actual Date: 19890428
Action: CA029WQ
NAICS Code(s): 42272 561499
All Other Business Support Services
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: CAD056197601
EPA Region: 09
Area Name: ENTIRE FACILITY
Actual Date: 19890428
Action: CA050 - RFA Completed
NAICS Code(s): 42272 561499
All Other Business Support Services

ROMIC ENVIRONMENTAL TECHNOLOGIES CORP (Continued) **1000401575**

Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: CAD056197601
EPA Region: 09
Area Name: ENTIRE FACILITY
Actual Date: 19890428
Action: CA049PA
NAICS Code(s): 42272 561499
All Other Business Support Services
Original schedule date: 19901017
Schedule end date: Not reported

EPA ID: CAD056197601
EPA Region: 09
Area Name: ENTIRE FACILITY
Actual Date: 19900430
Action: CA036WQ
NAICS Code(s): 42272 561499
All Other Business Support Services
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: CAD056197601
EPA Region: 09
Area Name: ENTIRE FACILITY
Actual Date: 19890621
Action: CA600GW - Stabilization Measures Implemented, Groundwater extraction and treatment
NAICS Code(s): 42272 561499
All Other Business Support Services
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: CAD056197601
EPA Region: 09
Area Name: ENTIRE FACILITY
Actual Date: 19890621
Action: CA100 - RFI Imposition
NAICS Code(s): 42272 561499
All Other Business Support Services
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: CAD056197601
EPA Region: 09
Area Name: ENTIRE FACILITY
Actual Date: 19890621
Action: CA600SR - Stabilization Measures Implemented, Primary measure is source removal and/or treatment
NAICS Code(s): 42272 561499
All Other Business Support Services
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: CAD056197601
EPA Region: 09

ROMIC ENVIRONMENTAL TECHNOLOGIES CORP (Continued) **1000401575**

Area Name: ENTIRE FACILITY
Actual Date: 19890621
Action: CA250 - CMS Imposition
NAICS Code(s): 42272 561499
All Other Business Support Services
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: CAD056197601
EPA Region: 09
Area Name: ENTIRE FACILITY
Actual Date: 19940815
Action: CA225NR - Stabilization Measures Evaluation, This facility is, not amenable to stabilization activity at the, present time for reasons other than (1) it appears to be technically, infeasible or inappropriate (NF) or (2) there is a lack of technical, information (IN). Reasons for this conclusion may be the status of, closure at the facility, the degree of risk, timing considerations, the status of corrective action work at the facility, or other, administrative considerations
NAICS Code(s): 42272 561499
All Other Business Support Services
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: CAD056197601
EPA Region: 09
Area Name: ENTIRE FACILITY
Actual Date: 19940819
Action: CA650 - Stabilization Construction Completed
NAICS Code(s): 42272 561499
All Other Business Support Services
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: CAD056197601
EPA Region: 09
Area Name: ENTIRE FACILITY
Actual Date: 19970924
Action: CA750YE - Migration of Contaminated Groundwater under Control, Yes, Migration of Contaminated Groundwater Under Control has been verified
NAICS Code(s): 42272 561499
All Other Business Support Services
Original schedule date: 19970924
Schedule end date: Not reported

EPA ID: CAD056197601
EPA Region: 09
Area Name: ENTIRE FACILITY
Actual Date: 19970924
Action: CA210 - CA Responsibility Referred To A Non-RCRA Federal Authority
NAICS Code(s): 42272 561499
All Other Business Support Services
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: CAD056197601

ROMIC ENVIRONMENTAL TECHNOLOGIES CORP (Continued) **1000401575**

EPA Region: 09
Area Name: ENTIRE FACILITY
Actual Date: 19970924
Action: CA725YE - Current Human Exposures Under Control, Yes, Current Human Exposures Under Control has been verified
NAICS Code(s): 42272 561499
All Other Business Support Services
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: CAD056197601
EPA Region: 09
Area Name: ENTIRE FACILITY
Actual Date: 19970924
Action: CA725YE - Current Human Exposures Under Control, Yes, Current Human Exposures Under Control has been verified
NAICS Code(s): 42272 561499
All Other Business Support Services
Original schedule date: 19970924
Schedule end date: Not reported

EPA ID: CAD056197601
EPA Region: 09
Area Name: ENTIRE FACILITY
Actual Date: 19970924
Action: CA750YE - Migration of Contaminated Groundwater under Control, Yes, Migration of Contaminated Groundwater Under Control has been verified
NAICS Code(s): 42272 561499
All Other Business Support Services
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: CAD056197601
EPA Region: 09
Area Name: ENTIRE FACILITY
Actual Date: Not reported
Action: CA03191
NAICS Code(s): 42272 561499
All Other Business Support Services
Original schedule date: 19911001
Schedule end date: Not reported

HAZNET:
Year: 1999
Gepaid: CAD056197601
Contact: ROMIC ENV TECH CORP
Telephone: 0000000000
Mailing Name: Not reported
Mailing Address: 37445 WILLOW ST
Mailing City,St,Zip: NEWARK, CA 945600000
Gen County: Not reported
TSD EPA ID: CAD009452657
TSD County: Not reported
Waste Category: Aqueous solution with total organic residues less than 10 percent
Disposal Method: Recycler
Tons: .3500
Facility County: 1

ROMIC ENVIRONMENTAL TECHNOLOGIES CORP (Continued) **1000401575**

Year:	1998
Gepaid:	CAD056197601
Contact:	ROMIC ENV TECH CORP
Telephone:	0000000000
Mailing Name:	Not reported
Mailing Address:	37445 WILLOW ST
Mailing City,St,Zip:	NEWARK, CA 945600000
Gen County:	Not reported
TSD EPA ID:	CAD009452657
TSD County:	Not reported
Waste Category:	Aqueous solution with total organic residues 10 percent or more
Disposal Method:	Recycler
Tons:	2.0641
Facility County:	1

Year:	1998
Gepaid:	CAD056197601
Contact:	ROMIC ENV TECH CORP
Telephone:	0000000000
Mailing Name:	Not reported
Mailing Address:	37445 WILLOW ST
Mailing City,St,Zip:	NEWARK, CA 945600000
Gen County:	Not reported
TSD EPA ID:	CAD009452657
TSD County:	Not reported
Waste Category:	Unspecified organic liquid mixture
Disposal Method:	Recycler
Tons:	.3544
Facility County:	1

Year:	1998
Gepaid:	CAD056197601
Contact:	ROMIC ENV TECH CORP
Telephone:	0000000000
Mailing Name:	Not reported
Mailing Address:	37445 WILLOW ST
Mailing City,St,Zip:	NEWARK, CA 945600000
Gen County:	Not reported
TSD EPA ID:	CAD009452657
TSD County:	Not reported
Waste Category:	Laboratory waste chemicals
Disposal Method:	Treatment, Incineration
Tons:	.2075
Facility County:	1

Year:	1998
Gepaid:	CAD056197601
Contact:	ROMIC ENV TECH CORP
Telephone:	0000000000
Mailing Name:	Not reported
Mailing Address:	37445 WILLOW ST
Mailing City,St,Zip:	NEWARK, CA 945600000
Gen County:	Not reported
TSD EPA ID:	CAD009452657
TSD County:	Not reported
Waste Category:	Aqueous solution with total organic residues less than 10 percent
Disposal Method:	Recycler

ROMIC ENVIRONMENTAL TECHNOLOGIES CORP (Continued) **1000401575**

Tons: 3.4985
Facility County: 1

Click this hyperlink while viewing on your computer to access
12 additional CA_HAZNET: record(s) in the EDR Site Report.

2020 COR ACTION:
EPA ID: CAD056197601
Region: 9
Action: Not reported

F18 **EDR US Hist Auto Stat** **1015654901**
ESE **8484 CENTRAL AVE** **N/A**
1/8-1/4 **NEWARK, CA 94560**
0.238 mi.
1258 ft. **Site 3 of 4 in cluster F**

Relative:
Lower

Actual:
12 ft.

EDR Historical Auto Stations:
Name: GOULD MFG ENGINEERING INC
Year: 2005
Address: 8484 CENTRAL AVE

Name: STAR TOOL & ENGINEERING CO
Year: 2006
Address: 8484 CENTRAL AVE

F19 **MOBILITY INDUSTRIES INC** **RCRA-SQG** **1000254321**
ESE **3755 WILLOW ST** **FINDS** **CAD073930869**
1/8-1/4 **NEWARK, CA 94560**
0.240 mi.
1266 ft. **Site 4 of 4 in cluster F**

Relative:
Lower

Actual:
11 ft.

RCRA-SQG:
Date form received by agency: 09/01/1996
Facility name: MOBILITY INDUSTRIES INC
Facility address: 3755 WILLOW ST
NEWARK, CA 94560
EPA ID: CAD073930869
Mailing address: 37555 WILLOW ST
NEWARK, CA 94560
Contact: Not reported
Contact address: Not reported
Not reported
Contact country: Not reported
Contact telephone: Not reported
Contact email: Not reported
EPA Region: 09
Classification: Small Small Quantity Generator
Description: Handler: generates more than 100 and less than 1000 kg of hazardous waste during any calendar month and accumulates less than 6000 kg of hazardous waste at any time; or generates 100 kg or less of hazardous waste during any calendar month, and accumulates more than 1000 kg of hazardous waste at any time

Owner/Operator Summary:

MOBILITY INDUSTRIES INC (Continued) **1000254321**

Owner/operator name: TASHA CORP
Owner/operator address: NOT REQUIRED
NOT REQUIRED, ME 99999
Owner/operator country: Not reported
Owner/operator telephone: (415) 555-1212
Legal status: Private
Owner/Operator Type: Owner
Owner/Op start date: Not reported
Owner/Op end date: Not reported

Owner/operator name: NOT REQUIRED
Owner/operator address: NOT REQUIRED
NOT REQUIRED, ME 99999
Owner/operator country: Not reported
Owner/operator telephone: (415) 555-1212
Legal status: Private
Owner/Operator Type: Operator
Owner/Op start date: Not reported
Owner/Op end date: Not reported

Handler Activities Summary:
U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): No
Recycler of hazardous waste: No
Transporter of hazardous waste: No
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: No
Furnace exemption: No
Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

Historical Generators:
Date form received by agency: 10/21/1985
Facility name: MOBILITY INDUSTRIES INC
Classification: Large Quantity Generator

Violation Status: No violations found

FINDS:

Registry ID: 110002657447

Environmental Interest/Information System
RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

D20
NE
1/8-1/4
0.245 mi.
1292 ft.

8400 ENTERPRISE DRIVE
NEWARK, CA 94560

Site 2 of 6 in cluster D

CA Toxic Pits **S100676230**
CA CHMIRS **N/A**

Relative:
Higher

Actual:
13 ft.

Toxic Pits:

Region:	02
Task #:	82019
Owner:	JONES-HAMILTON COMPANY
1/2 Mi Limit:	N
Num. of Pits:	2
Cease Discharge Due:	06/30/88
Cease Discharge Complete:	01/16/87
Closure Due:	06/30/89
Closure Completed:	**06/01/89**
Status:	CLOSED
Hydro Geological Assessment Report Due:	/ /
Final Hydro Geological Assessment Review Completed:	12/12/89

CHMIRS:

OES Incident Number:	015905
OES notification:	Not reported
OES Date:	10/8/1996
OES Time:	04:52:03 PM
Incident Date:	Not reported
Date Completed:	**Not reported**
Property Use:	Not reported
Agency Id Number:	Not reported
Agency Incident Number:	Not reported
Time Notified:	Not reported
Time Completed:	Not reported
Surrounding Area:	Not reported
Estimated Temperature:	Not reported
Property Management:	Not reported
Special Studies 1:	Not reported
Special Studies 2:	Not reported
Special Studies 3:	Not reported
Special Studies 4:	Not reported
Special Studies 5:	Not reported
Special Studies 6:	Not reported
More Than Two Substances Involved?:	Not reported
Resp Agncy Personel # Of Decontaminated:	Not reported
Responding Agency Personel # Of Injuries:	Not reported
Responding Agency Personel # Of Fatalities:	Not reported
Others Number Of Decontaminated:	Not reported
Others Number Of Injuries:	Not reported
Others Number Of Fatalities:	Not reported
Vehicle Make/year:	Not reported
Vehicle License Number:	Not reported
Vehicle State:	Not reported
Vehicle Id Number:	Not reported
CA/DOT/PUC/ICC Number:	Not reported
Company Name:	Not reported
Reporting Officer Name/ID:	Not reported
Report Date:	Not reported
Comments:	Not reported
Facility Telephone:	Not reported
Waterway Involved:	YES

(Continued) **S100676230**

Waterway:	Not reported
Spill Site:	Not reported
Cleanup By:	dissipates
Containment:	Not reported
What Happened:	Not reported
Type:	VAPOR
Measure:	Not reported
Other:	Not reported
Date/Time:	Not reported
Year:	1996
Agency:	jones hamilton company
Incident Date:	1600/8 Oct. 96
Admin Agency:	Not reported
Amount:	5 lbs.
Contained:	NO
Site Type:	OTHER
E Date:	Not reported
Substance:	water and sulfuric acid
Quantity Released:	Not reported
BBLS:	Not reported
Cups:	Not reported
CUFT:	Not reported
Gallons:	Not reported
Grams:	Not reported
Pounds:	Not reported
Liters:	Not reported
Ounces:	Not reported
Pints:	Not reported
Quarts:	Not reported
Sheen:	Not reported
Tons:	Not reported
Unknown:	Not reported
Evacuations:	NO
Number of Injuries:	NO
Number of Fatalities:	NO
Description:	during transfer of acid into storage tank, hot acid caused a vapor release when mixed with water. newark fire dept. responded.

D21 **JONES-HAMILTON** **CA Cortese** **S100223564**
NE **8400 ENTERPRISE** **CA HIST CORTESE** **N/A**
1/8-1/4 **NEWARK, CA 94560** **CA SLIC**
0.245 mi. **CA CHMIRS**
1292 ft. **Site 3 of 6 in cluster D** **CA ENF**
CA ENVIROSTOR

Relative:
Higher

Actual:
13 ft.

CORTESE:

Region:	CORTESE
Envirostor Id:	Not reported
Site/Facility Type:	Not reported
Cleanup Status:	Not reported
Status Date:	Not reported
Site Code:	Not reported
Latitude:	Not reported
Longitude:	Not reported
Owner:	Not reported
Enf Type:	Not reported
Swat R:	Not reported
Flag:	CORTESE

JONES-HAMILTON (Continued) **S100223564**

Order No:	Not reported
Waste Discharge System No:	Not reported
Effective Date:	Not reported
Region 2:	2
WID Id:	2 019109N02
Solid Waste Id No:	Not reported
Waste Management Uit Name:	Not reported

Region:	CORTESE
Envirostor Id:	Not reported
Site/Facility Type:	Not reported
Cleanup Status:	Not reported
Status Date:	Not reported
Site Code:	Not reported
Latitude:	Not reported
Longitude:	Not reported
Owner:	Not reported
Enf Type:	Not reported
Swat R:	Not reported
Flag:	CORTESE
Order No:	Not reported
Waste Discharge System No:	Not reported
Effective Date:	Not reported
Region 2:	2
WID Id:	2 019109N02
Solid Waste Id No:	Not reported
Waste Management Uit Name:	Not reported

CORTESE:

Region:	CORTESE
Facility County Code:	1
Reg By:	WBC&D
Reg Id:	2 019109N02

SLIC:

Region:	STATE
Facility Status:	**Open - Site Assessment**
Status Date:	03/26/2012
Global Id:	SL20226844
Lead Agency:	SAN FRANCISCO BAY RWQCB (REGION 2)
Lead Agency Case Number:	0066
Latitude:	37.5205846412336
Longitude:	-122.048320770264
Case Type:	Cleanup Program Site
Case Worker:	CCM
Local Agency:	ALAMEDA COUNTY WATER DISTRICT
RB Case Number:	01S0157
File Location:	Regional Board
Potential Media Affected:	Other Groundwater (uses other than drinking water)
Potential Contaminants of Concern:	* 1,4 Dioxane, * Dioxins, * Metals/Heavy Metals, * Petroleum - Automotive gasolines, * Semi-Volatile Organic Compounds, * Volatile Organic Compounds (VOC)
Site History:	Files available at DTSC, Regional Water Board, and Geotracker.

Click here to access the California GeoTracker records for this facility:

JONES-HAMILTON (Continued) **S100223564**

CHMIRS:

OES Incident Number:	9991910
OES notification:	Not reported
OES Date:	Not reported
OES Time:	Not reported
Incident Date:	15-APR-88
Date Completed:	**15-APR-88**
Property Use:	600
Agency Id Number:	1070
Agency Incident Number:	3-94/8
Time Notified:	946
Time Completed:	1146
Surrounding Area:	099
Estimated Temperature:	65
Property Management:	Not reported
Special Studies 1:	Not reported
Special Studies 2:	Not reported
Special Studies 3:	Not reported
Special Studies 4:	Not reported
Special Studies 5:	Not reported
Special Studies 6:	Not reported
More Than Two Substances Involved?:	N
Resp Agncy Personel # Of Decontaminated:	Not reported
Responding Agency Personel # Of Injuries:	Not reported
Responding Agency Personel # Of Fatalities:	Not reported
Others Number Of Decontaminated:	Not reported
Others Number Of Injuries:	Not reported
Others Number Of Fatalities:	Not reported
Vehicle Make/year:	Not reported
Vehicle License Number:	Not reported
Vehicle State:	Not reported
Vehicle Id Number:	Not reported
CA/DOT/PUC/ICC Number:	Not reported
Company Name:	Not reported
Reporting Officer Name/ID:	CAPT R MARSHALL
Report Date:	15-APR-88
Comments:	N
Facility Telephone:	415 790-7247
Waterway Involved:	Not reported
Waterway:	Not reported
Spill Site:	Not reported
Cleanup By:	Not reported
Containment:	Not reported
What Happened:	Not reported
Type:	Not reported
Measure:	Not reported
Other:	Not reported
Date/Time:	Not reported
Year:	88-92
Agency:	Not reported
Incident Date:	Not reported
Admin Agency:	Not reported
Amount:	Not reported
Contained:	Not reported
Site Type:	Not reported
E Date:	09-JUN-89
Substance:	Not reported

JONES-HAMILTON (Continued) **S100223564**

Quantity Released:	Not reported
BBLS:	Not reported
Cups:	Not reported
CUFT:	Not reported
Gallons:	Not reported
Grams:	Not reported
Pounds:	Not reported
Liters:	Not reported
Ounces:	Not reported
Pints:	Not reported
Quarts:	Not reported
Sheen:	Not reported
Tons:	Not reported
Unknown:	Not reported
Evacuations:	Not reported
Number of Injuries:	Not reported
Number of Fatalities:	Not reported
Description:	Not reported

ENF:

Region:	2
Facility Id:	234035
Agency Name:	JONES-HAMILTON COMPANY
Place Type:	Facility
Place Subtype:	Not reported
Facility Type:	Industrial
Agency Type:	Privately-Owned Business
# Of Agencies:	1
Place Latitude:	37.5226230
Place Longitude:	-122.04821
SIC Code 1:	Not reported
SIC Desc 1:	Not reported
SIC Code 2:	Not reported
SIC Desc 2:	Not reported
SIC Code 3:	Not reported
SIC Desc 3:	Not reported
NAICS Code 1:	Not reported
NAICS Desc 1:	Not reported
NAICS Code 2:	Not reported
NAICS Desc 2:	Not reported
NAICS Code 3:	Not reported
NAICS Desc 3:	Not reported
# Of Places:	1
Source Of Facility:	Reg Meas
Design Flow:	Not reported
Threat To Water Quality:	Not reported
Complexity:	Not reported
Pretreatment:	Not reported
Facility Waste Type:	Not reported
Facility Waste Type 2:	Not reported
Facility Waste Type 3:	Not reported
Facility Waste Type 4:	Not reported
Program:	UNREGS
# Of Programs:	1
WDID:	2 019109N02
Reg Measure Id:	162029
Reg Measure Type:	Unregulated

JONES-HAMILTON (Continued) **S100223564**

Region:	2
Order #:	Not reported
Npdes# CA#:	Not reported
Major-Minor:	Not reported
Npdes Type:	Not reported
Reclamation:	Not reported
Dredge Fill Fee:	Not reported
301H:	Not reported
Application Fee Amt Received:	Not reported
Status:	Never Active
Status Date:	02/21/2013
Effective Date:	Not reported
Expiration/Review Date:	Not reported
Termination Date:	Not reported
WDR Review - Amend:	Not reported
WDR Review - Revise/Renew:	Not reported
WDR Review - Rescind:	Not reported
WDR Review - No Action Required:	Not reported
WDR Review - Pending:	Not reported
WDR Review - Planned:	Not reported
Status Enrollee:	N
Individual/General:	I
Fee Code:	Not reported
Direction/Voice:	Passive
Enforcement Id(EID):	220071
Region:	2
Order / Resolution Number:	89-110
Enforcement Action Type:	Clean-up and Abatement Order
Effective Date:	06/21/1989
Adoption/Issuance Date:	Not reported
Achieve Date:	Not reported
Termination Date:	Not reported
ACL Issuance Date:	Not reported
EPL Issuance Date:	Not reported
Status:	Active
Title:	Enforcement - 2 019109N02
Description:	ENF ORDER
Program:	UNREGS
Latest Milestone Completion Date:	Not reported
# Of Programs1:	1
Total Assessment Amount:	0
Initial Assessed Amount:	0
Liability $ Amount:	0
Project $ Amount:	0
Liability $ Paid:	0
Project $ Completed:	0
Total $ Paid/Completed Amount:	0

Region:	2
Facility Id:	234035
Agency Name:	JONES-HAMILTON COMPANY
Place Type:	Facility
Place Subtype:	Not reported
Facility Type:	Industrial
Agency Type:	Privately-Owned Business
# Of Agencies:	1
Place Latitude:	37.5226230

JONES-HAMILTON (Continued) **S100223564**

Place Longitude:	-122.04821
SIC Code 1:	Not reported
SIC Desc 1:	Not reported
SIC Code 2:	Not reported
SIC Desc 2:	Not reported
SIC Code 3:	Not reported
SIC Desc 3:	Not reported
NAICS Code 1:	Not reported
NAICS Desc 1:	Not reported
NAICS Code 2:	Not reported
NAICS Desc 2:	Not reported
NAICS Code 3:	Not reported
NAICS Desc 3:	Not reported
# Of Places:	1
Source Of Facility:	Reg Meas
Design Flow:	Not reported
Threat To Water Quality:	Not reported
Complexity:	Not reported
Pretreatment:	Not reported
Facility Waste Type:	Not reported
Facility Waste Type 2:	Not reported
Facility Waste Type 3:	Not reported
Facility Waste Type 4:	Not reported
Program:	UNREGS
# Of Programs:	1
WDID:	2 019109N02
Reg Measure Id:	162029
Reg Measure Type:	Unregulated
Region:	2
Order #:	Not reported
Npdes# CA#:	Not reported
Major-Minor:	Not reported
Npdes Type:	Not reported
Reclamation:	Not reported
Dredge Fill Fee:	Not reported
301H:	Not reported
Application Fee Amt Received:	Not reported
Status:	Never Active
Status Date:	02/21/2013
Effective Date:	Not reported
Expiration/Review Date:	Not reported
Termination Date:	Not reported
WDR Review - Amend:	Not reported
WDR Review - Revise/Renew:	Not reported
WDR Review - Rescind:	Not reported
WDR Review - No Action Required:	Not reported
WDR Review - Pending:	Not reported
WDR Review - Planned:	Not reported
Status Enrollee:	N
Individual/General:	I
Fee Code:	Not reported
Direction/Voice:	Passive
Enforcement Id(EID):	221828
Region:	2
Order / Resolution Number:	R2-1998-0067
Enforcement Action Type:	Clean-up and Abatement Order
Effective Date:	07/15/1998

JONES-HAMILTON (Continued) **S100223564**

Adoption/Issuance Date:	Not reported
Achieve Date:	Not reported
Termination Date:	Not reported
ACL Issuance Date:	Not reported
EPL Issuance Date:	Not reported
Status:	Active
Title:	Enforcement - 2 019109N02
Description:	CAO-
Program:	UNREGS
Latest Milestone Completion Date:	Not reported
# Of Programs1:	1
Total Assessment Amount:	0
Initial Assessed Amount:	0
Liability $ Amount:	0
Project $ Amount:	0
Liability $ Paid:	0
Project $ Completed:	0
Total $ Paid/Completed Amount:	0

ENVIROSTOR:

Site Type:	Historical
Site Type Detailed:	* Historical
Acres:	Not reported
NPL:	NO
Regulatory Agencies:	RWQCB 2 - San Francisco Bay
Lead Agency:	RWQCB 2 - San Francisco Bay
Program Manager:	Not reported
Supervisor:	Referred - Not Assigned
Division Branch:	Cleanup Berkeley
Facility ID:	01280066
Site Code:	Not reported
Assembly:	25
Senate:	10
Special Program:	* Site Char & Assess Grant (CERCLA 104)
Status:	Refer: RWQCB
Status Date:	03/01/1986
Restricted Use:	NO
Site Mgmt. Req.:	NONE SPECIFIED
Funding:	Not reported
Latitude:	37.52141
Longitude:	-122.0486
APN:	92-116-58
Past Use:	NONE SPECIFIED
Potential COC:	* OXYGENATED SOLVENTS, * ACID SOLUTION WITHOUT METALS, * UNSPECIFIED AQUEOUS SOLUTION, Lead, Cadmium and compounds, Chromium VI
Confirmed COC:	* OXYGENATED SOLVENTS, * ACID SOLUTION WITHOUT METALS, * UNSPECIFIED AQUEOUS SOLUTION, Lead, Cadmium and compounds, Chromium VI, NONE SPECIFIED
Potential Description:	NONE SPECIFIED
Alias Name:	IRVIN JONES & J KERN HAMILTON ('49-'56)
Alias Type:	Alternate Name
Alias Name:	J-H COMPANY
Alias Type:	Alternate Name
Alias Name:	92-116-58
Alias Type:	APN
Alias Name:	SL20226844
Alias Type:	GeoTracker Global ID

JONES-HAMILTON (Continued) **S100223564**

Alias Name: CAD009166349
Alias Type: HWTS Identification Code
Alias Name: 01280066
Alias Type: Envirostor ID Number

Completed Info:
Completed Area Name: Not reported
Completed Sub Area Name: Not reported
Completed Document Type: Not reported
Completed Date: Not reported
Comments: Not reported

Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

Site Type: Tiered Permit
Site Type Detailed: Tiered Permit
Acres: 0
NPL: NO
Regulatory Agencies: NONE SPECIFIED
Lead Agency: NONE SPECIFIED
Program Manager: Not reported
Supervisor: Referred - Not Assigned
Division Branch: Cleanup Berkeley
Facility ID: 71002269
Site Code: Not reported
Assembly: 25
Senate: 10
Special Program: Not reported
Status: Refer: RWQCB
Status Date: 03/03/1997
Restricted Use: NO
Site Mgmt. Req.: NONE SPECIFIED
Funding: Not reported
Latitude: 37.52141
Longitude: -122.0486
APN: NONE SPECIFIED
Past Use: NONE SPECIFIED
Potential COC: * OXYGENATED SOLVENTS, * ACID SOLUTION WITHOUT METALS, * UNSPECIFIED AQUEOUS SOLUTION, Lead, Cadmium and compounds, Chromium VI, NONE SPECIFIED, NONE SPECIFIED
Confirmed COC: * OXYGENATED SOLVENTS, * ACID SOLUTION WITHOUT METALS, * UNSPECIFIED AQUEOUS SOLUTION, Lead, Cadmium and compounds, Chromium VI, NONE SPECIFIED, NONE SPECIFIED, NONE SPECIFIED
Potential Description: NONE SPECIFIED
Alias Name: CAD009166349
Alias Type: EPA Identification Number
Alias Name: 110001135904
Alias Type: EPA (FRS #)
Alias Name: 71002269
Alias Type: Envirostor ID Number

JONES-HAMILTON (Continued) **S100223564**

Completed Info:

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Phase 1
Completed Date:	03/03/1997
Comments:	Phase 1 checklist indicates no further action. Follow up indicates a release from a non-regulated unit which was cleaned up with oversight from the Fire Dept. The RWQCB is overseeing operation of a pump & Treat system at the site.
Future Area Name:	Not reported
Future Sub Area Name:	Not reported
Future Document Type:	Not reported
Future Due Date:	Not reported
Schedule Area Name:	Not reported
Schedule Sub Area Name:	Not reported
Schedule Document Type:	Not reported
Schedule Due Date:	Not reported
Schedule Revised Date:	Not reported

D22 **JONES-HAMILTON** **CA SLIC** **1007282862**
NE **8400 ENTERPRISE DRIVE** **N/A**
1/8-1/4 **NEWARK, CA 94560**
0.245 mi.
1292 ft. **Site 4 of 6 in cluster D**

Relative:
Higher

Actual:
13 ft.

SLIC REG 2:

Region:	2
Facility ID:	01S0157
Facility Status:	Post remedial action monitoring
Date Closed:	Not reported
Local Case #:	Not reported
How Discovered:	RPR
Leak Cause:	Not reported
Leak Source:	Not reported
Date Confirmed:	Not reported
Date Prelim Site Assmnt Workplan Submitted:	Not reported
Date Preliminary Site Assessment Began:	Not reported
Date Pollution Characterization Began:	Not reported
Date Remediation Plan Submitted:	Not reported
Date Remedial Action Underway:	Not reported
Date Post Remedial Action Monitoring Began:	Not reported

D23 **CA WMUDS/SWAT** **S103441001**
NE **8400 ENTERPRISE DR.** **CA CHMIRS** **N/A**
1/8-1/4 **NEWARK, CA**
0.245 mi.
1292 ft. **Site 5 of 6 in cluster D**

Relative:
Higher

Actual:
13 ft.

WMUDS/SWAT:

Edit Date:	19950214
Complexity:	Category B - Any facility having a physical, chemical, or biological waste treatment system (except for septic systems with subsurface disposal), or any Class II or III disposal site, or facilities without treatment systems that are complex, such as marinas with petroleum products, solid wastes, and sewage pump out facilities.

(Continued) **S103441001**

Primary Waste:	Washwater Waste (Product washwater wastes: E.G., photo reuse wastewater, vegetable washwater)
Primary Waste Type:	Designated/Influent or Solid Wastes that pose a significant threat to water quality because of their high concentrations (E.G., BOD, Hardness, TRF, Chloride). 'Manageable' hazardous wastes (E.G., inorganic salts and heavy metals) are included in this category.
Secondary Waste:	Stormwater Runoff
Secondary Waste Type:	Designated/Influent or Solid Wastes that pose a significant threat to water quality because of their high concentrations (E.G., BOD, Hardness, TRF, Chloride). 'Manageable' hazardous wastes (E.G., inorganic salts and heavy metals) are included in this category.
Base Meridian:	Not reported
NPID:	CA0028975
Tonnage:	0
Regional Board ID:	2199.9109
Municipal Solid Waste:	False
Superorder:	False
Open To Public:	False
Waste List:	False
Agency Type:	Private
Agency Name:	JONES-HAMILTON CO.
Agency Department:	Not reported
Agency Address:	BOX 464, 8400 ENTERPRISE DR
Agency City,St,Zip:	NEWARK ,CA 945600464
Agency Contact:	DAN GILBERT
Agency Telephone:	4157972471
Land Owner Name:	JONES-HAMILTON
Land Owner Address:	8400 ENTERPRISE DRIVE
Land Owner City,St,Zip:	NEWARK, CA 94560
Land Owner Contact:	Not reported
Land Owner Phone:	4157972471
Region:	2
Facility Type:	Industrial - Facility that treats and/or disposes of liquid or semisolid wastes from any servicing, producing, manufacturing or processing operation of whatever nature, including mining, gravel washing, geothermal operations, air conditioning, ship building and repairing, oil production, storage and disposal operations, water pumping.
Facility Description:	Not reported
Facility Telephone:	4157972471
SWAT Facility Name:	Not reported
Primary SIC:	2819
Secondary SIC:	Not reported
Comments:	Not reported
Last Facility Editors:	JHMJHM
Waste Discharge System:	True
Solid Waste Assessment Test Program:	True
Toxic Pits Cleanup Act Program:	False
Resource Conservation Recovery Act:	False
Department of Defence:	False
Solid Waste Assessment Test Program:	JONES-HAMILTON
Threat to Water Quality:	Major Threat to Water Quality. A violation could render unusable a ground water or surface water resource used as a significant drink water supply, require closure of an area used for contact recreation, result in long-term deleterious effects on shell fish spawning or growth areas of aquatic resources, or directly expose the public to toxic substances.

(Continued) **S103441001**

Sub Chapter 15:	True
Regional Board Project Officer:	GRF
Number of WMUDS at Facility:	1
Section Range:	Not reported
RCRA Facility:	No
Waste Discharge Requirements:	A
Self-Monitoring Rept. Frequency:	Monthly Submittal
Waste Discharge System ID:	2 019109001
Solid Waste Information ID:	Not reported

CHMIRS:

OES Incident Number:	28263
OES notification:	Not reported
OES Date:	6/13/1993
OES Time:	11:45:00 AM
Incident Date:	Not reported
Date Completed:	**Not reported**
Property Use:	Not reported
Agency Id Number:	Not reported
Agency Incident Number:	Not reported
Time Notified:	Not reported
Time Completed:	Not reported
Surrounding Area:	Not reported
Estimated Temperature:	Not reported
Property Management:	Not reported
Special Studies 1:	Not reported
Special Studies 2:	Not reported
Special Studies 3:	Not reported
Special Studies 4:	Not reported
Special Studies 5:	Not reported
Special Studies 6:	Not reported
More Than Two Substances Involved?:	Not reported
Resp Agncy Personel # Of Decontaminated:	Not reported
Responding Agency Personel # Of Injuries:	Not reported
Responding Agency Personel # Of Fatalities:	Not reported
Others Number Of Decontaminated:	Not reported
Others Number Of Injuries:	Not reported
Others Number Of Fatalities:	Not reported
Vehicle Make/year:	Not reported
Vehicle License Number:	Not reported
Vehicle State:	Not reported
Vehicle Id Number:	Not reported
CA/DOT/PUC/ICC Number:	Not reported
Company Name:	Not reported
Reporting Officer Name/ID:	Not reported
Report Date:	Not reported
Comments:	Not reported
Facility Telephone:	Not reported
Waterway Involved:	YES
Waterway:	Not reported
Spill Site:	Not reported
Cleanup By:	JONES HAMILTON
Containment:	Not reported
What Happened:	Not reported
Type:	CHEMICAL
Measure:	Not reported
Other:	Not reported

(Continued) **S103441001**

Date/Time:	Not reported
Year:	1993
Agency:	NEWARK F.D.
Incident Date:	6/13/93/09:30
Admin Agency:	Not reported
Amount:	50 GALLONS
Contained:	Not reported
Site Type:	Not reported
E Date:	Not reported
Substance:	SULPHARIC ACID
Quantity Released:	Not reported
BBLS:	Not reported
Cups:	Not reported
CUFT:	Not reported
Gallons:	Not reported
Grams:	Not reported
Pounds:	Not reported
Liters:	Not reported
Ounces:	Not reported
Pints:	Not reported
Quarts:	Not reported
Sheen:	Not reported
Tons:	Not reported
Unknown:	Not reported
Evacuations:	UNKNOWN
Number of Injuries:	UNKNOWN
Number of Fatalities:	UNKNOWN
Description:	OVERFILLE 6,000 GAL TANK 50 GALS OVERFLOWED

D24 **JONES HAMILTON CO** **CERC-NFRAP** **1000221820**
NE **8400 ENTERPRISE DR** **RCRA-SQG** **CAD009166349**
1/8-1/4 **NEWARK, CA 94560** **CA HIST UST**
0.245 mi. **CA EMI**
1292 ft. **Site 6 of 6 in cluster D**

Relative:
Higher

Actual:
13 ft.

CERC-NFRAP:

Site ID:	0901187
Federal Facility:	Not a Federal Facility
NPL Status:	Not on the NPL
Non NPL Status:	NFRAP-Site does not qualify for the NPL based on existing information

CERCLIS-NFRAP Site Contact Details:

Contact Sequence ID:	13050999.00000
Person ID:	9271184.00000
Contact Sequence ID:	13288987.00000
Person ID:	13003854.00000
Contact Sequence ID:	13294582.00000
Person ID:	13003858.00000
Contact Sequence ID:	13300440.00000
Person ID:	13004003.00000

CERCLIS-NFRAP Site Alias Name(s):

Alias Name:	JONES - HAMILTON CO (FINDS/RCRA)
Alias Address:	Not reported

JONES HAMILTON CO (Continued) **1000221820**

CA

CERCLIS-NFRAP Assessment History:

Action:	PRELIMINARY ASSESSMENT
Date Started:	/ /
Date Completed:	04/01/88
Priority Level:	NFRAP-Site does not qualify for the NPL based on existing information
Action:	ARCHIVE SITE
Date Started:	/ /
Date Completed:	04/01/88
Priority Level:	Not reported
Action:	PRELIMINARY ASSESSMENT
Date Started:	11/01/86
Date Completed:	09/01/87
Priority Level:	Higher priority for further assessment
Action:	DISCOVERY
Date Started:	/ /
Date Completed:	11/01/86
Priority Level:	Not reported

RCRA-SQG:

Date form received by agency:	02/13/2004
Facility name:	JONES HAMILTON CO
Facility address:	8400 ENTERPRISE DRIVE NEWARK, CA 94560
EPA ID:	CAD009166349
Contact:	RAY A HAHN
Contact address:	8400 ENTERPRISE DRIVE NEWARK, CA 94560
Contact country:	US
Contact telephone:	510-797-2471
Contact email:	Not reported
EPA Region:	09
Land type:	Private
Classification:	Small Small Quantity Generator
Description:	Handler: generates more than 100 and less than 1000 kg of hazardous waste during any calendar month and accumulates less than 6000 kg of hazardous waste at any time; or generates 100 kg or less of hazardous waste during any calendar month, and accumulates more than 1000 kg of hazardous waste at any time

Owner/Operator Summary:

Owner/operator name:	JONES HAMILTON
Owner/operator address:	Not reported Not reported
Owner/operator country:	US
Owner/operator telephone:	Not reported
Legal status:	Private
Owner/Operator Type:	Owner
Owner/Op start date:	01/01/1951
Owner/Op end date:	Not reported
Owner/operator name:	JONES-HAMILTON CO.

JONES HAMILTON CO (Continued) **1000221820**

Owner/operator address: Not reported
Not reported
Owner/operator country: US
Owner/operator telephone: Not reported
Legal status: Private
Owner/Operator Type: Operator
Owner/Op start date: 05/01/1951
Owner/Op end date: Not reported

Owner/operator name: JONES-HAMILTON CO.
Owner/operator address: 8400 ENTERPRISE DRIVE
NEWARK, CA 94560
Owner/operator country: US
Owner/operator telephone: Not reported
Legal status: Private
Owner/Operator Type: Owner
Owner/Op start date: 05/01/1951
Owner/Op end date: Not reported

Owner/operator name: JONES HAMILTON CO
Owner/operator address: Not reported
Not reported
Owner/operator country: US
Owner/operator telephone: Not reported
Legal status: Private
Owner/Operator Type: Operator
Owner/Op start date: 01/01/1951
Owner/Op end date: Not reported

Handler Activities Summary:
U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): No
Recycler of hazardous waste: No
Transporter of hazardous waste: No
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: No
Furnace exemption: No
Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

Historical Generators:
Date form received by agency: 02/13/2004
Facility name: JONES HAMILTON CO
Classification: Large Quantity Generator

Date form received by agency: 02/10/2004
Facility name: JONES HAMILTON CO
Site name: JONES-HAMILTON CO.
Classification: Large Quantity Generator

JONES HAMILTON CO (Continued) **1000221820**

Date form received by agency: 02/06/2002
Facility name: JONES HAMILTON CO
Site name: JONES-HAMILTON CO.
Classification: Large Quantity Generator

Date form received by agency: 09/01/1996
Facility name: JONES HAMILTON CO
Site name: JONES-HAMILTON CO NEWARK CA PLT
Classification: Large Quantity Generator

Date form received by agency: 08/18/1980
Facility name: JONES HAMILTON CO
Site name: JONES-HAMILTON CO NEWARK CA PLT
Classification: Large Quantity Generator

Hazardous Waste Summary:
Waste code: D028
Waste name: 1,2-DICHLOROETHANE

Waste code: D028
Waste name: 1,2-DICHLOROETHANE

Violation Status: No violations found

Evaluation Action Summary:
Evaluation date: 06/19/2007
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 11/01/2006
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 10/31/2006
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 10/23/2006
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 08/07/2006
Evaluation: FOLLOW-UP INSPECTION
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: Local

Evaluation date: 02/15/1991

JONES HAMILTON CO (Continued) **1000221820**

Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State Contractor/Grantee

Evaluation date: 11/29/1984
Evaluation: FOCUSED COMPLIANCE INSPECTION
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 03/24/1984
Evaluation: FOCUSED COMPLIANCE INSPECTION
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

HIST UST:
Region: STATE
Facility ID: 00000001051
Facility Type: Other
Other Type: MANUFACTURING
Total Tanks: 0001
Contact Name: THOMAS SEBRING
Telephone: 4157972471
Owner Name: JONES-HAMILTON CO.
Owner Address: 8400 ENTERPRISE DRIVE
Owner City,St,Zip: NEWARK, CA 94560

Tank Num: 001
Container Num: G-1
Year Installed: 1974
Tank Capacity: 00001000
Tank Used for: PRODUCT
Type of Fuel: UNLEADED
Tank Construction: 10 gauge
Leak Detection: Visual, Stock Inventor

EMI:
Year: 1990
County Code: 1
Air Basin: SF
Facility ID: 748
Air District Name: BA
SIC Code: 2819
Air District Name: BAY AREA AQMD
Community Health Air Pollution Info System: Not reported
Consolidated Emission Reporting Rule: Not reported
Total Organic Hydrocarbon Gases Tons/Yr: 0
Reactive Organic Gases Tons/Yr: 0
Carbon Monoxide Emissions Tons/Yr: 0
NOX - Oxides of Nitrogen Tons/Yr: 1
SOX - Oxides of Sulphur Tons/Yr: 0
Particulate Matter Tons/Yr: 0
Part. Matter 10 Micrometers & Smllr Tons/Yr: 0

Year: 1993

JONES HAMILTON CO (Continued) **1000221820**

County Code:	1
Air Basin:	SF
Facility ID:	748
Air District Name:	BA
SIC Code:	2819
Air District Name:	BAY AREA AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	0
Reactive Organic Gases Tons/Yr:	0
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	1
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers & Smllr Tons/Yr:	0

Year:	1995
County Code:	1
Air Basin:	SF
Facility ID:	748
Air District Name:	BA
SIC Code:	2819
Air District Name:	BAY AREA AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	0
Reactive Organic Gases Tons/Yr:	0
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers & Smllr Tons/Yr:	0

Year:	1996
County Code:	1
Air Basin:	SF
Facility ID:	748
Air District Name:	BA
SIC Code:	2819
Air District Name:	BAY AREA AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	0
Reactive Organic Gases Tons/Yr:	0
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	1
SOX - Oxides of Sulphur Tons/Yr:	1
Particulate Matter Tons/Yr:	8
Part. Matter 10 Micrometers & Smllr Tons/Yr:	4

Year:	1997
County Code:	1
Air Basin:	SF
Facility ID:	748
Air District Name:	BA
SIC Code:	2819
Air District Name:	BAY AREA AQMD

JONES HAMILTON CO (Continued) **1000221820**

Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	0
Reactive Organic Gases Tons/Yr:	0
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	1
SOX - Oxides of Sulphur Tons/Yr:	1
Particulate Matter Tons/Yr:	8
Part. Matter 10 Micrometers & Smllr Tons/Yr:	4

Year:	1998
County Code:	1
Air Basin:	SF
Facility ID:	748
Air District Name:	BA
SIC Code:	2819
Air District Name:	BAY AREA AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	0
Reactive Organic Gases Tons/Yr:	0
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	1
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	11
Part. Matter 10 Micrometers & Smllr Tons/Yr:	5

Year:	1999
County Code:	1
Air Basin:	SF
Facility ID:	748
Air District Name:	BA
SIC Code:	2819
Air District Name:	BAY AREA AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	0
Reactive Organic Gases Tons/Yr:	0
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	1
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	11
Part. Matter 10 Micrometers & Smllr Tons/Yr:	5

Year:	2000
County Code:	1
Air Basin:	SF
Facility ID:	748
Air District Name:	BA
SIC Code:	2819
Air District Name:	BAY AREA AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	0
Reactive Organic Gases Tons/Yr:	0
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	1

JONES HAMILTON CO (Continued) **1000221820**

SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	11
Part. Matter 10 Micrometers & Smllr Tons/Yr:	5

Year:	2001
County Code:	1
Air Basin:	SF
Facility ID:	748
Air District Name:	BA
SIC Code:	2819
Air District Name:	BAY AREA AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	0
Reactive Organic Gases Tons/Yr:	0
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	1
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	11
Part. Matter 10 Micrometers & Smllr Tons/Yr:	5

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25 East 1/4-1/2 0.274 mi. 1445 ft.

EDWARDS ENTERPRISES
8455 CABOT COURT
NEWARK, CA

RCRA-SQG **1000155220**
FINDS **CAD981448939**
CA NPDES
CA SLIC
CA EMI

Relative: Higher

Actual: 13 ft.

RCRA-SQG:

Date form received by agency:	02/09/2004
Facility name:	SANMINA SCI
Facility address:	8455 CABOT COURT NEWARK, CA 94560
EPA ID:	CAD981448939
Contact:	SHAWN M BUTLER
Contact address:	8455 CABOT COURT NEWARK, CA 94560
Contact country:	US
Contact telephone:	925-371-3671
Contact email:	Not reported
EPA Region:	09
Classification:	Small Small Quantity Generator
Description:	Handler: generates more than 100 and less than 1000 kg of hazardous waste during any calendar month and accumulates less than 6000 kg of hazardous waste at any time; or generates 100 kg or less of hazardous waste during any calendar month, and accumulates more than 1000 kg of hazardous waste at any time

Owner/Operator Summary:

Owner/operator name:	SANMINA SCI
Owner/operator address:	Not reported Not reported
Owner/operator country:	US
Owner/operator telephone:	Not reported
Legal status:	Private
Owner/Operator Type:	Operator
Owner/Op start date:	12/30/2003
Owner/Op end date:	Not reported

EDWARDS ENTERPRISES (Continued) **1000155220**

Owner/operator name: COORSTEK
Owner/operator address: 8455 CABOT COURT
NEWARK, CA 94560
Owner/operator country: Not reported
Owner/operator telephone: (510) 793-9100
Legal status: Private
Owner/Operator Type: Owner
Owner/Op start date: Not reported
Owner/Op end date: Not reported

Owner/operator name: COORSTEK
Owner/operator address: 8455 CABOT COURT
NEWARK, CA 94560
Owner/operator country: Not reported
Owner/operator telephone: (510) 793-9100
Legal status: Private
Owner/Operator Type: Owner
Owner/Op start date: 01/01/0001
Owner/Op end date: Not reported

Owner/operator name: SANMINA SCI
Owner/operator address: Not reported
Not reported
Owner/operator country: US
Owner/operator telephone: Not reported
Legal status: Private
Owner/Operator Type: Owner
Owner/Op start date: 12/30/2003
Owner/Op end date: Not reported

Handler Activities Summary:
U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): No
Recycler of hazardous waste: No
Transporter of hazardous waste: No
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: No
Furnace exemption: No
Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

Historical Generators:
Date form received by agency: 02/09/2004
Facility name: SANMINA SCI
Classification: Large Quantity Generator

Date form received by agency: 01/18/2000
Facility name: SANMINA SCI
Site name: COORSTEK EDWARDS ENTERPRISES
Classification: Small Quantity Generator

EDWARDS ENTERPRISES (Continued) **1000155220**

Date form received by agency: 09/01/1996
Facility name: SANMINA SCI
Site name: COORSTEK EDWARDS ENTERPRISES
Classification: Small Quantity Generator

Hazardous Waste Summary:
Waste code: D039
Waste name: TETRACHLOROETHYLENE

Violation Status: No violations found

FINDS:

Registry ID: 110001185048

Environmental Interest/Information System

NCDB (National Compliance Data Base) supports implementation of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) and the Toxic Substances Control Act (TSCA). The system tracks inspections in regions and states with cooperative agreements, enforcement actions, and settlements.

The NEI (National Emissions Inventory) database contains information on stationary and mobile sources that emit criteria air pollutants and their precursors, as well as hazardous air pollutants (HAPs).

California Hazardous Waste Tracking System - Datamart (HWTS-DATAMART) provides California with information on hazardous waste shipments for generators, transporters, and treatment, storage, and disposal facilities.

US EPA TRIS (Toxics Release Inventory System) contains information from facilities on the amounts of over 300 listed toxic chemicals that these facilities release directly to air, water, land, or that are transported off-site.

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

CRITERIA AND HAZARDOUS AIR POLLUTANT INVENTORY

NPDES:
Npdes Number: CAS000001
Facility Status: Active
Agency Id: 0
Region: 2
Regulatory Measure Id: 181264
Order No: 97-03-DWQ
Regulatory Measure Type: Enrollee
Place Id: Not reported
WDID: 2 01I018641
Program Type: Industrial

EDWARDS ENTERPRISES (Continued) **1000155220**

Adoption Date Of Regulatory Measure:	Not reported
Effective Date Of Regulatory Measure:	02/18/2004
Expiration Date Of Regulatory Measure:	Not reported
Termination Date Of Regulatory Measure:	Not reported
Discharge Name:	Sanmina SCI Corp Plant III
Discharge Address:	2068 Bering Dr
Discharge City:	San Jose
Discharge State:	California
Discharge Zip:	95134

SLIC:

Region:	STATE
Facility Status:	**Completed - Case Closed**
Status Date:	03/04/2008
Global Id:	SL0600114433
Lead Agency:	ALAMEDA COUNTY WATER DISTRICT
Lead Agency Case Number:	0480
Latitude:	37.518449
Longitude:	-122.046967
Case Type:	Cleanup Program Site
Case Worker:	RS
Local Agency:	ALAMEDA COUNTY WATER DISTRICT
RB Case Number:	01S0674
File Location:	Local Agency
Potential Media Affected:	Not reported
Potential Contaminants of Concern:	* Petroleum - Diesel fuels, * Petroleum - Other
Site History:	Not reported

Click here to access the California GeoTracker records for this facility:

EMI:

Year:	1987
County Code:	1
Air Basin:	SF
Facility ID:	1559
Air District Name:	BA
SIC Code:	3423
Air District Name:	BAY AREA AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	10
Reactive Organic Gases Tons/Yr:	2
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers & Smllr Tons/Yr:	0

Year:	1990
County Code:	1
Air Basin:	SF
Facility ID:	1559
Air District Name:	BA
SIC Code:	3423
Air District Name:	BAY AREA AQMD
Community Health Air Pollution Info System:	Not reported

EDWARDS ENTERPRISES (Continued) **1000155220**

Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	7
Reactive Organic Gases Tons/Yr:	0
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers & Smllr Tons/Yr:	0

Year:	1998
County Code:	1
Air Basin:	SF
Facility ID:	1559
Air District Name:	BA
SIC Code:	3423
Air District Name:	BAY AREA AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	1
Reactive Organic Gases Tons/Yr:	0
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers & Smllr Tons/Yr:	0

Year:	1999
County Code:	1
Air Basin:	SF
Facility ID:	1559
Air District Name:	BA
SIC Code:	3423
Air District Name:	BAY AREA AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	1
Reactive Organic Gases Tons/Yr:	0
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers & Smllr Tons/Yr:	0

Year:	2000
County Code:	1
Air Basin:	SF
Facility ID:	1559
Air District Name:	BA
SIC Code:	3423
Air District Name:	BAY AREA AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	1
Reactive Organic Gases Tons/Yr:	0
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0

EDWARDS ENTERPRISES (Continued) **1000155220**

Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers & Smllr Tons/Yr:	0

Year:	2001
County Code:	1
Air Basin:	SF
Facility ID:	1559
Air District Name:	BA
SIC Code:	3423
Air District Name:	BAY AREA AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	1
Reactive Organic Gases Tons/Yr:	0
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers & Smllr Tons/Yr:	0

Year:	2002
County Code:	1
Air Basin:	SF
Facility ID:	15307
Air District Name:	BA
SIC Code:	3559
Air District Name:	BAY AREA AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	1
Reactive Organic Gases Tons/Yr:	1
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers & Smllr Tons/Yr:	0

Year:	2003
County Code:	1
Air Basin:	SF
Facility ID:	15307
Air District Name:	BA
SIC Code:	3559
Air District Name:	BAY AREA AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	5
Reactive Organic Gases Tons/Yr:	2
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers & Smllr Tons/Yr:	0

Year:	2004
County Code:	1
Air Basin:	SF

EDWARDS ENTERPRISES (Continued) **1000155220**

Facility ID:	15307
Air District Name:	BA
SIC Code:	3559
Air District Name:	BAY AREA AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	7.371
Reactive Organic Gases Tons/Yr:	2.9484
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers & Smllr Tons/Yr:	0

Year:	2005
County Code:	1
Air Basin:	SF
Facility ID:	15307
Air District Name:	BA
SIC Code:	3559
Air District Name:	BAY AREA AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	2.692
Reactive Organic Gases Tons/Yr:	1.0768
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers & Smllr Tons/Yr:	0

Year:	2006
County Code:	1
Air Basin:	SF
Facility ID:	15307
Air District Name:	BA
SIC Code:	3559
Air District Name:	BAY AREA AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	2.871
Reactive Organic Gases Tons/Yr:	1.1484
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers & Smllr Tons/Yr:	0

Year:	2007
County Code:	1
Air Basin:	SF
Facility ID:	15307
Air District Name:	BA
SIC Code:	3559
Air District Name:	BAY AREA AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported

EDWARDS ENTERPRISES (Continued) **1000155220**

Total Organic Hydrocarbon Gases Tons/Yr:	3.736
Reactive Organic Gases Tons/Yr:	1.4944
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers & Smllr Tons/Yr:	0

Year:	2008
County Code:	1
Air Basin:	SF
Facility ID:	15307
Air District Name:	BA
SIC Code:	3559
Air District Name:	BAY AREA AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	3.736
Reactive Organic Gases Tons/Yr:	1.4944
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers & Smllr Tons/Yr:	0

Year:	2009
County Code:	1
Air Basin:	SF
Facility ID:	15307
Air District Name:	BA
SIC Code:	3559
Air District Name:	BAY AREA AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	2.3330000000000002
Reactive Organic Gases Tons/Yr:	0.93320000000000003
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers & Smllr Tons/Yr:	0

Year:	2010
County Code:	1
Air Basin:	SF
Facility ID:	15307
Air District Name:	BA
SIC Code:	3559
Air District Name:	BAY AREA AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	6.9989999999999997
Reactive Organic Gases Tons/Yr:	2.7995999999999999
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0

EDWARDS ENTERPRISES (Continued) **1000155220**

Part. Matter 10 Micrometers & Smllr Tons/Yr: 0

G26 **LESLIE SALT/FMC MAGNESIA WASTE PILE** **CA HIST Cal-Sites** **S102008167**
NE **WEST OF ENTERPRISE DRIVE** **CA RESPONSE** **N/A**
1/4-1/2 **NEWARK, CA 94560** **CA ENVIROSTOR**
0.350 mi.
1849 ft. **Site 1 of 4 in cluster G**

Relative:
Higher

Actual:
13 ft.

Calsite:

Facility ID:	01280072
Region:	2
Region Name:	BERKELEY
Branch:	NC
Branch Name:	NORTH COAST
File Name:	Not reported
State Senate District:	10241991
Status:	CERTIFIED AS HAVING BEEN REMEDIED SATISFACTORILY UNDER DTSC OVERSIGHT
Status Name:	CERTIFIED
Lead Agency:	DTSC
Lead Agency:	DEPT OF TOXIC SUBSTANCES CONTROL
Facility Type:	RP
Type Name:	RESPONSIBLE PARTY
NPL:	Not Listed
SIC Code:	28
SIC Name:	MANU - CHEMICALS & ALLIED PRODUCTS
Access:	Controlled
Cortese:	Not reported
Hazardous Ranking Score:	Not reported
Date Site Hazard Ranked:	Not reported
Groundwater Contamination:	Unknown
Staff Member Responsible for Site:	Not reported
Supervisor Responsible for Site:	Not reported
Region Water Control Board:	SF
Region Water Control Board Name:	SAN FRANCISCO BAY
Lat/Long Direction:	Not reported
Lat/Long (dms):	0 0 0 / 0 0 0
Lat/long Method:	Not reported
Lat/Long Description:	Not reported
State Assembly District Code:	20
State Senate District Code:	10
Facility ID:	01280072
Activity:	DISC
Activity Name:	DISCOVERY
AWP Code:	Not reported
Proposed Budget:	0
AWP Completion Date:	Not reported
Revised Due Date:	Not reported
Comments Date:	03011980
Est Person-Yrs to complete:	0
Estimated Size:	Not reported
Request to Delete Activity:	Not reported
Activity Status:	CERT
Definition of Status:	CERTIFIED
Liquids Removed (Gals):	0
Liquids Treated (Gals):	0
Action Included Capping:	Not reported
Well Decommissioned:	Not reported
Action Included Fencing:	Not reported

LESLIE SALT/FMC MAGNESIA WASTE PILE (Continued) **S102008167**

Removal Action Certification:	Not reported
Activity Comments:	Not reported
For Commercial Reuse:	0
For Industrial Reuse:	0
For Residential Reuse:	0
Unknown Type:	0
Facility ID:	01280072
Activity:	RA
Activity Name:	REMOVAL ACTION
AWP Code:	PILE
Proposed Budget:	0
AWP Completion Date:	Not reported
Revised Due Date:	Not reported
Comments Date:	06301985
Est Person-Yrs to complete:	0
Estimated Size:	Not reported
Request to Delete Activity:	Not reported
Activity Status:	CERT
Definition of Status:	CERTIFIED
Liquids Removed (Gals):	0
Liquids Treated (Gals):	0
Action Included Capping:	Not reported
Well Decommissioned:	Not reported
Action Included Fencing:	Not reported
Removal Action Certification:	Not reported
Activity Comments:	Not reported
For Commercial Reuse:	0
For Industrial Reuse:	0
For Residential Reuse:	0
Unknown Type:	0
Facility ID:	01280072
Activity:	SS
Activity Name:	SITE SCREENING
AWP Code:	Not reported
Proposed Budget:	0
AWP Completion Date:	Not reported
Revised Due Date:	Not reported
Comments Date:	04021987
Est Person-Yrs to complete:	0
Estimated Size:	Not reported
Request to Delete Activity:	Not reported
Activity Status:	CERT
Definition of Status:	CERTIFIED
Liquids Removed (Gals):	0
Liquids Treated (Gals):	0
Action Included Capping:	Not reported
Well Decommissioned:	Not reported
Action Included Fencing:	Not reported
Removal Action Certification:	Not reported
Activity Comments:	Not reported
For Commercial Reuse:	0
For Industrial Reuse:	0
For Residential Reuse:	0
Unknown Type:	0
Facility ID:	01280072
Activity:	ORDER
Activity Name:	I/SE, IORSE, FFA, FFSRA, VCA, EA

LESLIE SALT/FMC MAGNESIA WASTE PILE (Continued) **S102008167**

AWP Code:	ISE
Proposed Budget:	0
AWP Completion Date:	Not reported
Revised Due Date:	Not reported
Comments Date:	07301988
Est Person-Yrs to complete:	0
Estimated Size:	Not reported
Request to Delete Activity:	Not reported
Activity Status:	CERT
Definition of Status:	CERTIFIED
Liquids Removed (Gals):	0
Liquids Treated (Gals):	0
Action Included Capping:	Not reported
Well Decommissioned:	Not reported
Action Included Fencing:	Not reported
Removal Action Certification:	Not reported
Activity Comments:	Not reported
For Commercial Reuse:	0
For Industrial Reuse:	0
For Residential Reuse:	0
Unknown Type:	0
Facility ID:	01280072
Activity:	RIFS
Activity Name:	REMEDIAL INVESTIGATION / FEASIBILITY STUDY
AWP Code:	Not reported
Proposed Budget:	0
AWP Completion Date:	Not reported
Revised Due Date:	Not reported
Comments Date:	06301989
Est Person-Yrs to complete:	0
Estimated Size:	Not reported
Request to Delete Activity:	Not reported
Activity Status:	CERT
Definition of Status:	CERTIFIED
Liquids Removed (Gals):	0
Liquids Treated (Gals):	0
Action Included Capping:	Not reported
Well Decommissioned:	Not reported
Action Included Fencing:	Not reported
Removal Action Certification:	Not reported
Activity Comments:	Not reported
For Commercial Reuse:	0
For Industrial Reuse:	0
For Residential Reuse:	0
Unknown Type:	0
Facility ID:	01280072
Activity:	RAP
Activity Name:	REMEDIAL ACTION PLAN / RECORD OF DECISION
AWP Code:	Not reported
Proposed Budget:	0
AWP Completion Date:	Not reported
Revised Due Date:	Not reported
Comments Date:	09301990
Est Person-Yrs to complete:	0
Estimated Size:	Not reported
Request to Delete Activity:	Not reported
Activity Status:	CERT

LESLIE SALT/FMC MAGNESIA WASTE PILE (Continued) **S102008167**

Definition of Status:	CERTIFIED
Liquids Removed (Gals):	0
Liquids Treated (Gals):	0
Action Included Capping:	Not reported
Well Decommissioned:	Not reported
Action Included Fencing:	Not reported
Removal Action Certification:	Not reported
Activity Comments:	Not reported
For Commercial Reuse:	0
For Industrial Reuse:	0
For Residential Reuse:	0
Unknown Type:	0
Facility ID:	01280072
Activity:	DES
Activity Name:	DESIGN
AWP Code:	Not reported
Proposed Budget:	0
AWP Completion Date:	Not reported
Revised Due Date:	Not reported
Comments Date:	11301990
Est Person-Yrs to complete:	0
Estimated Size:	Not reported
Request to Delete Activity:	Not reported
Activity Status:	CERT
Definition of Status:	CERTIFIED
Liquids Removed (Gals):	0
Liquids Treated (Gals):	0
Action Included Capping:	Not reported
Well Decommissioned:	Not reported
Action Included Fencing:	Not reported
Removal Action Certification:	Not reported
Activity Comments:	Not reported
For Commercial Reuse:	0
For Industrial Reuse:	0
For Residential Reuse:	0
Unknown Type:	0
Facility ID:	01280072
Activity:	COST
Activity Name:	COST RECOVERY
AWP Code:	Not reported
Proposed Budget:	0
AWP Completion Date:	Not reported
Revised Due Date:	Not reported
Comments Date:	08301991
Est Person-Yrs to complete:	0
Estimated Size:	Not reported
Request to Delete Activity:	Not reported
Activity Status:	CERT
Definition of Status:	CERTIFIED
Liquids Removed (Gals):	0
Liquids Treated (Gals):	0
Action Included Capping:	Not reported
Well Decommissioned:	Not reported
Action Included Fencing:	Not reported
Removal Action Certification:	Not reported
Activity Comments:	Not reported
For Commercial Reuse:	0

LESLIE SALT/FMC MAGNESIA WASTE PILE (Continued) **S102008167**

For Industrial Reuse:	0
For Residential Reuse:	0
Unknown Type:	0
Facility ID:	01280072
Activity:	CERT
Activity Name:	CERTIFICATION
AWP Code:	Not reported
Proposed Budget:	0
AWP Completion Date:	Not reported
Revised Due Date:	Not reported
Comments Date:	10241991
Est Person-Yrs to complete:	0
Estimated Size:	Not reported
Request to Delete Activity:	Not reported
Activity Status:	CERT
Definition of Status:	CERTIFIED
Liquids Removed (Gals):	6585
Liquids Treated (Gals):	0
Action Included Capping:	Not reported
Well Decommissioned:	Not reported
Action Included Fencing:	Not reported
Removal Action Certification:	N
Activity Comments:	EXCAVATION OF MATERIAL CONTAMINATED WITH COPPER, NAPTHALENE AND OILYWASTES; REDISPOSAL AT THE USPCI CLASS I LANDFILL IN CLIVE, UTAH.
For Commercial Reuse:	0
For Industrial Reuse:	20
For Residential Reuse:	0
Unknown Type:	0
Facility ID:	01280072
Activity:	FRA
Activity Name:	FINAL REMEDIAL ACTION
AWP Code:	Not reported
Proposed Budget:	0
AWP Completion Date:	Not reported
Revised Due Date:	Not reported
Comments Date:	10241991
Est Person-Yrs to complete:	0
Estimated Size:	Not reported
Request to Delete Activity:	Not reported
Activity Status:	CERT
Definition of Status:	CERTIFIED
Liquids Removed (Gals):	0
Liquids Treated (Gals):	0
Action Included Capping:	Not reported
Well Decommissioned:	Not reported
Action Included Fencing:	Not reported
Removal Action Certification:	Not reported
Activity Comments:	Not reported
For Commercial Reuse:	0
For Industrial Reuse:	0
For Residential Reuse:	0
Unknown Type:	0
Facility ID:	01280072
Activity:	ENFFU
Activity Name:	ENFORCEMENT FOLLOW UP, AG OR DA REFERRAL, ETC.
AWP Code:	SFACT
Proposed Budget:	0

LESLIE SALT/FMC MAGNESIA WASTE PILE (Continued) **S102008167**

AWP Completion Date:	Not reported
Revised Due Date:	Not reported
Comments Date:	09171996
Est Person-Yrs to complete:	0
Estimated Size:	Not reported
Request to Delete Activity:	Not reported
Activity Status:	CERT
Definition of Status:	CERTIFIED
Liquids Removed (Gals):	0
Liquids Treated (Gals):	0
Action Included Capping:	Not reported
Well Decommissioned:	Not reported
Action Included Fencing:	Not reported
Removal Action Certification:	Not reported
Activity Comments:	Not reported
For Commercial Reuse:	0
For Industrial Reuse:	0
For Residential Reuse:	0
Unknown Type:	0
Alternate Address:	WEST OF ENTERPRISE DRIVE
Alternate City,St,Zip:	NEWARK, CA 94560
Background Info:	Leslie Salt owns the site and leased it to FMC Corporation from 1928 to 1968. During this period, FMC used the site for disposal of their process wastes. These wastes included: off-grade magnesia, dolomite, general rubbish, phosphorus sludges, gypsum and excess catalysts which were used for the production of synthetic rubber. The waste materials were disposed onsite in large piles. The catalyst material contains approximately 1-2% copper (20,000 parts per million) and mercury above the total threshold limit concentration.
Comments Date:	07301988
Comments:	Issued Remedial Action Order to the Leslie Salt Company and FMC
Comments Date:	07301988
Comments:	Corporation.
Comments Date:	09301990
Comments:	Approved RAP proposing the removal of all hazardous constituents
Comments Date:	09301990
Comments:	from the site.
Comments Date:	10241991
Comments:	Completed FRA. All the material was removed and disposed
Comments Date:	10241991
Comments:	off-site. Certified Site.
ID Name:	CALSTARS CODE
ID Value:	200058
ID Name:	BEP DATABASE PCODE
ID Value:	P21036
ID Name:	EPA IDENTIFICATION NUMBER
ID Value:	CAD980673982
Alternate Name:	MAGNESIA WASTE PILELESLIE SALT/FMC MAGNESIA WASTE PILEFMC MAGNESIA WASTE PILE
Special Programs Code:	Not reported
Special Programs Name:	Not reported

RESPONSE:

Facility ID:	01280072
Site Type:	State Response
Site Type Detail:	State Response or NPL
Acres:	20

LESLIE SALT/FMC MAGNESIA WASTE PILE (Continued) **S102008167**

National Priorities List:	NO
Cleanup Oversight Agencies:	SMBRP
Lead Agency:	SMBRP
Lead Agency Description:	DTSC - Site Cleanup Program
Project Manager:	Not reported
Supervisor:	Denise Tsuji
Division Branch:	Cleanup Berkeley
Site Code:	200058
Site Mgmt. Req.:	NONE SPECIFIED
Assembly:	25
Senate:	10
Special Program Status:	Not reported
Status:	Certified
Status Date:	10/24/1991
Restricted Use:	NO
Funding:	Responsible Party
Latitude:	37.51972
Longitude:	-122.0544
APN:	NONE SPECIFIED
Past Use:	NONE
Potential COC:	NONE SPECIFIED, No Contaminants found
Confirmed COC:	NONE SPECIFIED, No Contaminants found, 31000-NO
Potential Description:	NMA
Alias Name:	FMC MAGNESIA WASTE PILE
Alias Type:	Alternate Name
Alias Name:	MAGNESIA WASTE PILE
Alias Type:	Alternate Name
Alias Name:	CAD980673982
Alias Type:	EPA Identification Number
Alias Name:	110033607700
Alias Type:	EPA (FRS #)
Alias Name:	P21036
Alias Type:	PCode
Alias Name:	200058
Alias Type:	Project Code (Site Code)
Alias Name:	01280072
Alias Type:	Envirostor ID Number

Completed Info:

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Remedial Action Completion Report
Completed Date:	10/24/1991
Comments:	Not reported
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Design/Implementation Workplan
Completed Date:	11/30/1990
Comments:	Not reported
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Remedial Action Plan
Completed Date:	09/30/1990
Comments:	Approved RAP proposing the removal of all hazardous constituents from the site.

LESLIE SALT/FMC MAGNESIA WASTE PILE (Continued) **S102008167**

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Remedial Investigation / Feasibility Study
Completed Date: 06/30/1989
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Screening
Completed Date: 04/02/1987
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Certification
Completed Date: 10/24/1991
Comments: Completed FRA. All the material was removed and disposed off-site. Certified Site.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Unilateral Order (I/SE, RAO, CAO, EPA AO)
Completed Date: 07/30/1988
Comments: Issued Remedial Action Order to the Leslie Salt Company and FMC Corporation.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: * Discovery
Completed Date: 03/01/1980
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Removal Action Completion Report
Completed Date: 06/30/1985
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Fact Sheets
Completed Date: 06/01/1990
Comments: Fact Sheet announces the start of a public comment period on the draft remedial action plan and a public meeting on June 13.

Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

ENVIROSTOR:
Site Type: State Response

LESLIE SALT/FMC MAGNESIA WASTE PILE (Continued) **S102008167**

Site Type Detailed:	State Response or NPL
Acres:	20
NPL:	NO
Regulatory Agencies:	SMBRP
Lead Agency:	SMBRP
Program Manager:	Not reported
Supervisor:	Denise Tsuji
Division Branch:	Cleanup Berkeley
Facility ID:	01280072
Site Code:	200058
Assembly:	25
Senate:	10
Special Program:	Not reported
Status:	Certified
Status Date:	10/24/1991
Restricted Use:	NO
Site Mgmt. Req.:	NONE SPECIFIED
Funding:	Responsible Party
Latitude:	37.51972
Longitude:	-122.0544
APN:	NONE SPECIFIED
Past Use:	NONE
Potential COC:	NONE SPECIFIED, No Contaminants found
Confirmed COC:	NONE SPECIFIED, No Contaminants found, 31000-NO
Potential Description:	NMA
Alias Name:	FMC MAGNESIA WASTE PILE
Alias Type:	Alternate Name
Alias Name:	MAGNESIA WASTE PILE
Alias Type:	Alternate Name
Alias Name:	CAD980673982
Alias Type:	EPA Identification Number
Alias Name:	110033607700
Alias Type:	EPA (FRS #)
Alias Name:	P21036
Alias Type:	PCode
Alias Name:	200058
Alias Type:	Project Code (Site Code)
Alias Name:	01280072
Alias Type:	Envirostor ID Number

Completed Info:

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Remedial Action Completion Report
Completed Date:	10/24/1991
Comments:	Not reported
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Design/Implementation Workplan
Completed Date:	11/30/1990
Comments:	Not reported
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Remedial Action Plan
Completed Date:	09/30/1990
Comments:	Approved RAP proposing the removal of all hazardous constituents from

LESLIE SALT/FMC MAGNESIA WASTE PILE (Continued) **S102008167**

the site.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Remedial Investigation / Feasibility Study
Completed Date: 06/30/1989
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Screening
Completed Date: 04/02/1987
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Certification
Completed Date: 10/24/1991
Comments: Completed FRA. All the material was removed and disposed off-site. Certified Site.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Unilateral Order (I/SE, RAO, CAO, EPA AO)
Completed Date: 07/30/1988
Comments: Issued Remedial Action Order to the Leslie Salt Company and FMC Corporation.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: * Discovery
Completed Date: 03/01/1980
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Removal Action Completion Report
Completed Date: 06/30/1985
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Fact Sheets
Completed Date: 06/01/1990
Comments: Fact Sheet announces the start of a public comment period on the draft remedial action plan and a public meeting on June 13.

Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

G27 **NE** **1/4-1/2** **0.357 mi.** **1885 ft.** **Relative:** **Higher** **Actual:** **14 ft.**	**BARON BLAKESLEE INC** **8333 ENTERPRISE DR** **NEWARK, CA 94560** **Site 2 of 4 in cluster G**	**RCRA-TSDF** **CERC-NFRAP** **CORRACTS** **RCRA-LQG** **CA HIST UST** **NY MANIFEST** **CA EMI** **2020 COR ACTION** **CA WDS** **US FIN ASSUR**	**1000335330** **CAD074644659**

RCRA-TSDF:

Date form received by agency:	02/29/2012
Facility name:	FRMR BARON BLAKESLEE, INC., DIV OF HONEYWELL INTL INC.
Facility address:	8333 ENTERPRISE DRIVE NEWARK, CA 94560
EPA ID:	CAD074644659
Mailing address:	W. 190TH STREET M/S 23-21-80 W. 190TH STREET M/S 23-21-80 TORRANCE, CA 90504
Contact:	BENNY DEHGHI
Contact address:	W. 190TH STREET M/S 23-21-80 TORRANCE, CA 90504
Contact country:	Not reported
Contact telephone:	(310) 512-2296
Contact email:	BENNY.DEHGHI@HONEYWELL.COM
EPA Region:	09
Land type:	Private
Classification:	TSDF
Description:	Handler is engaged in the treatment, storage or disposal of hazardous waste
Classification:	Large Quantity Generator
Description:	Handler: generates 1,000 kg or more of hazardous waste during any calendar month; or generates more than 1 kg of acutely hazardous waste during any calendar month; or generates more than 100 kg of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste during any calendar month; or generates 1 kg or less of acutely hazardous waste during any calendar month, and accumulates more than 1 kg of acutely hazardous waste at any time; or generates 100 kg or less of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste during any calendar month, and accumulates more than 100 kg of that material at any time

Owner/Operator Summary:

Owner/operator name:	GALLADE CHEMICAL, INC.
Owner/operator address:	ENTERPRISE DRIVE NEWARK, CA 94560
Owner/operator country:	Not reported
Owner/operator telephone:	Not reported
Legal status:	Private
Owner/Operator Type:	Operator
Owner/Op start date:	01/01/1998
Owner/Op end date:	Not reported
Owner/operator name:	BARON BLAKESLEE DIVISION PUREX CORP
Owner/operator address:	2001 N JANICE AVE MELROSE PARK, IL 60160

BARON BLAKESLEE INC (Continued) **1000335330**

Owner/operator country: Not reported
Owner/operator telephone: (708) 450-3900
Legal status: Private
Owner/Operator Type: Operator
Owner/Op start date: Not reported
Owner/Op end date: Not reported

Owner/operator name: GALLADE ENTERPRISES, LLC
Owner/operator address: EAST ST. GERTRUDE PLACE
SANTA ANA, CA 92707
Owner/operator country: Not reported
Owner/operator telephone: (510) 794-9482
Legal status: Private
Owner/Operator Type: Owner
Owner/Op start date: 01/01/1998
Owner/Op end date: Not reported

Handler Activities Summary:
U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): No
Recycler of hazardous waste: No
Transporter of hazardous waste: No
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: No
Furnace exemption: No
Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

Historical Generators:
Date form received by agency: 02/22/2010
Facility name: FRMR BARON BLAKESLEE, INC., DIV OF HONEYWELL INTL INC.
Site name: FORMER BARON BLAKESLEE, INC, DIVISION OF HONEYWELL INTERNATIONAL, INC
Classification: Large Quantity Generator

Date form received by agency: 02/27/2004
Facility name: FRMR BARON BLAKESLEE, INC., DIV OF HONEYWELL INTL INC.
Site name: NEWARK
Classification: Large Quantity Generator

Date form received by agency: 02/27/2004
Facility name: FRMR BARON BLAKESLEE, INC., DIV OF HONEYWELL INTL INC.
Site name: NEWARK
Classification: Small Quantity Generator

Date form received by agency: 02/20/2002
Facility name: FRMR BARON BLAKESLEE, INC., DIV OF HONEYWELL INTL INC.
Site name: NEWARK
Classification: Large Quantity Generator

Date form received by agency: 10/12/2000

BARON BLAKESLEE INC (Continued) **1000335330**

Facility name: FRMR BARON BLAKESLEE, INC., DIV OF HONEYWELL INTL INC.
Site name: FORMER BARON-BLAKESLEE
Classification: Large Quantity Generator

Date form received by agency: 03/04/1999
Facility name: FRMR BARON BLAKESLEE, INC., DIV OF HONEYWELL INTL INC.
Site name: BARON-BLAKESLEE DIV. OF ALLIEDSIGNAL
Classification: Large Quantity Generator

Date form received by agency: 10/22/1996
Facility name: FRMR BARON BLAKESLEE, INC., DIV OF HONEYWELL INTL INC.
Site name: BARON BLAKESLEE INC DIV OF ALLIED SIGNAL
Classification: Large Quantity Generator

Date form received by agency: 10/22/1996
Facility name: FRMR BARON BLAKESLEE, INC., DIV OF HONEYWELL INTL INC.
Site name: BARON BLAKESLEE INC DIV OF ALLIED SIGNAL
Classification: Not a generator, verified

Date form received by agency: 02/19/1996
Facility name: FRMR BARON BLAKESLEE, INC., DIV OF HONEYWELL INTL INC.
Site name: BARON BLAKESLEE
Classification: Large Quantity Generator

Date form received by agency: 03/15/1994
Facility name: FRMR BARON BLAKESLEE, INC., DIV OF HONEYWELL INTL INC.
Site name: BARON BLAKESLEE DIV OF ALLIED SIGNAL
Classification: Large Quantity Generator

Date form received by agency: 02/28/1992
Facility name: FRMR BARON BLAKESLEE, INC., DIV OF HONEYWELL INTL INC.
Site name: BARON-BLAKESLEE, INC. DIVISION OF ALLIED
Classification: Large Quantity Generator

Date form received by agency: 04/12/1990
Facility name: FRMR BARON BLAKESLEE, INC., DIV OF HONEYWELL INTL INC.
Site name: BARON-BLAKESLEE A DIV OF ALLIED S
Classification: Large Quantity Generator

Date form received by agency: 07/07/1986
Facility name: FRMR BARON BLAKESLEE, INC., DIV OF HONEYWELL INTL INC.
Site name: BARON BLAKESLEE INC DIV OF ALLIED SIGNAL
Classification: Large Quantity Generator

Hazardous Waste Summary:
Waste code: D040
Waste name: TRICHLOROETHYLENE

Waste code: F001
Waste name: THE FOLLOWING SPENT HALOGENATED SOLVENTS USED IN DEGREASING: TETRACHLOROETHYLENE, TRICHLOROETHYLENE, METHYLENE CHLORIDE, 1,1,1-TRICHLOROETHANE, CARBON TETRACHLORIDE, AND CHLORINATED FLUOROCARBONS; ALL SPENT SOLVENT MIXTURES/BLENDS USED IN DEGREASING CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE HALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F002, F004, AND F005, AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

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Waste code: F002
Waste name: THE FOLLOWING SPENT HALOGENATED SOLVENTS: TETRACHLOROETHYLENE, METHYLENE CHLORIDE, TRICHLOROETHYLENE, 1,1,1-TRICHLOROETHANE, CHLOROBENZENE, 1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE, ORTHO-DICHLOROBENZENE, TRICHLOROFLUOROMETHANE, AND 1,1,2-TRICHLOROETHANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE HALOGENATED SOLVENTS OR THOSE LISTED IN F001, F004, OR F005, AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

Waste code: F003
Waste name: THE FOLLOWING SPENT NON-HALOGENATED SOLVENTS: XYLENE, ACETONE, ETHYL ACETATE, ETHYL BENZENE, ETHYL ETHER, METHYL ISOBUTYL KETONE, N-BUTYL ALCOHOL, CYCLOHEXANONE, AND METHANOL; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONLY THE ABOVE SPENT NON-HALOGENATED SOLVENTS; AND ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONE OR MORE OF THE ABOVE NON-HALOGENATED SOLVENTS, AND, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THOSE SOLVENTS LISTED IN F001, F002, F004, AND F005, AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

Waste code: F005
Waste name: THE FOLLOWING SPENT NON-HALOGENATED SOLVENTS: TOLUENE, METHYL ETHYL KETONE, CARBON DISULFIDE, ISOBUTANOL, PYRIDINE, BENZENE, 2-ETHOXYETHANOL, AND 2-NITROPROPANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE NON-HALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F001, F002, OR F004; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

Waste code: U080
Waste name: METHANE, DICHLORO-

Waste code: U210
Waste name: ETHENE, TETRACHLORO-

Waste code: U226
Waste name: ETHANE, 1,1,1-TRICHLORO-

Waste code: U228
Waste name: ETHENE, TRICHLORO-

Biennial Reports:

Last Biennial Reporting Year: 2013

Annual Waste Handled:
Waste code: D040
Waste name: TRICHLOROETHYLENE
Amount (Lbs): 8

Waste code: F001
Waste name: THE FOLLOWING SPENT HALOGENATED SOLVENTS USED IN DEGREASING: TETRACHLOROETHYLENE, TRICHLOROETHYLENE, METHYLENE CHLORIDE, 1,1,1-TRICHLOROETHANE, CARBON TETRACHLORIDE, AND CHLORINATED FLUOROCARBONS; ALL SPENT SOLVENT MIXTURES/BLENDS USED IN DEGREASING

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CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE HALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F002, F004, AND F005, AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

Amount (Lbs): 254168

Waste code: F002
Waste name: THE FOLLOWING SPENT HALOGENATED SOLVENTS: TETRACHLOROETHYLENE, METHYLENE CHLORIDE, TRICHLOROETHYLENE, 1,1,1-TRICHLOROETHANE, CHLOROBENZENE, 1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE, ORTHO-DICHLOROBENZENE, TRICHLOROFLUOROMETHANE, AND 1,1,2-TRICHLOROETHANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE HALOGENATED SOLVENTS OR THOSE LISTED IN F001, F004, OR F005, AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.
Amount (Lbs): 254168

Waste code: F003
Waste name: THE FOLLOWING SPENT NON-HALOGENATED SOLVENTS: XYLENE, ACETONE, ETHYL ACETATE, ETHYL BENZENE, ETHYL ETHER, METHYL ISOBUTYL KETONE, N-BUTYL ALCOHOL, CYCLOHEXANONE, AND METHANOL; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONLY THE ABOVE SPENT NON-HALOGENATED SOLVENTS; AND ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONE OR MORE OF THE ABOVE NON-HALOGENATED SOLVENTS, AND, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THOSE SOLVENTS LISTED IN F001, F002, F004, AND F005, AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.
Amount (Lbs): 251460

Waste code: F005
Waste name: THE FOLLOWING SPENT NON-HALOGENATED SOLVENTS: TOLUENE, METHYL ETHYL KETONE, CARBON DISULFIDE, ISOBUTANOL, PYRIDINE, BENZENE, 2-ETHOXYETHANOL, AND 2-NITROPROPANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE NON-HALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F001, F002, OR F004; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.
Amount (Lbs): 231082

Waste code: U080
Waste name: METHANE, DICHLORO-
Amount (Lbs): 231082

Waste code: U210
Waste name: ETHENE, TETRACHLORO-
Amount (Lbs): 232179

Waste code: U228
Waste name: ETHENE, TRICHLORO-
Amount (Lbs): 1382

Corrective Action Summary:
Event date: 09/17/1990
Event: Corrective Action Process Terminated

BARON BLAKESLEE INC (Continued) **1000335330**

Event date: 09/17/1990
Event: RFA Completed

Event date: 08/27/1992
Event: CA Prioritization, Facility or area was assigned a low corrective action priority.

Event date: 08/27/1992
Event: Stabilization Measures Evaluation,This facility is not amenable to stabilization activity at the present time for reasons other than 1- it appears to be technically infeasible or inappropriate (NF) or 2- there is a lack of technical information (IN). Reasons for this conclusion may be the status of closure at the facility, the degree of risk, timing considerations, the status of corrective action work at the facility, or other administrative considerations.

Event date: 06/21/1995
Event: CMS Imposition

Event date: 06/21/1995
Event: RFI Imposition

Event date: 01/04/1996
Event: RFI Workplan Approved

Event date: 09/24/1997
Event: CA Responsibility Referred To A Non-RCRA Federal Authority

Event date: 09/24/1997
Event: Current Human Exposures under Control, Current human exposures are NOT under control.

Event date: 09/24/1997
Event: Igration of Contaminated Groundwater under Control, Unacceptable migration of contaminated groundwater is observed or expected.

Event date: 09/24/1997
Event: CA Prioritization, Facility or area was assigned a high corrective action priority.

Event date: 09/24/1997
Event: Current Human Exposures under Control, Current human exposures are NOT under control.

Event date: 09/24/1997
Event: Igration of Contaminated Groundwater under Control, Unacceptable migration of contaminated groundwater is observed or expected.

Event date: 09/24/1997
Event: Stabilization Measures Evaluation,This facility is amenable to stabilization activity based on the status of corrective action work at the facility, technical factors, the degree of risk, timing considerations and administrative considerations.

Event date: 12/28/2000
Event: Current Human Exposures under Control, Yes, Current Human Exposures Under Control has been verified. Based on a review of information

BARON BLAKESLEE INC (Continued) **1000335330**

contained in the EI determination, current human exposures are expected to be under control at the facility under current and reasonably expected conditions. This determination will be re-evaluated when the Agency/State becomes aware of significant changes at the facility.

Event date: 12/28/2000
Event: Current Human Exposures under Control, Yes, Current Human Exposures Under Control has been verified. Based on a review of information contained in the EI determination, current human exposures are expected to be under control at the facility under current and reasonably expected conditions. This determination will be re-evaluated when the Agency/State becomes aware of significant changes at the facility.

Event date: 12/28/2000
Event: Igration of Contaminated Groundwater under Control, More information is needed to make a determination.

Event date: 12/28/2000
Event: Igration of Contaminated Groundwater under Control, More information is needed to make a determination.

Event date: 07/24/2007
Event: Igration of Contaminated Groundwater under Control, Yes, Migration of Contaminated Groundwater Under Control has been verified. Based on a review of information contained in the EI determination, it has been determined that migration of contaminated groundwater is under control at the facility. Specifically, this determination indicates that the migration of contaminated groundwater is under control, and that monitoring will be conducted to confirm that contaminated groundwater remains within the existing area of contaminated groundwater. This determination will be re-evaluated when the Agency becomes aware of significant changes at the facility.

Event date: 07/24/2007
Event: Date For Remedy Selection (CM Imposed)

Event date: 07/24/2007
Event: Igration of Contaminated Groundwater under Control, Yes, Migration of Contaminated Groundwater Under Control has been verified. Based on a review of information contained in the EI determination, it has been determined that migration of contaminated groundwater is under control at the facility. Specifically, this determination indicates that the migration of contaminated groundwater is under control, and that monitoring will be conducted to confirm that contaminated groundwater remains within the existing area of contaminated groundwater. This determination will be re-evaluated when the Agency becomes aware of significant changes at the facility.

Event date: 07/24/2007
Event: Date For Remedy Selection (CM Imposed)

Event date: 06/09/2010
Event: CA550RC

Event date: 06/09/2010

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Event: CA550RC

Event date: 06/30/2011
Event: CA550RC

Event date: 10/02/2012
Event: CA800YE

Event date: Not reported
Event: CA Prioritization, Facility or area was assigned a low corrective action priority.

Event date: Not reported
Event: CA048ST

Facility Has Received Notices of Violations:
Regulation violated: Not reported
Area of violation: Permits - Conditions
Date violation determined: 04/29/2011
Date achieved compliance: 06/13/2011
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 05/02/2011
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: Not reported
Area of violation: TSD - Financial Requirements
Date violation determined: 01/01/2001
Date achieved compliance: 01/01/2001
Violation lead agency: EPA
Enforcement action: Not reported
Enforcement action date: Not reported
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: Not reported
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: Not reported
Area of violation: Generators - General
Date violation determined: 08/30/1990
Date achieved compliance: 05/28/1992
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 08/31/1990
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

BARON BLAKESLEE INC (Continued) **1000335330**

Regulation violated: Not reported
Area of violation: LDR - General
Date violation determined: 08/30/1990
Date achieved compliance: 05/28/1992
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 08/31/1990
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: Not reported
Area of violation: TSD - General
Date violation determined: 08/30/1990
Date achieved compliance: 05/28/1992
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 08/31/1990
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: Not reported
Area of violation: TSD - Preparedness and Prevention
Date violation determined: 08/30/1990
Date achieved compliance: 05/28/1992
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 08/31/1990
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: Not reported
Area of violation: LDR - General
Date violation determined: 08/30/1990
Date achieved compliance: 05/28/1992
Violation lead agency: State
Enforcement action: INITIAL 3008(A) COMPLIANCE
Enforcement action date: 11/22/1991
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: 50822
Final penalty amount: 30000
Paid penalty amount: 30000

Regulation violated: Not reported

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Area of violation:	TSD - Container Use and Management
Date violation determined:	08/30/1990
Date achieved compliance:	05/28/1992
Violation lead agency:	State
Enforcement action:	WRITTEN INFORMAL
Enforcement action date:	08/31/1990
Enf. disposition status:	Not reported
Enf. disp. status date:	Not reported
Enforcement lead agency:	State
Proposed penalty amount:	Not reported
Final penalty amount:	Not reported
Paid penalty amount:	Not reported

Regulation violated:	Not reported
Area of violation:	TSD - Closure/Post-Closure
Date violation determined:	08/30/1990
Date achieved compliance:	05/28/1992
Violation lead agency:	State
Enforcement action:	WRITTEN INFORMAL
Enforcement action date:	08/31/1990
Enf. disposition status:	Not reported
Enf. disp. status date:	Not reported
Enforcement lead agency:	State
Proposed penalty amount:	Not reported
Final penalty amount:	Not reported
Paid penalty amount:	Not reported

Evaluation Action Summary:

Evaluation date:	07/12/2011
Evaluation:	FINANCIAL RECORD REVIEW
Area of violation:	Not reported
Date achieved compliance:	Not reported
Evaluation lead agency:	State

Evaluation date:	04/29/2011
Evaluation:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation:	Permits - Conditions
Date achieved compliance:	06/13/2011
Evaluation lead agency:	State

Evaluation date:	06/19/2002
Evaluation:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation:	Not reported
Date achieved compliance:	Not reported
Evaluation lead agency:	State

Evaluation date:	05/28/1992
Evaluation:	FINANCIAL RECORD REVIEW
Area of violation:	TSD - Financial Requirements
Date achieved compliance:	01/01/2001
Evaluation lead agency:	EPA Contractor/Grantee

Evaluation date:	07/18/1990
Evaluation:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation:	TSD - Preparedness and Prevention
Date achieved compliance:	05/28/1992
Evaluation lead agency:	State

BARON BLAKESLEE INC (Continued) **1000335330**

Evaluation date: 07/18/1990
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Generators - General
Date achieved compliance: 05/28/1992
Evaluation lead agency: State

Evaluation date: 07/18/1990
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: TSD - Closure/Post-Closure
Date achieved compliance: 05/28/1992
Evaluation lead agency: State

Evaluation date: 07/18/1990
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: LDR - General
Date achieved compliance: 05/28/1992
Evaluation lead agency: State

Evaluation date: 07/18/1990
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: TSD - General
Date achieved compliance: 05/28/1992
Evaluation lead agency: State

Evaluation date: 07/18/1990
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: TSD - Container Use and Management
Date achieved compliance: 05/28/1992
Evaluation lead agency: State

Evaluation date: 07/11/1990
Evaluation: FINANCIAL RECORD REVIEW
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 06/29/1988
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 06/29/1988
Evaluation: FOCUSED COMPLIANCE INSPECTION
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 05/06/1988
Evaluation: FINANCIAL RECORD REVIEW
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

CERC-NFRAP:
Site ID: 0900268
Federal Facility: Not a Federal Facility
NPL Status: Not on the NPL

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Non NPL Status: NFRAP-Site does not qualify for the NPL based on existing information

CERCLIS-NFRAP Site Contact Details:

Contact Sequence ID: 13050671.00000
Person ID: 9271184.00000

Contact Sequence ID: 13289613.00000
Person ID: 13003854.00000

Contact Sequence ID: 13295208.00000
Person ID: 13003858.00000

Contact Sequence ID: 13301066.00000
Person ID: 13004003.00000

CERCLIS-NFRAP Assessment History:

Action: DISCOVERY
Date Started: / /
Date Completed: 01/01/90
Priority Level: Not reported

Action: ARCHIVE SITE
Date Started: / /
Date Completed: 09/22/93
Priority Level: Not reported

Action: PRELIMINARY ASSESSMENT
Date Started: / /
Date Completed: 09/22/93
Priority Level: NFRAP-Site does not qualify for the NPL based on existing information

CORRACTS:

EPA ID: CAD074644659
EPA Region: 09
Area Name: ENTIRE FACILITY
Actual Date: 19960104
Action: CA150 - RFI Workplan Approved
NAICS Code(s): 325998
All Other Miscellaneous Chemical Product and Preparation Manufacturing
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: CAD074644659
EPA Region: 09
Area Name: ENTIRE FACILITY
Actual Date: 20100609
Action: CA550RC
NAICS Code(s): 325998
All Other Miscellaneous Chemical Product and Preparation Manufacturing
Original schedule date: 20100609
Schedule end date: Not reported

EPA ID: CAD074644659
EPA Region: 09

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Area Name: ENTIRE FACILITY
Actual Date: 19950621
Action: CA100 - RFI Imposition
NAICS Code(s): 325998
All Other Miscellaneous Chemical Product and Preparation Manufacturing
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: CAD074644659
EPA Region: 09
Area Name: ENTIRE FACILITY
Actual Date: 19950621
Action: CA250 - CMS Imposition
NAICS Code(s): 325998
All Other Miscellaneous Chemical Product and Preparation Manufacturing
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: CAD074644659
EPA Region: 09
Area Name: ENTIRE FACILITY
Actual Date: 20110630
Action: CA550RC
NAICS Code(s): 325998
All Other Miscellaneous Chemical Product and Preparation Manufacturing
Original schedule date: 20110903
Schedule end date: Not reported

EPA ID: CAD074644659
EPA Region: 09
Area Name: ENTIRE FACILITY
Actual Date: 20070724
Action: CA400 - Date For Remedy Selection (CM Imposed)
NAICS Code(s): 325998
All Other Miscellaneous Chemical Product and Preparation Manufacturing
Original schedule date: 20070724
Schedule end date: Not reported

EPA ID: CAD074644659
EPA Region: 09
Area Name: ENTIRE FACILITY
Actual Date: 20070724
Action: CA750YE - Migration of Contaminated Groundwater under Control, Yes, Migration of Contaminated Groundwater Under Control has been verified
NAICS Code(s): 325998
All Other Miscellaneous Chemical Product and Preparation Manufacturing
Original schedule date: 20070724
Schedule end date: Not reported

EPA ID: CAD074644659
EPA Region: 09
Area Name: ENTIRE FACILITY
Actual Date: 20070724
Action: CA400 - Date For Remedy Selection (CM Imposed)
NAICS Code(s): 325998
All Other Miscellaneous Chemical Product and Preparation Manufacturing
Original schedule date: Not reported

BARON BLAKESLEE INC (Continued) **1000335330**

Schedule end date: Not reported

EPA ID: CAD074644659
EPA Region: 09
Area Name: ENTIRE FACILITY
Actual Date: 20070724
Action: CA750YE - Migration of Contaminated Groundwater under Control, Yes, Migration of Contaminated Groundwater Under Control has been verified
NAICS Code(s): 325998
All Other Miscellaneous Chemical Product and Preparation Manufacturing
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: CAD074644659
EPA Region: 09
Area Name: ENTIRE FACILITY
Actual Date: 19920827
Action: CA225NR - Stabilization Measures Evaluation, This facility is, not amenable to stabilization activity at the, present time for reasons other than (1) it appears to be technically, infeasible or inappropriate (NF) or (2) there is a lack of technical, information (IN). Reasons for this conclusion may be the status of, closure at the facility, the degree of risk, timing considerations, the status of corrective action work at the facility, or other, administrative considerations
NAICS Code(s): 325998
All Other Miscellaneous Chemical Product and Preparation Manufacturing
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: CAD074644659
EPA Region: 09
Area Name: ENTIRE FACILITY
Actual Date: 19920827
Action: CA075LO - CA Prioritization, Facility or area was assigned a low corrective action priority
NAICS Code(s): 325998
All Other Miscellaneous Chemical Product and Preparation Manufacturing
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: CAD074644659
EPA Region: 09
Area Name: ENTIRE FACILITY
Actual Date: 19900917
Action: CA999 - Corrective Action Process Terminated
NAICS Code(s): 325998
All Other Miscellaneous Chemical Product and Preparation Manufacturing
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: CAD074644659
EPA Region: 09
Area Name: ENTIRE FACILITY
Actual Date: 19900917
Action: CA050 - RFA Completed
NAICS Code(s): 325998

BARON BLAKESLEE INC (Continued) **1000335330**

All Other Miscellaneous Chemical Product and Preparation Manufacturing
Original schedule date: 19900930
Schedule end date: Not reported

EPA ID: CAD074644659
EPA Region: 09
Area Name: ENTIRE FACILITY
Actual Date: 19970924
Action: CA075HI - CA Prioritization, Facility or area was assigned a high corrective action priority
NAICS Code(s): 325998
All Other Miscellaneous Chemical Product and Preparation Manufacturing
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: CAD074644659
EPA Region: 09
Area Name: ENTIRE FACILITY
Actual Date: 19970924
Action: CA750NO - Migration of Contaminated Groundwater under Control, Unacceptable migration of contaminated groundwater is observed or expected
NAICS Code(s): 325998
All Other Miscellaneous Chemical Product and Preparation Manufacturing
Original schedule date: 19970924
Schedule end date: Not reported

EPA ID: CAD074644659
EPA Region: 09
Area Name: ENTIRE FACILITY
Actual Date: 19970924
Action: CA750NO - Migration of Contaminated Groundwater under Control, Unacceptable migration of contaminated groundwater is observed or expected
NAICS Code(s): 325998
All Other Miscellaneous Chemical Product and Preparation Manufacturing
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: CAD074644659
EPA Region: 09
Area Name: ENTIRE FACILITY
Actual Date: 19970924
Action: CA725NO - Current Human Exposures Under Control, Current human exposures are NOT under control
NAICS Code(s): 325998
All Other Miscellaneous Chemical Product and Preparation Manufacturing
Original schedule date: 19970924
Schedule end date: Not reported

EPA ID: CAD074644659
EPA Region: 09
Area Name: ENTIRE FACILITY
Actual Date: 19970924
Action: CA210 - CA Responsibility Referred To A Non-RCRA Federal Authority
NAICS Code(s): 325998
All Other Miscellaneous Chemical Product and Preparation Manufacturing

BARON BLAKESLEE INC (Continued) **1000335330**

Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: CAD074644659
EPA Region: 09
Area Name: ENTIRE FACILITY
Actual Date: 19970924
Action: CA225YE - Stabilization Measures Evaluation, This facility ,is amenable to stabilization activity based on the, status of corrective action work at the facility, technical factors, the degree of risk, timing considerations and administrative considerations
NAICS Code(s): 325998
All Other Miscellaneous Chemical Product and Preparation Manufacturing
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: CAD074644659
EPA Region: 09
Area Name: ENTIRE FACILITY
Actual Date: 19970924
Action: CA725NO - Current Human Exposures Under Control, Current human exposures are NOT under control
NAICS Code(s): 325998
All Other Miscellaneous Chemical Product and Preparation Manufacturing
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: CAD074644659
EPA Region: 09
Area Name: ENTIRE FACILITY
Actual Date: 20121002
Action: CA800YE
NAICS Code(s): 325998
All Other Miscellaneous Chemical Product and Preparation Manufacturing
Original schedule date: 20121002
Schedule end date: Not reported

EPA ID: CAD074644659
EPA Region: 09
Area Name: ENTIRE FACILITY
Actual Date: 20001228
Action: CA750IN - Migration of Contaminated Groundwater under Control, More information is needed to make a determination
NAICS Code(s): 325998
All Other Miscellaneous Chemical Product and Preparation Manufacturing
Original schedule date: 20001228
Schedule end date: Not reported

EPA ID: CAD074644659
EPA Region: 09
Area Name: ENTIRE FACILITY
Actual Date: 20001228
Action: CA725YE - Current Human Exposures Under Control, Yes, Current Human Exposures Under Control has been verified
NAICS Code(s): 325998
All Other Miscellaneous Chemical Product and Preparation Manufacturing
Original schedule date: 20001228

BARON BLAKESLEE INC (Continued) **1000335330**

Schedule end date: Not reported

EPA ID: CAD074644659
EPA Region: 09
Area Name: ENTIRE FACILITY
Actual Date: 20001228
Action: CA725YE - Current Human Exposures Under Control, Yes, Current Human Exposures Under Control has been verified
NAICS Code(s): 325998
All Other Miscellaneous Chemical Product and Preparation Manufacturing
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: CAD074644659
EPA Region: 09
Area Name: ENTIRE FACILITY
Actual Date: 20001228
Action: CA750IN - Migration of Contaminated Groundwater under Control, More information is needed to make a determination
NAICS Code(s): 325998
All Other Miscellaneous Chemical Product and Preparation Manufacturing
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: CAD074644659
EPA Region: 09
Area Name: ENTIRE FACILITY
Actual Date: Not reported
Action: CA075LO - CA Prioritization, Facility or area was assigned a low corrective action priority
NAICS Code(s): 325998
All Other Miscellaneous Chemical Product and Preparation Manufacturing
Original schedule date: 19901011
Schedule end date: Not reported

EPA ID: CAD074644659
EPA Region: 09
Area Name: ENTIRE FACILITY
Actual Date: Not reported
Action: CA048ST
NAICS Code(s): 325998
All Other Miscellaneous Chemical Product and Preparation Manufacturing
Original schedule date: 19920827
Schedule end date: Not reported

HIST UST:
Region: STATE
Facility ID: 00000000891
Facility Type: Other
Other Type: SOLVENT DISTRIBUTION
Total Tanks: 0007
Contact Name: ROBERT F. HANSEN
Telephone: 4157946511
Owner Name: CREED JENKINS
Owner Address: 38235 ASHFORD DRIVE
Owner City,St,Zip: FREMONT, CA 94536

BARON BLAKESLEE INC (Continued) **1000335330**

Tank Num: 001
Container Num: #1
Year Installed: 1974
Tank Capacity: 00000060
Tank Used for: PRODUCT
Type of Fuel: Not reported
Tank Construction: Not reported
Leak Detection: None

Tank Num: 002
Container Num: #2
Year Installed: 1974
Tank Capacity: 00000060
Tank Used for: PRODUCT
Type of Fuel: Not reported
Tank Construction: Not reported
Leak Detection: None

Tank Num: 003
Container Num: #3
Year Installed: 1980
Tank Capacity: 00000060
Tank Used for: PRODUCT
Type of Fuel: Not reported
Tank Construction: Not reported
Leak Detection: None

Tank Num: 004
Container Num: #4
Year Installed: 1980
Tank Capacity: 00000060
Tank Used for: PRODUCT
Type of Fuel: Not reported
Tank Construction: Not reported
Leak Detection: None

Tank Num: 005
Container Num: #5
Year Installed: 1980
Tank Capacity: 00000060
Tank Used for: PRODUCT
Type of Fuel: Not reported
Tank Construction: Not reported
Leak Detection: None

Tank Num: 006
Container Num: #6
Year Installed: 1980
Tank Capacity: 00000060
Tank Used for: PRODUCT
Type of Fuel: Not reported
Tank Construction: Not reported
Leak Detection: None

Tank Num: 007
Container Num: #7
Year Installed: 1980

BARON BLAKESLEE INC (Continued) **1000335330**

Tank Capacity:	00000060
Tank Used for:	PRODUCT
Type of Fuel:	Not reported
Tank Construction:	Not reported
Leak Detection:	None

NY MANIFEST:

EPA ID:	CAD074644659
Country:	USA
Mailing Name:	ALLERGAN HUMPHREY
Mailing Contact:	ALLERGAN HUMPHREY
Mailing Address:	2992 ALVARDO STREET
Mailing Address 2:	Not reported
Mailing City:	SAN LEANDRO
Mailing State:	CA
Mailing Zip:	94577
Mailing Zip4:	Not reported
Mailing Country:	USA
Mailing Phone:	415-297-4146

Document ID:	NYA8073936
Manifest Status:	Completed after the designated time period for a TSDF to get a copy to the DEC
Trans1 State ID:	10208P
Trans2 State ID:	Not reported
Generator Ship Date:	890920
Trans1 Recv Date:	890920
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	891002
Part A Recv Date:	891030
Part B Recv Date:	891010
Generator EPA ID:	CAD074644659
Trans1 EPA ID:	NYD980769947
Trans2 EPA ID:	Not reported
TSDF ID:	NYD000632372
Waste Code:	D002 - NON-LISTED CORROSIVE WASTES
Quantity:	00004
Units:	G - Gallons (liquids only)* (8.3 pounds)
Number of Containers:	004
Container Type:	CW - Wooden boxes
Handling Method:	T Chemical, physical, or biological treatment.
Specific Gravity:	100
Year:	89

EMI:

Year:	1987
County Code:	1
Air Basin:	SF
Facility ID:	2543
Air District Name:	BA
SIC Code:	7399
Air District Name:	BAY AREA AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	94
Reactive Organic Gases Tons/Yr:	93

BARON BLAKESLEE INC (Continued) **1000335330**

Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers & Smllr Tons/Yr:	0

Year:	1990
County Code:	1
Air Basin:	SF
Facility ID:	2543
Air District Name:	BA
SIC Code:	7389
Air District Name:	BAY AREA AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	7
Reactive Organic Gases Tons/Yr:	7
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers & Smllr Tons/Yr:	0

Year:	1993
County Code:	1
Air Basin:	SF
Facility ID:	2543
Air District Name:	BA
SIC Code:	7399
Air District Name:	BAY AREA AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	4
Reactive Organic Gases Tons/Yr:	3
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers & Smllr Tons/Yr:	0

Year:	1995
County Code:	1
Air Basin:	SF
Facility ID:	2543
Air District Name:	BA
SIC Code:	2869
Air District Name:	BAY AREA AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	1
Reactive Organic Gases Tons/Yr:	1
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers & Smllr Tons/Yr:	0

BARON BLAKESLEE INC (Continued) **1000335330**

Year:	1996
County Code:	1
Air Basin:	SF
Facility ID:	2543
Air District Name:	BA
SIC Code:	2869
Air District Name:	BAY AREA AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	1
Reactive Organic Gases Tons/Yr:	1
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers & Smllr Tons/Yr:	0

Year:	1997
County Code:	1
Air Basin:	SF
Facility ID:	2543
Air District Name:	BA
SIC Code:	2869
Air District Name:	BAY AREA AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	1
Reactive Organic Gases Tons/Yr:	1
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers & Smllr Tons/Yr:	0

2020 COR ACTION:

EPA ID:	CAD074644659
Region:	9
Action:	Not reported

CA WDS:

Facility ID:	San Francisco Bay 01I013967
Facility Type:	Industrial - Facility that treats and/or disposes of liquid or semisolid wastes from any servicing, producing, manufacturing or processing operation of whatever nature, including mining, gravel washing, geothermal operations, air conditioning, ship building and repairing, oil production, storage and disposal operations, water pumping.
Facility Status:	Active - Any facility with a continuous or seasonal discharge that is under Waste Discharge Requirements.
NPDES Number:	CAS000001 The 1st 2 characters designate the state. The remaining 7 are assigned by the Regional Board
Subregion:	2
Facility Telephone:	5107946511
Facility Contact:	PAUL BRADY
Agency Name:	GALLADE CHEMICAL INC
Agency Address:	8333 Enterprise Dr

BARON BLAKESLEE INC (Continued) **1000335330**

Agency City,St,Zip:	Newark 945603307
Agency Contact:	PAUL BRADY
Agency Telephone:	5107946511
Agency Type:	Private
SIC Code:	0
SIC Code 2:	Not reported
Primary Waste:	Not reported
Primary Waste Type:	Not reported
Secondary Waste:	Not reported
Secondary Waste Type:	Not reported
Design Flow:	0
Baseline Flow:	0
Reclamation:	Not reported
POTW:	Not reported
Treat To Water:	Minor Threat to Water Quality. A violation of a regional board order should cause a relatively minor impairment of beneficial uses compared to a major or minor threat. Not: All nurds without a TTWQ will be considered a minor threat to water quality unless coded at a higher Level. A Zero (0) may be used to code those NURDS that are found to represent no threat to water quality.
Complexity:	Category C - Facilities having no waste treatment systems, such as cooling water dischargers or thosewho must comply through best management practices, facilities with passive waste treatment and disposal systems, such as septic systems with subsurface disposal, or dischargers having waste storage systems with land disposal such as dairy waste ponds.

US FIN ASSUR:

EPA ID:	CAD074644659
Provider:	MIZUHO CORPORATE BANK, LTD.
EPA region:	9
County:	ALAMEDA
Mechanism type:	LETTER OF CREDIT
Mechanism ID:	Not reported
Cost estimate:	8048000
Face value:	12273000
Effective date:	3/29/2009

EPA ID:	CAD074644659
Provider:	BANCO BILBAO VIZCAYA ARGENTARIA
EPA region:	9
County:	ALAMEDA
Mechanism type:	LETTER OF CREDIT
Mechanism ID:	SBLC8703739NY
Cost estimate:	8000000
Face value:	8000000
Effective date:	3/27/2008

G28
NE
1/4-1/2
0.357 mi.
1885 ft.

Relative:
Higher

Actual:
14 ft.

BARON BLAKESLEE FACILITY
8333 ENTERPRISE
NEWARK, CA

Site 3 of 4 in cluster G

CA NPDES
CA Cortese
CA HIST CORTESE
CA SLIC
CA DEED
CA ENF
CA ENVIROSTOR
CA Financial Assurance

S103673821
N/A

NPDES:

Npdes Number:	CAS000001
Facility Status:	Terminated
Agency Id:	0
Region:	2
Regulatory Measure Id:	364921
Order No:	97-03-DWQ
Regulatory Measure Type:	Enrollee
Place Id:	Not reported
WDID:	2 01I022143
Program Type:	Industrial
Adoption Date Of Regulatory Measure:	Not reported
Effective Date Of Regulatory Measure:	05/14/2009
Expiration Date Of Regulatory Measure:	Not reported
Termination Date Of Regulatory Measure:	06/29/2011
Discharge Name:	TRS Group Inc
Discharge Address:	8333 Enterprise Dr
Discharge City:	Newark
Discharge State:	California
Discharge Zip:	94560

Npdes Number:	CAS000001
Facility Status:	Active
Agency Id:	0
Region:	2
Regulatory Measure Id:	181068
Order No:	97-03-DWQ
Regulatory Measure Type:	Enrollee
Place Id:	Not reported
WDID:	2 01I013967
Program Type:	Industrial
Adoption Date Of Regulatory Measure:	Not reported
Effective Date Of Regulatory Measure:	05/07/1998
Expiration Date Of Regulatory Measure:	Not reported
Termination Date Of Regulatory Measure:	Not reported
Discharge Name:	Gallade Chemical Inc
Discharge Address:	8333 Enterprise Dr
Discharge City:	Newark
Discharge State:	California
Discharge Zip:	94560

CORTESE:

Region:	CORTESE
Envirostor Id:	Not reported
Site/Facility Type:	Not reported
Cleanup Status:	Not reported
Status Date:	Not reported
Site Code:	Not reported
Latitude:	Not reported
Longitude:	Not reported

BARON BLAKESLEE FACILITY (Continued) **S103673821**

Owner:	Not reported
Enf Type:	Not reported
Swat R:	Not reported
Flag:	CORTESE
Order No:	Not reported
Waste Discharge System No:	Not reported
Effective Date:	Not reported
Region 2:	2
WID Id:	2 019300N01
Solid Waste Id No:	Not reported
Waste Management Uit Name:	Not reported

CORTESE:

Region:	CORTESE
Facility County Code:	1
Reg By:	WBC&D
Reg Id:	2 019300N01

SLIC:

Region:	STATE
Facility Status:	**Open - Remediation**
Status Date:	04/16/2009
Global Id:	SL20268886
Lead Agency:	SAN FRANCISCO BAY RWQCB (REGION 2)
Lead Agency Case Number:	0366
Latitude:	37.5234437485069
Longitude:	-122.048213481903
Case Type:	Cleanup Program Site
Case Worker:	ES
Local Agency:	ALAMEDA COUNTY WATER DISTRICT
RB Case Number:	01S0294
File Location:	Regional Board
Potential Media Affected:	Other Groundwater (uses other than drinking water)
Potential Contaminants of Concern:	1,1,1-Trichloroethane (TCA), Tetrachloroethylene (PCE), Toluene, Trichloroethylene (TCE), Vinyl chloride, Xylene
Site History:	Not reported

Click here to access the California GeoTracker records for this facility:

SLIC REG 2:

Region:	2
Facility ID:	01S0294
Facility Status:	Remedial action (cleanup) Underway
Date Closed:	Not reported
Local Case #:	Not reported
How Discovered:	RBD
Leak Cause:	Not reported
Leak Source:	Not reported
Date Confirmed:	Not reported
Date Prelim Site Assmnt Workplan Submitted:	Not reported
Date Preliminary Site Assessment Began:	Not reported
Date Pollution Characterization Began:	Not reported
Date Remediation Plan Submitted:	Not reported
Date Remedial Action Underway:	Not reported
Date Post Remedial Action Monitoring Began:	Not reported

BARON BLAKESLEE FACILITY (Continued) **S103673821**

DEED:

Area:	Not reported
Sub Area:	Not reported
Site Type:	POST CLOSURE PERMIT
Status:	POST CLOSURE PERMIT
Deed Date(s):	Not reported

Area:	Not reported
Sub Area:	Not reported
Site Type:	POST CLOSURE PERMIT
Status:	POST CLOSURE PERMIT
Deed Date(s):	Not reported

ENF:

Region:	2
Facility Id:	208732
Agency Name:	ALLIEDSIGNAL, INC.
Place Type:	Manufacturing
Place Subtype:	Manufacturing NEC
Facility Type:	All other facilities
Agency Type:	Privately-Owned Business
# Of Agencies:	1
Place Latitude:	Not reported
Place Longitude:	Not reported
SIC Code 1:	286
SIC Desc 1:	Industrial organic chemicals
SIC Code 2:	Not reported
SIC Desc 2:	Not reported
SIC Code 3:	Not reported
SIC Desc 3:	Not reported
NAICS Code 1:	Not reported
NAICS Desc 1:	Not reported
NAICS Code 2:	Not reported
NAICS Desc 2:	Not reported
NAICS Code 3:	Not reported
NAICS Desc 3:	Not reported
# Of Places:	1
Source Of Facility:	Reg Meas
Design Flow:	Not reported
Threat To Water Quality:	Not reported
Complexity:	Not reported
Pretreatment:	Not reported
Facility Waste Type:	Not reported
Facility Waste Type 2:	Not reported
Facility Waste Type 3:	Not reported
Facility Waste Type 4:	Not reported
Program:	UNREGS
# Of Programs:	1
WDID:	2 019300N01
Reg Measure Id:	163163
Reg Measure Type:	Unregulated
Region:	2
Order #:	Not reported
Npdes# CA#:	Not reported
Major-Minor:	Not reported
Npdes Type:	Not reported

BARON BLAKESLEE FACILITY (Continued) **S103673821**

Reclamation:	Not reported
Dredge Fill Fee:	Not reported
301H:	Not reported
Application Fee Amt Received:	Not reported
Status:	Never Active
Status Date:	02/21/2013
Effective Date:	Not reported
Expiration/Review Date:	Not reported
Termination Date:	Not reported
WDR Review - Amend:	Not reported
WDR Review - Revise/Renew:	Not reported
WDR Review - Rescind:	Not reported
WDR Review - No Action Required:	Not reported
WDR Review - Pending:	Not reported
WDR Review - Planned:	Not reported
Status Enrollee:	N
Individual/General:	I
Fee Code:	Not reported
Direction/Voice:	Passive
Enforcement Id(EID):	223050
Region:	2
Order / Resolution Number:	95-132
Enforcement Action Type:	Clean-up and Abatement Order
Effective Date:	06/21/1995
Adoption/Issuance Date:	Not reported
Achieve Date:	Not reported
Termination Date:	Not reported
ACL Issuance Date:	Not reported
EPL Issuance Date:	Not reported
Status:	Historical
Title:	Enforcement - 2 019300N01
Description:	SCR-
Program:	UNREGS
Latest Milestone Completion Date:	Not reported
# Of Programs1:	1
Total Assessment Amount:	0
Initial Assessed Amount:	0
Liability $ Amount:	0
Project $ Amount:	0
Liability $ Paid:	0
Project $ Completed:	0
Total $ Paid/Completed Amount:	0

Region:	2
Facility Id:	208732
Agency Name:	ALLIEDSIGNAL, INC.
Place Type:	Manufacturing
Place Subtype:	Manufacturing NEC
Facility Type:	All other facilities
Agency Type:	Privately-Owned Business
# Of Agencies:	1
Place Latitude:	Not reported
Place Longitude:	Not reported
SIC Code 1:	286
SIC Desc 1:	Industrial organic chemicals
SIC Code 2:	Not reported
SIC Desc 2:	Not reported

BARON BLAKESLEE FACILITY (Continued) **S103673821**

SIC Code 3:	Not reported
SIC Desc 3:	Not reported
NAICS Code 1:	Not reported
NAICS Desc 1:	Not reported
NAICS Code 2:	Not reported
NAICS Desc 2:	Not reported
NAICS Code 3:	Not reported
NAICS Desc 3:	Not reported
# Of Places:	1
Source Of Facility:	Reg Meas
Design Flow:	Not reported
Threat To Water Quality:	Not reported
Complexity:	Not reported
Pretreatment:	Not reported
Facility Waste Type:	Not reported
Facility Waste Type 2:	Not reported
Facility Waste Type 3:	Not reported
Facility Waste Type 4:	Not reported
Program:	UNREGS
# Of Programs:	1
WDID:	2 019300N01
Reg Measure Id:	163163
Reg Measure Type:	Unregulated
Region:	2
Order #:	Not reported
Npdes# CA#:	Not reported
Major-Minor:	Not reported
Npdes Type:	Not reported
Reclamation:	Not reported
Dredge Fill Fee:	Not reported
301H:	Not reported
Application Fee Amt Received:	Not reported
Status:	Never Active
Status Date:	02/21/2013
Effective Date:	Not reported
Expiration/Review Date:	Not reported
Termination Date:	Not reported
WDR Review - Amend:	Not reported
WDR Review - Revise/Renew:	Not reported
WDR Review - Rescind:	Not reported
WDR Review - No Action Required:	Not reported
WDR Review - Pending:	Not reported
WDR Review - Planned:	Not reported
Status Enrollee:	N
Individual/General:	I
Fee Code:	Not reported
Direction/Voice:	Passive
Enforcement Id(EID):	221805
Region:	2
Order / Resolution Number:	R2-1998-0108
Enforcement Action Type:	Clean-up and Abatement Order
Effective Date:	10/21/1998
Adoption/Issuance Date:	Not reported
Achieve Date:	Not reported
Termination Date:	Not reported
ACL Issuance Date:	Not reported
EPL Issuance Date:	Not reported

BARON BLAKESLEE FACILITY (Continued) **S103673821**

Status:	Active
Title:	Enforcement - 2 019300N01
Description:	SCO-ORDER NO 95-132 WAS RESCINDED TO UPDATE COMPLIANCE DUE DATES
Program:	UNREGS
Latest Milestone Completion Date:	Not reported
# Of Programs1:	1
Total Assessment Amount:	0
Initial Assessed Amount:	0
Liability $ Amount:	0
Project $ Amount:	0
Liability $ Paid:	0
Project $ Completed:	0
Total $ Paid/Completed Amount:	0

ENVIROSTOR:

Site Type:	Corrective Action
Site Type Detailed:	Corrective Action
Acres:	0
NPL:	NO
Regulatory Agencies:	RWQCB 2 - San Francisco Bay
Lead Agency:	RWQCB 2 - San Francisco Bay
Program Manager:	Not reported
Supervisor:	* Wei Wei Chui
Division Branch:	Cleanup Chatsworth
Facility ID:	80001669
Site Code:	200160
Assembly:	25
Senate:	10
Special Program:	Not reported
Status:	* Completed
Status Date:	01/01/2008
Restricted Use:	NO
Site Mgmt. Req.:	NONE SPECIFIED
Funding:	Not reported
Latitude:	37.52285
Longitude:	-122.0479
APN:	NONE SPECIFIED
Past Use:	NONE SPECIFIED
Potential COC:	NONE SPECIFIED
Confirmed COC:	NONE SPECIFIED, NONE SPECIFIED
Potential Description:	NONE SPECIFIED
Alias Name:	CAD074644659
Alias Type:	EPA Identification Number
Alias Name:	110018981609
Alias Type:	EPA (FRS #)
Alias Name:	200160
Alias Type:	Project Code (Site Code)
Alias Name:	80001669
Alias Type:	Envirostor ID Number

Completed Info:

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	RCRA Facility Assessment Report
Completed Date:	09/17/1990
Comments:	RCRA Facility Assessment Completed, site formerly known as Baron

BARON BLAKESLEE FACILITY (Continued) **S103673821**

Blakeslee and Allied Signal

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Interim Measures Questionnaire
Completed Date: 09/24/1997
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: * CA Process is Terminated
Completed Date: 09/17/1990
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Interim Measures Questionnaire
Completed Date: 08/27/1992
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Consent Agreement
Completed Date: 06/21/1995
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Remedy Constructed
Completed Date: 06/30/2011
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Groundwater Migration Controlled
Completed Date: 12/28/2000
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Remedy Constructed
Completed Date: 06/09/2010
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Groundwater Migration Controlled
Completed Date: 09/24/1997
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Human Exposure Controlled
Completed Date: 09/24/1997
Comments: Not reported

Completed Area Name: PROJECT WIDE

BARON BLAKESLEE FACILITY (Continued) **S103673821**

Completed Sub Area Name: Not reported
Completed Document Type: Groundwater Migration Controlled
Completed Date: 07/24/2007
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: * Remedy Selected
Completed Date: 07/24/2007
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Human Exposure Controlled
Completed Date: 12/28/2000
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: RFI Workplan
Completed Date: 01/04/1996
Comments: Not reported

Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

CA Financial Assurance 1:
EPA ID Number: CAD074644659
Sudden Amount1: 2000000
Non Sudden Amount1: 6000000
Closure Mechanism: Not reported
Closure Amount: Not reported
Post Closure Mechanism: LOC
Post Closure Amount: Not reported
Corrective Action Mechanism: Not reported
Corrective Action Amount: Not reported
Sudden Mechanism Type: LOC
Sudden Mechanism Amount: 1000000
Non Sudden Mechanism Type: LOC
Non Sudden Mechanism Amount: Not reported
O&M Mechanism Type: Not reported
O&M Amount: Not reported

G29 NE 1/4-1/2 0.357 mi. 1885 ft. | **HONEYWELL INTERNATIONAL INC**
8333 ENTERPRISE DR
NEWARK, CA 94560

Site 4 of 4 in cluster G

CA HWP | **S111865972**
N/A

Relative: Higher

Actual: 14 ft.

HWP:

EPA Id:	CAD074644659
Cleanup Status:	POST CLOSURE PERMIT
Latitude:	37.52285
Longitude:	-122.0479
Facility Type:	Post-Closure Permitted
Facility Size:	Medium Postclosure
Team:	EDWARD NIETO
Supervisor:	MIKE ESHAGHIAN
Site Code:	200160
Assembly District:	25
Senate District:	10
Public Information Officer:	Not reported

Activities:

EPA Id:	CAD074644659
Facility Type:	Post-Closure Permitted
Unit Names:	CONTAIN1 (GPRA Unit), TANKTRT1 (GPRA Unit)
Event Description:	Renewal - No Changes - 1ST NOTICE OF DEFICIENCY ISSUED
Actual Date:	05/10/1990
EPA Id:	CAD074644659
Facility Type:	Post-Closure Permitted
Unit Names:	CONTAIN1 (GPRA Unit), TANKTRT1 (GPRA Unit)
Event Description:	Renewal - No Changes - FINAL PERMIT RENEWAL (EFFECTIVE)
Actual Date:	11/13/1992
EPA Id:	CAD074644659
Facility Type:	Post-Closure Permitted
Unit Names:	CONTAIN1 (GPRA Unit), TANKTRT1 (GPRA Unit)
Event Description:	Renewal - No Changes - PUBLIC COMMENT (BEGIN)
Actual Date:	05/22/1992
EPA Id:	CAD074644659
Facility Type:	Post-Closure Permitted
Unit Names:	CONTAIN1 (GPRA Unit), TANKTRT1 (GPRA Unit)
Event Description:	New Operating Permit - FINAL PERMIT (EXPIRES)
Actual Date:	11/07/1988
EPA Id:	CAD074644659
Facility Type:	Post-Closure Permitted
Unit Names:	CONTAIN1 (GPRA Unit), TANKTRT1 (GPRA Unit)
Event Description:	New Operating Permit - APPLICATION PART B RECEIVED
Actual Date:	04/08/1983
EPA Id:	CAD074644659
Facility Type:	Post-Closure Permitted
Unit Names:	CONTAIN1 (GPRA Unit), TANKTRT1 (GPRA Unit)
Event Description:	Renewal - No Changes - 2ND NOTICE OF DEFICIENCY ISSUED
Actual Date:	12/17/1990
EPA Id:	CAD074644659
Facility Type:	Post-Closure Permitted
Unit Names:	CONTAIN1 (GPRA Unit), TANKTRT1 (GPRA Unit)

HONEYWELL INTERNATIONAL INC (Continued) **S111865972**

Event Description: Renewal - No Changes - RESPONSE TO 2ND NOD RECEIVED
Actual Date: 01/11/1991

EPA Id: CAD074644659
Facility Type: Post-Closure Permitted
Unit Names: CONTAIN1 (GPRA Unit), TANKTRT1 (GPRA Unit)
Event Description: Renewal - No Changes - RESPONSE TO 1ST NOD RECEIVED
Actual Date: 07/27/1990

EPA Id: CAD074644659
Facility Type: Post-Closure Permitted
Unit Names: CONTAIN1 (GPRA Unit), TANKTRT1 (GPRA Unit)
Event Description: Renewal - No Changes - APPLICATION PART B RECEIVED
Actual Date: 11/01/1988

EPA Id: CAD074644659
Facility Type: Post-Closure Permitted
Unit Names: CONTAIN1 (GPRA Unit), TANKTRT1 (GPRA Unit)
Event Description: Renewal - No Changes - FINAL PERMIT RENEWAL
Actual Date: 11/13/1992

EPA Id: CAD074644659
Facility Type: Post-Closure Permitted
Unit Names: CONTAIN1 (GPRA Unit), TANKTRT1 (GPRA Unit)
Event Description: Renewal - No Changes - 3RD NOTICE OF DEFICIENCY ISSUED
Actual Date: 03/07/1991

EPA Id: CAD074644659
Facility Type: Post-Closure Permitted
Unit Names: CONTAIN1 (GPRA Unit), TANKTRT1 (GPRA Unit)
Event Description: New Operating Permit - DRAFT PERMIT
Actual Date: 06/14/1983

EPA Id: CAD074644659
Facility Type: Post-Closure Permitted
Unit Names: CONTAIN1 (GPRA Unit), TANKTRT1 (GPRA Unit)
Event Description: Renewal - No Changes - FINAL PART A & PART B RECEIVED
Actual Date: 05/21/1992

EPA Id: CAD074644659
Facility Type: Post-Closure Permitted
Unit Names: CONTAIN1 (GPRA Unit), TANKTRT1 (GPRA Unit)
Event Description: Renewal - No Changes - PUBLIC COMMENT (END)
Actual Date: 07/06/1992

EPA Id: CAD074644659
Facility Type: Post-Closure Permitted
Unit Names: CONTAIN1 (GPRA Unit), TANKTRT1 (GPRA Unit)
Event Description: Renewal - No Changes - PUBLIC COMMENT (PUBLIC HEARING)
Actual Date: 06/23/1992

EPA Id: CAD074644659
Facility Type: Post-Closure Permitted
Unit Names: CONTAIN1 (GPRA Unit), TANKTRT1 (GPRA Unit)
Event Description: New Operating Permit - FINAL PERMIT (EFFECTIVE)
Actual Date: 11/13/1992

HONEYWELL INTERNATIONAL INC (Continued) **S111865972**

EPA Id: CAD074644659
Facility Type: Post-Closure Permitted
Unit Names: CONTAIN1 (GPRA Unit), TANKTRT1 (GPRA Unit)
Event Description: New Operating Permit - FINAL PERMIT
Actual Date: 11/07/1983

EPA Id: CAD074644659
Facility Type: Post-Closure Permitted
Unit Names: CONTAIN1 (GPRA Unit), TANKTRT1 (GPRA Unit)
Event Description: Renewal - No Changes - FINAL PERMIT RENEWAL (EXPIRES)
Actual Date: 11/11/2002

EPA Id: CAD074644659
Facility Type: Post-Closure Permitted
Unit Names: CONTAIN1 (GPRA Unit), TANKTRT1 (GPRA Unit)
Event Description: New Operating Permit - PUBLIC COMMENT (BEGIN)
Actual Date: 06/14/1983

EPA Id: CAD074644659
Facility Type: Post-Closure Permitted
Unit Names: CONTAIN1 (GPRA Unit), TANKTRT1 (GPRA Unit)
Event Description: Renewal - No Changes - RESPONSE TO 3RD NOD RECEIVED
Actual Date: 05/30/1991

EPA Id: CAD074644659
Facility Type: Post-Closure Permitted
Unit Names: CONTAIN1 (GPRA Unit), TANKTRT1 (GPRA Unit)
Event Description: New Operating Permit - CALL-IN LETTER ISSUED
Actual Date: 02/24/1983

EPA Id: CAD074644659
Facility Type: Post-Closure Permitted
Unit Names: CONTAIN1 (GPRA Unit), TANKTRT1 (GPRA Unit)
Event Description: Renewal - No Changes - DRAFT PERMIT RENEWAL
Actual Date: 05/22/1992

EPA Id: CAD074644659
Facility Type: Post-Closure Permitted
Unit Names: CONTAIN1 (GPRA Unit), TANKTRT1 (GPRA Unit)
Event Description: New Operating Permit - PUBLIC COMMENT (END)
Actual Date: 07/29/1983

EPA Id: CAD074644659
Facility Type: Post-Closure Permitted
Unit Names: CONTAIN1 (GPRA Unit), TANKTRT1 (GPRA Unit)
Event Description: Renewal - No Changes - CEQA DETERMINATION
Actual Date: 05/21/1992

Closure:
EPA Id: CAD074644659
Facility Type: Post-Closure Permitted
Unit Names: CONTAIN1 (GPRA Unit), TANKTRT1 (GPRA Unit)
Event Description: New Post-Closure Permit - APPLICATION PART B RECEIVED
Actual Date: 01/08/2009

EPA Id: CAD074644659
Facility Type: Post-Closure Permitted

HONEYWELL INTERNATIONAL INC (Continued) **S111865972**

Unit Names: CONTAIN1 (GPRA Unit), TANKTRT1 (GPRA Unit)
Event Description: New Post-Closure Permit - PUBLIC COMMENT (PUBLIC MEETING)
Actual Date: 11/17/2009

EPA Id: CAD074644659
Facility Type: Post-Closure Permitted
Unit Names: CONTAIN1 (GPRA Unit), TANKTRT1 (GPRA Unit)
Event Description: Closure Final - RECEIVE CLOSURE CERTIFICATION
Actual Date: 09/15/1994

EPA Id: CAD074644659
Facility Type: Post-Closure Permitted
Unit Names: CONTAIN1 (GPRA Unit), TANKTRT1 (GPRA Unit)
Event Description: New Post-Closure Permit - CALL-IN LETTER ISSUED
Actual Date: 08/20/2008

EPA Id: CAD074644659
Facility Type: Post-Closure Permitted
Unit Names: CONTAIN1 (GPRA Unit), TANKTRT1 (GPRA Unit)
Event Description: New Post-Closure Permit - PUBLIC COMMENT (BEGIN)
Actual Date: 10/15/2009

EPA Id: CAD074644659
Facility Type: Post-Closure Permitted
Unit Names: CONTAIN1 (GPRA Unit), TANKTRT1 (GPRA Unit)
Event Description: New Post-Closure Permit - FINAL POST-CLOSURE PERMIT
Actual Date: 03/18/2010

EPA Id: CAD074644659
Facility Type: Post-Closure Permitted
Unit Names: CONTAIN1 (GPRA Unit), TANKTRT1 (GPRA Unit)
Event Description: New Post-Closure Permit - PUBLIC COMMENT (END)
Actual Date: 01/18/2010

EPA Id: CAD074644659
Facility Type: Post-Closure Permitted
Unit Names: CONTAIN1 (GPRA Unit), TANKTRT1 (GPRA Unit)
Event Description: Closure Final - ISSUE CLOSURE VERIFICATION
Actual Date: 09/18/1995

EPA Id: CAD074644659
Facility Type: Post-Closure Permitted
Unit Names: CONTAIN1 (GPRA Unit), TANKTRT1 (GPRA Unit)
Event Description: New Post-Closure Permit - DISCLOSURE (CLEARED)
Actual Date: 01/16/2009

EPA Id: CAD074644659
Facility Type: Post-Closure Permitted
Unit Names: CONTAIN1 (GPRA Unit), TANKTRT1 (GPRA Unit)
Event Description: New Post-Closure Permit - FINAL PART A & PART B RECEIVED
Actual Date: 10/01/2009

EPA Id: CAD074644659
Facility Type: Post-Closure Permitted
Unit Names: CONTAIN1 (GPRA Unit), TANKTRT1 (GPRA Unit)
Event Description: New Post-Closure Permit - FINAL POST-CLOSURE PERMIT (EXPIRES)
Actual Date: 03/17/2020

HONEYWELL INTERNATIONAL INC (Continued) **S111865972**

EPA Id: CAD074644659
Facility Type: Post-Closure Permitted
Unit Names: CONTAIN1 (GPRA Unit), TANKTRT1 (GPRA Unit)
Event Description: New Post-Closure Permit - APPLICATION PART A RECEIVED
Actual Date: 01/08/2009

EPA Id: CAD074644659
Facility Type: Post-Closure Permitted
Unit Names: CONTAIN1 (GPRA Unit), TANKTRT1 (GPRA Unit)
Event Description: New Post-Closure Permit - DRAFT POST-CLOSURE PERMIT
Actual Date: 10/15/2009

EPA Id: CAD074644659
Facility Type: Post-Closure Permitted
Unit Names: CONTAIN1 (GPRA Unit), TANKTRT1 (GPRA Unit)
Event Description: New Post-Closure Permit - FINAL POST-CLOSURE PERMIT (EFFECTIVE)
Actual Date: 03/18/2010

Alias:
EPA Id: CAD074644659
Facility Type: Post-Closure Permitted
Alias Type: FRS
Alias: 110018981609

EPA Id: CAD074644659
Facility Type: Post-Closure Permitted
Alias Type: Project Code (Site Code)
Alias: 200160

Maintenance:
EPA Id: CAD074644659
Title: the curtailment implementation report, thermal treatment in the former tank farm area dated May 13, 2011
Document Type: Monitoring Report - Other
Received Date: 10/03/2011

EPA Id: CAD074644659
Title: Well Installation Workplan
Document Type: Monitoring Workplan - Other
Received Date: 10/03/2011

EPA Id: CAD074644659
Title: Monthly update for in-situ thermal treatment
Document Type: Monitoring Report - Groundwater
Received Date: 02/22/2011

EPA Id: CAD074644659
Title: Semiannual Statur Report
Document Type: Monitoring Report - Groundwater
Received Date: 12/09/2010

EPA Id: CAD074644659
Title: Semiannual Status Report
Document Type: Monitoring Report - Groundwater
Received Date: 04/04/2012

EPA Id: CAD074644659

HONEYWELL INTERNATIONAL INC (Continued) **S111865972**

Title: Semiannual Status Report
Document Type: Monitoring Report - Groundwater
Received Date: 10/03/2011

EPA Id: CAD074644659
Title: Semiannual Status Report
Document Type: Monitoring Report - Groundwater
Received Date: 02/28/2012

EPA Id: CAD074644659
Title: Completion Report for the Full Scale In Situ Chemical Oxidation Treatment of the Shallow GW Plume
Document Type: Monitoring Report - Groundwater
Received Date: 05/29/2012

EPA Id: CAD074644659
Title: Honeywell Former BBI-Newark: Interim Groundwater Extraction and Treatment Work Plan
Document Type: Monitoring Workplan - Other
Received Date: 10/03/2011

EPA Id: CAD074644659
Title: Completion Report, Thermal Treatment in the former Tank Farm Area
Document Type: Monitoring Report - Other
Received Date: 10/03/2011

EPA Id: CAD074644659
Title: Semiannual Status Report dated July 31, 2012 for January through June 2012
Document Type: Monitoring Report - Groundwater
Received Date: 10/02/2012

EPA Id: CAD074644659
Title: Recorded Land Use Covenant
Document Type: Deed Restriction / LUC Issued
Received Date: 09/08/2010

EPA Id: CAD074644659
Title: the curtailment implementation report, thermal treatment in the former tank farm area dated May 13, 2011
Document Type: Investigation Workplan
Received Date: 10/03/2011

EPA Id: CAD074644659
Title: the curtailment implementation report, thermal treatment in the former tank farm area dated May 13, 2011
Document Type: Investigation Report
Received Date: 10/03/2011

EPA Id: CAD074644659
Title: Additional site investigation workplan
Document Type: Investigation Workplan
Received Date: 05/18/2012

EPA Id: CAD074644659
Title: Recorded Land Use Covenant
Document Type: Deed Restriction / LUC Issued
Received Date: 09/08/2010

30 NE 1/4-1/2 0.424 mi. 2240 ft. | **UNKNOWN**
8240 ENTERPRISE
NEWARK, CA 94560 | **CA HIST CORTESE** | **S105025200**
N/A

Relative: Higher

Actual: 13 ft.

CORTESE:

Region:	CORTESE
Facility County Code:	1
Reg By:	LTNKA
Reg Id:	2913

H31 North 1/4-1/2 0.427 mi. 2252 ft. | **UNION SANITARY DISTRICT-NEWARK**
8700 THORNTON AVE
NEWARK, CA 94536

Site 1 of 3 in cluster H | **CA LUST**
CA HIST UST
CA SWEEPS UST
CA CHMIRS
CA EMI | **U001596873**
N/A

Relative: Lower

Actual: 10 ft.

LUST REG 2:

Region:	2
Facility Id:	01-2564
Facility Status:	Case Closed
Case Number:	0001
How Discovered:	Tank Closure
Leak Cause:	Corrosion
Leak Source:	Tank
Date Leak Confirmed:	Not reported
Oversight Program:	LUST
Prelim. Site Assesment Wokplan Submitted:	Not reported
Preliminary Site Assesment Began:	Not reported
Pollution Characterization Began:	Not reported
Pollution Remediation Plan Submitted:	Not reported
Date Remediation Action Underway:	Not reported
Date Post Remedial Action Monitoring Began:	Not reported

HIST UST:

Region:	STATE
Facility ID:	00000021276
Facility Type:	Other
Other Type:	WASTEWATER TREATMENT
Total Tanks:	0003
Contact Name:	ROGER L. HAM
Telephone:	4157900140
Owner Name:	UNION SANITARY DISTRICT
Owner Address:	37532 DUSTERBERRY WAY
Owner City,St,Zip:	FREMONT, CA 94536
Tank Num:	001
Container Num:	2
Year Installed:	Not reported
Tank Capacity:	00000550
Tank Used for:	PRODUCT
Type of Fuel:	DIESEL
Tank Construction:	Not reported
Leak Detection:	Not reported
Tank Num:	002
Container Num:	4
Year Installed:	Not reported

UNION SANITARY DISTRICT-NEWARK (Continued) **U001596873**

Tank Capacity: 00002000
Tank Used for: PRODUCT
Type of Fuel: PREMIUM
Tank Construction: Not reported
Leak Detection: Visual, None

Tank Num: 003
Container Num: 13
Year Installed: Not reported
Tank Capacity: 00001000
Tank Used for: PRODUCT
Type of Fuel: UNLEADED
Tank Construction: Not reported
Leak Detection: Visual

SWEEPS UST:
Status: Not reported
Comp Number: 21276
Number: Not reported
Board Of Equalization: 44-001219
Referral Date: Not reported
Action Date: Not reported
Created Date: Not reported
Tank Status: Not reported
Owner Tank Id: Not reported
Swrcb Tank Id: 01-008-021276-000001
Actv Date: Not reported
Capacity: 550
Tank Use: M.V. FUEL
Stg: PRODUCT
Content: DIESEL
Number Of Tanks: 5

Status: Not reported
Comp Number: 21276
Number: Not reported
Board Of Equalization: 44-001219
Referral Date: Not reported
Action Date: Not reported
Created Date: Not reported
Tank Status: Not reported
Owner Tank Id: Not reported
Swrcb Tank Id: 01-008-021276-000002
Actv Date: Not reported
Capacity: 2000
Tank Use: M.V. FUEL
Stg: PRODUCT
Content: REG UNLEADED
Number Of Tanks: Not reported

Status: Not reported
Comp Number: 21276
Number: Not reported
Board Of Equalization: 44-001219
Referral Date: Not reported
Action Date: Not reported
Created Date: Not reported

UNION SANITARY DISTRICT-NEWARK (Continued) **U001596873**

Tank Status:	Not reported
Owner Tank Id:	Not reported
Swrcb Tank Id:	01-008-021276-000003
Actv Date:	Not reported
Capacity:	1000
Tank Use:	M.V. FUEL
Stg:	PRODUCT
Content:	REG UNLEADED
Number Of Tanks:	Not reported

Status:	Not reported
Comp Number:	21276
Number:	Not reported
Board Of Equalization:	44-001219
Referral Date:	Not reported
Action Date:	Not reported
Created Date:	Not reported
Tank Status:	Not reported
Owner Tank Id:	Not reported
Swrcb Tank Id:	01-008-021276-000004
Actv Date:	Not reported
Capacity:	4906
Tank Use:	UNKNOWN
Stg:	PRODUCT
Content:	Not reported
Number Of Tanks:	Not reported

Status:	Not reported
Comp Number:	21276
Number:	Not reported
Board Of Equalization:	44-001219
Referral Date:	Not reported
Action Date:	Not reported
Created Date:	Not reported
Tank Status:	Not reported
Owner Tank Id:	Not reported
Swrcb Tank Id:	01-008-021276-000005
Actv Date:	Not reported
Capacity:	10000
Tank Use:	M.V. FUEL
Stg:	PRODUCT
Content:	DIESEL
Number Of Tanks:	Not reported

CHMIRS:

OES Incident Number:	99-0839
OES notification:	02/22/1999
OES Date:	Not reported
OES Time:	Not reported
Incident Date:	Not reported
Date Completed:	**Not reported**
Property Use:	Not reported
Agency Id Number:	Not reported
Agency Incident Number:	Not reported
Time Notified:	Not reported
Time Completed:	Not reported
Surrounding Area:	Not reported

UNION SANITARY DISTRICT-NEWARK (Continued) **U001596873**

Estimated Temperature:	Not reported
Property Management:	Not reported
Special Studies 1:	Not reported
Special Studies 2:	Not reported
Special Studies 3:	Not reported
Special Studies 4:	Not reported
Special Studies 5:	Not reported
Special Studies 6:	Not reported
More Than Two Substances Involved?:	Not reported
Resp Agncy Personel # Of Decontaminated:	Not reported
Responding Agency Personel # Of Injuries:	Not reported
Responding Agency Personel # Of Fatalities:	Not reported
Others Number Of Decontaminated:	Not reported
Others Number Of Injuries:	Not reported
Others Number Of Fatalities:	Not reported
Vehicle Make/year:	Not reported
Vehicle License Number:	Not reported
Vehicle State:	Not reported
Vehicle Id Number:	Not reported
CA/DOT/PUC/ICC Number:	Not reported
Company Name:	Not reported
Reporting Officer Name/ID:	Not reported
Report Date:	Not reported
Comments:	Not reported
Facility Telephone:	Not reported
Waterway Involved:	Yes
Waterway:	storm drain
Spill Site:	Not reported
Cleanup By:	Responsible Party
Containment:	Not reported
What Happened:	Not reported
Type:	Not reported
Measure:	Not reported
Other:	Not reported
Date/Time:	Not reported
Year:	1999
Agency:	Union Sanitary District
Incident Date:	2/21/199912:00:00 AM
Admin Agency:	Newark Fire Department
Amount:	Not reported
Contained:	Yes
Site Type:	Treatment/Sewage Facility
E Date:	Not reported
Substance:	Raw Sewage
Quantity Released:	Not reported
BBLS:	0
Cups:	0
CUFT:	0
Gallons:	10
Grams:	0
Pounds:	0
Liters:	0
Ounces:	0
Pints:	0
Quarts:	0
Sheen:	0
Tons:	0

UNION SANITARY DISTRICT-NEWARK (Continued) **U001596873**

Unknown:	0
Evacuations:	0
Number of Injuries:	0
Number of Fatalities:	0
Description:	Occurred 2/21/99, due to power failure at a pump station and failure of the back-up system. Some sewage went into storm drain, some into flood control channel which goes through a marsh then to SF Bay.

EMI:

Year:	1987
County Code:	1
Air Basin:	SF
Facility ID:	2885
Air District Name:	BA
SIC Code:	4952
Air District Name:	BAY AREA AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	1
Reactive Organic Gases Tons/Yr:	1
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers & Smllr Tons/Yr:	0

Year:	1990
County Code:	1
Air Basin:	SF
Facility ID:	2885
Air District Name:	BA
SIC Code:	4952
Air District Name:	BAY AREA AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	1
Reactive Organic Gases Tons/Yr:	1
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers & Smllr Tons/Yr:	0

Year:	1995
County Code:	1
Air Basin:	SF
Facility ID:	2885
Air District Name:	BA
SIC Code:	4952
Air District Name:	BAY AREA AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	2
Reactive Organic Gases Tons/Yr:	1
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0

UNION SANITARY DISTRICT-NEWARK (Continued) **U001596873**

Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers & Smllr Tons/Yr:	0

Year:	1996
County Code:	1
Air Basin:	SF
Facility ID:	2885
Air District Name:	BA
SIC Code:	4952
Air District Name:	BAY AREA AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	2
Reactive Organic Gases Tons/Yr:	1
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers & Smllr Tons/Yr:	0

Year:	1997
County Code:	1
Air Basin:	SF
Facility ID:	2885
Air District Name:	BA
SIC Code:	4952
Air District Name:	BAY AREA AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	2
Reactive Organic Gases Tons/Yr:	1
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers & Smllr Tons/Yr:	0

Year:	1998
County Code:	1
Air Basin:	SF
Facility ID:	2885
Air District Name:	BA
SIC Code:	4952
Air District Name:	BAY AREA AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	10
Reactive Organic Gases Tons/Yr:	8
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	1
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers & Smllr Tons/Yr:	0

Year:	1999
County Code:	1
Air Basin:	SF

UNION SANITARY DISTRICT-NEWARK (Continued) **U001596873**

Facility ID:	2885
Air District Name:	BA
SIC Code:	4952
Air District Name:	BAY AREA AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	10
Reactive Organic Gases Tons/Yr:	7
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	1
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers & Smllr Tons/Yr:	0

Year:	2000
County Code:	1
Air Basin:	SF
Facility ID:	2885
Air District Name:	BA
SIC Code:	4952
Air District Name:	BAY AREA AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	10
Reactive Organic Gases Tons/Yr:	7
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	1
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers & Smllr Tons/Yr:	0

Year:	2001
County Code:	1
Air Basin:	SF
Facility ID:	2885
Air District Name:	BA
SIC Code:	4952
Air District Name:	BAY AREA AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	2
Reactive Organic Gases Tons/Yr:	1
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	1
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers & Smllr Tons/Yr:	0

Year:	2002
County Code:	1
Air Basin:	SF
Facility ID:	2885
Air District Name:	BA
SIC Code:	4952
Air District Name:	BAY AREA AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported

UNION SANITARY DISTRICT-NEWARK (Continued) **U001596873**

Total Organic Hydrocarbon Gases Tons/Yr:	2
Reactive Organic Gases Tons/Yr:	1
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers & Smllr Tons/Yr:	0

Year:	2003
County Code:	1
Air Basin:	SF
Facility ID:	2885
Air District Name:	BA
SIC Code:	4952
Air District Name:	BAY AREA AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	2
Reactive Organic Gases Tons/Yr:	1
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	1
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers & Smllr Tons/Yr:	0

Year:	2004
County Code:	1
Air Basin:	SF
Facility ID:	2885
Air District Name:	BA
SIC Code:	4952
Air District Name:	BAY AREA AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	1.62
Reactive Organic Gases Tons/Yr:	1.1440229
Carbon Monoxide Emissions Tons/Yr:	0.245
NOX - Oxides of Nitrogen Tons/Yr:	1.128
SOX - Oxides of Sulphur Tons/Yr:	0.017
Particulate Matter Tons/Yr:	0.081
Part. Matter 10 Micrometers & Smllr Tons/Yr:	0.079056

Year:	2005
County Code:	1
Air Basin:	SF
Facility ID:	2885
Air District Name:	BA
SIC Code:	4952
Air District Name:	BAY AREA AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	1.62
Reactive Organic Gases Tons/Yr:	1.1440229
Carbon Monoxide Emissions Tons/Yr:	.245
NOX - Oxides of Nitrogen Tons/Yr:	1.128
SOX - Oxides of Sulphur Tons/Yr:	.017
Particulate Matter Tons/Yr:	.081

UNION SANITARY DISTRICT-NEWARK (Continued) **U001596873**

Part. Matter 10 Micrometers & Smllr Tons/Yr:	.079056

Year:	2006
County Code:	1
Air Basin:	SF
Facility ID:	2885
Air District Name:	BA
SIC Code:	4952
Air District Name:	BAY AREA AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	1.626
Reactive Organic Gases Tons/Yr:	1.1490431
Carbon Monoxide Emissions Tons/Yr:	.262
NOX - Oxides of Nitrogen Tons/Yr:	1.206
SOX - Oxides of Sulphur Tons/Yr:	.019
Particulate Matter Tons/Yr:	.086
Part. Matter 10 Micrometers & Smllr Tons/Yr:	.083936

Year:	2007
County Code:	1
Air Basin:	SF
Facility ID:	2885
Air District Name:	BA
SIC Code:	4952
Air District Name:	BAY AREA AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	1.626
Reactive Organic Gases Tons/Yr:	1.1490431
Carbon Monoxide Emissions Tons/Yr:	.262
NOX - Oxides of Nitrogen Tons/Yr:	1.206
SOX - Oxides of Sulphur Tons/Yr:	.019
Particulate Matter Tons/Yr:	.086
Part. Matter 10 Micrometers & Smllr Tons/Yr:	.083936

Year:	2008
County Code:	1
Air Basin:	SF
Facility ID:	2885
Air District Name:	BA
SIC Code:	4952
Air District Name:	BAY AREA AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	1.546
Reactive Organic Gases Tons/Yr:	1.0821071
Carbon Monoxide Emissions Tons/Yr:	.026
NOX - Oxides of Nitrogen Tons/Yr:	.269
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	.005
Part. Matter 10 Micrometers & Smllr Tons/Yr:	.00488

Year:	2009
County Code:	1
Air Basin:	SF
Facility ID:	2885

UNION SANITARY DISTRICT-NEWARK (Continued) **U001596873**

Air District Name:	BA
SIC Code:	4952
Air District Name:	BAY AREA AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	1.5409999999999999
Reactive Organic Gases Tons/Yr:	1.0779236000000001
Carbon Monoxide Emissions Tons/Yr:	1.7999999999999999E-2
NOX - Oxides of Nitrogen Tons/Yr:	0.182
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0.00307377049180327
Part. Matter 10 Micrometers & Smllr Tons/Yr:	3.0000000000000001E-3

Year:	2010
County Code:	1
Air Basin:	SF
Facility ID:	2885
Air District Name:	BA
SIC Code:	4952
Air District Name:	BAY AREA AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	1.5409999999999999
Reactive Organic Gases Tons/Yr:	1.0779236000000001
Carbon Monoxide Emissions Tons/Yr:	1.7999999999999999E-2
NOX - Oxides of Nitrogen Tons/Yr:	0.182
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0.00307377049180327
Part. Matter 10 Micrometers & Smllr Tons/Yr:	3.0000000000000001E-3

H32 **MILITARY FAMILY HOUSING** **CA HIST CORTESE** **S105025203**
North **8700 THORNTON** **CA LUST** **N/A**
1/4-1/2 **NEWARK, CA**
0.427 mi.
2252 ft. **Site 2 of 3 in cluster H**

Relative:
Lower

Actual:
10 ft.

CORTESE:

Region:	CORTESE
Facility County Code:	1
Reg By:	LTNKA
Reg Id:	2885

LUST:

Region:	STATE
Global Id:	T0600149151
Latitude:	37.519413
Longitude:	-122.066366
Case Type:	LUST Cleanup Site
Status:	Completed - Case Closed
Status Date:	01/10/1997
Lead Agency:	ALAMEDA COUNTY WATER DISTRICT
Case Worker:	SDI
Local Agency:	ALAMEDA COUNTY WATER DISTRICT
RB Case Number:	01-2564
LOC Case Number:	0001
File Location:	Local Agency Warehouse
Potential Media Affect:	Other Groundwater (uses other than drinking water)

MILITARY FAMILY HOUSING (Continued) **S105025203**

Potential Contaminants of Concern: Other Solvent or Non-Petroleum Hydrocarbon, Waste Oil / Motor / Hydraulic / Lubricating, Acetone
Site History: Not reported

Click here to access the California GeoTracker records for this facility:

Contact:

Global Id: T0600149151
Contact Type: Regional Board Caseworker
Contact Name: Cherie McCaulou
Organization Name: SAN FRANCISCO BAY RWQCB (REGION 2)
Address: 1515 CLAY STREET, SUITE 1400
City: OAKLAND
Email: cmccaulou@waterboards.ca.gov
Phone Number: Not reported

Global Id: T0600149151
Contact Type: Local Agency Caseworker
Contact Name: STEVEN D. INN
Organization Name: ALAMEDA COUNTY WATER DISTRICT
Address: 43885 SOUTH GRIMMER BOULEVARD
City: FREMONT
Email: steven.inn@acwd.com
Phone Number: Not reported

Regulatory Activities:

Global Id: T0600149151
Action Type: Other
Date: 01/01/1950
Action: Leak Reported

Global Id: T0600149151
Action Type: Other
Date: 01/01/1950
Action: Leak Stopped

Global Id: T0600149151
Action Type: REMEDIATION
Date: 01/01/1950
Action: Excavation

Global Id: T0600149151
Action Type: ENFORCEMENT
Date: 06/28/2002
Action: * No Action

Global Id: T0600149151
Action Type: Other
Date: 01/01/1950
Action: Leak Discovery

I33 ENE 1/4-1/2 0.432 mi. 2280 ft. | **STEFFENSEN PROPERTY-ENTERPRISE DR.** | **CA SLIC** | **S106234850** | **N/A**
8140 ENTERPRISE DRIVE
NEWARK, CA 94560

Site 1 of 5 in cluster I

Relative: Higher

Actual: 13 ft.

SLIC:

Region:	STATE
Facility Status:	**Open - Verification Monitoring**
Status Date:	06/25/2002
Global Id:	SL0600130203
Lead Agency:	ALAMEDA COUNTY WATER DISTRICT
Lead Agency Case Number:	0374
Latitude:	37.519322
Longitude:	-122.046413
Case Type:	Cleanup Program Site
Case Worker:	RS
Local Agency:	ALAMEDA COUNTY WATER DISTRICT
RB Case Number:	01S0628
File Location:	Not reported
Potential Media Affected:	Not reported
Potential Contaminants of Concern:	Waste Oil / Motor / Hydraulic / Lubricating, Diesel
Site History:	Not reported

Click here to access the California GeoTracker records for this facility:

SLIC REG 2:

Region:	2
Facility ID:	Not reported
Facility Status:	Post remedial action monitoring
Date Closed:	Not reported
Local Case #:	Not reported
How Discovered:	Not reported
Leak Cause:	Not reported
Leak Source:	Not reported
Date Confirmed:	Not reported
Date Prelim Site Assmnt Workplan Submitted:	Not reported
Date Preliminary Site Assessment Began:	Not reported
Date Pollution Characterization Began:	Not reported
Date Remediation Plan Submitted:	Not reported
Date Remedial Action Underway:	Not reported
Date Post Remedial Action Monitoring Began:	Not reported

I34 ENE 1/4-1/2 0.436 mi. 2303 ft. | **CONSOLIDATED FREIGHTWAYS** | **CA HIST UST** | **U001597763**
8130 ENTERPRISE DR | **CA SWEEPS UST** | **N/A**
NEWARK, CA 94560 | **CA HWP**

Site 2 of 5 in cluster I

Relative: Higher

Actual: 13 ft.

HIST UST:

Region:	STATE
Facility ID:	00000063769
Facility Type:	Other
Other Type:	COMMON CARRIER
Total Tanks:	0001
Contact Name:	JOHN MILLER
Telephone:	4157910348
Owner Name:	CONSOLIDATED FREIGHTWAYS
Owner Address:	175 LINFIELD DRIVE

CONSOLIDATED FREIGHTWAYS (Continued) **U001597763**

Owner City,St,Zip: MENLO PARK, CA 94025

Tank Num: 001
Container Num: D-1
Year Installed: 1985
Tank Capacity: 00010000
Tank Used for: PRODUCT
Type of Fuel: DIESEL
Tank Construction: 1/4 inches
Leak Detection: Stock Inventor

SWEEPS UST:
Status: Active
Comp Number: 63769
Number: 9
Board Of Equalization: 44-000859
Referral Date: 07-01-85
Action Date: Not reported
Created Date: 02-29-88
Tank Status: A
Owner Tank Id: D-1
Swrcb Tank Id: 01-008-063769-000001
Actv Date: 07-01-85
Capacity: 10000
Tank Use: M.V. FUEL
Stg: P
Content: DIESEL
Number Of Tanks: 1

Status: Active
Comp Number: 63769
Number: 9
Board Of Equalization: 44-000859
Referral Date: 07-01-85
Action Date: Not reported
Created Date: 02-29-88
Tank Status: A
Owner Tank Id: D-1
Swrcb Tank Id: 01-008-063769-000001
Actv Date: 07-01-85
Capacity: 10000
Tank Use: M.V. FUEL
Stg: P
Content: DIESEL
Number Of Tanks: 1

HWP:
EPA Id: CAT080013360
Cleanup Status: CLOSED
Latitude: 37.52310
Longitude: -122.0466
Facility Type: Historical - Non-Operating
Facility Size: Not reported
Team: Not reported
Supervisor: Not reported
Site Code: Not reported

CONSOLIDATED FREIGHTWAYS (Continued) **U001597763**

Assembly District: 25
Senate District: 10
Public Information Officer: Not reported

Closure:
EPA Id: CAT080013360
Facility Type: Historical - Non-Operating
Unit Names: CONTAIN1
Event Description: Closure Final - ISSUE CLOSURE VERIFICATION
Actual Date: 08/12/1987

Alias:
EPA Id: CAT080013360
Facility Type: Historical - Non-Operating
Alias Type: Alternate Name
Alias: HOLLAND OIL

EPA Id: CAT080013360
Facility Type: Historical - Non-Operating
Alias Type: Envirostor ID Number
Alias: 01290019

EPA Id: CAT080013360
Facility Type: Historical - Non-Operating
Alias Type: FRS
Alias: 110002946135

I35 **ABE OIL INC** **CERC-NFRAP** **1000126669**
ENE **8130 ENTERPRISE DR** **RCRA NonGen / NLR** **CAT080013360**
1/4-1/2 **NEWARK, CA 94560** **FINDS**
0.436 mi.
2303 ft. **Site 3 of 5 in cluster I**

Relative:
Higher

Actual:
13 ft.

CERC-NFRAP:
Site ID: 0902681
Federal Facility: Not a Federal Facility
NPL Status: Not on the NPL
Non NPL Status: NFRAP-Site does not qualify for the NPL based on existing information

CERCLIS-NFRAP Site Contact Details:
Contact Sequence ID: 13051847.00000
Person ID: 9271184.00000

Contact Sequence ID: 13285717.00000
Person ID: 13003854.00000

Contact Sequence ID: 13291312.00000
Person ID: 13003858.00000

Contact Sequence ID: 13297170.00000
Person ID: 13004003.00000

CERCLIS-NFRAP Site Alias Name(s):
Alias Name: ADVANCE OIL RECOVERY INC
Alias Address: Not reported
CA

ABE OIL INC (Continued) **1000126669**

CERCLIS-NFRAP Assessment History:

Action:	SITE INSPECTION
Date Started:	/ /
Date Completed:	02/01/86
Priority Level:	NFRAP-Site does not qualify for the NPL based on existing information
Action:	ARCHIVE SITE
Date Started:	/ /
Date Completed:	02/01/86
Priority Level:	Not reported
Action:	PRELIMINARY ASSESSMENT
Date Started:	01/01/84
Date Completed:	09/01/84
Priority Level:	Low priority for further assessment
Action:	DISCOVERY
Date Started:	/ /
Date Completed:	11/01/80
Priority Level:	Not reported

RCRA NonGen / NLR:

Date form received by agency:	11/24/1980
Facility name:	ABE OIL INC
Facility address:	8130 ENTERPRISE DR NEWARK, CA 94560
EPA ID:	CAT080013360
Mailing address:	8130 ENTERPRISE DR. NEWARK, CA 94560
Contact:	ENVIRONMENTAL MANAGER
Contact address:	8130 ENTERPRISE DR NEWARK, CA 94560
Contact country:	US
Contact telephone:	(415) 794-7460
Contact email:	Not reported
EPA Region:	09
Land type:	Other land type
Classification:	Non-Generator
Description:	Handler: Non-Generators do not presently generate hazardous waste

Owner/Operator Summary:

Owner/operator name:	JACK M HOLLAND/BARBARA J. HOLLAND
Owner/operator address:	1404 FRANKLIN ST. OAKLAND, CA 94610
Owner/operator country:	Not reported
Owner/operator telephone:	(415) 839-4641
Legal status:	Private
Owner/Operator Type:	Owner
Owner/Op start date:	Not reported
Owner/Op end date:	Not reported
Owner/operator name:	ABE OIL INCORPORATED
Owner/operator address:	8130 ENTERPRISE DRIVE CITY NOT REPORTED, CA 99999
Owner/operator country:	Not reported
Owner/operator telephone:	(415) 794-7460

ABE OIL INC (Continued) **1000126669**

Legal status: Private
Owner/Operator Type: Operator
Owner/Op start date: Not reported
Owner/Op end date: Not reported

Handler Activities Summary:
U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): No
Recycler of hazardous waste: No
Transporter of hazardous waste: Yes
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: No
Furnace exemption: No
Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

Violation Status: No violations found

Evaluation Action Summary:
Evaluation date: 09/03/1987
Evaluation: FINANCIAL RECORD REVIEW
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 07/09/1987
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

FINDS:

Registry ID: 110002946135

Environmental Interest/Information System
RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

I36 ENE 1/4-1/2 0.436 mi. 2303 ft.

POZAS BROTHERS TRUCKING
8130 ENTERPRISE DR
NEWARK, CA 94560

Site 4 of 5 in cluster I

CA NPDES
CA HIST CORTESE
CA SLIC
CA CHMIRS
CA RESPONSE
CA ENVIROSTOR

S100191189
N/A

Relative: Higher

Actual: 13 ft.

NPDES:

Npdes Number:	CAS000001
Facility Status:	Active
Agency Id:	0
Region:	2
Regulatory Measure Id:	276881
Order No:	97-03-DWQ
Regulatory Measure Type:	Enrollee
Place Id:	Not reported
WDID:	2 01I019292
Program Type:	Industrial
Adoption Date Of Regulatory Measure:	Not reported
Effective Date Of Regulatory Measure:	01/21/2005
Expiration Date Of Regulatory Measure:	Not reported
Termination Date Of Regulatory Measure:	Not reported
Discharge Name:	Pozas Brothers Trucking
Discharge Address:	8130 Enterprise Dr
Discharge City:	Newark
Discharge State:	California
Discharge Zip:	94560

CORTESE:

Region:	CORTESE
Facility County Code:	1
Reg By:	CALSI
Reg Id:	01290019

SLIC:

Region:	STATE
Facility Status:	**Open - Remediation**
Status Date:	07/01/2010
Global Id:	SL0600163185
Lead Agency:	ALAMEDA COUNTY WATER DISTRICT
Lead Agency Case Number:	0257
Latitude:	37.520976
Longitude:	-122.04417
Case Type:	Cleanup Program Site
Case Worker:	RS
Local Agency:	ALAMEDA COUNTY WATER DISTRICT
RB Case Number:	01S0499
File Location:	Not reported
Potential Media Affected:	Not reported
Potential Contaminants of Concern:	Not reported
Site History:	Not reported

Click here to access the California GeoTracker records for this facility:

SLIC REG 2:

Region:	2
Facility ID:	Not reported
Facility Status:	Not reported

POZAS BROTHERS TRUCKING (Continued) **S100191189**

Date Closed: Not reported
Local Case #: Not reported
How Discovered: Not reported
Leak Cause: Not reported
Leak Source: Not reported
Date Confirmed: Not reported
Date Prelim Site Assmnt Workplan Submitted: Not reported
Date Preliminary Site Assessment Began: Not reported
Date Pollution Characterization Began: Not reported
Date Remediation Plan Submitted: Not reported
Date Remedial Action Underway: Not reported
Date Post Remedial Action Monitoring Began: Not reported

CHMIRS:
OES Incident Number: 9990656
OES notification: Not reported
OES Date: Not reported
OES Time: Not reported
Incident Date: 20-SEP-88
Date Completed: 20-SEP-88
Property Use: 099
Agency Id Number: 1070
Agency Incident Number: 247/8
Time Notified: 750
Time Completed: 939
Surrounding Area: 600
Estimated Temperature: 68
Property Management: P
Special Studies 1: Not reported
Special Studies 2: Not reported
Special Studies 3: Not reported
Special Studies 4: Not reported
Special Studies 5: Not reported
Special Studies 6: Not reported
More Than Two Substances Involved?: N
Resp Agncy Personel # Of Decontaminated: 2
Responding Agency Personel # Of Injuries: Not reported
Responding Agency Personel # Of Fatalities: Not reported
Others Number Of Decontaminated: Not reported
Others Number Of Injuries: Not reported
Others Number Of Fatalities: Not reported
Vehicle Make/year: Not reported
Vehicle License Number: Not reported
Vehicle State: Not reported
Vehicle Id Number: Not reported
CA/DOT/PUC/ICC Number: Not reported
Company Name: Not reported
Reporting Officer Name/ID: JAQUELINE BRETSCHNEIDER
Report Date: 26-SEP-88
Comments: Y
Facility Telephone: 415 790-7254
Waterway Involved: Not reported
Waterway: Not reported
Spill Site: Not reported
Cleanup By: Not reported
Containment: Not reported
What Happened: Not reported

POZAS BROTHERS TRUCKING (Continued) **S100191189**

Type:	Not reported
Measure:	Not reported
Other:	Not reported
Date/Time:	Not reported
Year:	88-92
Agency:	Not reported
Incident Date:	Not reported
Admin Agency:	Not reported
Amount:	Not reported
Contained:	Not reported
Site Type:	Not reported
E Date:	14-FEB-89
Substance:	Not reported
Quantity Released:	Not reported
BBLS:	Not reported
Cups:	Not reported
CUFT:	Not reported
Gallons:	Not reported
Grams:	Not reported
Pounds:	Not reported
Liters:	Not reported
Ounces:	Not reported
Pints:	Not reported
Quarts:	Not reported
Sheen:	Not reported
Tons:	Not reported
Unknown:	Not reported
Evacuations:	Not reported
Number of Injuries:	Not reported
Number of Fatalities:	Not reported
Description:	Not reported

RESPONSE:

Facility ID:	01290019
Site Type:	State Response
Site Type Detail:	State Response or NPL
Acres:	4
National Priorities List:	NO
Cleanup Oversight Agencies:	SMBRP, ALAMEDA COUNTY, ALAMEDA COUNTY WATER DISTRICT, CITY OF NEWARK
Lead Agency:	ALAMEDA COUNTY WATER DISTRICT
Lead Agency Description:	ALAMEDA COUNTY WATER DISTRICT
Project Manager:	Denise Tsuji
Supervisor:	Denise Tsuji
Division Branch:	Cleanup Berkeley
Site Code:	Not reported
Site Mgmt. Req.:	NONE SPECIFIED
Assembly:	25
Senate:	10
Special Program Status:	Not reported
Status:	Certified
Status Date:	01/01/1985
Restricted Use:	NO
Funding:	Responsible Party
Latitude:	37.52098
Longitude:	-122.0440
APN:	092-0116-012-15, 92-116-12-15
Past Use:	FUEL TERMINALS, RECYCLING - USED OIL

POZAS BROTHERS TRUCKING (Continued) **S100191189**

Potential COC:	Benzene, TPH-diesel, TPH-gas
Confirmed COC:	Benzene, TPH-diesel, TPH-gas, Benzene, TPH-diesel, TPH-gas
Potential Description:	OTH, SOIL
Alias Name:	ABE OIL INC
Alias Type:	Alternate Name
Alias Name:	CALIFORNIA OIL RECYCLERS
Alias Type:	Alternate Name
Alias Name:	092-0116-012-15
Alias Type:	APN
Alias Name:	92-116-12-15
Alias Type:	APN
Alias Name:	CAT080013360
Alias Type:	EPA Identification Number
Alias Name:	110002946135
Alias Type:	EPA (FRS #)
Alias Name:	110033614916
Alias Type:	EPA (FRS #)
Alias Name:	01290019
Alias Type:	Envirostor ID Number

Completed Info:

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Certification
Completed Date:	01/01/1985
Comments:	In October 1984, the six waste oil AGTs were removed; approximately 160 cubic yards of soil (up to 5 feet depth) was excavated and disposed offsite. Site cleanup was completed and subsequently reported to the Department of Health Services (DHS), predecessor to DTSC in October 1984. Holland conducted post removal sampling in November 1984 under the oversight of the Newark Fire Department which showed significantly reduced TPH and no detectable levels of PCBs. DHS signed off on the cleanup of the site in a letter dated December 20, 1984 stating no further remedial action will be required for the site.

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	* Discovery
Completed Date:	09/14/1981
Comments:	Not reported

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Site Screening
Completed Date:	04/10/1987
Comments:	Completed Site Screening. In September 1984, a soil investigation at the site revealed the presence of total petroleum hydrocarbons as gasoline (TPHg) as high as 12000 ppm and TPH as diesel (TPHd) as high as 4100 ppm. In October 1984, the six waste oil AGTs were removed; approximately 160 cubic yards of soil (up to 5 feet depth) was excavated and disposed offsite. Site cleanup was subsequently reported to the Department of Health Services (DHS), predecessor to the Department of Toxic Substances Control (DTSC) in October 1984.

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Preliminary Assessment Report

POZAS BROTHERS TRUCKING (Continued) **S100191189**

Completed Date: 02/07/1984
Comments: Completed PA. Between 1979 and 1984, the site had six above ground tanks (AGTs) with a total capacity of 750,000 gallons used for waste oils. An oil spill resulting from a mechanical hose failure occurred at the site in 1979 and was remediated under the oversight of the Alameda County Department of Environmental Health (ACDEH) and the Newark Fire Department (NFD).

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Screening
Completed Date: 06/03/2003
Comments: State Screening Assessment during remediation under the ACWD and NFD. Recommendation: PEA/Deed Restriction.

Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

ENVIROSTOR:
Site Type: State Response
Site Type Detailed: State Response or NPL
Acres: 4
NPL: NO
Regulatory Agencies: SMBRP, ALAMEDA COUNTY, ALAMEDA COUNTY WATER DISTRICT, CITY OF NEWARK
Lead Agency: ALAMEDA COUNTY WATER DISTRICT
Program Manager: Denise Tsuji
Supervisor: Denise Tsuji
Division Branch: Cleanup Berkeley
Facility ID: 01290019
Site Code: Not reported
Assembly: 25
Senate: 10
Special Program: Not reported
Status: Certified
Status Date: 01/01/1985
Restricted Use: NO
Site Mgmt. Req.: NONE SPECIFIED
Funding: Responsible Party
Latitude: 37.52098
Longitude: -122.0440
APN: 092-0116-012-15, 92-116-12-15
Past Use: FUEL TERMINALS, RECYCLING - USED OIL
Potential COC: Benzene, TPH-diesel, TPH-gas
Confirmed COC: Benzene, TPH-diesel, TPH-gas, Benzene, TPH-diesel, TPH-gas
Potential Description: OTH, SOIL
Alias Name: ABE OIL INC
Alias Type: Alternate Name
Alias Name: CALIFORNIA OIL RECYCLERS
Alias Type: Alternate Name
Alias Name: 092-0116-012-15

POZAS BROTHERS TRUCKING (Continued) **S100191189**

Alias Type: APN
Alias Name: 92-116-12-15
Alias Type: APN
Alias Name: CAT080013360
Alias Type: EPA Identification Number
Alias Name: 110002946135
Alias Type: EPA (FRS #)
Alias Name: 110033614916
Alias Type: EPA (FRS #)
Alias Name: 01290019
Alias Type: Envirostor ID Number

Completed Info:

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Certification
Completed Date: 01/01/1985
Comments: In October 1984, the six waste oil AGTs were removed; approximately 160 cubic yards of soil (up to 5 feet depth) was excavated and disposed offsite. Site cleanup was completed and subsequently reported to the Department of Health Services (DHS), predecessor to DTSC in October 1984. Holland conducted post removal sampling in November 1984 under the oversight of the Newark Fire Department which showed significantly reduced TPH and no detectable levels of PCBs. DHS signed off on the cleanup of the site in a letter dated December 20, 1984 stating no further remedial action will be required for the site.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: * Discovery
Completed Date: 09/14/1981
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Screening
Completed Date: 04/10/1987
Comments: Completed Site Screening. In September 1984, a soil investigation at the site revealed the presence of total petroleum hydrocarbons as gasoline (TPHg) as high as 12000 ppm and TPH as diesel (TPHd) as high as 4100 ppm. In October 1984, the six waste oil AGTs were removed; approximately 160 cubic yards of soil (up to 5 feet depth) was excavated and disposed offsite. Site cleanup was subsequently reported to the Department of Health Services (DHS), predecessor to the Department of Toxic Substances Control (DTSC) in October 1984.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Assessment Report
Completed Date: 02/07/1984
Comments: Completed PA. Between 1979 and 1984, the site had six above ground tanks (AGTs) with a total capacity of 750,000 gallons used for waste oils. An oil spill resulting from a mechanical hose failure occurred at the site in 1979 and was remediated under the oversight of the Alameda County Department of Environmental Health (ACDEH) and the Newark Fire Department (NFD).

POZAS BROTHERS TRUCKING (Continued) **S100191189**

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Site Screening
Completed Date:	06/03/2003
Comments:	State Screening Assessment during remediation under the ACWD and NFD. Recommendation: PEA/Deed Restriction.
Future Area Name:	Not reported
Future Sub Area Name:	Not reported
Future Document Type:	Not reported
Future Due Date:	Not reported
Schedule Area Name:	Not reported
Schedule Sub Area Name:	Not reported
Schedule Document Type:	Not reported
Schedule Due Date:	Not reported
Schedule Revised Date:	Not reported

I37 **HOLLAND OIL** **CA HIST Cal-Sites** **S102008177**
ENE **8130 ENTERPRISE DRIVE** **N/A**
1/4-1/2 **NEWARK, CA 94560**
0.436 mi.
2303 ft. **Site 5 of 5 in cluster I**

Relative:
Higher

Actual:
13 ft.

Calsite:

Facility ID:	01290019
Region:	2
Region Name:	BERKELEY
Branch:	NC
Branch Name:	NORTH COAST
File Name:	Not reported
State Senate District:	01011985
Status:	CERTIFIED AS HAVING BEEN REMEDIED SATISFACTORILY UNDER DTSC OVERSIGHT
Status Name:	CERTIFIED
Lead Agency:	Not reported
Lead Agency:	N/A
Facility Type:	RP
Type Name:	RESPONSIBLE PARTY
NPL:	Not reported
SIC Code:	29
SIC Name:	MANU - PETROLEUM & COAL PRODUCTS
Access:	Controlled
Cortese:	Not reported
Hazardous Ranking Score:	Not reported
Date Site Hazard Ranked:	Not reported
Groundwater Contamination:	Not reported
Staff Member Responsible for Site:	AANTONIO
Supervisor Responsible for Site:	Not reported
Region Water Control Board:	SF
Region Water Control Board Name:	SAN FRANCISCO BAY
Lat/Long Direction:	Not reported
Lat/Long (dms):	0 0 0 / 0 0 0
Lat/long Method:	Not reported
Lat/Long Description:	Not reported
State Assembly District Code:	20
State Senate District Code:	10
Facility ID:	01290019
Activity:	DISC
Activity Name:	DISCOVERY

HOLLAND OIL (Continued) **S102008177**

AWP Code:	Not reported
Proposed Budget:	0
AWP Completion Date:	Not reported
Revised Due Date:	Not reported
Comments Date:	09141981
Est Person-Yrs to complete:	0
Estimated Size:	Not reported
Request to Delete Activity:	Not reported
Activity Status:	CERT
Definition of Status:	CERTIFIED
Liquids Removed (Gals):	0
Liquids Treated (Gals):	0
Action Included Capping:	Not reported
Well Decommissioned:	Not reported
Action Included Fencing:	Not reported
Removal Action Certification:	Not reported
Activity Comments:	Not reported
For Commercial Reuse:	0
For Industrial Reuse:	0
For Residential Reuse:	0
Unknown Type:	0
Facility ID:	01290019
Activity:	CERT
Activity Name:	CERTIFICATION
AWP Code:	Not reported
Proposed Budget:	0
AWP Completion Date:	Not reported
Revised Due Date:	Not reported
Comments Date:	01011985
Est Person-Yrs to complete:	0
Estimated Size:	Not reported
Request to Delete Activity:	Not reported
Activity Status:	CERT
Definition of Status:	CERTIFIED
Liquids Removed (Gals):	0
Liquids Treated (Gals):	0
Action Included Capping:	Not reported
Well Decommissioned:	Not reported
Action Included Fencing:	Not reported
Removal Action Certification:	Not reported
Activity Comments:	Not reported
For Commercial Reuse:	0
For Industrial Reuse:	0
For Residential Reuse:	0
Unknown Type:	0
Facility ID:	01290019
Activity:	SS
Activity Name:	SITE SCREENING
AWP Code:	Not reported
Proposed Budget:	0
AWP Completion Date:	Not reported
Revised Due Date:	Not reported
Comments Date:	04101987
Est Person-Yrs to complete:	0
Estimated Size:	Not reported
Request to Delete Activity:	Not reported
Activity Status:	CERT

HOLLAND OIL (Continued) **S102008177**

Definition of Status:	CERTIFIED
Liquids Removed (Gals):	0
Liquids Treated (Gals):	0
Action Included Capping:	Not reported
Well Decommissioned:	Not reported
Action Included Fencing:	Not reported
Removal Action Certification:	Not reported
Activity Comments:	Not reported
For Commercial Reuse:	0
For Industrial Reuse:	0
For Residential Reuse:	0
Unknown Type:	0
Alternate Address:	8130 ENTERPRISE DRIVE
Alternate City,St,Zip:	NEWARK, CA 94560
Background Info:	The Holland Oil Site is currently owned by the Pozas Brothers Trucking Company (Pozas) as a truck maintenance facility. The Site contains a warehouse and an office type structure and an asphalt paved area used for tractor-trailer parking. Holland was also previously known as Abe Oil Incorporated (Abe) and as California Oil Recyclers. Between 1984 and 1994, the facility was a trucking terminal owned and operated by Consolidated Freightway.
Comments Date:	01011985
Comments:	Certified Site. In October 1984, the six waste oil AGTs were
Comments Date:	01011985
Comments:	removed; approximately 160 cubic yards of soil (up to 5 feet
Comments Date:	01011985
Comments:	depth) was excavated and disposed offsite. Site cleanup was
Comments Date:	01011985
Comments:	completed and subsequently reported to the Department of Health
Comments Date:	01011985
Comments:	Services (DHS), predecessor to DTSC in October 1984. Holland
Comments Date:	01011985
Comments:	conducted post removal sampling in November 1984 under the
Comments Date:	01011985
Comments:	oversight of the NFD which showed significantly reduced TPH and
Comments Date:	01011985
Comments:	no detectable levels of PCBs. DHS signed off on the cleanup of
Comments Date:	01011985
Comments:	the site in a letter dated December 20, 1984 stating no further
Comments Date:	01011985
Comments:	remedial action will be required for the site.
Comments Date:	02071984
Comments:	Completed PA. Between 1979 and 1984, the site had six above
Comments Date:	02071984
Comments:	ground tanks (AGTs) with a total capacity of 750,000 gallons
Comments Date:	02071984
Comments:	used for waste oils. An oil spill resulting from a mechanical
Comments Date:	02071984
Comments:	hose failure occurred at the site in 1979 and was remediated
Comments Date:	02071984
Comments:	under the oversight of the Alameda County Department of
Comments Date:	02071984
Comments:	Environmental Health (ACDEH) and the Newark Fire Department
Comments Date:	02071984
Comments:	(NFD).
Comments Date:	04101987

HOLLAND OIL (Continued) **S102008177**

Comments: Completed Site Screening. In September 1984, a soil
Comments Date: 04101987
Comments: investigation at the site revealed the presence of total
Comments Date: 04101987
Comments: petroleum hydrocarbons as gasoline (TPHg) as high as 12000 ppm
Comments Date: 04101987
Comments: and TPH as diesel (TPHd) as high as 4100 ppm. In October 1984,
Comments Date: 04101987
Comments: the six waste oil AGTs were removed; approximately 160 cubic
Comments Date: 04101987
Comments: yards of soil (up to 5 feet depth) was excavated and disposed
Comments Date: 04101987
Comments: offsite. Site cleanup was subsequently reported to the
Comments Date: 04101987
Comments: Department of Health Services (DHS), predecessor to the
Comments Date: 04101987
Comments: Department of Toxic Substances Control (DTSC) in October 1984.
ID Name: EPA IDENTIFICATION NUMBER
ID Value: CAT080013360
Alternate Name: ABE OIL INCHOLLAND OILCALIFORNIA OIL RECYCLERS
Special Programs Code: R3012
Special Programs Name: RCRA 3012

H38 **THORNTON BUSINESS CENTER** **CA HIST CORTESE** **S105025204**
North **8500 THORNTON & WILLOW** **CA LUST** **N/A**
1/4-1/2 **NEWARK, CA 94560**
0.442 mi.
2335 ft. **Site 3 of 3 in cluster H**

Relative:
Lower

Actual:
9 ft.

CORTESE:
Region: CORTESE
Facility County Code: 1
Reg By: LTNKA
Reg Id: 01-1471

LUST:
Region: STATE
Global Id: T0600101358
Latitude: 37.526407
Longitude: -122.055999
Case Type: LUST Cleanup Site
Status: Completed - Case Closed
Status Date: 03/23/1992
Lead Agency: ALAMEDA COUNTY WATER DISTRICT
Case Worker: SDI
Local Agency: ALAMEDA COUNTY WATER DISTRICT
RB Case Number: 01-1471
LOC Case Number: 0283
File Location: Not reported
Potential Media Affect: Soil
Potential Contaminants of Concern: Waste Oil / Motor / Hydraulic / Lubricating
Site History: Not reported

Click here to access the California GeoTracker records for this facility:

Contact:
Global Id: T0600101358
Contact Type: Regional Board Caseworker

THORNTON BUSINESS CENTER (Continued) **S105025204**

Contact Name: Cherie McCaulou
Organization Name: SAN FRANCISCO BAY RWQCB (REGION 2)
Address: 1515 CLAY STREET, SUITE 1400
City: OAKLAND
Email: cmccaulou@waterboards.ca.gov
Phone Number: Not reported

Global Id: T0600101358
Contact Type: Local Agency Caseworker
Contact Name: STEVEN D. INN
Organization Name: ALAMEDA COUNTY WATER DISTRICT
Address: 43885 SOUTH GRIMMER BOULEVARD
City: FREMONT
Email: steven.inn@acwd.com
Phone Number: Not reported

Regulatory Activities:

Global Id: T0600101358
Action Type: Other
Date: 01/01/1950
Action: Leak Reported

Global Id: T0600101358
Action Type: Other
Date: 01/01/1950
Action: Leak Stopped

Global Id: T0600101358
Action Type: Other
Date: 01/01/1950
Action: Leak Discovery

Global Id: T0600101358
Action Type: REMEDIATION
Date: 01/01/1950
Action: Excavation

LUST REG 2:

Region: 2
Facility Id: 01-1471
Facility Status: Case Closed
Case Number: 0283
How Discovered: Tank Closure
Leak Cause: Structure Failure
Leak Source: Tank
Date Leak Confirmed: Not reported
Oversight Program: LUST
Prelim. Site Assesment Wokplan Submitted: 5/7/1990
Preliminary Site Assesment Began: 6/15/1990
Pollution Characterization Began: Not reported
Pollution Remediation Plan Submitted: Not reported
Date Remediation Action Underway: Not reported
Date Post Remedial Action Monitoring Began: Not reported

39 North 1/4-1/2 0.478 mi. 2523 ft. | **FORMER NEWARK SPORTSMEN'S CLUB**
HICKORY STREET AND PERRIN AVE
NEWARK, CA | **CA SLIC** | **S106234946**
N/A

Relative: Lower

Actual: 8 ft.

SLIC:

Region:	STATE
Facility Status:	**Open - Inactive**
Status Date:	06/02/2009
Global Id:	SL600192653
Lead Agency:	SAN FRANCISCO BAY RWQCB (REGION 2)
Lead Agency Case Number:	Not reported
Latitude:	37.527243
Longitude:	-122.054566
Case Type:	Cleanup Program Site
Case Worker:	UUU
Local Agency:	Not reported
RB Case Number:	2199.9303
File Location:	Not reported
Potential Media Affected:	Not reported
Potential Contaminants of Concern:	Not reported
Site History:	Not reported

Click here to access the California GeoTracker records for this facility:

SLIC REG 2:

Region:	2
Facility ID:	2199.9303
Facility Status:	Post remedial action monitoring
Date Closed:	Not reported
Local Case #:	Not reported
How Discovered:	Not reported
Leak Cause:	Not reported
Leak Source:	Not reported
Date Confirmed:	Not reported
Date Prelim Site Assmnt Workplan Submitted:	Not reported
Date Preliminary Site Assessment Began:	Not reported
Date Pollution Characterization Began:	Not reported
Date Remediation Plan Submitted:	Not reported
Date Remedial Action Underway:	Not reported
Date Post Remedial Action Monitoring Began:	Not reported

J40 NE 1/4-1/2 0.483 mi. 2549 ft. | **DUTRA ART STONE FACILITY**
8175 WELLS AVE
NEWARK, CA 94560 | **CA SLIC** | **S106234812**
N/A

Site 1 of 3 in cluster J

Relative: Higher

Actual: 13 ft.

SLIC REG 2:

Region:	2
Facility ID:	Not reported
Facility Status:	Not reported
Date Closed:	Not reported
Local Case #:	Not reported
How Discovered:	Not reported
Leak Cause:	Not reported
Leak Source:	Not reported
Date Confirmed:	Not reported

DUTRA ART STONE FACILITY (Continued) **S106234812**

Date Prelim Site Assmnt Workplan Submitted: Not reported
Date Preliminary Site Assessment Began: Not reported
Date Pollution Characterization Began: Not reported
Date Remediation Plan Submitted: Not reported
Date Remedial Action Underway: Not reported
Date Post Remedial Action Monitoring Began: Not reported

J41 **SILVEY-- LIQUID AIR PROPERTY** **CA LUST** **S105033539**
NE **8175 WELLS AVENUE** **N/A**
1/4-1/2 **NEWARK, CA 94560**
0.483 mi.
2549 ft. **Site 2 of 3 in cluster J**

Relative:
Higher

Actual:
13 ft.

LUST REG 2:
Region: 2
Facility Id: 01-1392
Facility Status: Case Closed
Case Number: 0244
How Discovered: Tank Closure
Leak Cause: Structure Failure
Leak Source: Tank
Date Leak Confirmed: 8/31/1990
Oversight Program: LUST
Prelim. Site Assesment Wokplan Submitted: 4/8/1996
Preliminary Site Assesment Began: 4/9/1996
Pollution Characterization Began: Not reported
Pollution Remediation Plan Submitted: Not reported
Date Remediation Action Underway: Not reported
Date Post Remedial Action Monitoring Began: Not reported

Region: 2
Facility Id: 01-3512
Facility Status: Case Closed
Case Number: 0664
How Discovered: Not reported
Leak Cause: Not reported
Leak Source: Not reported
Date Leak Confirmed: 3/17/2003
Oversight Program: LUST
Prelim. Site Assesment Wokplan Submitted: Not reported
Preliminary Site Assesment Began: Not reported
Pollution Characterization Began: Not reported
Pollution Remediation Plan Submitted: Not reported
Date Remediation Action Underway: Not reported
Date Post Remedial Action Monitoring Began: 3/17/2003

J42 **SILVEY TRANSPORTATION, INC.** **CA HIST CORTESE** **U001597792**
NE **8175 WELLS AVE** **CA LUST** **N/A**
1/4-1/2 **NEWARK, CA 94560** **CA SLIC**
0.483 mi. **CA HIST UST**
2549 ft. **Site 3 of 3 in cluster J** **CA SWEEPS UST**

Relative:
Higher

Actual:
13 ft.

CORTESE:
Region: CORTESE
Facility County Code: 1
Reg By: LTNKA

SILVEY TRANSPORTATION, INC. (Continued) **U001597792**

Reg Id: 01-1392

LUST:

Region:	STATE
Global Id:	T0600101286
Latitude:	37.5233623
Longitude:	-122.0460248
Case Type:	LUST Cleanup Site
Status:	Completed - Case Closed
Status Date:	09/12/2001
Lead Agency:	ALAMEDA COUNTY WATER DISTRICT
Case Worker:	SDI
Local Agency:	ALAMEDA COUNTY WATER DISTRICT
RB Case Number:	01-1392
LOC Case Number:	0244
File Location:	Not reported
Potential Media Affect:	Soil
Potential Contaminants of Concern:	Gasoline
Site History:	Not reported

Click here to access the California GeoTracker records for this facility:

Contact:

Global Id:	T0600101286
Contact Type:	Regional Board Caseworker
Contact Name:	Cherie McCaulou
Organization Name:	SAN FRANCISCO BAY RWQCB (REGION 2)
Address:	1515 CLAY STREET, SUITE 1400
City:	OAKLAND
Email:	cmccaulou@waterboards.ca.gov
Phone Number:	Not reported

Global Id:	T0600101286
Contact Type:	Local Agency Caseworker
Contact Name:	STEVEN D. INN
Organization Name:	ALAMEDA COUNTY WATER DISTRICT
Address:	43885 SOUTH GRIMMER BOULEVARD
City:	FREMONT
Email:	steven.inn@acwd.com
Phone Number:	Not reported

Regulatory Activities:

Global Id:	T0600101286
Action Type:	Other
Date:	01/01/1950
Action:	Leak Reported

Global Id:	T0600101286
Action Type:	REMEDIATION
Date:	01/01/1950
Action:	Excavation

Global Id:	T0600101286
Action Type:	Other
Date:	01/01/1950
Action:	Leak Stopped

SILVEY TRANSPORTATION, INC. (Continued) **U001597792**

Global Id: T0600101286
Action Type: ENFORCEMENT
Date: 01/08/2003
Action: * No Action

Global Id: T0600101286
Action Type: REMEDIATION
Date: 01/01/1950
Action: Pump & Treat (P&T) Groundwater

Global Id: T0600101286
Action Type: REMEDIATION
Date: 01/01/1950
Action: Excavation

Global Id: T0600101286
Action Type: Other
Date: 01/01/1950
Action: Leak Discovery

Region: STATE
Global Id: T0600108049
Latitude: 37.52344
Longitude: -122.045788
Case Type: LUST Cleanup Site
Status: Completed - Case Closed
Status Date: 10/04/2004
Lead Agency: ALAMEDA COUNTY WATER DISTRICT
Case Worker: RS
Local Agency: ALAMEDA COUNTY WATER DISTRICT
RB Case Number: 01-3512
LOC Case Number: 0664
File Location: Not reported
Potential Media Affect: Not reported
Potential Contaminants of Concern: Chromium, * Solvents, Diesel
Site History: Not reported

Click here to access the California GeoTracker records for this facility:

Contact:
Global Id: T0600108049
Contact Type: Regional Board Caseworker
Contact Name: Cherie McCaulou
Organization Name: SAN FRANCISCO BAY RWQCB (REGION 2)
Address: 1515 CLAY STREET, SUITE 1400
City: OAKLAND
Email: cmccaulou@waterboards.ca.gov
Phone Number: Not reported

Global Id: T0600108049
Contact Type: Local Agency Caseworker
Contact Name: RANGARAJAN SAMPATH
Organization Name: ALAMEDA COUNTY WATER DISTRICT
Address: 43885 SOUTH GRIMMER BLVD
City: FREMONT
Email: rangarajan.sampath@acwd.com
Phone Number: Not reported

SILVEY TRANSPORTATION, INC. (Continued) **U001597792**

Regulatory Activities:

Global Id:	T0600108049
Action Type:	ENFORCEMENT
Date:	10/04/2004
Action:	Closure/No Further Action Letter
Global Id:	T0600108049
Action Type:	Other
Date:	01/01/1950
Action:	Leak Reported
Global Id:	T0600108049
Action Type:	Other
Date:	01/01/1950
Action:	Leak Discovery

SLIC:

Region:	STATE
Facility Status:	**Completed - Case Closed**
Status Date:	07/22/2008
Global Id:	SL0600141517
Lead Agency:	ALAMEDA COUNTY WATER DISTRICT
Lead Agency Case Number:	0703
Latitude:	37.52344
Longitude:	-122.045788
Case Type:	Cleanup Program Site
Case Worker:	EC
Local Agency:	ALAMEDA COUNTY WATER DISTRICT
RB Case Number:	01S0614
File Location:	Not reported
Potential Media Affected:	Not reported
Potential Contaminants of Concern:	Not reported
Site History:	Not reported

Click here to access the California GeoTracker records for this facility:

HIST UST:

Region:	STATE
Facility ID:	00000014541
Facility Type:	Other
Other Type:	TRUCKING
Total Tanks:	0006
Contact Name:	LEONARD SILVEY
Telephone:	4157931800
Owner Name:	SILVEY TRANSPORTATION, INC.
Owner Address:	8175 WELLS AVENUE
Owner City,St,Zip:	NEWARK, CA 94560
Tank Num:	001
Container Num:	#1
Year Installed:	1959
Tank Capacity:	00010000
Tank Used for:	PRODUCT
Type of Fuel:	DIESEL
Tank Construction:	1/4 inches

SILVEY TRANSPORTATION, INC. (Continued) **U001597792**

Leak Detection: Stock Inventor

Tank Num: 002
Container Num: #2
Year Installed: 1959
Tank Capacity: 00002000
Tank Used for: PRODUCT
Type of Fuel: REGULAR
Tank Construction: 3/16 inches
Leak Detection: Stock Inventor

Tank Num: 003
Container Num: #3
Year Installed: 1967
Tank Capacity: 00000550
Tank Used for: PRODUCT
Type of Fuel: Not reported
Tank Construction: 3/16 inches
Leak Detection: Stock Inventor

Tank Num: 004
Container Num: #4
Year Installed: 1967
Tank Capacity: 00001000
Tank Used for: WASTE
Type of Fuel: WASTE OIL
Tank Construction: 3/16 inches
Leak Detection: None

Tank Num: 005
Container Num: #5
Year Installed: 1980
Tank Capacity: 00002000
Tank Used for: PRODUCT
Type of Fuel: REGULAR
Tank Construction: 3/16 inches
Leak Detection: Stock Inventor

Tank Num: 006
Container Num: #6
Year Installed: 1980
Tank Capacity: 00012000
Tank Used for: PRODUCT
Type of Fuel: DIESEL
Tank Construction: 1/4 inches
Leak Detection: Stock Inventor

SWEEPS UST:
Status: Not reported
Comp Number: 14541
Number: Not reported
Board Of Equalization: 44-001214
Referral Date: Not reported
Action Date: Not reported
Created Date: Not reported
Tank Status: Not reported
Owner Tank Id: Not reported

SILVEY TRANSPORTATION, INC. (Continued) **U001597792**

Swrcb Tank Id:	01-008-014541-000001
Actv Date:	Not reported
Capacity:	10000
Tank Use:	M.V. FUEL
Stg:	PRODUCT
Content:	DIESEL
Number Of Tanks:	5

Status:	Not reported
Comp Number:	14541
Number:	Not reported
Board Of Equalization:	44-001214
Referral Date:	Not reported
Action Date:	Not reported
Created Date:	Not reported
Tank Status:	Not reported
Owner Tank Id:	Not reported
Swrcb Tank Id:	01-008-014541-000002
Actv Date:	Not reported
Capacity:	2000
Tank Use:	M.V. FUEL
Stg:	PRODUCT
Content:	LEADED
Number Of Tanks:	Not reported

Status:	Not reported
Comp Number:	14541
Number:	Not reported
Board Of Equalization:	44-001214
Referral Date:	Not reported
Action Date:	Not reported
Created Date:	Not reported
Tank Status:	Not reported
Owner Tank Id:	Not reported
Swrcb Tank Id:	01-008-014541-000003
Actv Date:	Not reported
Capacity:	550
Tank Use:	UNKNOWN
Stg:	PRODUCT
Content:	Not reported
Number Of Tanks:	Not reported

Status:	Not reported
Comp Number:	14541
Number:	Not reported
Board Of Equalization:	44-001214
Referral Date:	Not reported
Action Date:	Not reported
Created Date:	Not reported
Tank Status:	Not reported
Owner Tank Id:	Not reported
Swrcb Tank Id:	01-008-014541-000004
Actv Date:	Not reported
Capacity:	1000
Tank Use:	OIL
Stg:	WASTE
Content:	WASTE OIL

SILVEY TRANSPORTATION, INC. (Continued) **U001597792**

Number Of Tanks:	Not reported
Status:	Not reported
Comp Number:	14541
Number:	Not reported
Board Of Equalization:	44-001214
Referral Date:	Not reported
Action Date:	Not reported
Created Date:	Not reported
Tank Status:	Not reported
Owner Tank Id:	Not reported
Swrcb Tank Id:	01-008-014541-000006
Actv Date:	Not reported
Capacity:	12000
Tank Use:	M.V. FUEL
Stg:	PRODUCT
Content:	DIESEL
Number Of Tanks:	Not reported

43
ENE
1/2-1
0.950 mi.
5014 ft.

LTD CERAMICS, INC.
7411 CENTRAL AVENUE
NEWARK, CA 94560

CA ENVIROSTOR **S108212776**
N/A

Relative:
Lower

Actual:
9 ft.

ENVIROSTOR:

Site Type:	Tiered Permit
Site Type Detailed:	Tiered Permit
Acres:	1
NPL:	NO
Regulatory Agencies:	NONE SPECIFIED
Lead Agency:	NONE SPECIFIED
Program Manager:	Not reported
Supervisor:	Karen Toth
Division Branch:	Cleanup Berkeley
Facility ID:	71003345
Site Code:	Not reported
Assembly:	25
Senate:	10
Special Program:	Not reported
Status:	Inactive - Needs Evaluation
Status Date:	05/04/2000
Restricted Use:	NO
Site Mgmt. Req.:	NONE SPECIFIED
Funding:	Not reported
Latitude:	37.52132
Longitude:	-122.0363
APN:	NONE SPECIFIED
Past Use:	NONE SPECIFIED
Potential COC:	NONE SPECIFIED
Confirmed COC:	NONE SPECIFIED, NONE SPECIFIED
Potential Description:	NONE SPECIFIED
Alias Name:	CAL000135806
Alias Type:	EPA Identification Number
Alias Name:	110013851536
Alias Type:	EPA (FRS #)
Alias Name:	71003345
Alias Type:	Envirostor ID Number

LTD CERAMICS, INC. (Continued) **S108212776**

Completed Info:

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Compliance Verification
Completed Date:	05/04/2000
Comments:	Phase I Non-Submittal Drive By

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Phase 1 Non-Submittal
Completed Date:	12/21/2000
Comments:	Not reported

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Phase 1
Completed Date:	06/28/2000
Comments:	Phase 1 checklist indicates no releases.

Future Area Name:	Not reported
Future Sub Area Name:	Not reported
Future Document Type:	Not reported
Future Due Date:	Not reported
Schedule Area Name:	Not reported
Schedule Sub Area Name:	Not reported
Schedule Document Type:	Not reported
Schedule Due Date:	Not reported
Schedule Revised Date:	Not reported

Count: 15 records.

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
ALAMEDA COUNTY	S105256196	CAL DEPT OF TRANS- STATE RTE 4	HWY 4, CONTRA COSTA COUNTY	0	CA WDS
ALAMEDA COUNTY	S107537953		CALAVERAS RD/MI MARKER 5.70 @	0	CA CDL
ALAMEDA COUNTY	M300002760	CARGILL INC/LESLIE SALT	NEWARK PLANT		US MINES
NEWARK	S112955427	AMERICAN METAL & IRON INC	HWY 880	94560	CA HAZNET
NEWARK	S106248686	KIRKS BODY SHOP	11791 HWY 99W	94560	CA EMI
NEWARK	1003878583	LESLIE SALT CO MAGNESIA PILE PROPE	BASE OF ENTERPRISE DR	94560	CERC-NFRAP
NEWARK	1010728001	OHLONE COMMUNITY COLLEGE DISTRICT	CHERRY ST		FINDS
NEWARK	S100833248	LESLIE SALT	ENTERPRISE DRIVE	94560	CA BOND EXP. PLAN
NEWARK	1003109105	SUN MICROSYSTEMS, NEWARK	INTERSECTION MOURY AVE & CHER	94560	CERCLIS, FINDS
NEWARK	U003776641	TOSCO CORPORATION SITE NO. 257003	5799 A MOWEY AVE	94560	CA UST
NEWARK	1014633322	CARGILL INC.	MOWRY SLOUGH IN SF BAY NATIONA	94560	ICIS
NEWARK	1014673894	CARGILL INC.	MOWRY SLOUGH IN SF BAY NATIONA	94560	FINDS
NEWARK	S112923903	CARGILL SALT	OFF PERRIN AVE & WILLOW ST	94560	CA HAZNET
NEWARK	S112932471	CARGILL SALT	OFF PERRIN AVE & WILLOW ST	94560	CA HAZNET
NEWARK	S106101752	CARGILL INC HILL PARCEL AREA	WESTERN END ENTERPRISE DR	94560	CA NPDES, CA WDS

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Number of Days to Update: Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 04/26/2013
Date Data Arrived at EDR: 05/09/2013
Date Made Active in Reports: 07/10/2013
Number of Days to Update: 62

Source: EPA
Telephone: N/A
Last EDR Contact: 07/12/2013
Next Scheduled EDR Contact: 10/21/2013
Data Release Frequency: Quarterly

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 6
Telephone: 214-655-6659

EPA Region 3
Telephone 215-814-5418

EPA Region 7
Telephone: 913-551-7247

EPA Region 4
Telephone 404-562-8033

EPA Region 8
Telephone: 303-312-6774

EPA Region 5
Telephone 312-886-6686

EPA Region 9
Telephone: 415-947-4246

EPA Region 10
Telephone 206-553-8665

Proposed NPL: Proposed National Priority List Sites

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

Date of Government Version: 04/26/2013
Date Data Arrived at EDR: 05/09/2013
Date Made Active in Reports: 07/10/2013
Number of Days to Update: 62

Source: EPA
Telephone: N/A
Last EDR Contact: 07/12/2013
Next Scheduled EDR Contact: 10/21/2013
Data Release Frequency: Quarterly

NPL LIENS: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/1991
Date Data Arrived at EDR: 02/02/1994
Date Made Active in Reports: 03/30/1994
Number of Days to Update: 56

Source: EPA
Telephone: 202-564-4267
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

Federal Delisted NPL site list

DELISTED NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 04/26/2013	Source: EPA
Date Data Arrived at EDR: 05/09/2013	Telephone: N/A
Date Made Active in Reports: 07/10/2013	Last EDR Contact: 07/12/2013
Number of Days to Update: 62	Next Scheduled EDR Contact: 10/21/2013
	Data Release Frequency: Quarterly

Federal CERCLIS list

CERCLIS: Comprehensive Environmental Response, Compensation, and Liability Information System

CERCLIS contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). CERCLIS contains sites which are either proposed to or on the National Priorities List (NPL) and sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 04/26/2013	Source: EPA
Date Data Arrived at EDR: 05/29/2013	Telephone: 703-412-9810
Date Made Active in Reports: 08/09/2013	Last EDR Contact: 09/13/2013
Number of Days to Update: 72	Next Scheduled EDR Contact: 12/09/2013
	Data Release Frequency: Quarterly

FEDERAL FACILITY: Federal Facility Site Information listing

A listing of National Priority List (NPL) and Base Realignment and Closure (BRAC) sites found in the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) Database where EPA Federal Facilities Restoration and Reuse Office is involved in cleanup activities.

Date of Government Version: 07/31/2012	Source: Environmental Protection Agency
Date Data Arrived at EDR: 10/09/2012	Telephone: 703-603-8704
Date Made Active in Reports: 12/20/2012	Last EDR Contact: 07/08/2013
Number of Days to Update: 72	Next Scheduled EDR Contact: 10/21/2013
	Data Release Frequency: Varies

Federal CERCLIS NFRAP site List

CERCLIS-NFRAP: CERCLIS No Further Remedial Action Planned

Archived sites are sites that have been removed and archived from the inventory of CERCLIS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list this site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. This decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be a potential NPL site.

Date of Government Version: 04/26/2013	Source: EPA
Date Data Arrived at EDR: 05/29/2013	Telephone: 703-412-9810
Date Made Active in Reports: 08/09/2013	Last EDR Contact: 09/13/2013
Number of Days to Update: 72	Next Scheduled EDR Contact: 12/09/2013
	Data Release Frequency: Quarterly

Federal RCRA CORRACTS facilities list

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 07/11/2013
Date Data Arrived at EDR: 08/08/2013
Date Made Active in Reports: 09/13/2013
Number of Days to Update: 36

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 08/08/2013
Next Scheduled EDR Contact: 10/14/2013
Data Release Frequency: Quarterly

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF: RCRA - Treatment, Storage and Disposal

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 07/11/2013
Date Data Arrived at EDR: 08/08/2013
Date Made Active in Reports: 09/13/2013
Number of Days to Update: 36

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 08/08/2013
Next Scheduled EDR Contact: 10/14/2013
Data Release Frequency: Quarterly

Federal RCRA generators list

RCRA-LQG: RCRA - Large Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

Date of Government Version: 07/11/2013
Date Data Arrived at EDR: 08/08/2013
Date Made Active in Reports: 09/13/2013
Number of Days to Update: 36

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 08/08/2013
Next Scheduled EDR Contact: 10/14/2013
Data Release Frequency: Quarterly

RCRA-SQG: RCRA - Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

Date of Government Version: 07/11/2013
Date Data Arrived at EDR: 08/08/2013
Date Made Active in Reports: 09/13/2013
Number of Days to Update: 36

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 08/08/2013
Next Scheduled EDR Contact: 10/14/2013
Data Release Frequency: Quarterly

RCRA-CESQG: RCRA - Conditionally Exempt Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Conditionally exempt small quantity generators (CESQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

Date of Government Version: 07/11/2013
Date Data Arrived at EDR: 08/08/2013
Date Made Active in Reports: 09/13/2013
Number of Days to Update: 36

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 08/08/2013
Next Scheduled EDR Contact: 10/14/2013
Data Release Frequency: Varies

Federal institutional controls / engineering controls registries

US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 03/14/2013
Date Data Arrived at EDR: 03/29/2013
Date Made Active in Reports: 05/10/2013
Number of Days to Update: 42

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 09/10/2013
Next Scheduled EDR Contact: 12/23/2013
Data Release Frequency: Varies

US INST CONTROL: Sites with Institutional Controls

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 03/14/2013
Date Data Arrived at EDR: 03/29/2013
Date Made Active in Reports: 05/10/2013
Number of Days to Update: 42

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 09/10/2013
Next Scheduled EDR Contact: 12/23/2013
Data Release Frequency: Varies

LUCIS: Land Use Control Information System

LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 12/09/2005
Date Data Arrived at EDR: 12/11/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 31

Source: Department of the Navy
Telephone: 843-820-7326
Last EDR Contact: 08/15/2013
Next Scheduled EDR Contact: 09/02/2013
Data Release Frequency: Varies

Federal ERNS list

ERNS: Emergency Response Notification System

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 12/31/2012
Date Data Arrived at EDR: 01/17/2013
Date Made Active in Reports: 02/15/2013
Number of Days to Update: 29

Source: National Response Center, United States Coast Guard
Telephone: 202-267-2180
Last EDR Contact: 07/01/2013
Next Scheduled EDR Contact: 10/14/2013
Data Release Frequency: Annually

State- and tribal - equivalent NPL

RESPONSE: State Response Sites

Identifies confirmed release sites where DTSC is involved in remediation, either in a lead or oversight capacity. These confirmed release sites are generally high-priority and high potential risk.

Date of Government Version: 08/05/2013
Date Data Arrived at EDR: 08/05/2013
Date Made Active in Reports: 08/27/2013
Number of Days to Update: 22

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 09/05/2013
Next Scheduled EDR Contact: 11/18/2013
Data Release Frequency: Quarterly

State- and tribal - equivalent CERCLIS

ENVIROSTOR: EnviroStor Database

The Department of Toxic Substances Control's (DTSC's) Site Mitigation and Brownfields Reuse Program's (SMBRP's) EnviroStor database identifes sites that have known contamination or sites for which there may be reasons to investigate further. The database includes the following site types: Federal Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. EnviroStor provides similar information to the information that was available in CalSites, and provides additional site information, including, but not limited to, identification of formerly-contaminated properties that have been released for reuse, properties where environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites.

Date of Government Version: 08/05/2013
Date Data Arrived at EDR: 08/05/2013
Date Made Active in Reports: 08/27/2013
Number of Days to Update: 22

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 09/05/2013
Next Scheduled EDR Contact: 11/18/2013
Data Release Frequency: Quarterly

State and tribal landfill and/or solid waste disposal site lists

SWF/LF (SWIS): Solid Waste Information System

Active, Closed and Inactive Landfills. SWF/LF records typically contain an inve ntory of solid waste disposal facilities or landfills. These may be active or i nactive facilities or open dumps that failed to meet RCRA Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 05/20/2013
Date Data Arrived at EDR: 05/21/2013
Date Made Active in Reports: 06/25/2013
Number of Days to Update: 35

Source: Department of Resources Recycling and Recovery
Telephone: 916-341-6320
Last EDR Contact: 08/19/2013
Next Scheduled EDR Contact: 12/02/2013
Data Release Frequency: Quarterly

State and tribal leaking storage tank lists

LUST REG 8: Leaking Underground Storage Tanks

California Regional Water Quality Control Board Santa Ana Region (8). For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/14/2005
Date Data Arrived at EDR: 02/15/2005
Date Made Active in Reports: 03/28/2005
Number of Days to Update: 41

Source: California Regional Water Quality Control Board Santa Ana Region (8)
Telephone: 909-782-4496
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: Varies

LUST REG 7: Leaking Underground Storage Tank Case Listing

Leaking Underground Storage Tank locations. Imperial, Riverside, San Diego, Santa Barbara counties.

Date of Government Version: 02/26/2004
Date Data Arrived at EDR: 02/26/2004
Date Made Active in Reports: 03/24/2004
Number of Days to Update: 27

Source: California Regional Water Quality Control Board Colorado River Basin Region (7)
Telephone: 760-776-8943
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

LUST REG 6V: Leaking Underground Storage Tank Case Listing

Leaking Underground Storage Tank locations. Inyo, Kern, Los Angeles, Mono, San Bernardino counties.

Date of Government Version: 06/07/2005
Date Data Arrived at EDR: 06/07/2005
Date Made Active in Reports: 06/29/2005
Number of Days to Update: 22

Source: California Regional Water Quality Control Board Victorville Branch Office (6)
Telephone: 760-241-7365
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

LUST REG 6L: Leaking Underground Storage Tank Case Listing
For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/09/2003
Date Data Arrived at EDR: 09/10/2003
Date Made Active in Reports: 10/07/2003
Number of Days to Update: 27

Source: California Regional Water Quality Control Board Lahontan Region (6)
Telephone: 530-542-5572
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

LUST REG 5: Leaking Underground Storage Tank Database
Leaking Underground Storage Tank locations. Alameda, Alpine, Amador, Butte, Colusa, Contra Costa, Calveras, El Dorado, Fresno, Glenn, Kern, Kings, Lake, Lassen, Madera, Mariposa, Merced, Modoc, Napa, Nevada, Placer, Plumas, Sacramento, San Joaquin, Shasta, Solano, Stanislaus, Sutter, Tehama, Tulare, Tuolumne, Yolo, Yuba counties.

Date of Government Version: 07/01/2008
Date Data Arrived at EDR: 07/22/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 9

Source: California Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-4834
Last EDR Contact: 07/01/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: No Update Planned

LUST REG 4: Underground Storage Tank Leak List
Los Angeles, Ventura counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/07/2004
Date Data Arrived at EDR: 09/07/2004
Date Made Active in Reports: 10/12/2004
Number of Days to Update: 35

Source: California Regional Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6710
Last EDR Contact: 09/06/2011
Next Scheduled EDR Contact: 12/19/2011
Data Release Frequency: No Update Planned

LUST REG 3: Leaking Underground Storage Tank Database
Leaking Underground Storage Tank locations. Monterey, San Benito, San Luis Obispo, Santa Barbara, Santa Cruz counties.

Date of Government Version: 05/19/2003
Date Data Arrived at EDR: 05/19/2003
Date Made Active in Reports: 06/02/2003
Number of Days to Update: 14

Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-542-4786
Last EDR Contact: 07/18/2011
Next Scheduled EDR Contact: 10/31/2011
Data Release Frequency: No Update Planned

LUST REG 2: Fuel Leak List
Leaking Underground Storage Tank locations. Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, Sonoma counties.

Date of Government Version: 09/30/2004
Date Data Arrived at EDR: 10/20/2004
Date Made Active in Reports: 11/19/2004
Number of Days to Update: 30

Source: California Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-622-2433
Last EDR Contact: 09/19/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: Quarterly

LUST REG 1: Active Toxic Site Investigation
Del Norte, Humboldt, Lake, Mendocino, Modoc, Siskiyou, Sonoma, Trinity counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/01/2001
Date Data Arrived at EDR: 02/28/2001
Date Made Active in Reports: 03/29/2001
Number of Days to Update: 29

Source: California Regional Water Quality Control Board North Coast (1)
Telephone: 707-570-3769
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

LUST: Geotracker's Leaking Underground Fuel Tank Report
Leaking Underground Storage Tank Incident Reports. LUST records contain an inventory of reported leaking underground storage tank incidents. Not all states maintain these records, and the information stored varies by state. For more information on a particular leaking underground storage tank sites, please contact the appropriate regulatory agency.

Date of Government Version: 07/26/2013
Date Data Arrived at EDR: 07/26/2013
Date Made Active in Reports: 08/26/2013
Number of Days to Update: 31

Source: State Water Resources Control Board
Telephone: see region list
Last EDR Contact: 09/17/2013
Next Scheduled EDR Contact: 12/30/2013
Data Release Frequency: Quarterly

LUST REG 9: Leaking Underground Storage Tank Report
Orange, Riverside, San Diego counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 03/01/2001
Date Data Arrived at EDR: 04/23/2001
Date Made Active in Reports: 05/21/2001
Number of Days to Update: 28

Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-637-5595
Last EDR Contact: 09/26/2011
Next Scheduled EDR Contact: 01/09/2012
Data Release Frequency: No Update Planned

SLIC: Statewide SLIC Cases
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 07/26/2013
Date Data Arrived at EDR: 07/26/2013
Date Made Active in Reports: 08/26/2013
Number of Days to Update: 31

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 09/17/2013
Next Scheduled EDR Contact: 12/30/2013
Data Release Frequency: Varies

SLIC REG 1: Active Toxic Site Investigations
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2003
Date Data Arrived at EDR: 04/07/2003
Date Made Active in Reports: 04/25/2003
Number of Days to Update: 18

Source: California Regional Water Quality Control Board, North Coast Region (1)
Telephone: 707-576-2220
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

SLIC REG 2: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/30/2004
Date Data Arrived at EDR: 10/20/2004
Date Made Active in Reports: 11/19/2004
Number of Days to Update: 30

Source: Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-286-0457
Last EDR Contact: 09/19/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: Quarterly

SLIC REG 3: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 05/18/2006
Date Data Arrived at EDR: 05/18/2006
Date Made Active in Reports: 06/15/2006
Number of Days to Update: 28

Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-549-3147
Last EDR Contact: 07/18/2011
Next Scheduled EDR Contact: 10/31/2011
Data Release Frequency: Semi-Annually

SLIC REG 4: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 11/17/2004
Date Data Arrived at EDR: 11/18/2004
Date Made Active in Reports: 01/04/2005
Number of Days to Update: 47

Source: Region Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6600
Last EDR Contact: 07/01/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: Varies

SLIC REG 5: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/01/2005
Date Data Arrived at EDR: 04/05/2005
Date Made Active in Reports: 04/21/2005
Number of Days to Update: 16

Source: Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-3291
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: Semi-Annually

SLIC REG 6V: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 05/24/2005
Date Data Arrived at EDR: 05/25/2005
Date Made Active in Reports: 06/16/2005
Number of Days to Update: 22

Source: Regional Water Quality Control Board, Victorville Branch
Telephone: 619-241-6583
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: Semi-Annually

SLIC REG 6L: SLIC Sites
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/07/2004
Date Data Arrived at EDR: 09/07/2004
Date Made Active in Reports: 10/12/2004
Number of Days to Update: 35

Source: California Regional Water Quality Control Board, Lahontan Region
Telephone: 530-542-5574
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

SLIC REG 7: SLIC List
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 11/24/2004
Date Data Arrived at EDR: 11/29/2004
Date Made Active in Reports: 01/04/2005
Number of Days to Update: 36

Source: California Regional Quality Control Board, Colorado River Basin Region
Telephone: 760-346-7491
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

SLIC REG 8: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2008
Date Data Arrived at EDR: 04/03/2008
Date Made Active in Reports: 04/14/2008
Number of Days to Update: 11

Source: California Region Water Quality Control Board Santa Ana Region (8)
Telephone: 951-782-3298
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: Semi-Annually

SLIC REG 9: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/10/2007
Date Data Arrived at EDR: 09/11/2007
Date Made Active in Reports: 09/28/2007
Number of Days to Update: 17

Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-467-2980
Last EDR Contact: 08/08/2011
Next Scheduled EDR Contact: 11/21/2011
Data Release Frequency: Annually

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 02/05/2013
Date Data Arrived at EDR: 02/06/2013
Date Made Active in Reports: 04/12/2013
Number of Days to Update: 65

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 07/24/2013
Next Scheduled EDR Contact: 11/11/2013
Data Release Frequency: Quarterly

INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land
A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 09/28/2012
Date Data Arrived at EDR: 11/01/2012
Date Made Active in Reports: 04/12/2013
Number of Days to Update: 162

Source: EPA Region 1
Telephone: 617-918-1313
Last EDR Contact: 08/02/2013
Next Scheduled EDR Contact: 11/11/2013
Data Release Frequency: Varies

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

Date of Government Version: 08/27/2012
Date Data Arrived at EDR: 08/28/2012
Date Made Active in Reports: 10/16/2012
Number of Days to Update: 49

Source: EPA Region 8
Telephone: 303-312-6271
Last EDR Contact: 07/24/2013
Next Scheduled EDR Contact: 11/11/2013
Data Release Frequency: Quarterly

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 09/12/2011
Date Data Arrived at EDR: 09/13/2011
Date Made Active in Reports: 11/11/2011
Number of Days to Update: 59

Source: EPA Region 6
Telephone: 214-665-6597
Last EDR Contact: 07/24/2013
Next Scheduled EDR Contact: 11/11/2013
Data Release Frequency: Varies

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 02/06/2013
Date Data Arrived at EDR: 02/08/2013
Date Made Active in Reports: 04/12/2013
Number of Days to Update: 63

Source: EPA Region 4
Telephone: 404-562-8677
Last EDR Contact: 07/24/2013
Next Scheduled EDR Contact: 11/11/2013
Data Release Frequency: Semi-Annually

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 12/31/2012
Date Data Arrived at EDR: 02/28/2013
Date Made Active in Reports: 04/12/2013
Number of Days to Update: 43

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 07/24/2013
Next Scheduled EDR Contact: 11/11/2013
Data Release Frequency: Varies

INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 03/01/2013
Date Data Arrived at EDR: 03/01/2013
Date Made Active in Reports: 04/12/2013
Number of Days to Update: 42

Source: Environmental Protection Agency
Telephone: 415-972-3372
Last EDR Contact: 07/24/2013
Next Scheduled EDR Contact: 11/11/2013
Data Release Frequency: Quarterly

State and tribal registered storage tank lists

UST: Active UST Facilities
Active UST facilities gathered from the local regulatory agencies

Date of Government Version: 07/26/2013
Date Data Arrived at EDR: 07/26/2013
Date Made Active in Reports: 08/20/2013
Number of Days to Update: 25

Source: SWRCB
Telephone: 916-341-5851
Last EDR Contact: 09/17/2013
Next Scheduled EDR Contact: 12/30/2013
Data Release Frequency: Semi-Annually

AST: Aboveground Petroleum Storage Tank Facilities
Registered Aboveground Storage Tanks.

Date of Government Version: 08/01/2009
Date Data Arrived at EDR: 09/10/2009
Date Made Active in Reports: 10/01/2009
Number of Days to Update: 21

Source: State Water Resources Control Board
Telephone: 916-327-5092
Last EDR Contact: 07/03/2013
Next Scheduled EDR Contact: 10/21/2013
Data Release Frequency: Quarterly

INDIAN UST R10: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 10 (Alaska, Idaho, Oregon, Washington, and Tribal Nations).

Date of Government Version: 02/05/2013
Date Data Arrived at EDR: 02/06/2013
Date Made Active in Reports: 04/12/2013
Number of Days to Update: 65

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 07/24/2013
Next Scheduled EDR Contact: 11/11/2013
Data Release Frequency: Quarterly

INDIAN UST R9: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 9 (Arizona, California, Hawaii, Nevada, the Pacific Islands, and Tribal Nations).

Date of Government Version: 02/21/2013
Date Data Arrived at EDR: 02/26/2013
Date Made Active in Reports: 04/12/2013
Number of Days to Update: 45

Source: EPA Region 9
Telephone: 415-972-3368
Last EDR Contact: 07/24/2013
Next Scheduled EDR Contact: 11/11/2013
Data Release Frequency: Quarterly

INDIAN UST R8: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).

Date of Government Version: 08/27/2012
Date Data Arrived at EDR: 08/28/2012
Date Made Active in Reports: 10/16/2012
Number of Days to Update: 49

Source: EPA Region 8
Telephone: 303-312-6137
Last EDR Contact: 07/24/2013
Next Scheduled EDR Contact: 11/11/2013
Data Release Frequency: Quarterly

INDIAN UST R7: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 7 (Iowa, Kansas, Missouri, Nebraska, and 9 Tribal Nations).

Date of Government Version: 12/31/2012
Date Data Arrived at EDR: 02/28/2013
Date Made Active in Reports: 04/12/2013
Number of Days to Update: 43

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 07/24/2013
Next Scheduled EDR Contact: 11/11/2013
Data Release Frequency: Varies

INDIAN UST R6: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 6 (Louisiana, Arkansas, Oklahoma, New Mexico, Texas and 65 Tribes).

Date of Government Version: 05/10/2011
Date Data Arrived at EDR: 05/11/2011
Date Made Active in Reports: 06/14/2011
Number of Days to Update: 34

Source: EPA Region 6
Telephone: 214-665-7591
Last EDR Contact: 07/24/2013
Next Scheduled EDR Contact: 11/11/2013
Data Release Frequency: Semi-Annually

INDIAN UST R5: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 5 (Michigan, Minnesota and Wisconsin and Tribal Nations).

Date of Government Version: 08/02/2012
Date Data Arrived at EDR: 08/03/2012
Date Made Active in Reports: 11/05/2012
Number of Days to Update: 94

Source: EPA Region 5
Telephone: 312-886-6136
Last EDR Contact: 07/24/2013
Next Scheduled EDR Contact: 11/11/2013
Data Release Frequency: Varies

INDIAN UST R4: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee and Tribal Nations)

Date of Government Version: 02/06/2013
Date Data Arrived at EDR: 02/08/2013
Date Made Active in Reports: 04/12/2013
Number of Days to Update: 63

Source: EPA Region 4
Telephone: 404-562-9424
Last EDR Contact: 07/24/2013
Next Scheduled EDR Contact: 11/11/2013
Data Release Frequency: Semi-Annually

INDIAN UST R1: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont and ten Tribal Nations).

Date of Government Version: 09/28/2012
Date Data Arrived at EDR: 11/07/2012
Date Made Active in Reports: 04/12/2013
Number of Days to Update: 156

Source: EPA, Region 1
Telephone: 617-918-1313
Last EDR Contact: 08/02/2013
Next Scheduled EDR Contact: 11/11/2013
Data Release Frequency: Varies

FEMA UST: Underground Storage Tank Listing

A listing of all FEMA owned underground storage tanks.

Date of Government Version: 01/01/2010
Date Data Arrived at EDR: 02/16/2010
Date Made Active in Reports: 04/12/2010
Number of Days to Update: 55

Source: FEMA
Telephone: 202-646-5797
Last EDR Contact: 07/19/2013
Next Scheduled EDR Contact: 10/28/2013
Data Release Frequency: Varies

State and tribal voluntary cleanup sites

INDIAN VCP R7: Voluntary Cleanup Priority Lisitng
A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008
Date Data Arrived at EDR: 04/22/2008
Date Made Active in Reports: 05/19/2008
Number of Days to Update: 27

Source: EPA, Region 7
Telephone: 913-551-7365
Last EDR Contact: 04/20/2009
Next Scheduled EDR Contact: 07/20/2009
Data Release Frequency: Varies

VCP: Voluntary Cleanup Program Properties
Contains low threat level properties with either confirmed or unconfirmed releases and the project proponents have request that DTSC oversee investigation and/or cleanup activities and have agreed to provide coverage for DTSC's costs.

Date of Government Version: 08/05/2013
Date Data Arrived at EDR: 08/05/2013
Date Made Active in Reports: 08/27/2013
Number of Days to Update: 22

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 09/05/2013
Next Scheduled EDR Contact: 11/18/2013
Data Release Frequency: Quarterly

INDIAN VCP R1: Voluntary Cleanup Priority Listing
A listing of voluntary cleanup priority sites located on Indian Land located in Region 1.

Date of Government Version: 09/28/2012
Date Data Arrived at EDR: 10/02/2012
Date Made Active in Reports: 10/16/2012
Number of Days to Update: 14

Source: EPA, Region 1
Telephone: 617-918-1102
Last EDR Contact: 07/02/2013
Next Scheduled EDR Contact: 10/14/2013
Data Release Frequency: Varies

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS: A Listing of Brownfields Sites
Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties takes development pressures off of undeveloped, open land, and both improves and protects the environment. Assessment, Cleanup and Redevelopment Exchange System (ACRES) stores information reported by EPA Brownfields grant recipients on brownfields properties assessed or cleaned up with grant funding as well as information on Targeted Brownfields Assessments performed by EPA Regions. A listing of ACRES Brownfield sites is obtained from Cleanups in My Community. Cleanups in My Community provides information on Brownfields properties for which information is reported back to EPA, as well as areas served by Brownfields grant programs.

Date of Government Version: 06/24/2013
Date Data Arrived at EDR: 06/25/2013
Date Made Active in Reports: 08/09/2013
Number of Days to Update: 45

Source: Environmental Protection Agency
Telephone: 202-566-2777
Last EDR Contact: 09/24/2013
Next Scheduled EDR Contact: 01/08/2014
Data Release Frequency: Semi-Annually

Local Lists of Landfill / Solid Waste Disposal Sites

ODI: Open Dump Inventory
An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985
Date Data Arrived at EDR: 08/09/2004
Date Made Active in Reports: 09/17/2004
Number of Days to Update: 39

Source: Environmental Protection Agency
Telephone: 800-424-9346
Last EDR Contact: 06/09/2004
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

DEBRIS REGION 9: Torres Martinez Reservation Illegal Dump Site Locations
A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside County and northern Imperial County, California.

Date of Government Version: 01/12/2009
Date Data Arrived at EDR: 05/07/2009
Date Made Active in Reports: 09/21/2009
Number of Days to Update: 137

Source: EPA, Region 9
Telephone: 415-947-4219
Last EDR Contact: 07/26/2013
Next Scheduled EDR Contact: 11/11/2013
Data Release Frequency: No Update Planned

WMUDS/SWAT: Waste Management Unit Database
Waste Management Unit Database System. WMUDS is used by the State Water Resources Control Board staff and the Regional Water Quality Control Boards for program tracking and inventory of waste management units. WMUDS is composed of the following databases: Facility Information, Scheduled Inspections Information, Waste Management Unit Information, SWAT Program Information, SWAT Report Summary Information, SWAT Report Summary Data, Chapter 15 (formerly Subchapter 15) Information, Chapter 15 Monitoring Parameters, TPCA Program Information, RCRA Program Information, Closure Information, and Interested Parties Information.

Date of Government Version: 04/01/2000
Date Data Arrived at EDR: 04/10/2000
Date Made Active in Reports: 05/10/2000
Number of Days to Update: 30

Source: State Water Resources Control Board
Telephone: 916-227-4448
Last EDR Contact: 08/07/2013
Next Scheduled EDR Contact: 11/25/2013
Data Release Frequency: No Update Planned

SWRCY: Recycler Database
A listing of recycling facilities in California.

Date of Government Version: 06/17/2013
Date Data Arrived at EDR: 06/17/2013
Date Made Active in Reports: 08/16/2013
Number of Days to Update: 60

Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 09/16/2013
Next Scheduled EDR Contact: 12/30/2013
Data Release Frequency: Quarterly

HAULERS: Registered Waste Tire Haulers Listing
A listing of registered waste tire haulers.

Date of Government Version: 04/26/2013
Date Data Arrived at EDR: 04/26/2013
Date Made Active in Reports: 05/16/2013
Number of Days to Update: 20

Source: Integrated Waste Management Board
Telephone: 916-341-6422
Last EDR Contact: 09/10/2013
Next Scheduled EDR Contact: 12/02/2013
Data Release Frequency: Varies

INDIAN ODI: Report on the Status of Open Dumps on Indian Lands
Location of open dumps on Indian land.

Date of Government Version: 12/31/1998
Date Data Arrived at EDR: 12/03/2007
Date Made Active in Reports: 01/24/2008
Number of Days to Update: 52

Source: Environmental Protection Agency
Telephone: 703-308-8245
Last EDR Contact: 07/31/2013
Next Scheduled EDR Contact: 11/18/2013
Data Release Frequency: Varies

Local Lists of Hazardous waste / Contaminated Sites

US CDL: Clandestine Drug Labs
A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 03/04/2013
Date Data Arrived at EDR: 03/12/2013
Date Made Active in Reports: 05/10/2013
Number of Days to Update: 59

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 09/04/2013
Next Scheduled EDR Contact: 12/16/2013
Data Release Frequency: Quarterly

HIST CAL-SITES: Calsites Database

The Calsites database contains potential or confirmed hazardous substance release properties. In 1996, California EPA reevaluated and significantly reduced the number of sites in the Calsites database. No longer updated by the state agency. It has been replaced by ENVIROSTOR.

Date of Government Version: 08/08/2005
Date Data Arrived at EDR: 08/03/2006
Date Made Active in Reports: 08/24/2006
Number of Days to Update: 21

Source: Department of Toxic Substance Control
Telephone: 916-323-3400
Last EDR Contact: 02/23/2009
Next Scheduled EDR Contact: 05/25/2009
Data Release Frequency: No Update Planned

SCH: School Property Evaluation Program

This category contains proposed and existing school sites that are being evaluated by DTSC for possible hazardous materials contamination. In some cases, these properties may be listed in the CalSites category depending on the level of threat to public health and safety or the environment they pose.

Date of Government Version: 08/05/2013
Date Data Arrived at EDR: 08/05/2013
Date Made Active in Reports: 08/27/2013
Number of Days to Update: 22

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 09/05/2013
Next Scheduled EDR Contact: 11/18/2013
Data Release Frequency: Quarterly

TOXIC PITS: Toxic Pits Cleanup Act Sites

Toxic PITS Cleanup Act Sites. TOXIC PITS identifies sites suspected of containing hazardous substances where cleanup has not yet been completed.

Date of Government Version: 07/01/1995
Date Data Arrived at EDR: 08/30/1995
Date Made Active in Reports: 09/26/1995
Number of Days to Update: 27

Source: State Water Resources Control Board
Telephone: 916-227-4364
Last EDR Contact: 01/26/2009
Next Scheduled EDR Contact: 04/27/2009
Data Release Frequency: No Update Planned

CDL: Clandestine Drug Labs

A listing of drug lab locations. Listing of a location in this database does not indicate that any illegal drug lab materials were or were not present there, and does not constitute a determination that the location either requires or does not require additional cleanup work.

Date of Government Version: 12/31/2012
Date Data Arrived at EDR: 04/03/2013
Date Made Active in Reports: 05/14/2013
Number of Days to Update: 41

Source: Department of Toxic Substances Control
Telephone: 916-255-6504
Last EDR Contact: 09/03/2013
Next Scheduled EDR Contact: 10/14/2013
Data Release Frequency: Varies

US HIST CDL: National Clandestine Laboratory Register

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 09/01/2007
Date Data Arrived at EDR: 11/19/2008
Date Made Active in Reports: 03/30/2009
Number of Days to Update: 131

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 03/23/2009
Next Scheduled EDR Contact: 06/22/2009
Data Release Frequency: No Update Planned

Local Lists of Registered Storage Tanks

CA FID UST: Facility Inventory Database

The Facility Inventory Database (FID) contains a historical listing of active and inactive underground storage tank locations from the State Water Resource Control Board. Refer to local/county source for current data.

Date of Government Version: 10/31/1994
Date Data Arrived at EDR: 09/05/1995
Date Made Active in Reports: 09/29/1995
Number of Days to Update: 24

Source: California Environmental Protection Agency
Telephone: 916-341-5851
Last EDR Contact: 12/28/1998
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

UST MENDOCINO: Mendocino County UST Database

A listing of underground storage tank locations in Mendocino County.

Date of Government Version: 09/23/2009
Date Data Arrived at EDR: 09/23/2009
Date Made Active in Reports: 10/01/2009
Number of Days to Update: 8

Source: Department of Public Health
Telephone: 707-463-4466
Last EDR Contact: 09/03/2013
Next Scheduled EDR Contact: 12/16/2013
Data Release Frequency: Annually

HIST UST: Hazardous Substance Storage Container Database

The Hazardous Substance Storage Container Database is a historical listing of UST sites. Refer to local/county source for current data.

Date of Government Version: 10/15/1990
Date Data Arrived at EDR: 01/25/1991
Date Made Active in Reports: 02/12/1991
Number of Days to Update: 18

Source: State Water Resources Control Board
Telephone: 916-341-5851
Last EDR Contact: 07/26/2001
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

SWEEPS UST: SWEEPS UST Listing

Statewide Environmental Evaluation and Planning System. This underground storage tank listing was updated and maintained by a company contacted by the SWRCB in the early 1990's. The listing is no longer updated or maintained. The local agency is the contact for more information on a site on the SWEEPS list.

Date of Government Version: 06/01/1994
Date Data Arrived at EDR: 07/07/2005
Date Made Active in Reports: 08/11/2005
Number of Days to Update: 35

Source: State Water Resources Control Board
Telephone: N/A
Last EDR Contact: 06/03/2005
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

Local Land Records

LIENS 2: CERCLA Lien Information

A Federal CERCLA ('Superfund') lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.

Date of Government Version: 02/06/2013
Date Data Arrived at EDR: 04/25/2013
Date Made Active in Reports: 05/10/2013
Number of Days to Update: 15

Source: Environmental Protection Agency
Telephone: 202-564-6023
Last EDR Contact: 07/24/2013
Next Scheduled EDR Contact: 11/11/2013
Data Release Frequency: Varies

LIENS: Environmental Liens Listing

A listing of property locations with environmental liens for California where DTSC is a lien holder.

Date of Government Version: 06/14/2013
Date Data Arrived at EDR: 06/17/2013
Date Made Active in Reports: 08/21/2013
Number of Days to Update: 65

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 09/23/2013
Next Scheduled EDR Contact: 12/23/2013
Data Release Frequency: Varies

DEED: Deed Restriction Listing

Site Mitigation and Brownfields Reuse Program Facility Sites with Deed Restrictions & Hazardous Waste Management Program Facility Sites with Deed / Land Use Restriction. The DTSC Site Mitigation and Brownfields Reuse Program (SMBRP) list includes sites cleaned up under the program's oversight and generally does not include current or former hazardous waste facilities that required a hazardous waste facility permit. The list represents deed restrictions that are active. Some sites have multiple deed restrictions. The DTSC Hazardous Waste Management Program (HWMP) has developed a list of current or former hazardous waste facilities that have a recorded land use restriction at the local county recorder's office. The land use restrictions on this list were required by the DTSC HWMP as a result of the presence of hazardous substances that remain on site after the facility (or part of the facility) has been closed or cleaned up. The types of land use restriction include deed notice, deed restriction, or a land use restriction that binds current and future owners.

Date of Government Version: 06/10/2013
Date Data Arrived at EDR: 06/11/2013
Date Made Active in Reports: 08/21/2013
Number of Days to Update: 71

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 09/11/2013
Next Scheduled EDR Contact: 12/23/2013
Data Release Frequency: Semi-Annually

Records of Emergency Release Reports

HMIRS: Hazardous Materials Information Reporting System

Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 12/31/2012
Date Data Arrived at EDR: 01/03/2013
Date Made Active in Reports: 02/27/2013
Number of Days to Update: 55

Source: U.S. Department of Transportation
Telephone: 202-366-4555
Last EDR Contact: 07/01/2013
Next Scheduled EDR Contact: 10/14/2013
Data Release Frequency: Annually

CHMIRS: California Hazardous Material Incident Report System

California Hazardous Material Incident Reporting System. CHMIRS contains information on reported hazardous material incidents (accidental releases or spills).

Date of Government Version: 03/12/2013
Date Data Arrived at EDR: 05/01/2013
Date Made Active in Reports: 06/25/2013
Number of Days to Update: 55

Source: Office of Emergency Services
Telephone: 916-845-8400
Last EDR Contact: 08/02/2013
Next Scheduled EDR Contact: 11/11/2013
Data Release Frequency: Varies

LDS: Land Disposal Sites Listing

The Land Disposal program regulates of waste discharge to land for treatment, storage and disposal in waste management units.

Date of Government Version: 07/26/2013
Date Data Arrived at EDR: 07/26/2013
Date Made Active in Reports: 08/26/2013
Number of Days to Update: 31

Source: State Water Qualilty Control Board
Telephone: 866-480-1028
Last EDR Contact: 09/17/2013
Next Scheduled EDR Contact: 12/30/2013
Data Release Frequency: Quarterly

MCS: Military Cleanup Sites Listing

The State Water Resources Control Board and nine Regional Water Quality Control Boards partner with the Department of Defense (DoD) through the Defense and State Memorandum of Agreement (DSMOA) to oversee the investigation and remediation of water quality issues at military facilities.

Date of Government Version: 07/26/2013
Date Data Arrived at EDR: 07/26/2013
Date Made Active in Reports: 08/26/2013
Number of Days to Update: 31

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 09/17/2013
Next Scheduled EDR Contact: 12/30/2013
Data Release Frequency: Quarterly

SPILLS 90: SPILLS90 data from FirstSearch

Spills 90 includes those spill and release records available exclusively from FirstSearch databases. Typically, they may include chemical, oil and/or hazardous substance spills recorded after 1990. Duplicate records that are already included in EDR incident and release records are not included in Spills 90.

Date of Government Version: 06/06/2012
Date Data Arrived at EDR: 01/03/2013
Date Made Active in Reports: 02/22/2013
Number of Days to Update: 50

Source: FirstSearch
Telephone: N/A
Last EDR Contact: 01/03/2013
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

Other Ascertainable Records

RCRA NonGen / NLR: RCRA - Non Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

Date of Government Version: 07/11/2013
Date Data Arrived at EDR: 08/08/2013
Date Made Active in Reports: 09/13/2013
Number of Days to Update: 36

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 08/08/2013
Next Scheduled EDR Contact: 10/14/2013
Data Release Frequency: Varies

DOT OPS: Incident and Accident Data

Department of Transporation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 07/31/2012
Date Data Arrived at EDR: 08/07/2012
Date Made Active in Reports: 09/18/2012
Number of Days to Update: 42

Source: Department of Transporation, Office of Pipeline Safety
Telephone: 202-366-4595
Last EDR Contact: 08/05/2013
Next Scheduled EDR Contact: 11/18/2013
Data Release Frequency: Varies

DOD: Department of Defense Sites

This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 11/10/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 62

Source: USGS
Telephone: 888-275-8747
Last EDR Contact: 07/19/2013
Next Scheduled EDR Contact: 10/28/2013
Data Release Frequency: Semi-Annually

FUDS: Formerly Used Defense Sites

The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 12/31/2011
Date Data Arrived at EDR: 02/26/2013
Date Made Active in Reports: 03/13/2013
Number of Days to Update: 15

Source: U.S. Army Corps of Engineers
Telephone: 202-528-4285
Last EDR Contact: 09/10/2013
Next Scheduled EDR Contact: 12/23/2013
Data Release Frequency: Varies

CONSENT: Superfund (CERCLA) Consent Decrees

Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 12/31/2011
Date Data Arrived at EDR: 01/15/2013
Date Made Active in Reports: 03/13/2013
Number of Days to Update: 57

Source: Department of Justice, Consent Decree Library
Telephone: Varies
Last EDR Contact: 06/25/2013
Next Scheduled EDR Contact: 10/14/2013
Data Release Frequency: Varies

ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 12/18/2012
Date Data Arrived at EDR: 03/13/2013
Date Made Active in Reports: 04/12/2013
Number of Days to Update: 30

Source: EPA
Telephone: 703-416-0223
Last EDR Contact: 09/13/2013
Next Scheduled EDR Contact: 12/23/2013
Data Release Frequency: Annually

UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

Date of Government Version: 09/14/2010
Date Data Arrived at EDR: 10/07/2011
Date Made Active in Reports: 03/01/2012
Number of Days to Update: 146

Source: Department of Energy
Telephone: 505-845-0011
Last EDR Contact: 05/28/2013
Next Scheduled EDR Contact: 09/09/2013
Data Release Frequency: Varies

US MINES: Mines Master Index File

Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 02/05/2013
Date Data Arrived at EDR: 04/18/2013
Date Made Active in Reports: 05/10/2013
Number of Days to Update: 22

Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959
Last EDR Contact: 09/05/2013
Next Scheduled EDR Contact: 12/16/2013
Data Release Frequency: Semi-Annually

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/2011
Date Data Arrived at EDR: 07/31/2013
Date Made Active in Reports: 09/13/2013
Number of Days to Update: 44

Source: EPA
Telephone: 202-566-0250
Last EDR Contact: 08/30/2013
Next Scheduled EDR Contact: 12/09/2013
Data Release Frequency: Annually

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2006
Date Data Arrived at EDR: 09/29/2010
Date Made Active in Reports: 12/02/2010
Number of Days to Update: 64

Source: EPA
Telephone: 202-260-5521
Last EDR Contact: 09/24/2013
Next Scheduled EDR Contact: 01/08/2014
Data Release Frequency: Every 4 Years

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Telephone: 202-566-1667
Last EDR Contact: 08/22/2013
Next Scheduled EDR Contact: 12/09/2013
Data Release Frequency: Quarterly

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
A listing of FIFRA/TSCA Tracking System (FTTS) inspections and enforcements.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA
Telephone: 202-566-1667
Last EDR Contact: 08/22/2013
Next Scheduled EDR Contact: 12/09/2013
Data Release Frequency: Quarterly

HIST FTTS: FIFRA/TSCA Tracking System Administrative Case Listing
A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2007
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

HIST FTTS INSP: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing
A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2008
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

SSTS: Section 7 Tracking Systems
Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 12/31/2009
Date Data Arrived at EDR: 12/10/2010
Date Made Active in Reports: 02/25/2011
Number of Days to Update: 77

Source: EPA
Telephone: 202-564-4203
Last EDR Contact: 07/24/2013
Next Scheduled EDR Contact: 11/11/2013
Data Release Frequency: Annually

ICIS: Integrated Compliance Information System

The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 07/20/2011
Date Data Arrived at EDR: 11/10/2011
Date Made Active in Reports: 01/10/2012
Number of Days to Update: 61

Source: Environmental Protection Agency
Telephone: 202-564-5088
Last EDR Contact: 07/01/2013
Next Scheduled EDR Contact: 10/28/2013
Data Release Frequency: Quarterly

PADS: PCB Activity Database System

PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 11/01/2012
Date Data Arrived at EDR: 01/16/2013
Date Made Active in Reports: 05/10/2013
Number of Days to Update: 114

Source: EPA
Telephone: 202-566-0500
Last EDR Contact: 07/17/2013
Next Scheduled EDR Contact: 10/28/2013
Data Release Frequency: Annually

MLTS: Material Licensing Tracking System

MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 03/14/2013
Date Data Arrived at EDR: 03/20/2013
Date Made Active in Reports: 07/10/2013
Number of Days to Update: 112

Source: Nuclear Regulatory Commission
Telephone: 301-415-7169
Last EDR Contact: 09/10/2013
Next Scheduled EDR Contact: 12/23/2013
Data Release Frequency: Quarterly

RADINFO: Radiation Information Database

The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S. Environmental Protection Agency (EPA) regulations for radiation and radioactivity.

Date of Government Version: 04/09/2013
Date Data Arrived at EDR: 04/11/2013
Date Made Active in Reports: 05/10/2013
Number of Days to Update: 29

Source: Environmental Protection Agency
Telephone: 202-343-9775
Last EDR Contact: 07/12/2013
Next Scheduled EDR Contact: 10/21/2013
Data Release Frequency: Quarterly

FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 03/08/2013
Date Data Arrived at EDR: 03/21/2013
Date Made Active in Reports: 07/10/2013
Number of Days to Update: 111

Source: EPA
Telephone: (415) 947-8000
Last EDR Contact: 09/11/2013
Next Scheduled EDR Contact: 12/23/2013
Data Release Frequency: Quarterly

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995
Date Data Arrived at EDR: 07/03/1995
Date Made Active in Reports: 08/07/1995
Number of Days to Update: 35

Source: EPA
Telephone: 202-564-4104
Last EDR Contact: 06/02/2008
Next Scheduled EDR Contact: 09/01/2008
Data Release Frequency: No Update Planned

RMP: Risk Management Plans

When Congress passed the Clean Air Act Amendments of 1990, it required EPA to publish regulations and guidance for chemical accident prevention at facilities using extremely hazardous substances. The Risk Management Program Rule (RMP Rule) was written to implement Section 112(r) of these amendments. The rule, which built upon existing industry codes and standards, requires companies of all sizes that use certain flammable and toxic substances to develop a Risk Management Program, which includes a(n): Hazard assessment that details the potential effects of an accidental release, an accident history of the last five years, and an evaluation of worst-case and alternative accidental releases; Prevention program that includes safety precautions and maintenance, monitoring, and employee training measures; and Emergency response program that spells out emergency health care, employee training measures and procedures for informing the public and response agencies (e.g the fire department) should an accident occur.

Date of Government Version: 05/08/2012
Date Data Arrived at EDR: 05/25/2012
Date Made Active in Reports: 07/10/2012
Number of Days to Update: 46

Source: Environmental Protection Agency
Telephone: 202-564-8600
Last EDR Contact: 07/24/2013
Next Scheduled EDR Contact: 11/11/2013
Data Release Frequency: Varies

BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2011
Date Data Arrived at EDR: 02/26/2013
Date Made Active in Reports: 04/19/2013
Number of Days to Update: 52

Source: EPA/NTIS
Telephone: 800-424-9346
Last EDR Contact: 08/26/2013
Next Scheduled EDR Contact: 12/09/2013
Data Release Frequency: Biennially

CA BOND EXP. PLAN: Bond Expenditure Plan

Department of Health Services developed a site-specific expenditure plan as the basis for an appropriation of Hazardous Substance Cleanup Bond Act funds. It is not updated.

Date of Government Version: 01/01/1989
Date Data Arrived at EDR: 07/27/1994
Date Made Active in Reports: 08/02/1994
Number of Days to Update: 6

Source: Department of Health Services
Telephone: 916-255-2118
Last EDR Contact: 05/31/1994
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

NPDES: NPDES Permits Listing

A listing of NPDES permits, including stormwater.

Date of Government Version: 05/20/2013
Date Data Arrived at EDR: 05/21/2013
Date Made Active in Reports: 06/12/2013
Number of Days to Update: 22

Source: State Water Resources Control Board
Telephone: 916-445-9379
Last EDR Contact: 08/19/2013
Next Scheduled EDR Contact: 12/02/2013
Data Release Frequency: Quarterly

UIC: UIC Listing

A listing of underground control injection wells.

Date of Government Version: 03/05/2013
Date Data Arrived at EDR: 03/19/2013
Date Made Active in Reports: 03/27/2013
Number of Days to Update: 8

Source: Deaprtment of Conservation
Telephone: 916-445-2408
Last EDR Contact: 09/17/2013
Next Scheduled EDR Contact: 12/30/2013
Data Release Frequency: Varies

CORTESE: "Cortese" Hazardous Waste & Substances Sites List
The sites for the list are designated by the State Water Resource Control Board (LUST), the Integrated Waste Board (SWF/LS), and the Department of Toxic Substances Control (Cal-Sites).

Date of Government Version: 07/05/2013
Date Data Arrived at EDR: 07/05/2013
Date Made Active in Reports: 08/26/2013
Number of Days to Update: 52

Source: CAL EPA/Office of Emergency Information
Telephone: 916-323-3400
Last EDR Contact: 07/05/2013
Next Scheduled EDR Contact: 10/14/2013
Data Release Frequency: Quarterly

HIST CORTESE: Hazardous Waste & Substance Site List
The sites for the list are designated by the State Water Resource Control Board [LUST], the Integrated Waste Board [SWF/LS], and the Department of Toxic Substances Control [CALSITES]. This listing is no longer updated by the state agency.

Date of Government Version: 04/01/2001
Date Data Arrived at EDR: 01/22/2009
Date Made Active in Reports: 04/08/2009
Number of Days to Update: 76

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 01/22/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

NOTIFY 65: Proposition 65 Records
Listings of all Proposition 65 incidents reported to counties by the State Water Resources Control Board and the Regional Water Quality Control Board. This database is no longer updated by the reporting agency.

Date of Government Version: 10/21/1993
Date Data Arrived at EDR: 11/01/1993
Date Made Active in Reports: 11/19/1993
Number of Days to Update: 18

Source: State Water Resources Control Board
Telephone: 916-445-3846
Last EDR Contact: 09/23/2013
Next Scheduled EDR Contact: 01/08/2014
Data Release Frequency: No Update Planned

DRYCLEANERS: Cleaner Facilities
A list of drycleaner related facilities that have EPA ID numbers. These are facilities with certain SIC codes: power laundries, family and commercial; garment pressing and cleaner's agents; linen supply; coin-operated laundries and cleaning; drycleaning plants, except rugs; carpet and upholster cleaning; industrial launderers; laundry and garment services.

Date of Government Version: 12/11/2012
Date Data Arrived at EDR: 12/12/2012
Date Made Active in Reports: 01/04/2013
Number of Days to Update: 23

Source: Department of Toxic Substance Control
Telephone: 916-327-4498
Last EDR Contact: 09/10/2013
Next Scheduled EDR Contact: 12/24/2012
Data Release Frequency: Annually

WIP: Well Investigation Program Case List
Well Investigation Program case in the San Gabriel and San Fernando Valley area.

Date of Government Version: 07/03/2009
Date Data Arrived at EDR: 07/21/2009
Date Made Active in Reports: 08/03/2009
Number of Days to Update: 13

Source: Los Angeles Water Quality Control Board
Telephone: 213-576-6726
Last EDR Contact: 06/25/2013
Next Scheduled EDR Contact: 10/14/2013
Data Release Frequency: Varies

ENF: Enforcement Action Listing
A listing of Water Board Enforcement Actions. Formal is everything except Oral/Verbal Communication, Notice of Violation, Expedited Payment Letter, and Staff Enforcement Letter.

Date of Government Version: 04/26/2013
Date Data Arrived at EDR: 04/29/2013
Date Made Active in Reports: 05/16/2013
Number of Days to Update: 17

Source: State Water Resoruces Control Board
Telephone: 916-445-9379
Last EDR Contact: 08/08/2013
Next Scheduled EDR Contact: 11/11/2013
Data Release Frequency: Varies

HAZNET: Facility and Manifest Data

Facility and Manifest Data. The data is extracted from the copies of hazardous waste manifests received each year by the DTSC. The annual volume of manifests is typically 700,000 - 1,000,000 annually, representing approximately 350,000 - 500,000 shipments. Data are from the manifests submitted without correction, and therefore many contain some invalid values for data elements such as generator ID, TSD ID, waste category, and disposal method.

Date of Government Version: 12/31/2012
Date Data Arrived at EDR: 07/16/2013
Date Made Active in Reports: 08/26/2013
Number of Days to Update: 41

Source: California Environmental Protection Agency
Telephone: 916-255-1136
Last EDR Contact: 07/16/2013
Next Scheduled EDR Contact: 10/28/2013
Data Release Frequency: Annually

EMI: Emissions Inventory Data

Toxics and criteria pollutant emissions data collected by the ARB and local air pollution agencies.

Date of Government Version: 12/31/2010
Date Data Arrived at EDR: 06/25/2013
Date Made Active in Reports: 08/22/2013
Number of Days to Update: 58

Source: California Air Resources Board
Telephone: 916-322-2990
Last EDR Contact: 06/25/2013
Next Scheduled EDR Contact: 10/07/2013
Data Release Frequency: Varies

INDIAN RESERV: Indian Reservations

This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 12/08/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 34

Source: USGS
Telephone: 202-208-3710
Last EDR Contact: 07/19/2013
Next Scheduled EDR Contact: 10/28/2013
Data Release Frequency: Semi-Annually

SCRD DRYCLEANERS: State Coalition for Remediation of Drycleaners Listing

The State Coalition for Remediation of Drycleaners was established in 1998, with support from the U.S. EPA Office of Superfund Remediation and Technology Innovation. It is comprised of representatives of states with established drycleaner remediation programs. Currently the member states are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

Date of Government Version: 03/07/2011
Date Data Arrived at EDR: 03/09/2011
Date Made Active in Reports: 05/02/2011
Number of Days to Update: 54

Source: Environmental Protection Agency
Telephone: 615-532-8599
Last EDR Contact: 08/01/2013
Next Scheduled EDR Contact: 11/04/2013
Data Release Frequency: Varies

US FIN ASSUR: Financial Assurance Information

All owners and operators of facilities that treat, store, or dispose of hazardous waste are required to provide proof that they will have sufficient funds to pay for the clean up, closure, and post-closure care of their facilities.

Date of Government Version: 03/04/2013
Date Data Arrived at EDR: 03/15/2013
Date Made Active in Reports: 05/10/2013
Number of Days to Update: 56

Source: Environmental Protection Agency
Telephone: 202-566-1917
Last EDR Contact: 08/23/2013
Next Scheduled EDR Contact: 12/02/2013
Data Release Frequency: Quarterly

PCB TRANSFORMER: PCB Transformer Registration Database

The database of PCB transformer registrations that includes all PCB registration submittals.

Date of Government Version: 02/01/2011
Date Data Arrived at EDR: 10/19/2011
Date Made Active in Reports: 01/10/2012
Number of Days to Update: 83

Source: Environmental Protection Agency
Telephone: 202-566-0517
Last EDR Contact: 08/02/2013
Next Scheduled EDR Contact: 11/11/2013
Data Release Frequency: Varies

PROC: Certified Processors Database
A listing of certified processors.

Date of Government Version: 06/17/2013
Date Data Arrived at EDR: 06/17/2013
Date Made Active in Reports: 08/21/2013
Number of Days to Update: 65

Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 09/16/2013
Next Scheduled EDR Contact: 12/30/2013
Data Release Frequency: Quarterly

MWMP: Medical Waste Management Program Listing
The Medical Waste Management Program (MWMP) ensures the proper handling and disposal of medical waste by permitting and inspecting medical waste Offsite Treatment Facilities (PDF) and Transfer Stations (PDF) throughout the state. MWMP also oversees all Medical Waste Transporters.

Date of Government Version: 05/02/2013
Date Data Arrived at EDR: 06/13/2013
Date Made Active in Reports: 07/24/2013
Number of Days to Update: 41

Source: Department of Public Health
Telephone: 916-558-1784
Last EDR Contact: 09/11/2013
Next Scheduled EDR Contact: 12/23/2013
Data Release Frequency: Varies

COAL ASH DOE: Sleam-Electric Plan Operation Data
A listing of power plants that store ash in surface ponds.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 08/07/2009
Date Made Active in Reports: 10/22/2009
Number of Days to Update: 76

Source: Department of Energy
Telephone: 202-586-8719
Last EDR Contact: 07/19/2013
Next Scheduled EDR Contact: 10/28/2013
Data Release Frequency: Varies

COAL ASH EPA: Coal Combustion Residues Surface Impoundments List
A listing of coal combustion residues surface impoundments with high hazard potential ratings.

Date of Government Version: 08/17/2010
Date Data Arrived at EDR: 01/03/2011
Date Made Active in Reports: 03/21/2011
Number of Days to Update: 77

Source: Environmental Protection Agency
Telephone: N/A
Last EDR Contact: 09/13/2013
Next Scheduled EDR Contact: 12/23/2013
Data Release Frequency: Varies

HWT: Registered Hazardous Waste Transporter Database
A listing of hazardous waste transporters. In California, unless specifically exempted, it is unlawful for any person to transport hazardous wastes unless the person holds a valid registration issued by DTSC. A hazardous waste transporter registration is valid for one year and is assigned a unique registration number.

Date of Government Version: 07/15/2013
Date Data Arrived at EDR: 07/16/2013
Date Made Active in Reports: 08/12/2013
Number of Days to Update: 27

Source: Department of Toxic Substances Control
Telephone: 916-440-7145
Last EDR Contact: 07/16/2013
Next Scheduled EDR Contact: 10/28/2013
Data Release Frequency: Quarterly

HWP: EnviroStor Permitted Facilities Listing
Detailed information on permitted hazardous waste facilities and corrective action ("cleanups") tracked in EnviroStor.

Date of Government Version: 05/28/2013
Date Data Arrived at EDR: 05/29/2013
Date Made Active in Reports: 06/27/2013
Number of Days to Update: 29

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 08/27/2013
Next Scheduled EDR Contact: 12/09/2013
Data Release Frequency: Quarterly

Financial Assurance 2: Financial Assurance Information Listing
A listing of financial assurance information for solid waste facilities. Financial assurance is intended to ensure that resources are available to pay for the cost of closure, post-closure care, and corrective measures if the owner or operator of a regulated facility is unable or unwilling to pay.

Date of Government Version: 05/21/2013
Date Data Arrived at EDR: 05/22/2013
Date Made Active in Reports: 06/27/2013
Number of Days to Update: 36

Source: California Integrated Waste Management Board
Telephone: 916-341-6066
Last EDR Contact: 08/15/2013
Next Scheduled EDR Contact: 12/02/2013
Data Release Frequency: Varies

Financial Assurance 1: Financial Assurance Information Listing
Financial Assurance information

Date of Government Version: 06/30/2013
Date Data Arrived at EDR: 08/08/2013
Date Made Active in Reports: 08/27/2013
Number of Days to Update: 19

Source: Department of Toxic Substances Control
Telephone: 916-255-3628
Last EDR Contact: 08/26/2013
Next Scheduled EDR Contact: 11/11/2013
Data Release Frequency: Varies

LEAD SMELTER 1: Lead Smelter Sites
A listing of former lead smelter site locations.

Date of Government Version: 01/29/2013
Date Data Arrived at EDR: 02/14/2013
Date Made Active in Reports: 02/27/2013
Number of Days to Update: 13

Source: Environmental Protection Agency
Telephone: 703-603-8787
Last EDR Contact: 09/24/2013
Next Scheduled EDR Contact: 10/21/2013
Data Release Frequency: Varies

LEAD SMELTER 2: Lead Smelter Sites
A list of several hundred sites in the U.S. where secondary lead smelting was done from 1931and 1964. These sites may pose a threat to public health through ingestion or inhalation of contaminated soil or dust

Date of Government Version: 04/05/2001
Date Data Arrived at EDR: 10/27/2010
Date Made Active in Reports: 12/02/2010
Number of Days to Update: 36

Source: American Journal of Public Health
Telephone: 703-305-6451
Last EDR Contact: 12/02/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

2020 COR ACTION: 2020 Corrective Action Program List
The EPA has set ambitious goals for the RCRA Corrective Action program by creating the 2020 Corrective Action Universe. This RCRA cleanup baseline includes facilities expected to need corrective action. The 2020 universe contains a wide variety of sites. Some properties are heavily contaminated while others were contaminated but have since been cleaned up. Still others have not been fully investigated yet, and may require little or no remediation. Inclusion in the 2020 Universe does not necessarily imply failure on the part of a facility to meet its RCRA obligations.

Date of Government Version: 11/11/2011
Date Data Arrived at EDR: 05/18/2012
Date Made Active in Reports: 05/25/2012
Number of Days to Update: 7

Source: Environmental Protection Agency
Telephone: 703-308-4044
Last EDR Contact: 08/16/2013
Next Scheduled EDR Contact: 11/25/2013
Data Release Frequency: Varies

FEDLAND: Federal and Indian Lands
Federally and Indian administrated lands of the United States. Lands included are administrated by: Army Corps of Engineers, Bureau of Reclamation, National Wild and Scenic River, National Wildlife Refuge, Public Domain Land, Wilderness, Wilderness Study Area, Wildlife Management Area, Bureau of Indian Affairs, Bureau of Land Management, Department of Justice, Forest Service, Fish and Wildlife Service, National Park Service.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 02/06/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 339

Source: U.S. Geological Survey
Telephone: 888-275-8747
Last EDR Contact: 07/19/2013
Next Scheduled EDR Contact: 10/28/2013
Data Release Frequency: N/A

PRP: Potentially Responsible Parties
A listing of verified Potentially Responsible Parties

Date of Government Version: 04/15/2013
Date Data Arrived at EDR: 07/03/2013
Date Made Active in Reports: 09/13/2013
Number of Days to Update: 72

Source: EPA
Telephone: 202-564-6023
Last EDR Contact: 07/03/2013
Next Scheduled EDR Contact: 10/14/2013
Data Release Frequency: Quarterly

WDS: Waste Discharge System
Sites which have been issued waste discharge requirements.

Date of Government Version: 06/19/2007
Date Data Arrived at EDR: 06/20/2007
Date Made Active in Reports: 06/29/2007
Number of Days to Update: 9

Source: State Water Resources Control Board
Telephone: 916-341-5227
Last EDR Contact: 08/22/2013
Next Scheduled EDR Contact: 12/09/2013
Data Release Frequency: Quarterly

US AIRS (AFS): Aerometric Information Retrieval System Facility Subsystem (AFS)
The database is a sub-system of Aerometric Information Retrieval System (AIRS). AFS contains compliance data on air pollution point sources regulated by the U.S. EPA and/or state and local air regulatory agencies. This information comes from source reports by various stationary sources of air pollution, such as electric power plants, steel mills, factories, and universities, and provides information about the air pollutants they produce. Action, air program, air program pollutant, and general level plant data. It is used to track emissions and compliance data from industrial plants.

Date of Government Version: 01/23/2013
Date Data Arrived at EDR: 01/30/2013
Date Made Active in Reports: 05/10/2013
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-5962
Last EDR Contact: 06/25/2013
Next Scheduled EDR Contact: 10/14/2013
Data Release Frequency: Annually

US AIRS MINOR: Air Facility System Data
A listing of minor source facilities.

Date of Government Version: 01/23/2013
Date Data Arrived at EDR: 01/30/2013
Date Made Active in Reports: 05/10/2013
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-5962
Last EDR Contact: 06/25/2013
Next Scheduled EDR Contact: 10/14/2013
Data Release Frequency: Annually

EPA WATCH LIST: EPA WATCH LIST
EPA maintains a "Watch List" to facilitate dialogue between EPA, state and local environmental agencies on enforcement matters relating to facilities with alleged violations identified as either significant or high priority. Being on the Watch List does not mean that the facility has actually violated the law only that an investigation by EPA or a state or local environmental agency has led those organizations to allege that an unproven violation has in fact occurred. Being on the Watch List does not represent a higher level of concern regarding the alleged violations that were detected, but instead indicates cases requiring additional dialogue between EPA, state and local agencies - primarily because of the length of time the alleged violation has gone unaddressed or unresolved.

Date of Government Version: 06/30/2013
Date Data Arrived at EDR: 08/13/2013
Date Made Active in Reports: 09/13/2013
Number of Days to Update: 31

Source: Environmental Protection Agency
Telephone: 617-520-3000
Last EDR Contact: 08/07/2013
Next Scheduled EDR Contact: 11/25/2013
Data Release Frequency: Quarterly

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP: EDR Proprietary Manufactured Gas Plants

The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

EDR US Hist Auto Stat: EDR Exclusive Historic Gas Stations

EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR US Hist Cleaners: EDR Exclusive Historic Dry Cleaners

EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR US Hist Cleaners: EDR Proprietary Historic Dry Cleaners - Cole

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: N/A
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR US Hist Auto Stat: EDR Proprietary Historic Gas Stations - Cole

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: N/A
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

COUNTY RECORDS

ALAMEDA COUNTY:

Contaminated Sites
A listing of contaminated sites overseen by the Toxic Release Program (oil and groundwater contamination from chemical releases and spills) and the Leaking Underground Storage Tank Program (soil and ground water contamination from leaking petroleum USTs).

Date of Government Version: 07/25/2013
Date Data Arrived at EDR: 07/26/2013
Date Made Active in Reports: 08/09/2013
Number of Days to Update: 14

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 06/28/2013
Next Scheduled EDR Contact: 10/14/2013
Data Release Frequency: Semi-Annually

Underground Tanks
Underground storage tank sites located in Alameda county.

Date of Government Version: 07/25/2013
Date Data Arrived at EDR: 07/26/2013
Date Made Active in Reports: 08/20/2013
Number of Days to Update: 25

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 06/28/2013
Next Scheduled EDR Contact: 10/14/2013
Data Release Frequency: Semi-Annually

AMADOR COUNTY:

CUPA Facility List
Cupa Facility List

Date of Government Version: 06/20/2013
Date Data Arrived at EDR: 06/21/2013
Date Made Active in Reports: 08/21/2013
Number of Days to Update: 61

Source: Amador County Environmental Health
Telephone: 209-223-6439
Last EDR Contact: 09/10/2013
Next Scheduled EDR Contact: 12/23/2013
Data Release Frequency: Varies

BUTTE COUNTY:

CUPA Facility Listing
Cupa facility list.

Date of Government Version: 08/01/2013
Date Data Arrived at EDR: 08/02/2013
Date Made Active in Reports: 08/22/2013
Number of Days to Update: 20

Source: Public Health Department
Telephone: 530-538-7149
Last EDR Contact: 07/26/2013
Next Scheduled EDR Contact: 10/28/2013
Data Release Frequency: Varies

CALVERAS COUNTY:

CUPA Facility Listing
Cupa Facility Listing

Date of Government Version: 06/30/2013
Date Data Arrived at EDR: 07/24/2013
Date Made Active in Reports: 08/09/2013
Number of Days to Update: 16

Source: Calveras County Environmental Health
Telephone: 209-754-6399
Last EDR Contact: 06/25/2013
Next Scheduled EDR Contact: 10/14/2013
Data Release Frequency: Quarterly

COLUSA COUNTY:

CUPA Facility List
Cupa facility list.

Date of Government Version: 06/20/2013
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 08/09/2013
Number of Days to Update: 39

Source: Health & Human Services
Telephone: 530-458-0396
Last EDR Contact: 08/08/2013
Next Scheduled EDR Contact: 11/25/2013
Data Release Frequency: Varies

CONTRA COSTA COUNTY:

Site List
List includes sites from the underground tank, hazardous waste generator and business plan/2185 programs.

Date of Government Version: 06/10/2013
Date Data Arrived at EDR: 06/11/2013
Date Made Active in Reports: 07/24/2013
Number of Days to Update: 43

Source: Contra Costa Health Services Department
Telephone: 925-646-2286
Last EDR Contact: 08/05/2013
Next Scheduled EDR Contact: 11/18/2013
Data Release Frequency: Semi-Annually

DEL NORTE COUNTY:

CUPA Facility List
Cupa Facility list

Date of Government Version: 01/09/2013
Date Data Arrived at EDR: 01/10/2013
Date Made Active in Reports: 02/25/2013
Number of Days to Update: 46

Source: Del Norte County Environmental Health Division
Telephone: 707-465-0426
Last EDR Contact: 09/20/2013
Next Scheduled EDR Contact: 08/19/2013
Data Release Frequency: Varies

EL DORADO COUNTY:

CUPA Facility List
CUPA facility list.

Date of Government Version: 05/20/2013
Date Data Arrived at EDR: 05/21/2013
Date Made Active in Reports: 06/25/2013
Number of Days to Update: 35

Source: El Dorado County Environmental Management Department
Telephone: 530-621-6623
Last EDR Contact: 08/05/2013
Next Scheduled EDR Contact: 11/18/2013
Data Release Frequency: Varies

FRESNO COUNTY:

CUPA Resources List
Certified Unified Program Agency. CUPA's are responsible for implementing a unified hazardous materials and hazardous waste management regulatory program. The agency provides oversight of businesses that deal with hazardous materials, operate underground storage tanks or aboveground storage tanks.

Date of Government Version: 06/30/2013
Date Data Arrived at EDR: 07/16/2013
Date Made Active in Reports: 07/24/2013
Number of Days to Update: 8

Source: Dept. of Community Health
Telephone: 559-445-3271
Last EDR Contact: 07/15/2013
Next Scheduled EDR Contact: 10/28/2013
Data Release Frequency: Semi-Annually

HUMBOLDT COUNTY:

CUPA Facility List
CUPA facility list.

Date of Government Version: 08/09/2013
Date Data Arrived at EDR: 08/09/2013
Date Made Active in Reports: 08/22/2013
Number of Days to Update: 13

Source: Humboldt County Environmental Health
Telephone: N/A
Last EDR Contact: 08/09/2013
Next Scheduled EDR Contact: 12/09/2013
Data Release Frequency: Varies

IMPERIAL COUNTY:

CUPA Facility List
Cupa facility list.

Date of Government Version: 07/26/2013
Date Data Arrived at EDR: 08/09/2013
Date Made Active in Reports: 08/22/2013
Number of Days to Update: 13

Source: San Diego Border Field Office
Telephone: 760-339-2777
Last EDR Contact: 08/08/2013
Next Scheduled EDR Contact: 11/11/2013
Data Release Frequency: Varies

INYO COUNTY:

CUPA Facility List
Cupa facility list.

Date of Government Version: 06/26/2012
Date Data Arrived at EDR: 06/27/2012
Date Made Active in Reports: 08/17/2012
Number of Days to Update: 51

Source: Inyo County Environmental Health Services
Telephone: 760-878-0238
Last EDR Contact: 09/10/2013
Next Scheduled EDR Contact: 12/09/2013
Data Release Frequency: Varies

KERN COUNTY:

Underground Storage Tank Sites & Tank Listing
Kern County Sites and Tanks Listing.

Date of Government Version: 08/31/2010
Date Data Arrived at EDR: 09/01/2010
Date Made Active in Reports: 09/30/2010
Number of Days to Update: 29

Source: Kern County Environment Health Services Department
Telephone: 661-862-8700
Last EDR Contact: 08/07/2013
Next Scheduled EDR Contact: 11/25/2013
Data Release Frequency: Quarterly

KINGS COUNTY:

CUPA Facility List
A listing of sites included in the county?s Certified Unified Program Agency database. California?s Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

Date of Government Version: 06/20/2013
Date Data Arrived at EDR: 06/24/2013
Date Made Active in Reports: 08/21/2013
Number of Days to Update: 58

Source: Kings County Department of Public Health
Telephone: 559-584-1411
Last EDR Contact: 08/22/2013
Next Scheduled EDR Contact: 12/09/2013
Data Release Frequency: Varies

LAKE COUNTY:

CUPA Facility List
Cupa facility list

Date of Government Version: 01/23/2013
Date Data Arrived at EDR: 01/25/2013
Date Made Active in Reports: 02/27/2013
Number of Days to Update: 33

Source: Lake County Environmental Health
Telephone: 707-263-1164
Last EDR Contact: 07/18/2013
Next Scheduled EDR Contact: 11/04/2013
Data Release Frequency: Varies

LOS ANGELES COUNTY:

San Gabriel Valley Areas of Concern
San Gabriel Valley areas where VOC contamination is at or above the MCL as designated by region 9 EPA office.

Date of Government Version: 03/30/2009
Date Data Arrived at EDR: 03/31/2009
Date Made Active in Reports: 10/23/2009
Number of Days to Update: 206

Source: EPA Region 9
Telephone: 415-972-3178
Last EDR Contact: 09/23/2013
Next Scheduled EDR Contact: 01/08/2014
Data Release Frequency: No Update Planned

HMS: Street Number List
Industrial Waste and Underground Storage Tank Sites.

Date of Government Version: 03/28/2013
Date Data Arrived at EDR: 06/17/2013
Date Made Active in Reports: 08/21/2013
Number of Days to Update: 65

Source: Department of Public Works
Telephone: 626-458-3517
Last EDR Contact: 07/15/2013
Next Scheduled EDR Contact: 10/28/2013
Data Release Frequency: Semi-Annually

List of Solid Waste Facilities
Solid Waste Facilities in Los Angeles County.

Date of Government Version: 07/22/2013
Date Data Arrived at EDR: 07/22/2013
Date Made Active in Reports: 08/26/2013
Number of Days to Update: 35

Source: La County Department of Public Works
Telephone: 818-458-5185
Last EDR Contact: 07/22/2013
Next Scheduled EDR Contact: 11/04/2013
Data Release Frequency: Varies

City of Los Angeles Landfills
Landfills owned and maintained by the City of Los Angeles.

Date of Government Version: 03/05/2009
Date Data Arrived at EDR: 03/10/2009
Date Made Active in Reports: 04/08/2009
Number of Days to Update: 29

Source: Engineering & Construction Division
Telephone: 213-473-7869
Last EDR Contact: 07/17/2013
Next Scheduled EDR Contact: 11/04/2013
Data Release Frequency: Varies

Site Mitigation List
Industrial sites that have had some sort of spill or complaint.

Date of Government Version: 01/30/2013
Date Data Arrived at EDR: 02/21/2013
Date Made Active in Reports: 03/25/2013
Number of Days to Update: 32

Source: Community Health Services
Telephone: 323-890-7806
Last EDR Contact: 07/17/2013
Next Scheduled EDR Contact: 11/04/2013
Data Release Frequency: Annually

City of El Segundo Underground Storage Tank
Underground storage tank sites located in El Segundo city.

Date of Government Version: 07/31/2013
Date Data Arrived at EDR: 08/01/2013
Date Made Active in Reports: 08/27/2013
Number of Days to Update: 26

Source: City of El Segundo Fire Department
Telephone: 310-524-2236
Last EDR Contact: 07/18/2013
Next Scheduled EDR Contact: 11/04/2013
Data Release Frequency: Semi-Annually

City of Long Beach Underground Storage Tank
Underground storage tank sites located in the city of Long Beach.

Date of Government Version: 03/28/2003
Date Data Arrived at EDR: 10/23/2003
Date Made Active in Reports: 11/26/2003
Number of Days to Update: 34

Source: City of Long Beach Fire Department
Telephone: 562-570-2563
Last EDR Contact: 07/26/2013
Next Scheduled EDR Contact: 11/11/2013
Data Release Frequency: Annually

City of Torrance Underground Storage Tank
Underground storage tank sites located in the city of Torrance.

Date of Government Version: 07/15/2013
Date Data Arrived at EDR: 07/18/2013
Date Made Active in Reports: 08/20/2013
Number of Days to Update: 33

Source: City of Torrance Fire Department
Telephone: 310-618-2973
Last EDR Contact: 07/15/2013
Next Scheduled EDR Contact: 10/28/2013
Data Release Frequency: Semi-Annually

MADERA COUNTY:

CUPA Facility List
A listing of sites included in the county?s Certified Unified Program Agency database. California?s Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

Date of Government Version: 04/15/2013
Date Data Arrived at EDR: 04/16/2013
Date Made Active in Reports: 05/17/2013
Number of Days to Update: 31

Source: Madera County Environmental Health
Telephone: 559-675-7823
Last EDR Contact: 08/22/2013
Next Scheduled EDR Contact: 12/09/2013
Data Release Frequency: Varies

MARIN COUNTY:

Underground Storage Tank Sites
Currently permitted USTs in Marin County.

Date of Government Version: 11/26/2012
Date Data Arrived at EDR: 11/28/2012
Date Made Active in Reports: 01/21/2013
Number of Days to Update: 54

Source: Public Works Department Waste Management
Telephone: 415-499-6647
Last EDR Contact: 07/18/2013
Next Scheduled EDR Contact: 10/21/2013
Data Release Frequency: Semi-Annually

MERCED COUNTY:

CUPA Facility List
CUPA facility list.

Date of Government Version: 05/28/2013
Date Data Arrived at EDR: 05/29/2013
Date Made Active in Reports: 06/25/2013
Number of Days to Update: 27

Source: Merced County Environmental Health
Telephone: 209-381-1094
Last EDR Contact: 08/22/2013
Next Scheduled EDR Contact: 12/09/2013
Data Release Frequency: Varies

MONO COUNTY:

CUPA Facility List
CUPA Facility List

Date of Government Version: 06/04/2013
Date Data Arrived at EDR: 06/05/2013
Date Made Active in Reports: 07/15/2013
Number of Days to Update: 40

Source: Mono County Health Department
Telephone: 760-932-5580
Last EDR Contact: 09/03/2013
Next Scheduled EDR Contact: 12/16/2013
Data Release Frequency: Varies

MONTEREY COUNTY:

CUPA Facility Listing
CUPA Program listing from the Environmental Health Division.

Date of Government Version: 06/21/2013
Date Data Arrived at EDR: 06/21/2013
Date Made Active in Reports: 08/21/2013
Number of Days to Update: 61

Source: Monterey County Health Department
Telephone: 831-796-1297
Last EDR Contact: 08/22/2013
Next Scheduled EDR Contact: 12/09/2013
Data Release Frequency: Varies

NAPA COUNTY:

Sites With Reported Contamination
A listing of leaking underground storage tank sites located in Napa county.

Date of Government Version: 12/05/2011
Date Data Arrived at EDR: 12/06/2011
Date Made Active in Reports: 02/07/2012
Number of Days to Update: 63

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 09/03/2013
Next Scheduled EDR Contact: 12/16/2013
Data Release Frequency: No Update Planned

Closed and Operating Underground Storage Tank Sites
Underground storage tank sites located in Napa county.

Date of Government Version: 01/15/2008
Date Data Arrived at EDR: 01/16/2008
Date Made Active in Reports: 02/08/2008
Number of Days to Update: 23

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 09/03/2013
Next Scheduled EDR Contact: 12/16/2013
Data Release Frequency: No Update Planned

NEVADA COUNTY:

CUPA Facility List
CUPA facility list.

Date of Government Version: 05/29/2013
Date Data Arrived at EDR: 05/30/2013
Date Made Active in Reports: 07/15/2013
Number of Days to Update: 46

Source: Community Development Agency
Telephone: 530-265-1467
Last EDR Contact: 08/15/2013
Next Scheduled EDR Contact: 11/18/2013
Data Release Frequency: Varies

ORANGE COUNTY:

List of Industrial Site Cleanups
Petroleum and non-petroleum spills.

Date of Government Version: 05/01/2013
Date Data Arrived at EDR: 05/15/2013
Date Made Active in Reports: 06/12/2013
Number of Days to Update: 28

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 08/07/2013
Next Scheduled EDR Contact: 11/25/2013
Data Release Frequency: Annually

List of Underground Storage Tank Cleanups
Orange County Underground Storage Tank Cleanups (LUST).

Date of Government Version: 05/01/2013
Date Data Arrived at EDR: 05/15/2013
Date Made Active in Reports: 06/25/2013
Number of Days to Update: 41

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 08/07/2013
Next Scheduled EDR Contact: 11/25/2013
Data Release Frequency: Quarterly

List of Underground Storage Tank Facilities
Orange County Underground Storage Tank Facilities (UST).

Date of Government Version: 05/01/2013
Date Data Arrived at EDR: 05/15/2013
Date Made Active in Reports: 06/25/2013
Number of Days to Update: 41

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 08/07/2013
Next Scheduled EDR Contact: 11/25/2013
Data Release Frequency: Quarterly

PLACER COUNTY:

Master List of Facilities
List includes aboveground tanks, underground tanks and cleanup sites.

Date of Government Version: 03/12/2013
Date Data Arrived at EDR: 03/13/2013
Date Made Active in Reports: 03/27/2013
Number of Days to Update: 14

Source: Placer County Health and Human Services
Telephone: 530-745-2363
Last EDR Contact: 08/20/2013
Next Scheduled EDR Contact: 12/23/2013
Data Release Frequency: Semi-Annually

RIVERSIDE COUNTY:

Listing of Underground Tank Cleanup Sites
Riverside County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 07/18/2013
Date Data Arrived at EDR: 07/18/2013
Date Made Active in Reports: 07/24/2013
Number of Days to Update: 6

Source: Department of Environmental Health
Telephone: 951-358-5055
Last EDR Contact: 09/23/2013
Next Scheduled EDR Contact: 01/08/2014
Data Release Frequency: Quarterly

Underground Storage Tank Tank List
Underground storage tank sites located in Riverside county.

Date of Government Version: 07/18/2013
Date Data Arrived at EDR: 07/18/2013
Date Made Active in Reports: 08/20/2013
Number of Days to Update: 33

Source: Department of Environmental Health
Telephone: 951-358-5055
Last EDR Contact: 09/23/2013
Next Scheduled EDR Contact: 01/08/2014
Data Release Frequency: Quarterly

SACRAMENTO COUNTY:

Toxic Site Clean-Up List

List of sites where unauthorized releases of potentially hazardous materials have occurred.

Date of Government Version: 05/03/2013
Date Data Arrived at EDR: 07/08/2013
Date Made Active in Reports: 07/24/2013
Number of Days to Update: 16

Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 07/05/2013
Next Scheduled EDR Contact: 10/21/2013
Data Release Frequency: Quarterly

Master Hazardous Materials Facility List

Any business that has hazardous materials on site - hazardous material storage sites, underground storage tanks, waste generators.

Date of Government Version: 05/03/2013
Date Data Arrived at EDR: 07/08/2013
Date Made Active in Reports: 08/23/2013
Number of Days to Update: 46

Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 07/05/2013
Next Scheduled EDR Contact: 10/21/2013
Data Release Frequency: Quarterly

SAN BERNARDINO COUNTY:

Hazardous Material Permits

This listing includes underground storage tanks, medical waste handlers/generators, hazardous materials handlers, hazardous waste generators, and waste oil generators/handlers.

Date of Government Version: 05/30/2013
Date Data Arrived at EDR: 05/31/2013
Date Made Active in Reports: 07/15/2013
Number of Days to Update: 45

Source: San Bernardino County Fire Department Hazardous Materials Division
Telephone: 909-387-3041
Last EDR Contact: 08/08/2013
Next Scheduled EDR Contact: 11/25/2013
Data Release Frequency: Quarterly

SAN DIEGO COUNTY:

Hazardous Materials Management Division Database

The database includes: HE58 - This report contains the business name, site address, business phone number, establishment 'H' permit number, type of permit, and the business status. HE17 - In addition to providing the same information provided in the HE58 listing, HE17 provides inspection dates, violations received by the establishment, hazardous waste generated, the quantity, method of storage, treatment/disposal of waste and the hauler, and information on underground storage tanks. Unauthorized Release List - Includes a summary of environmental contamination cases in San Diego County (underground tank cases, non-tank cases, groundwater contamination, and soil contamination are included.)

Date of Government Version: 08/17/2012
Date Data Arrived at EDR: 08/20/2012
Date Made Active in Reports: 10/03/2012
Number of Days to Update: 44

Source: Hazardous Materials Management Division
Telephone: 619-338-2268
Last EDR Contact: 09/23/2013
Next Scheduled EDR Contact: 12/23/2013
Data Release Frequency: Quarterly

Solid Waste Facilities

San Diego County Solid Waste Facilities.

Date of Government Version: 10/31/2012
Date Data Arrived at EDR: 11/06/2012
Date Made Active in Reports: 11/30/2012
Number of Days to Update: 24

Source: Department of Health Services
Telephone: 619-338-2209
Last EDR Contact: 07/24/2013
Next Scheduled EDR Contact: 11/11/2013
Data Release Frequency: Varies

Environmental Case Listing

The listing contains all underground tank release cases and projects pertaining to properties contaminated with hazardous substances that are actively under review by the Site Assessment and Mitigation Program.

Date of Government Version: 03/23/2010
Date Data Arrived at EDR: 06/15/2010
Date Made Active in Reports: 07/09/2010
Number of Days to Update: 24

Source: San Diego County Department of Environmental Health
Telephone: 619-338-2371
Last EDR Contact: 09/10/2013
Next Scheduled EDR Contact: 12/23/2013
Data Release Frequency: No Update Planned

SAN FRANCISCO COUNTY:

Local Oversite Facilities

A listing of leaking underground storage tank sites located in San Francisco county.

Date of Government Version: 09/19/2008
Date Data Arrived at EDR: 09/19/2008
Date Made Active in Reports: 09/29/2008
Number of Days to Update: 10

Source: Department Of Public Health San Francisco County
Telephone: 415-252-3920
Last EDR Contact: 08/07/2013
Next Scheduled EDR Contact: 11/25/2013
Data Release Frequency: Quarterly

Underground Storage Tank Information

Underground storage tank sites located in San Francisco county.

Date of Government Version: 11/29/2010
Date Data Arrived at EDR: 03/10/2011
Date Made Active in Reports: 03/15/2011
Number of Days to Update: 5

Source: Department of Public Health
Telephone: 415-252-3920
Last EDR Contact: 08/07/2013
Next Scheduled EDR Contact: 11/25/2013
Data Release Frequency: Quarterly

SAN JOAQUIN COUNTY:

San Joaquin Co. UST

A listing of underground storage tank locations in San Joaquin county.

Date of Government Version: 06/18/2013
Date Data Arrived at EDR: 06/24/2013
Date Made Active in Reports: 08/20/2013
Number of Days to Update: 57

Source: Environmental Health Department
Telephone: N/A
Last EDR Contact: 09/23/2013
Next Scheduled EDR Contact: 01/08/2014
Data Release Frequency: Semi-Annually

SAN LUIS OBISPO COUNTY:

CUPA Facility List

Cupa Facility List.

Date of Government Version: 06/04/2013
Date Data Arrived at EDR: 06/05/2013
Date Made Active in Reports: 07/15/2013
Number of Days to Update: 40

Source: San Luis Obispo County Public Health Department
Telephone: 805-781-5596
Last EDR Contact: 08/22/2013
Next Scheduled EDR Contact: 12/09/2013
Data Release Frequency: Varies

SAN MATEO COUNTY:

Business Inventory

List includes Hazardous Materials Business Plan, hazardous waste generators, and underground storage tanks.

Date of Government Version: 07/02/2013
Date Data Arrived at EDR: 07/05/2013
Date Made Active in Reports: 08/23/2013
Number of Days to Update: 49

Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 06/13/2013
Next Scheduled EDR Contact: 09/30/2013
Data Release Frequency: Annually

Fuel Leak List

A listing of leaking underground storage tank sites located in San Mateo county.

Date of Government Version: 06/17/2013
Date Data Arrived at EDR: 06/18/2013
Date Made Active in Reports: 08/21/2013
Number of Days to Update: 64

Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 09/16/2013
Next Scheduled EDR Contact: 12/30/2013
Data Release Frequency: Semi-Annually

SANTA BARBARA COUNTY:

CUPA Facility Listing

CUPA Program Listing from the Environmental Health Services division.

Date of Government Version: 09/08/2011
Date Data Arrived at EDR: 09/09/2011
Date Made Active in Reports: 10/07/2011
Number of Days to Update: 28

Source: Santa Barbara County Public Health Department
Telephone: 805-686-8167
Last EDR Contact: 09/23/2013
Next Scheduled EDR Contact: 12/09/2013
Data Release Frequency: Varies

SANTA CLARA COUNTY:

Cupa Facility List

Cupa facility list

Date of Government Version: 06/03/2013
Date Data Arrived at EDR: 06/04/2013
Date Made Active in Reports: 07/15/2013
Number of Days to Update: 41

Source: Department of Environmental Health
Telephone: 408-918-1973
Last EDR Contact: 09/03/2013
Next Scheduled EDR Contact: 12/16/2013
Data Release Frequency: Varies

HIST LUST - Fuel Leak Site Activity Report

A listing of open and closed leaking underground storage tanks. This listing is no longer updated by the county. Leaking underground storage tanks are now handled by the Department of Environmental Health.

Date of Government Version: 03/29/2005
Date Data Arrived at EDR: 03/30/2005
Date Made Active in Reports: 04/21/2005
Number of Days to Update: 22

Source: Santa Clara Valley Water District
Telephone: 408-265-2600
Last EDR Contact: 03/23/2009
Next Scheduled EDR Contact: 06/22/2009
Data Release Frequency: No Update Planned

LOP Listing

A listing of leaking underground storage tanks located in Santa Clara county.

Date of Government Version: 06/03/2013
Date Data Arrived at EDR: 06/06/2013
Date Made Active in Reports: 07/15/2013
Number of Days to Update: 39

Source: Department of Environmental Health
Telephone: 408-918-3417
Last EDR Contact: 09/03/2013
Next Scheduled EDR Contact: 12/16/2013
Data Release Frequency: Annually

Hazardous Material Facilities

Hazardous material facilities, including underground storage tank sites.

Date of Government Version: 05/16/2013
Date Data Arrived at EDR: 05/17/2013
Date Made Active in Reports: 06/25/2013
Number of Days to Update: 39

Source: City of San Jose Fire Department
Telephone: 408-535-7694
Last EDR Contact: 08/08/2013
Next Scheduled EDR Contact: 11/25/2013
Data Release Frequency: Annually

SANTA CRUZ COUNTY:

CUPA Facility List
CUPA facility listing.

Date of Government Version: 05/28/2013
Date Data Arrived at EDR: 05/29/2013
Date Made Active in Reports: 06/27/2013
Number of Days to Update: 29

Source: Santa Cruz County Environmental Health
Telephone: 831-464-2761
Last EDR Contact: 08/22/2013
Next Scheduled EDR Contact: 12/09/2013
Data Release Frequency: Varies

SHASTA COUNTY:

CUPA Facility List
Cupa Facility List.

Date of Government Version: 06/17/2013
Date Data Arrived at EDR: 06/18/2013
Date Made Active in Reports: 08/21/2013
Number of Days to Update: 64

Source: Shasta County Department of Resource Management
Telephone: 530-225-5789
Last EDR Contact: 08/22/2013
Next Scheduled EDR Contact: 12/09/2013
Data Release Frequency: Varies

SOLANO COUNTY:

Leaking Underground Storage Tanks
A listing of leaking underground storage tank sites located in Solano county.

Date of Government Version: 06/17/2013
Date Data Arrived at EDR: 06/20/2013
Date Made Active in Reports: 08/12/2013
Number of Days to Update: 53

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 09/16/2013
Next Scheduled EDR Contact: 12/30/2013
Data Release Frequency: Quarterly

Underground Storage Tanks
Underground storage tank sites located in Solano county.

Date of Government Version: 06/17/2013
Date Data Arrived at EDR: 06/20/2013
Date Made Active in Reports: 08/20/2013
Number of Days to Update: 61

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 09/16/2013
Next Scheduled EDR Contact: 12/30/2013
Data Release Frequency: Quarterly

SONOMA COUNTY:

Cupa Facility List
Cupa Facility list

Date of Government Version: 07/05/2013
Date Data Arrived at EDR: 07/05/2013
Date Made Active in Reports: 08/21/2013
Number of Days to Update: 47

Source: County of Sonoma Fire & Emergency Services Department
Telephone: 707-565-1174
Last EDR Contact: 06/25/2013
Next Scheduled EDR Contact: 10/14/2013
Data Release Frequency: Varies

Leaking Underground Storage Tank Sites
A listing of leaking underground storage tank sites located in Sonoma county.

Date of Government Version: 07/02/2013
Date Data Arrived at EDR: 07/05/2013
Date Made Active in Reports: 08/12/2013
Number of Days to Update: 38

Source: Department of Health Services
Telephone: 707-565-6565
Last EDR Contact: 06/25/2013
Next Scheduled EDR Contact: 10/14/2013
Data Release Frequency: Quarterly

SUTTER COUNTY:

Underground Storage Tanks
Underground storage tank sites located in Sutter county.

Date of Government Version: 06/10/2013
Date Data Arrived at EDR: 06/11/2013
Date Made Active in Reports: 08/19/2013
Number of Days to Update: 69

Source: Sutter County Department of Agriculture
Telephone: 530-822-7500
Last EDR Contact: 09/10/2013
Next Scheduled EDR Contact: 12/23/2013
Data Release Frequency: Semi-Annually

TUOLUMNE COUNTY:

CUPA Facility List
Cupa facility list

Date of Government Version: 01/14/2013
Date Data Arrived at EDR: 01/16/2013
Date Made Active in Reports: 02/27/2013
Number of Days to Update: 42

Source: Divison of Environmental Health
Telephone: 209-533-5633
Last EDR Contact: 07/26/2013
Next Scheduled EDR Contact: 11/11/2013
Data Release Frequency: Varies

VENTURA COUNTY:

Business Plan, Hazardous Waste Producers, and Operating Underground Tanks
The BWT list indicates by site address whether the Environmental Health Division has Business Plan (B), Waste Producer (W), and/or Underground Tank (T) information.

Date of Government Version: 04/26/2013
Date Data Arrived at EDR: 05/22/2013
Date Made Active in Reports: 06/25/2013
Number of Days to Update: 34

Source: Ventura County Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 08/19/2013
Next Scheduled EDR Contact: 12/02/2013
Data Release Frequency: Quarterly

Inventory of Illegal Abandoned and Inactive Sites
Ventura County Inventory of Closed, Illegal Abandoned, and Inactive Sites.

Date of Government Version: 12/01/2011
Date Data Arrived at EDR: 12/01/2011
Date Made Active in Reports: 01/19/2012
Number of Days to Update: 49

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 07/03/2013
Next Scheduled EDR Contact: 10/21/2013
Data Release Frequency: Annually

Listing of Underground Tank Cleanup Sites
Ventura County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 05/29/2008
Date Data Arrived at EDR: 06/24/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 37

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 08/19/2013
Next Scheduled EDR Contact: 12/02/2013
Data Release Frequency: Quarterly

Medical Waste Program List
To protect public health and safety and the environment from potential exposure to disease causing agents, the Environmental Health Division Medical Waste Program regulates the generation, handling, storage, treatment and disposal of medical waste throughout the County.

Date of Government Version: 05/28/2013
Date Data Arrived at EDR: 06/24/2013
Date Made Active in Reports: 08/12/2013
Number of Days to Update: 49

Source: Ventura County Resource Management Agency
Telephone: 805-654-2813
Last EDR Contact: 07/30/2013
Next Scheduled EDR Contact: 11/11/2013
Data Release Frequency: Quarterly

Underground Tank Closed Sites List
Ventura County Operating Underground Storage Tank Sites (UST)/Underground Tank Closed Sites List.

Date of Government Version: 05/28/2013
Date Data Arrived at EDR: 06/17/2013
Date Made Active in Reports: 08/20/2013
Number of Days to Update: 64

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 09/16/2013
Next Scheduled EDR Contact: 12/30/2013
Data Release Frequency: Quarterly

YOLO COUNTY:

Underground Storage Tank Comprehensive Facility Report
Underground storage tank sites located in Yolo county.

Date of Government Version: 06/24/2013
Date Data Arrived at EDR: 06/26/2013
Date Made Active in Reports: 08/20/2013
Number of Days to Update: 55

Source: Yolo County Department of Health
Telephone: 530-666-8646
Last EDR Contact: 09/23/2013
Next Scheduled EDR Contact: 01/08/2014
Data Release Frequency: Annually

YUBA COUNTY:

CUPA Facility List
CUPA facility listing for Yuba County.

Date of Government Version: 08/01/2013
Date Data Arrived at EDR: 08/05/2013
Date Made Active in Reports: 08/22/2013
Number of Days to Update: 17

Source: Yuba County Environmental Health Department
Telephone: 530-749-7523
Last EDR Contact: 07/31/2013
Next Scheduled EDR Contact: 11/18/2013
Data Release Frequency: Varies

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

CT MANIFEST: Hazardous Waste Manifest Data
Facility and manifest data. Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a tsd facility.

Date of Government Version: 05/20/2013
Date Data Arrived at EDR: 05/21/2013
Date Made Active in Reports: 06/27/2013
Number of Days to Update: 37

Source: Department of Energy & Environmental Protection
Telephone: 860-424-3375
Last EDR Contact: 08/19/2013
Next Scheduled EDR Contact: 12/02/2013
Data Release Frequency: Annually

NJ MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2011
Date Data Arrived at EDR: 07/19/2012
Date Made Active in Reports: 08/28/2012
Number of Days to Update: 40

Source: Department of Environmental Protection
Telephone: N/A
Last EDR Contact: 07/19/2013
Next Scheduled EDR Contact: 10/28/2013
Data Release Frequency: Annually

NY MANIFEST: Facility and Manifest Data
Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

Date of Government Version: 08/01/2013
Date Data Arrived at EDR: 08/07/2013
Date Made Active in Reports: 09/10/2013
Number of Days to Update: 34

Source: Department of Environmental Conservation
Telephone: 518-402-8651
Last EDR Contact: 08/07/2013
Next Scheduled EDR Contact: 11/18/2013
Data Release Frequency: Annually

PA MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2012
Date Data Arrived at EDR: 07/24/2013
Date Made Active in Reports: 08/19/2013
Number of Days to Update: 26

Source: Department of Environmental Protection
Telephone: 717-783-8990
Last EDR Contact: 07/18/2013
Next Scheduled EDR Contact: 11/04/2013
Data Release Frequency: Annually

RI MANIFEST: Manifest information
Hazardous waste manifest information

Date of Government Version: 12/31/2012
Date Data Arrived at EDR: 06/21/2013
Date Made Active in Reports: 08/05/2013
Number of Days to Update: 45

Source: Department of Environmental Management
Telephone: 401-222-2797
Last EDR Contact: 08/23/2013
Next Scheduled EDR Contact: 12/09/2013
Data Release Frequency: Annually

WI MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2011
Date Data Arrived at EDR: 07/19/2012
Date Made Active in Reports: 09/27/2012
Number of Days to Update: 70

Source: Department of Natural Resources
Telephone: N/A
Last EDR Contact: 09/16/2013
Next Scheduled EDR Contact: 12/30/2013
Data Release Frequency: Annually

Oil/Gas Pipelines: This data was obtained by EDR from the USGS in 1994. It is referred to by USGS as GeoData Digital Line Graphs from 1:100,000-Scale Maps. It was extracted from the transportation category including some oil, but primarily gas pipelines.

Electric Power Transmission Line Data
Source: Rextag Strategies Corp.
Telephone: (281) 769-2247
U.S. Electric Transmission and Power Plants Systems Digital GIS Data

Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:
Source: American Hospital Association, Inc.
Telephone: 312-280-5991
The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing
Source: Centers for Medicare & Medicaid Services
Telephone: 410-786-3000
A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes
Source: National Institutes of Health
Telephone: 301-594-6248
Information on Medicare and Medicaid certified nursing homes in the United States.

Public Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

Private Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on private school locations in the United States.

Daycare Centers: Licensed Facilities
Source: Department of Social Services
Telephone: 916-657-4041

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 2003 & 2011 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002 and 2005 from the U.S. Fish and Wildlife Service.

Scanned Digital USGS 7.5' Topographic Map (DRG)
Source: United States Geologic Survey
A digital raster graphic (DRG) is a scanned image of a U.S. Geological Survey topographic map. The map images are made by scanning published paper maps on high-resolution scanners. The raster image is georeferenced and fit to the Universal Transverse Mercator (UTM) projection.

STREET AND ADDRESS INFORMATION

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GEOCHECK ®- PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

CARGILL SITE
HICKORY STREET/ENTERPRISE DRIVE
NEWARK, CA 94560

TARGET PROPERTY COORDINATES

Latitude (North):	37.5177 - 37° 31' 3.72''
Longitude (West):	122.0544 - 122° 3' 15.84''
Universal Tranverse Mercator:	Zone 10
UTM X (Meters):	583565.0
UTM Y (Meters):	4152520.5
Elevation:	13 ft. above sea level

USGS TOPOGRAPHIC MAP

Target Property Map:	37122-E1 NEWARK, CA
Most Recent Revision:	1999

EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

Assessment of the impact of contaminant migration generally has two principal investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

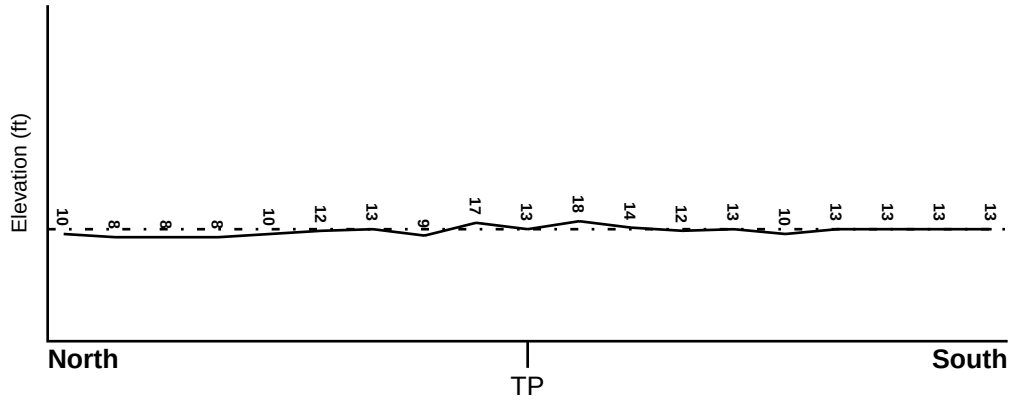
TOPOGRAPHIC INFORMATION

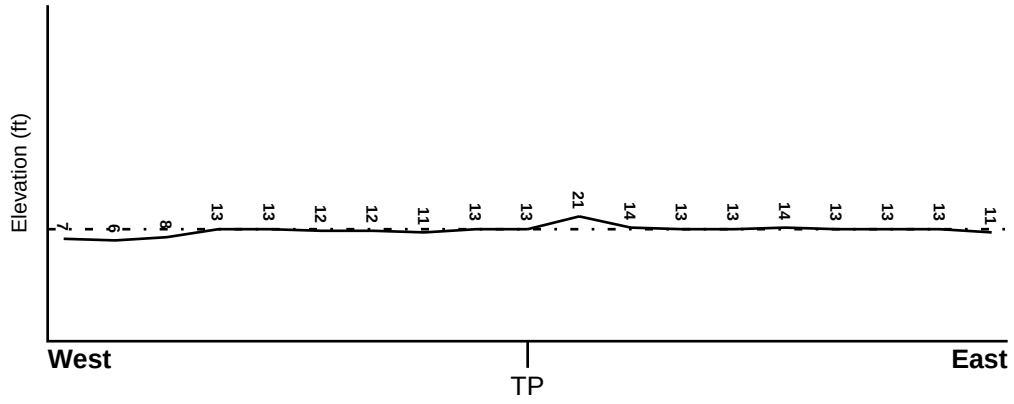
Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

TARGET PROPERTY TOPOGRAPHY

General Topographic Gradient: General NNW

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES





Target Property Elevation: 13 ft.

0 1/2 1 Miles

Source: Topography has been determined from the USGS 7.5' Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

Target Property County	FEMA Flood Electronic Data
ALAMEDA, CA	YES - refer to the Overview Map and Detail Map

Flood Plain Panel at Target Property: 06001C - FEMA DFIRM Flood data

Additional Panels in search area: Not Reported

NATIONAL WETLAND INVENTORY

NWI Quad at Target Property	NWI Electronic Data Coverage
NEWARK	YES - refer to the Overview Map and Detail Map

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Site-Specific Hydrogeological Data*:

Search Radius: 1.25 miles
Status: Not found

AQUIFLOW®

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

MAP ID	LOCATION FROM TP	GENERAL DIRECTION GROUNDWATER FLOW
Not Reported		

* ©1996 Site−specific hydrogeological data gathered by CERCLIS Alerts, Inc., Bainbridge Island, WA. All rights reserved. All of the information and opinions presented are those of the cited EPA report(s), which were completed under a Comprehensive Environmental Response Compensation and Liability Information System (CERCLIS) investigation.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

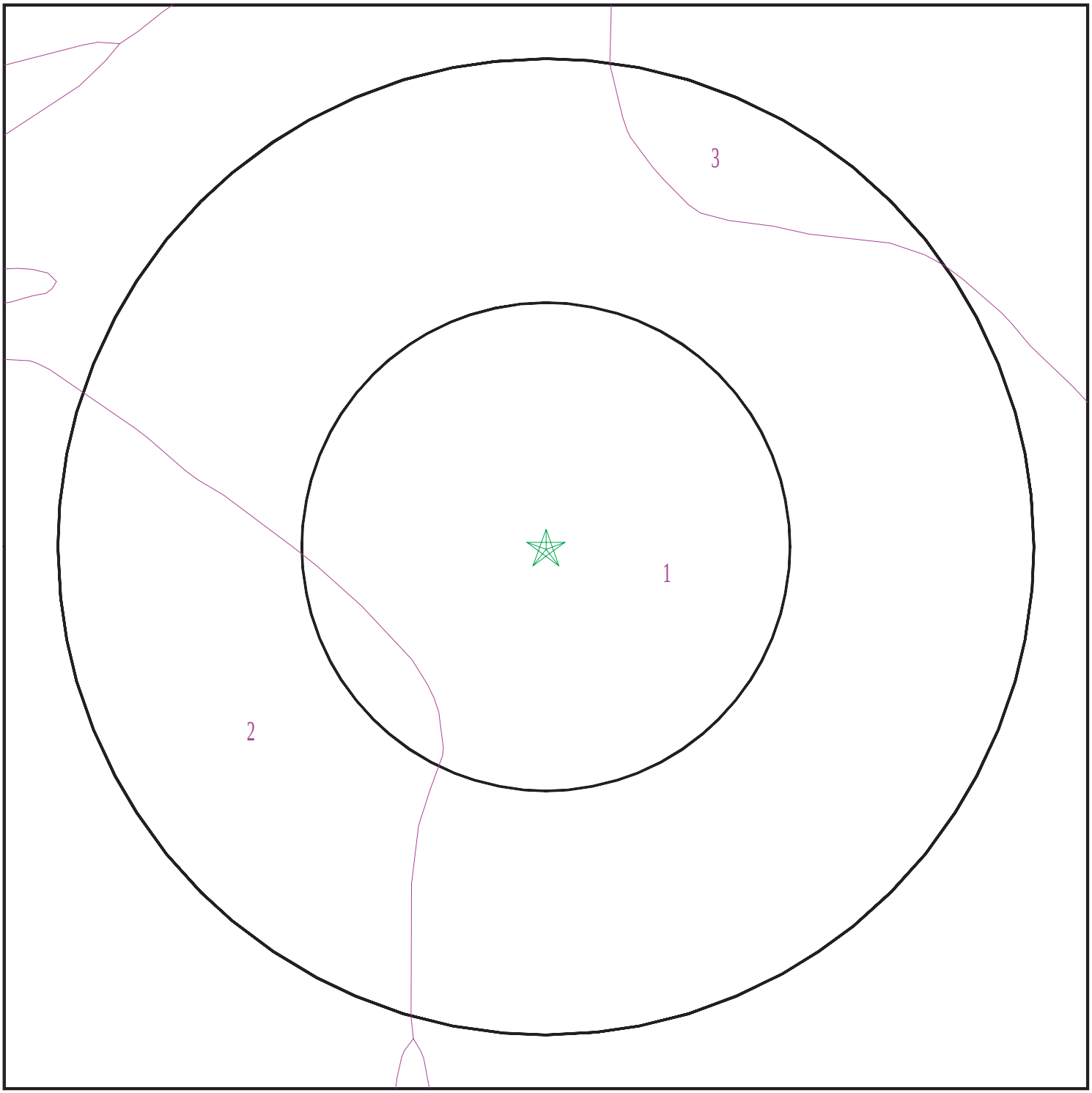
Era:	Cenozoic
System:	Quaternary
Series:	Quaternary
Code:	Q *(decoded above as Era, System & Series)*

GEOLOGIC AGE IDENTIFICATION

Category: Stratifed Sequence

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

SSURGO SOIL MAP - 3738660.2s



Target Property
SSURGO Soil
Water

0 1/16 1/8 1/4 Miles

N

SITE NAME: Cargill Site ADDRESS: Hickory Street/Enterprise Drive Newark CA 94560 LAT/LONG: 37.5177 / 122.0544	CLIENT: Haley & Aldrich, Inc. CONTACT: Marie Rose Javier INQUIRY #: 3738660.2s DATE: September 24, 2013 5:10 pm

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GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. The following information is based on Soil Conservation Service SSURGO data.

Soil Map ID: 1

Soil Component Name: Pescadero

Soil Surface Texture: clay loam

Hydrologic Group: Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.

Soil Drainage Class: Poorly drained

Hydric Status: All hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 153 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	1 inches	clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 1.4 Min: 0.42	Max: 9 Min: 7.9
2	1 inches	29 inches	clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 1.4 Min: 0.42	Max: 9 Min: 7.9
3	29 inches	59 inches	clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 1.4 Min: 0.42	Max: 9 Min: 7.9

Soil Map ID: 2

Soil Component Name: Reyes

Soil Surface Texture: clay

Hydrologic Group: Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.

Soil Drainage Class: Very poorly drained

Hydric Status: All hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	5 inches	clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 0.42 Min: 0.01	Max: 9 Min: 7.9
2	5 inches	72 inches	clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 0.42 Min: 0.01	Max: 9 Min: 7.9

Soil Map ID: 3

Soil Component Name: Marvin

Soil Surface Texture: silt loam

Hydrologic Group: Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures.

Soil Drainage Class: Somewhat poorly drained

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Hydric Status: All hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 145 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	3 inches	silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 1.4 Min: 0.42	Max: 8.4 Min: 7.9
2	3 inches	35 inches	clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 1.4 Min: 0.42	Max: 8.4 Min: 7.9
3	35 inches	59 inches	clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 1.4 Min: 0.42	Max: 8.4 Min: 7.9

LOCAL / REGIONAL WATER AGENCY RECORDS

EDR Local/Regional Water Agency records provide water well information to assist the environmental professional in assessing sources that may impact ground water flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

WELL SEARCH DISTANCE INFORMATION

DATABASE	SEARCH DISTANCE (miles)
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 0.001 miles
State Database	1.000

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
No Wells Found		

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

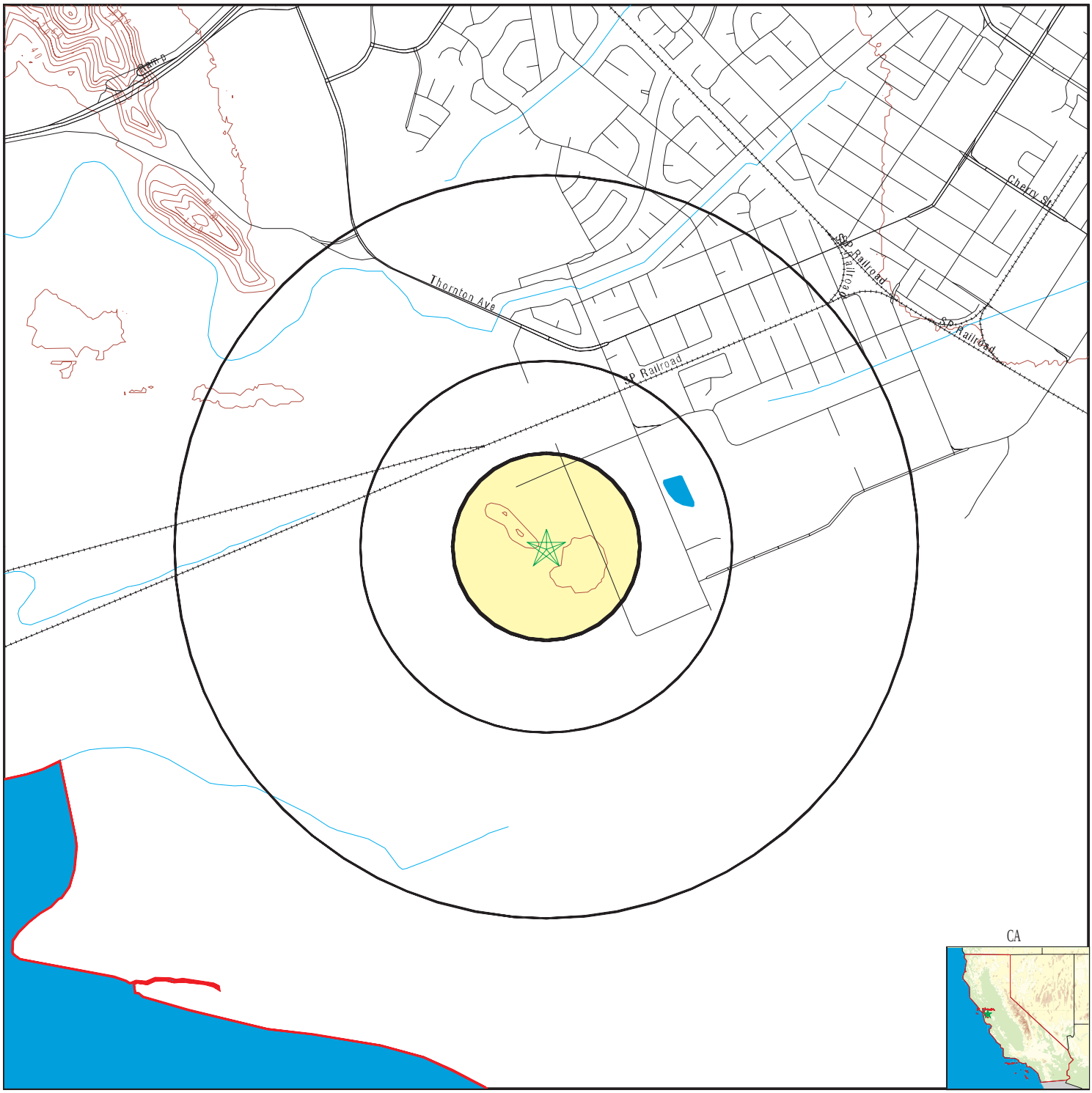
MAP ID	WELL ID	LOCATION FROM TP
No PWS System Found		

Note: PWS System location is not always the same as well location.

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
No Wells Found		

PHYSICAL SETTING SOURCE MAP - 3738660.2s



County Boundary
Major Roads
Contour Lines
Earthquake Fault Lines
Earthquake epicenter, Richter 5 or greater
Water Wells
Public Water Supply Wells
Cluster of Multiple Icons

0 1/4 1/2 1 Miles

Groundwater Flow Direction
GI Indeterminate Groundwater Flow at Location
GV Groundwater Flow Varies at Location
HD Closest Hydrogeological Data
Oil, gas or related wells

N

SITE NAME: Cargill Site	CLIENT: Haley & Aldrich, Inc.
ADDRESS: Hickory Street/Enterprise Drive Newark CA 94560	CONTACT: Marie Rose Javier
LAT/LONG: 37.5177 / 122.0544	INQUIRY #: 3738660.2s
	DATE: September 24, 2013 5:10 pm

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GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS
RADON

AREA RADON INFORMATION

State Database: CA Radon

Radon Test Results

Zipcode	Num Tests	> 4 pCi/L
94560	18	0

Federal EPA Radon Zone for ALAMEDA County: 2

Note: Zone 1 indoor average level > 4 pCi/L.
: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
: Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for ALAMEDA COUNTY, CA

Number of sites tested: 49

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	0.776 pCi/L	100%	0%	0%
Living Area - 2nd Floor	-0.400 pCi/L	100%	0%	0%
Basement	1.338 pCi/L	100%	0%	0%

PHYSICAL SETTING SOURCE RECORDS SEARCHED

TOPOGRAPHIC INFORMATION

USGS 7.5' Digital Elevation Model (DEM)
Source: United States Geologic Survey
EDR acquired the USGS 7.5' Digital Elevation Model in 2002 and updated it in 2006. The 7.5 minute DEM corresponds to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps. The DEM provides elevation data with consistent elevation units and projection.

Scanned Digital USGS 7.5' Topographic Map (DRG)
Source: United States Geologic Survey
A digital raster graphic (DRG) is a scanned image of a U.S. Geological Survey topographic map. The map images are made by scanning published paper maps on high-resolution scanners. The raster image is georeferenced and fit to the Universal Transverse Mercator (UTM) projection.

HYDROLOGIC INFORMATION

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 2003 & 2011 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002 and 2005 from the U.S. Fish and Wildlife Service.

HYDROGEOLOGIC INFORMATION

AQUIFLOW[R] Information System
Source: EDR proprietary database of groundwater flow information
EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit
Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Services
The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

SSURGO: Soil Survey Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Services (NRCS)
Telephone: 800-672-5559
SSURGO is the most detailed level of mapping done by the Natural Resources Conservation Services, mapping scales generally range from 1:12,000 to 1:63,360. Field mapping methods using national standards are used to construct the soil maps in the Soil Survey Geographic (SSURGO) database. SSURGO digitizing duplicates the original soil survey maps. This level of mapping is designed for use by landowners, townships and county natural resource planning and management.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

LOCAL / REGIONAL WATER AGENCY RECORDS

FEDERAL WATER WELLS

PWS: Public Water Systems
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS)
This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

STATE RECORDS

Water Well Database
Source: Department of Water Resources
Telephone: 916-651-9648

California Drinking Water Quality Database
Source: Department of Health Services
Telephone: 916-324-2319
The database includes all drinking water compliance and special studies monitoring for the state of California since 1984. It consists of over 3,200,000 individual analyses along with well and water system information.

OTHER STATE DATABASE INFORMATION

California Oil and Gas Well Locations
Source: Department of Conservation
Telephone: 916-323-1779
Oil and Gas well locations in the state.

RADON

State Database: CA Radon
Source: Department of Health Services
Telephone: 916-324-2208
Radon Database for California

Area Radon Information
Source: USGS
Telephone: 703-356-4020
The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

EPA Radon Zones
Source: EPA
Telephone: 703-356-4020
Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

OTHER

Airport Landing Facilities: Private and public use landing facilities
Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater
Source: Department of Commerce, National Oceanic and Atmospheric Administration

California Earthquake Fault Lines: The fault lines displayed on EDR's Topographic map are digitized quaternary fault lines, prepared in 1975 by the United State Geological Survey. Additional information (also from 1975) regarding activity at specific fault lines comes from California's Preliminary Fault Activity Map prepared by the California Division of Mines and Geology.

STREET AND ADDRESS INFORMATION

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CARGILL INC/LESLIE SALT
NEWARK PLANT
CA

Inquiry Number:
October 9, 2013

EDR Site Report™

EDR® Environmental Data Resources Inc

440 Wheelers Farms Road
Milford, CT 06461
Toll Free: 800.352.0050
www.edrnet.com

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All available detailed information from databases where sites are identified.

Section 3: Databases and Update Information. . . . . Page 5

Name, source, update dates, contact phone number and description of each of the databases for this report.

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SECTION 1: FACILITY SUMMARY

FACILITY AREA	FACILITY 1 **CARGILL INC/LESLIE SALT** NEWARK PLANT CA EDR ID #M300002760
WASTE MANAGEMENT Facility generates hazardous waste (RCRA)	NO
Facility treats, stores, or disposes of hazardous waste on-site (RCRA/TSDF)	NO
Facility has received Notices of Violations (RCRA/VIOL)	NO
Facility has been subject to RCRA administrative actions (RAATS)	NO
Facility has been subject to corrective actions (CORRACTS)	NO
Facility handles PCBs (PADS)	NO
Facility uses radioactive materials (MLTS)	NO
Facility manages registered aboveground storage tanks (AST)	NO
Facility manages registered underground storage tanks (UST)	NO
Facility has reported leaking underground storage tank incidents (LUST)	NO
Facility has reported emergency releases to the soil (ERNS)	NO
Facility has reported hazardous material incidents to DOT (HMIRS)	NO
WASTE DISPOSAL Facility is a Superfund Site (NPL)	NO
Facility has a known or suspect abandoned, inactive or uncontrolled hazardous waste site (CERCLIS)	NO
Facility has a reported Superfund Lien on it (LIENS)	NO
Facility is listed as a state hazardous waste site (SHWS)	NO
Facility has disposed of solid waste on-site (SWF/LF)	NO
MULTIMEDIA Facility uses toxic chemicals and has notified EPA under SARA Title III, Section 313 (TRIS)	NO
Facility produces pesticides and has notified EPA under Section 7 of FIFRA (SSTS)	NO
Facility manufactures or imports toxic chemicals on the TSCA list (TSCA)	NO
Facility has inspections under FIFRA, TSCA or EPCRA (FTTS)	NO
Facility is listed in EPA's index system (FINDS)	NO
Facility is listed in other database records (OTHER)	**YES - p4**
POTENTIAL SUPERFUND LIABILITY Facility has a list of potentially responsible parties PRP	NO
TOTAL (YES)	1

SECTION 2: FACILITY DETAIL REPORTS

MULTIMEDIA

Facility is listed in other database records

DATABASE: Other Database Recrods (OTHER)

CARGILL INC/LESLIE SALT
NEWARK PLANT
CA
EDR ID #M300002760

Ferrous and Nonferrous Metal Mines Database:

Mine ID:	3646
Commodity:	Salt
Latitude:	37.531
Longitude:	-122.033
Site Type:	The facility is both a mine and a plant

SECTION 3: DATABASES AND UPDATE DATES

To maintain currency of the following federal, state and local databases, EDR contacts the appropriate government agency on a monthly or quarterly basis as required.

Elapsed ASTM days: Provides confirmation that this report meets or exceeds the 90-day updating requirement of the ASTM standard.

DATABASES FOUND IN THIS REPORT

MINES: Mines Master Index File
Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959
Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 08/01/2013
Database Release Frequency: Semi-Annually
Date of Last EDR Contact: 09/05/2013
Date of Next Scheduled Update: 12/16/2013

CARGILL INC.
MOWRY SLOUGH IN SF BAY NATIONAL WILDLIFE REFUGE NEWARK C
NEWARK, CA 94560

Inquiry Number:
October 9, 2013

EDR Site Report™

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SECTION 1: FACILITY SUMMARY

FACILITY AREA	FACILITY 1 **CARGILL INC.** MOWRY SLOUGH IN SF BAY NATIONAL WILDLIFE RE NEWARK, CA 94560 EDR ID #1014633322
WASTE MANAGEMENT Facility generates hazardous waste (RCRA)	NO
Facility treats, stores, or disposes of hazardous waste on-site (RCRA/TSDF)	NO
Facility has received Notices of Violations (RCRA/VIOL)	NO
Facility has been subject to RCRA administrative actions (RAATS)	NO
Facility has been subject to corrective actions (CORRACTS)	NO
Facility handles PCBs (PADS)	NO
Facility uses radioactive materials (MLTS)	NO
Facility manages registered aboveground storage tanks (AST)	NO
Facility manages registered underground storage tanks (UST)	NO
Facility has reported leaking underground storage tank incidents (LUST)	NO
Facility has reported emergency releases to the soil (ERNS)	NO
Facility has reported hazardous material incidents to DOT (HMIRS)	NO
WASTE DISPOSAL Facility is a Superfund Site (NPL)	NO
Facility has a known or suspect abandoned, inactive or uncontrolled hazardous waste site (CERCLIS)	NO
Facility has a reported Superfund Lien on it (LIENS)	NO
Facility is listed as a state hazardous waste site (SHWS)	NO
Facility has disposed of solid waste on-site (SWF/LF)	NO
MULTIMEDIA Facility uses toxic chemicals and has notified EPA under SARA Title III, Section 313 (TRIS)	NO
Facility produces pesticides and has notified EPA under Section 7 of FIFRA (SSTS)	NO
Facility manufactures or imports toxic chemicals on the TSCA list (TSCA)	NO
Facility has inspections under FIFRA, TSCA or EPCRA (FTTS)	NO
Facility is listed in EPA's index system (FINDS)	NO
Facility is listed in other database records (OTHER)	**YES - p4**
POTENTIAL SUPERFUND LIABILITY Facility has a list of potentially responsible parties PRP	NO
TOTAL (YES)	1

SECTION 2: FACILITY DETAIL REPORTS

MULTIMEDIA

Facility is listed in other database records

DATABASE: Other Database Recrods (OTHER)

CARGILL INC.
MOWRY SLOUGH IN SF BAY NATIONAL WILDLIFE REFUGE NEWARK C
NEWARK, CA 94560
EDR ID #1014633322

ICIS:

Enforcement Action ID:	09-1998-0167
FRS ID:	37165
Program ID:	Not reported
Action Name:	CARGILL INC.
Facility Name:	Not reported
Facility Address:	MOWRY SLOUGH IN SF BAY NATIONAL WILDLIFE REFUGE NEWARK CA 94560 NEWARK, 94560
Enforcement Action Type:	Civil Judicial Action
Facility County:	Orange
EPA Region #:	9

SECTION 3: DATABASES AND UPDATE DATES

To maintain currency of the following federal, state and local databases, EDR contacts the appropriate government agency on a monthly or quarterly basis as required.

Elapsed ASTM days: Provides confirmation that this report meets or exceeds the 90-day updating requirement of the ASTM standard.

DATABASES FOUND IN THIS REPORT

ICIS: Integrated Compliance Information System
Source: Environmental Protection Agency
Telephone: 202-564-5088
The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 07/20/2011
Database Release Frequency: Quarterly
Date of Last EDR Contact: 10/09/2014
Date of Next Scheduled Update: 01/27/2014

LESLIE SALT
ENTERPRISE DRIVE
NEWARK, CA 94560

Inquiry Number:
October 9, 2013

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SECTION 1: FACILITY SUMMARY

FACILITY AREA	FACILITY 1 **LESLIE SALT** ENTERPRISE DRIVE NEWARK, CA 94560 EDR ID #S100833248
WASTE MANAGEMENT Facility generates hazardous waste (RCRA)	NO
Facility treats, stores, or disposes of hazardous waste on-site (RCRA/TSDF)	NO
Facility has received Notices of Violations (RCRA/VIOL)	NO
Facility has been subject to RCRA administrative actions (RAATS)	NO
Facility has been subject to corrective actions (CORRACTS)	NO
Facility handles PCBs (PADS)	NO
Facility uses radioactive materials (MLTS)	NO
Facility manages registered aboveground storage tanks (AST)	NO
Facility manages registered underground storage tanks (UST)	NO
Facility has reported leaking underground storage tank incidents (LUST)	NO
Facility has reported emergency releases to the soil (ERNS)	NO
Facility has reported hazardous material incidents to DOT (HMIRS)	NO
WASTE DISPOSAL Facility is a Superfund Site (NPL)	NO
Facility has a known or suspect abandoned, inactive or uncontrolled hazardous waste site (CERCLIS)	NO
Facility has a reported Superfund Lien on it (LIENS)	NO
Facility is listed as a state hazardous waste site (SHWS)	NO
Facility has disposed of solid waste on-site (SWF/LF)	NO
MULTIMEDIA Facility uses toxic chemicals and has notified EPA under SARA Title III, Section 313 (TRIS)	NO
Facility produces pesticides and has notified EPA under Section 7 of FIFRA (SSTS)	NO
Facility manufactures or imports toxic chemicals on the TSCA list (TSCA)	NO
Facility has inspections under FIFRA, TSCA or EPCRA (FTTS)	NO
Facility is listed in EPA's index system (FINDS)	NO
Facility is listed in other database records (OTHER)	**YES - p4**
POTENTIAL SUPERFUND LIABILITY Facility has a list of potentially responsible parties PRP	NO
TOTAL (YES)	1

SECTION 2: FACILITY DETAIL REPORTS

MULTIMEDIA

Facility is listed in other database records

DATABASE: Other Database Recrods (OTHER)

LESLIE SALT
ENTERPRISE DRIVE
NEWARK, CA 94560
EDR ID #S100833248

CA BOND EXP. PLAN:

Reponsible Party:	RESPONSIBLE PARTY-LEAD SITE CLEANUP WORKPLAN
Project Revenue Source Company:	Not reported
Project Revenue Source Addr:	Not reported
Project Revenue Source City,St,Zip:	Not reported
Project Revenue Source Desc:	FMC and Leslie Salt are the responsible parties and are active businesses. The RPs are in compliance with an order issued by the Department on July 19, 1988. DHS has budgeted $50,000 for oversight/monitoring of cleanup efforts. DHS will recover 100 percent of direct costs plus staff costs and overhead related to the project. The responsible parties will pay all costs associated with remedial investigations and cleanup activities.
Site Description:	This was a disposal area for waste material from recovery of bromine and magnesia from bittern and for disposal of wastes from a processing facility producing agricultural and industrial chemicals and catalysts. Large piles containing caustic calcium and magnesium salts, copper catalysts, phosphoric acid saturated activated carbon and industrial processing trash are located on a serpentine ridge adjacent to bittern ponds. The area is no longer used as a disposal site.
Hazardous Waste Desc:	Large piles of caustic magnesium salts with some heavy metals have been identified. Caustic magnesium salts exhibit high pH and are corrosive on contact.
Threat To Public Health & Env:	The primary route of exposure is through direct contact to humans. Also there is a possibility of environmental damage by surface water runoff to the Bay.
Site Activity Status:	An investigation will be implemented to confirm that hazardous waste materials are buried in the piles. DHS issued a RAO to the RPs in July, 1988 directing them to proceed with steps necessary for the characterization and final remediation of the hazards on the site. An RI report is in preparation. The site is fenced and posted.

SECTION 3: DATABASES AND UPDATE DATES

To maintain currency of the following federal, state and local databases, EDR contacts the appropriate government agency on a monthly or quarterly basis as required.

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DATABASES FOUND IN THIS REPORT

CA BEP: Bond Expenditure Plan
Source: Department of Health Services
Telephone: 916-255-2118
Department of Health Services developed a site-specific expenditure plan as the basis for an appropriation of Hazardous Substance Cleanup Bond Act funds. It is not updated.

Date of Government Version: 01/01/1989
Database Release Frequency: No Update Planned
Date of Last EDR Contact: 05/31/1994
Date of Next Scheduled Update: Not reported

CARGILL INC.
MOWRY SLOUGH IN SF BAY NATIONAL WILDLIFE REFUGE
NEWARK, CA

Inquiry Number:
October 9, 2013

EDR Site Report™

Environmental Data Resources Inc

440 Wheelers Farms Road
Milford, CT 06461
Toll Free: 800.352.0050
www.edrnet.com

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All available detailed information from databases where sites are identified.

Section 3: Databases and Update Information. . . . . Page 5

Name, source, update dates, contact phone number and description of each of the databases for this report.

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SECTION 1: FACILITY SUMMARY

FACILITY AREA	FACILITY 1 **CARGILL INC.** MOWRY SLOUGH IN SF BAY NATIONAL WILDLIFE RE NEWARK, CA EDR ID #1014673894 EPA #110043465755
WASTE MANAGEMENT Facility generates hazardous waste (RCRA)	NO
Facility treats, stores, or disposes of hazardous waste on-site (RCRA/TSDF)	NO
Facility has received Notices of Violations (RCRA/VIOL)	NO
Facility has been subject to RCRA administrative actions (RAATS)	NO
Facility has been subject to corrective actions (CORRACTS)	NO
Facility handles PCBs (PADS)	NO
Facility uses radioactive materials (MLTS)	NO
Facility manages registered aboveground storage tanks (AST)	NO
Facility manages registered underground storage tanks (UST)	NO
Facility has reported leaking underground storage tank incidents (LUST)	NO
Facility has reported emergency releases to the soil (ERNS)	NO
Facility has reported hazardous material incidents to DOT (HMIRS)	NO
WASTE DISPOSAL Facility is a Superfund Site (NPL)	NO
Facility has a known or suspect abandoned, inactive or uncontrolled hazardous waste site (CERCLIS)	NO
Facility has a reported Superfund Lien on it (LIENS)	NO
Facility is listed as a state hazardous waste site (SHWS)	NO
Facility has disposed of solid waste on-site (SWF/LF)	NO
MULTIMEDIA Facility uses toxic chemicals and has notified EPA under SARA Title III, Section 313 (TRIS)	NO
Facility produces pesticides and has notified EPA under Section 7 of FIFRA (SSTS)	NO
Facility manufactures or imports toxic chemicals on the TSCA list (TSCA)	NO
Facility has inspections under FIFRA, TSCA or EPCRA (FTTS)	NO
Facility is listed in EPA's index system (FINDS)	**YES - p4**
Facility is listed in other database records (OTHER)	NO
POTENTIAL SUPERFUND LIABILITY Facility has a list of potentially responsible parties PRP	NO
TOTAL (YES)	1

SECTION 2: FACILITY DETAIL REPORTS

MULTIMEDIA

Facility is listed in EPA's index system

DATABASE: Facility Index System (FINDS)

CARGILL INC.
MOWRY SLOUGH IN SF BAY NATIONAL WILDLIFE REFUGE
NEWARK, CA
EDR ID #1014673894

This site is listed in the Federal FINDS database. The FINDS database may contain references to records from government databases included elsewhere in the report.
Please note: the FINDS database may also contain references to out of date records formerly associated with the site.

Registry ID:	110043465755
Facility Name:	CARGILL INC.
Facility Address:	MOWRY SLOUGH IN SF BAY NATIONAL WILDLIFE REFUGE NEWARK, CA 94560
Facility URL:	http://iaspub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110043465755
FIPS:	06001
Fed Facility:	Not reported
Tribal Land:	Not reported
Tribal Name:	Not reported
Congressional District:	02
Hydrologic Unit Code:	Not reported
EPA Region:	09
Site Type:	STATIONARY
Date Created:	26-MAY-11
Date Updated:	07-FEB-13
U.S-Mexico Border:	Not reported
Latitude:	Not reported
Longitude:	Not reported
Horizontal Collection:	Not reported
Horizontal Accuracy:	Not reported
Reference Point:	Not reported
Horizontal Datum:	NAD83
Coordinates Source:	Not reported

Environmental Interest/Information System

ICIS (Integrated Compliance Information System) is the Integrated Compliance Information System and provides a database that, when complete, will contain integrated Enforcement and Compliance information across most of EPA's programs. The vision for ICIS is to replace EPA's independent databases that contain Enforcement data with a single repository for that information. Currently, ICIS contains all Federal Administrative and Judicial enforcement actions. This information is maintained in ICIS by EPA in the Regional offices and it Headquarters. A future release of ICIS will replace the Permit Compliance System (PCS) which supports the NPDES and will integrate that information with Federal actions already in the system. ICIS also has the capability to track other activities occurring in the Region that support Compliance and Enforcement programs. These include; Incident Tracking, Compliance Assistance, and Compliance Monitoring.

Program System ID:	37165
Program Sys. Name:	ICIS
Env. Interest Type:	FORMAL ENFORCEMENT ACTION
Env. Interest Start Dt.:	17-OCT-98
Start Date Qualifier:	COMPLAINT FILED WITH COURT
Env. Interest End Dt.:	Not reported
End Date Qualifier:	Not reported
Data Source:	ICIS
Active Code:	Not reported

Alternative Name:	CARGILL INC.

SIC Code:	2899(CHEMICALS AND CHEMICAL PREPARATIONS, NOT ELSEWHERE CLASSIFIED)

Supplemental Interest:	FORMAL ENFORCEMENT ACTION
PGM Sys ID:	ICIS
Supplemental PGM Sys ID:	09-1998-0167
Start Date:	17-OCT-98
Start Date Qualifier:	COMPLAINT FILED WITH COURT
End Date:	Not reported
End Date Qualifier:	Not reported
Date Source:	ICIS
Last Reported:	01-FEB-11
Date Created:	01-JUN-11
Date Updated:	Not reported

SECTION 3: DATABASES AND UPDATE DATES

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DATABASES FOUND IN THIS REPORT

FINDS: Facility Index System/Facility Registry System
Source: EPA
Telephone: Not reported
Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 03/08/2013
Database Release Frequency: Quarterly
Date of Last EDR Contact: 09/11/2013
Date of Next Scheduled Update: 12/23/2013

CARGILL SALT
OFF PERRIN AVE & WILLOW ST
NEWARK, CA 94560

Inquiry Number:
October 9, 2013

EDR Site Report™

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All available detailed information from databases where sites are identified.

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SECTION 1: FACILITY SUMMARY

FACILITY AREA	FACILITY 1 **CARGILL SALT** OFF PERRIN AVE & WILLOW ST NEWARK, CA 94560 EDR ID #S112932471
WASTE MANAGEMENT Facility generates hazardous waste (RCRA)	NO
Facility treats, stores, or disposes of hazardous waste on-site (RCRA/TSDF)	NO
Facility has received Notices of Violations (RCRA/VIOL)	NO
Facility has been subject to RCRA administrative actions (RAATS)	NO
Facility has been subject to corrective actions (CORRACTS)	NO
Facility handles PCBs (PADS)	NO
Facility uses radioactive materials (MLTS)	NO
Facility manages registered aboveground storage tanks (AST)	NO
Facility manages registered underground storage tanks (UST)	NO
Facility has reported leaking underground storage tank incidents (LUST)	NO
Facility has reported emergency releases to the soil (ERNS)	NO
Facility has reported hazardous material incidents to DOT (HMIRS)	NO
WASTE DISPOSAL Facility is a Superfund Site (NPL)	NO
Facility has a known or suspect abandoned, inactive or uncontrolled hazardous waste site (CERCLIS)	NO
Facility has a reported Superfund Lien on it (LIENS)	NO
Facility is listed as a state hazardous waste site (SHWS)	NO
Facility has disposed of solid waste on-site (SWF/LF)	NO
MULTIMEDIA Facility uses toxic chemicals and has notified EPA under SARA Title III, Section 313 (TRIS)	NO
Facility produces pesticides and has notified EPA under Section 7 of FIFRA (SSTS)	NO
Facility manufactures or imports toxic chemicals on the TSCA list (TSCA)	NO
Facility has inspections under FIFRA, TSCA or EPCRA (FTTS)	NO
Facility is listed in EPA's index system (FINDS)	NO
Facility is listed in other database records (OTHER)	**YES - p4**
POTENTIAL SUPERFUND LIABILITY Facility has a list of potentially responsible parties PRP	NO
TOTAL (YES)	1

SECTION 2: FACILITY DETAIL REPORTS

MULTIMEDIA

Facility is listed in other database records

DATABASE: Other Database Recrods (OTHER)

CARGILL SALT
OFF PERRIN AVE & WILLOW ST
NEWARK, CA 94560
EDR ID #S112932471

HAZNET:

Year:	2003
Gepaid:	CAC002569608
Contact:	TERI PETERSON
Telephone:	5107908625
Mailing Name:	Not reported
Mailing Address:	7220 CENTRAL AVE
Mailing City,St,Zip:	NEWARK, CA 94560
Gen County:	Not reported
TSD EPA ID:	CAT000646117
TSD County:	Not reported
Waste Category:	Contaminated soil from site clean-up
Disposal Method:	Disposal, Land Fill
Tons:	60.68
Facility County:	Alameda

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DATABASES FOUND IN THIS REPORT

CA HAZNET: Facility and Manifest Data
Source: California Environmental Protection Agency
Telephone: 916-255-1136
Facility and Manifest Data. The data is extracted from the copies of hazardous waste manifests received each year by the DTSC. The annual volume of manifests is typically 700,000 - 1,000,000 annually, representing approximately 350,000 - 500,000 shipments. Data are from the manifests submitted without correction, and therefore many contain some invalid values for data elements such as generator ID, TSD ID, waste category, and disposal method.

Date of Government Version: 12/31/2012
Database Release Frequency: Annually
Date of Last EDR Contact: 07/16/2013
Date of Next Scheduled Update: 10/28/2013

LESLIE SALT CO MAGNESIA PILE PRO
BASE OF ENTERPRISE DR
NEWARK, CA 94560

Inquiry Number:
October 9, 2013

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SECTION 1: FACILITY SUMMARY

FACILITY AREA	FACILITY 1 **LESLIE SALT CO MAGNESIA PILE PROPERTY** BASE OF ENTERPRISE DR NEWARK, CA 94560 EDR ID #1003878583 EPA #CAD980673982
WASTE MANAGEMENT Facility generates hazardous waste (RCRA)	NO
Facility treats, stores, or disposes of hazardous waste on-site (RCRA/TSDF)	NO
Facility has received Notices of Violations (RCRA/VIOL)	NO
Facility has been subject to RCRA administrative actions (RAATS)	NO
Facility has been subject to corrective actions (CORRACTS)	NO
Facility handles PCBs (PADS)	NO
Facility uses radioactive materials (MLTS)	NO
Facility manages registered aboveground storage tanks (AST)	NO
Facility manages registered underground storage tanks (UST)	NO
Facility has reported leaking underground storage tank incidents (LUST)	NO
Facility has reported emergency releases to the soil (ERNS)	NO
Facility has reported hazardous material incidents to DOT (HMIRS)	NO
WASTE DISPOSAL Facility is a Superfund Site (NPL)	NO
Facility has a known or suspect abandoned, inactive or uncontrolled hazardous waste site (CERCLIS)	**YES - p4 (NFRAP)**
Facility has a reported Superfund Lien on it (LIENS)	NO
Facility is listed as a state hazardous waste site (SHWS)	NO
Facility has disposed of solid waste on-site (SWF/LF)	NO
MULTIMEDIA Facility uses toxic chemicals and has notified EPA under SARA Title III, Section 313 (TRIS)	NO
Facility produces pesticides and has notified EPA under Section 7 of FIFRA (SSTS)	NO
Facility manufactures or imports toxic chemicals on the TSCA list (TSCA)	NO
Facility has inspections under FIFRA, TSCA or EPCRA (FTTS)	NO
Facility is listed in EPA's index system (FINDS)	NO
Facility is listed in other database records (OTHER)	NO
POTENTIAL SUPERFUND LIABILITY Facility has a list of potentially responsible parties PRP	NO
TOTAL (YES)	1

SECTION 2: FACILITY DETAIL REPORTS

WASTE DISPOSAL

DATABASE: No Further Remedial Action Planned (CERCLIS/NFRAP)

LESLIE SALT CO MAGNESIA PILE PROPERTY
BASE OF ENTERPRISE DR
NEWARK, CA 94560
EDR ID #1003878583

CERC-NFRAP:

Site ID:	0901945
EPA ID:	CAD980673982
Facility County:	ALAMEDA
Short Name:	LESLIE SALT CO MAGNESIA P
Congressional District:	10
SMSA Number:	7360
USGC Hydro Unit:	18050003
Federal Facility:	Not a Federal Facility
RCRA ID:	Not reported
NFRAP Flag:	NFA
EPA Region:	09
Classification:	Not reported
NPL Status:	Not on the NPL
Non NPL Status:	NFRAP-Site does not qualify for the NPL based on existing information
Site FUDS Flag:	Not reported

CERCLIS-NFRAP Site Contact Details:

Contact Sequence ID:	13055665.00000
Person ID:	9271184.00000
Contact Sequence ID:	13288403.00000
Person ID:	13003854.00000
Contact Sequence ID:	13293998.00000
Person ID:	13003858.00000
Contact Sequence ID:	13299856.00000
Person ID:	13004003.00000

CERCLIS-NFRAP Assessment History:

Action Code:	001
Action:	PRELIMINARY ASSESSMENT
Date Started:	10/01/84
Date Completed:	02/01/85
Priority Level:	NFRAP-Site does not qualify for the NPL based on existing information
Operable Unit:	SITEWIDE
Primary Responsibility:	EPA Fund-Financed
Planning Status:	Not reported
Urgency Indicator:	Not reported
Action Anomaly:	Not reported
Action Code:	001
Action:	ARCHIVE SITE
Date Started:	/ /
Date Completed:	02/01/85
Priority Level:	Not reported
Operable Unit:	SITEWIDE
Primary Responsibility:	EPA In-House
Planning Status:	Not reported
Urgency Indicator:	Not reported
Action Anomaly:	Not reported
Action Code:	001
Action:	DISCOVERY
Date Started:	/ /
Date Completed:	10/01/79
Priority Level:	Not reported
Operable Unit:	SITEWIDE
Primary Responsibility:	EPA Fund-Financed
Planning Status:	Not reported
Urgency Indicator:	Not reported
Action Anomaly:	Not reported

SECTION 3: DATABASES AND UPDATE DATES

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DATABASES FOUND IN THIS REPORT

CERCLIS-NFRAP: CERCLIS No Further Remedial Action Planned
Source: EPA
Telephone: 703-412-9810
Archived sites are sites that have been removed and archived from the inventory of CERCLIS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list this site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. This decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be a potential NPL site.

Date of Government Version: 04/26/2013
Database Release Frequency: Quarterly
Date of Last EDR Contact: 09/27/2013
Date of Next Scheduled Update: 12/09/2013

CARGILL INC HILL PARCEL AREA
WESTERN END ENTERPRISE DR
NEWARK, CA 94560

Inquiry Number:
October 9, 2013

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SECTION 1: FACILITY SUMMARY

FACILITY AREA	FACILITY 1 **CARGILL INC HILL PARCEL AREA** WESTERN END ENTERPRISE DR NEWARK, CA 94560 EDR ID #S106101752
WASTE MANAGEMENT Facility generates hazardous waste (RCRA)	NO
Facility treats, stores, or disposes of hazardous waste on-site (RCRA/TSDF)	NO
Facility has received Notices of Violations (RCRA/VIOL)	NO
Facility has been subject to RCRA administrative actions (RAATS)	NO
Facility has been subject to corrective actions (CORRACTS)	NO
Facility handles PCBs (PADS)	NO
Facility uses radioactive materials (MLTS)	NO
Facility manages registered aboveground storage tanks (AST)	NO
Facility manages registered underground storage tanks (UST)	NO
Facility has reported leaking underground storage tank incidents (LUST)	NO
Facility has reported emergency releases to the soil (ERNS)	NO
Facility has reported hazardous material incidents to DOT (HMIRS)	NO
WASTE DISPOSAL Facility is a Superfund Site (NPL)	NO
Facility has a known or suspect abandoned, inactive or uncontrolled hazardous waste site (CERCLIS)	NO
Facility has a reported Superfund Lien on it (LIENS)	NO
Facility is listed as a state hazardous waste site (SHWS)	NO
Facility has disposed of solid waste on-site (SWF/LF)	NO
MULTIMEDIA Facility uses toxic chemicals and has notified EPA under SARA Title III, Section 313 (TRIS)	NO
Facility produces pesticides and has notified EPA under Section 7 of FIFRA (SSTS)	NO
Facility manufactures or imports toxic chemicals on the TSCA list (TSCA)	NO
Facility has inspections under FIFRA, TSCA or EPCRA (FTTS)	NO
Facility is listed in EPA's index system (FINDS)	NO
Facility is listed in other database records (OTHER)	**YES - p4**
POTENTIAL SUPERFUND LIABILITY Facility has a list of potentially responsible parties PRP	NO
TOTAL (YES)	1

SECTION 2: FACILITY DETAIL REPORTS

MULTIMEDIA

Facility is listed in other database records

DATABASE: Other Database Recrods (OTHER)

CARGILL INC HILL PARCEL AREA
WESTERN END ENTERPRISE DR
NEWARK, CA 94560
EDR ID #S106101752

NPDES:

Npdes Number:	CAS000001
Facility Status:	Active
Agency Id:	0
Region:	2
Regulatory Measure Id:	181204
Order No:	97-03-DWQ
Regulatory Measure Type:	Enrollee
Place Id:	Not reported
WDID:	2 01I016881
Program Type:	Industrial
Adoption Date Of Regulatory Measure:	Not reported
Effective Date Of Regulatory Measure:	10/23/2001
Expiration Date Of Regulatory Measure:	Not reported
Termination Date Of Regulatory Measure:	Not reported
Discharge Name:	Cargill Inc
Discharge Address:	7220 Central Ave
Discharge City:	Newark
Discharge State:	California
Discharge Zip:	94560

CA WDS:

Facility ID:	San Francisco Bay 01I016881
Facility Type:	Industrial - Facility that treats and/or disposes of liquid or semisolid wastes from any servicing, producing, manufacturing or processing operation of whatever nature, including mining, gravel washing, geothermal operations, air conditioning, ship building and repairing, oil production, storage and disposal operations, water pumping.
Facility Status:	Active - Any facility with a continuous or seasonal discharge that is under Waste Discharge Requirements.
NPDES Number:	CAS000001 The 1st 2 characters designate the state. The remaining 7 are assigned by the Regional Board
Subregion:	2
Facility Telephone:	5107908625
Facility Contact:	PETERSON TERI
Agency Name:	CARGILL INC
Agency Address:	7220 Central Ave
Agency City,St,Zip:	Newark 945604205
Agency Contact:	PETERSON TERI
Agency Telephone:	5107908625
Agency Type:	Private
SIC Code:	0
SIC Code 2:	Not reported
Primary Waste:	Not reported
Primary Waste Type:	Not reported
Secondary Waste:	Not reported
Secondary Waste Type:	Not reported
Design Flow:	0
Baseline Flow:	0
Reclamation:	Not reported
POTW:	Not reported
Treat To Water:	Minor Threat to Water Quality. A violation of a regional board order should cause a relatively minor impairment of beneficial uses compared to a major or minor threat. Not: All nurds without a TTWQ will be considered a minor threat to water quality unless coded at a higher Level. A Zero (0) may be used to code those NURDS that are found to represent no threat to water quality.
Complexity:	Category C - Facilities having no waste treatment systems, such as cooling water dischargers or thosewho must comply through best management practices, facilities with passive waste treatment and disposal systems, such as septic systems with subsurface disposal, or dischargers having waste storage systems with land disposal such as dairy waste ponds.

SECTION 3: DATABASES AND UPDATE DATES

To maintain currency of the following federal, state and local databases, EDR contacts the appropriate government agency on a monthly or quarterly basis as required.

Elapsed ASTM days: Provides confirmation that this report meets or exceeds the 90-day updating requirement of the ASTM standard.

DATABASES FOUND IN THIS REPORT

CA WDS: Waste Discharge System
Source: State Water Resources Control Board
Telephone: 916-341-5227
Sites which have been issued waste discharge requirements.

Date of Government Version: 06/19/2007
Database Release Frequency: Quarterly
Date of Last EDR Contact: 08/22/2013
Date of Next Scheduled Update: 12/09/2013

CA NPDES: NPDES Permits Listing
Source: State Water Resources Control Board
Telephone: 916-445-9379
A listing of NPDES permits, including stormwater.

Date of Government Version: 08/19/2013
Database Release Frequency: Quarterly
Date of Last EDR Contact: 08/19/2013
Date of Next Scheduled Update: 12/02/2013

Cargill Site
Hickory Street/Enterprise Drive
Newark, CA 94560

Inquiry Number: 3738660.8
September 24, 2013

The EDR Property Tax Map Report

Environmental Data Resources Inc

440 Wheelers Farms Road
Milford, CT 06461
800.352.0050
www.edrnet.com

EDR Property Tax Map Report

Environmental Data Resources, Inc.'s EDR Property Tax Map Report is designed to assist environmental professionals in evaluating potential environmental conditions on a target property by understanding property boundaries and other characteristics. The report includes a search of available property tax maps, which include information on boundaries for the target property and neighboring properties, addresses, parcel identification numbers, as well as other data typically used in property location and identification.

NO COVERAGE

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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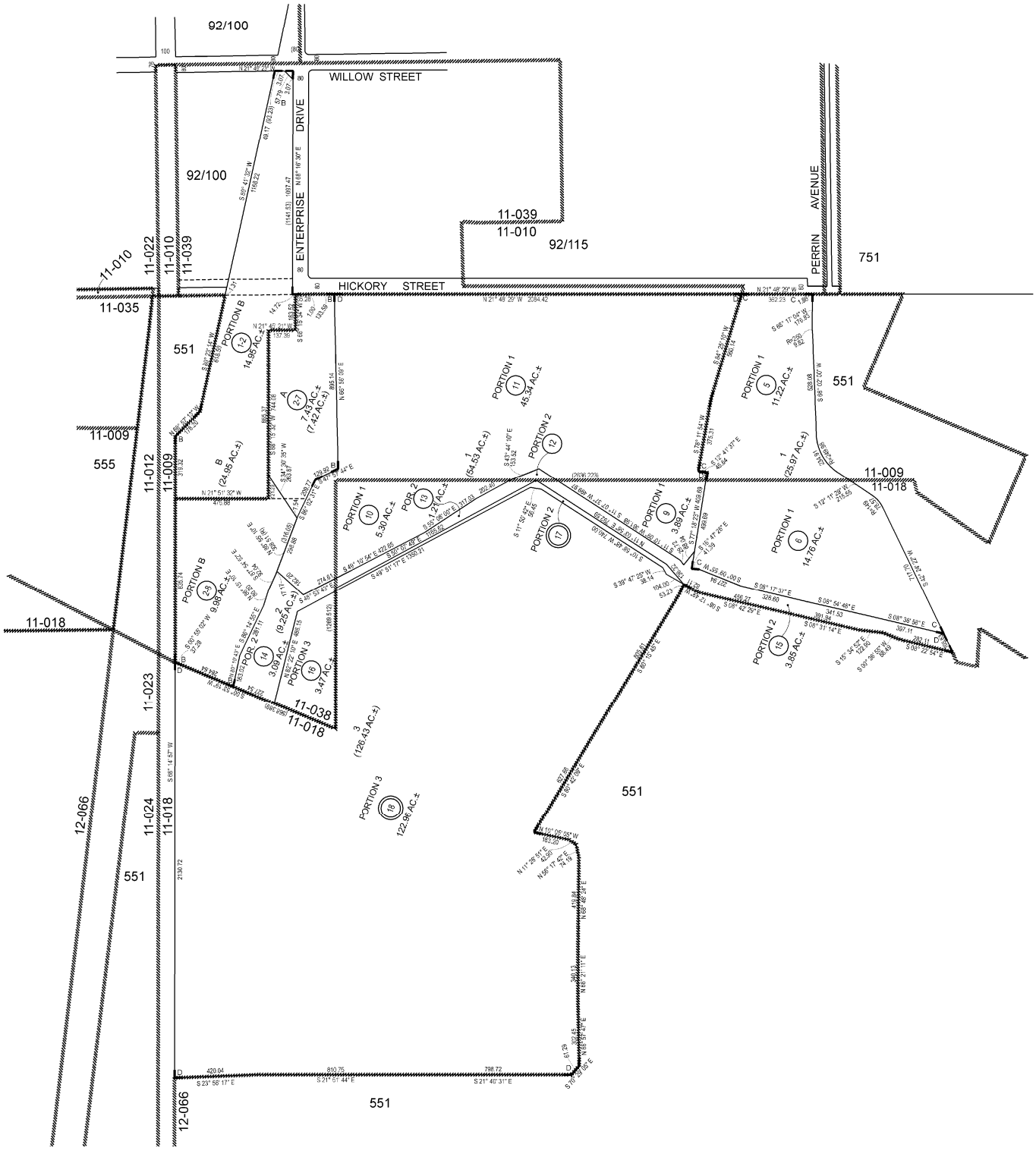
ASSESSOR'S MAP 537

Code Area Nos. 11-009, 11-010, 11-018, 11-038, 11-039

852

SCALE: 1" = 400'

(B) P.M. 3120 121/43
(C) P.M. 7505 252/81-82
(D) P.M. 9837 315/84-85



FORMERLY: POR. BLK.551, POR. BLK.100, BK. 92

DRAWN: 05-13-11 MN REVISED: 05-17-11 MN

TRA: 47 REF: P.M.1130 105/92 HPN: 18 IND PG: 1

Cargill Site
Hickory Street/Enterprise Drive
Newark, CA 94560

Inquiry Number: 3738660.7S
October 11, 2013

The EDR Environmental LienSearch™ Report

EDR® Environmental Data Resources Inc

440 Wheelers Farms Road
Milford, CT 06461
800.352.0050
www.edrnet.com

EDR Environmental LienSearch™ Report

The EDR Environmental LienSearch Report provides results from a search of available current land title records for environmental cleanup liens and other activity and use limitations, such as engineering controls and institutional controls.

A network of professional, trained researchers, following established procedures, uses client supplied address information to:

- search for parcel information and/or legal description;
- search for ownership information;
- research official land title documents recorded at jurisdictional agencies such as recorders' offices, registries of deeds, county clerks' offices, etc.;
- access a copy of the deed;
- search for environmental encumbering instrument(s) associated with the deed;
- provide a copy of any environmental encumbrance(s) based upon a review of key words in the instrument(s) (title, parties involved, and description); and
- provide a copy of the deed or cite documents reviewed.

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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EDR Environmental LienSearch™ Report

TARGET PROPERTY INFORMATION

ADDRESS

Cargill Site
Hickory Street/Enterprise Drive
Newark, CA 94560

RESEARCH SOURCE

Source 1: Alameda County, California Assessor

Source 2: Alameda County, California Recorder

PROPERTY INFORMATION

Deed 1:

Type of Deed: Deed

Title is vested in: The Arden Salt Company

Title received from: August and Agnes Schilling

Deed Recorded: 1926

Book: unknown

Page: unknown

Instrument: unknown

Comments: Leslie Salt Company merged with Arden Salt Company in 1936.

Legal Description: All that certain piece or parcel of land containing 3.89 acres, more or less, being a portion of Parcel 1 of Parcel Map 9837, filed in Book 315, Pages 84-85, situate and lying in the County of Alameda, State of California.

Legal Current Owner: Cargill, Incorporated, a Delaware corporation, successor to Leslie Salt Co.

Property Identifiers: 537-0852-009-00

Deed 2:

Type of Deed: Deed

Title is vested in: The Arden Salt Company

Title received from: August and Agnes Schilling

Deed Recorded: 1926

Book: unknown

Page: unknown

Instrument: unknown

Comments: Leslie Salt Company merged with Arden Salt Company in 1936.

Legal Description: All that certain piece or parcel of land containing 5.30 acres, more or less, being a portion of Parcel 1 of Parcel Map 9837, filed in Book 315, Pages 84-85, situate and lying in the County of Alameda, State of California.

Legal Current Owner: Cargill, Incorporated, a Delaware corporation, successor to Leslie Salt Co.

Property Identifiers: 537-0852-010-00

EDR Environmental LienSearch™ Report

Deed 3:

Type of Deed: Deed

Title is vested in: The Arden Salt Company

Title received from: August and Agnes Schilling

Deed Recorded: 1926

Book: unknown

Page: unknown

Instrument: unknown

Comments: Leslie Salt Company merged with Arden Salt Company in 1936.

Legal Description: All that certain piece or parcel of land containing 45.34 acres, more or less, being a portion of Parcel 1 of Parcel Map 9837, filed in Book 315, Pages 84-85, situate and lying in the County of Alameda, State of California.

Legal Current Owner: Cargill, Incorporated, a Delaware corporation, successor to Leslie Salt Co.

Property Identifiers: 537-0852-011-00

EDR Environmental LienSearch™ Report

ENVIRONMENTAL LIEN

Environmental Lien: Found ☐ Not Found ☒

If found:

1st Party:

2nd Party:

Dated:

Recorded:

Book:

Page:

Docket:

Volume:

Instrument:

Comments:

Miscellaneous:

OTHER ACTIVITY AND USE LIMITATIONS (AULs)

Other AUL's: Found ☐ Not Found ☒

If found:

1st Party:

2nd Party:

Dated:

Recorded:

Book:

Page:

Docket:

Volume:

Instrument:

Comments: Leslie Salt owned the site and leased it to FMC Corporation from 1928 to 1968. During this period, FMC used the site for disposal of their process wastes. These wastes included: off-grade magnesia, dolomite, general rubbish, phosphorus sludges, gypsum and excess catalysts which were used for the production of synthetic rubber. The waste materials were disposed onsite in large piles. The catalyst material contains approximately 1-2% copper (20,000 parts per million) and mercury above the total threshold limit concentration.

The Department of Toxic Substances Control has determined that all appropriate response actions have been completed, that all acceptable engineering practices were implemented and that no further removal/remedial action is necessary. (see attached documents)

Miscellaneous:

APPENDIX D

Site Photographs

Photograph 1. East-northeast-facing photograph showing the northeastern portion of the subject site and the main entrance off of Enterprise Drive.

Photograph 2. Northwest-facing photograph showing some of the R.J Gordon Construction equipment stored on the northwestern portion of the subject site.

Photograph 3. Photograph showing an area of stained soil (left-center of the photograph) caused by leaking engine fluid from a fork lift on the northwestern portion of the subject site.

Photograph 4. North-northwest-facing photograph showing the northern portion of the E-1 Ditch as it appears adjacent to the south of the former FMC property and north of the access road.

Photograph 5. Southeast-facing photograph showing a former magnesium sulfate settling pond located on the northwestern corner of the subject site.

Photograph 6. North-facing photograph showing the E-1 Ditch from the central portion of the subject site.

Photograph 7. Photograph showing one of three 2-inch diameter groundwater monitoring wells located on the northeastern portion of the subject site.

Photograph 8. Photograph showing the 4-inch diameter groundwater monitoring well located on the east side of the E-1 Ditch on the northeastern portion of the subject site.

Photograph 9. Southeast-facing photograph showing the Newark Police Department Pistol Range on the southeastern portion of the subject site.

Photograph 10. Northeast-facing photograph showing the K-9 training area and clubhouse at the Witmer-Tyson Police Dog Training School on the southeastern corner of the subject site.

Photograph 11. East-facing photograph taken of the former Bittern Truck Loading Area from the southwestern corner of the subject site.

Photograph 12. North-northeast-facing photograph showing a brine ditch (right side of photograph) along the southwestern property line on the southwestern corner of the subject site. The two pipelines carry salt brine and are offsite.

Haley & Aldrich, Inc.
2033 N. Main Street
Suite 309
Walnut Creek, CA 94596-7260

Tel: 925.949.1012
Fax: 925.979.1456
HaleyAldrich.com

HALEY & ALDRICH

30 October 2014
File No. 40451-001

Dumbarton Area 2, LLC
888 San Clemente, Suite 100
Newport Beach, California 92660

Attention: Glenn Brown, PE

Subject: Phase II Environmental Site Assessment Results
Gateway Station West
Newark, California

Dear Mr. Brown:

This letter summarizes the results of the Phase II environmental site assessment (Phase II) performed at the Gateway Station West site by Haley & Aldrich, Inc. (Haley & Aldrich) on behalf of Dumbarton Area 2, LLC (DA2) per our agreement dated 23 September 2014. Haley & Aldrich has previously completed a Phase I environmental site assessment (Phase I) of the above-referenced site, which consists of approximately 54.53 acres located southwest of Hickory Street and Enterprise Drive in Newark, California. Based on our Phase I findings, Haley & Aldrich identified the following recognized environmental conditions (RECs) that warranted further investigation:

- Former Magnesia Pile;
- Former Newark Sportsman's Club (NSC) Area;
- Pistol Range;
- E-1 Drainage Ditch;
- Evaporation Ponds and Detention Basin; and
- Impacted Groundwater.

Haley & Aldrich conducted Phase II soil and soil gas investigation activities between 2 and 17 October 2014 to assess potential impacts associated with the identified RECs. This letter summarizes our findings and includes draft tables and a draft figure; these are being finalized for inclusion in a final report to be submitted to the Alameda County Water District (ACWD) per the requirements of the drilling permit obtained to perform this investigation. The conclusions and recommendations presented in this letter are solely for your consideration and will not be included in the ACWD report.

Data Screening

To evaluate the potential health risks associated with constituents detected in soil at the site, the soil analytical results were compared to published screening levels that are protective of the following:

- Direct exposure of future site occupants to soil under a residential land use scenario; and

- Leaching of constituents from soil to groundwater.

With the exception of arsenic and carcinogenic polycyclic aromatic hydrocarbons (PAHs), the screening levels used for evaluation of the residential direct exposure pathway was the lowest of the following:

- Environmental screening levels (ESLs) for direct exposure under a residential land use scenario published by the California Regional Water Quality Control Board, San Francisco Bay Region (Water Board);[1]
- Residential soil regional screening levels (RSLs) published by the U.S. Environmental Protection Agency, Region 9;[2] and
- California-modified screening levels published by the California Department of Toxic Substances Control (DTSC).[3]

Because arsenic may exceed conservative risk-based screening levels at "background" levels, detected concentrations were evaluated by comparison to background concentrations. For arsenic, a recent evaluation of background concentrations in urbanized flatland soils within the San Francisco Bay Area, completed at San Francisco State University in coordination with Water Board staff, established an upper-limit background concentration of 11 milligrams per kilogram (mg/kg).[4] This value was selected as a representative background threshold value (BTV) for the Site.

Carcinogenic PAHs[5] were evaluated by calculating a benzo(a)pyrene equivalent (BaPe) and comparing it to an "ambient" background value of 900 micrograms per kilogram (µg/kg) for northern California.[6]

The Water Board ESLs were used to evaluate the soil leaching scenario. Because the screening levels used are based on conservative assumptions that likely overestimate risk, chemical concentrations detected at or below corresponding screening levels can be assumed to not pose a significant risk to human health and the environment. Conversely, the presence of chemicals at concentrations exceeding the screening levels does not necessarily indicate that adverse health effects will occur. Rather, it indicates that there is a potential for adverse impacts that may warrant further evaluation.

---

[1] California Regional Water Quality Control Board, San Francisco Bay Region, 2013, Update to Environmental Screening Levels, Table K-1, Direct Exposure Soil Screening Levels, Residential Exposure Scenario, December.

[2] U.S., Environmental Protection Agency, Region 9, 2014, Regional Screening Levels, May, http://www.epa.gov/region9/superfund/prg/. Residential soil screening levels were used.

[3] California Department of Toxic Substances Control, 2013, Human Health Risk Assessment Note 3, May 21.

[4] Duvergé, D.J., 2011, Establishing Background Arsenic in Soil of the Urbanized San Francisco Bay Region: Master's thesis, San Francisco State University, December, http://www.swrcb.ca.gov/sanfranciscobay/water_issues/available_documents/2011_Arsenic_Background_Duverge.pdf.

[5] Carcinogenic PAHs include benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, dibenzo(a,h)anthracene, and indeno(1,2,3-cd)perylene.

[6] California Department of Toxic Substances Control (DTSC), 2009b, *Use of the Northern and Southern California Polynuclear Aromatic Hydrocarbon (PAH) Studies in the Manufactured Gas Plant Cleanup Process*, July 1.

To evaluate the potential health risks associated with constituents detected in soil gas at the site, the soil gas analytical results were compared to published screening levels that are protective of future site occupants under a residential land use scenario.

The screening levels used for evaluation of the soil gas data was the lowest of the following:

- Environmental screening levels (ESLs) published by the Water Board;[7] and
- Regional screening levels (RSLs) published by the U.S. Environmental Protection Agency, Region 9 for indoor air with an attenuation factor of 0.001.[8]

The investigation performed and results of data screening are summarized below by REC.

Former Magnesia Pile

A total of 33 soil samples were collected from 10 locations in the Former Magnesia Pile Area and analyzed for Title 22 metals[9] and pH. With the exception of selenium and thallium, all metals analyzed for were detected in at least one sample. Analytical results are summarized on Table I.

- Arsenic was detected at a concentration exceeding the background concentration at one location (MP6 at 5 feet below ground surface [bgs]). However, despite this exceedance, concentrations of arsenic in soil appear consistent with background concentrations.
- Cobalt exceeded the screening levels in four samples collected from two boring (MP3 at 5 feet and 9 feet bgs and MP4 at 5 feet and 8 feet bgs).
- The pH of the soil samples collected in this area ranged from 7.12 to 8.67.

Given the depth of the cobalt exceedances and natural variability of background arsenic concentrations, the limited impacts associated with this REC do not pose a significant threat and are not expected to require further action prior to site redevelopment.

Former NSC Area

A total of 25 soil samples were collected from 10 locations in the Former NSC Area; samples were analyzed for Title 22 metals and PAHs. Analytical results are summarized on Table II.

- Lead was detected at concentrations exceeding the screening levels in three samples collected from boring NSC5 at 0.5 feet bgs, NSC8 at 0.5 feet bgs, and NSC9 at 2.5 feet bgs.

---

[7] California Regional Water Quality Control Board, San Francisco Bay Region, 2013, Update to Environmental Screening Levels, Table E-2, Soil Gas Screening Levels for Evaluation of Potential Vapor Intrusion, Residential Exposure Scenario, December.

[8] U.S., Environmental Protection Agency, Region 9, 2014, Regional Screening Levels, May, http://www.epa.gov/region9/superfund/prg/. Residential Air screening levels were used with an attenuation factor of 0.001.

[9] Title 22 metals include antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, lead, mercury, molybdenum, nickel, selenium, silver, thallium, vanadium, and zinc.

- BaPe was detected at concentrations exceeding the background value in six samples collected from five locations (borings NSC5, NSC6, and NSC7 at 0.5 feet bgs, boring NSC8 at 0.5 and 2.5 feet bgs, and boring NSC9 at 2.5 feet bgs). BaPe concentrations were two to four orders of magnitude above screening levels in four of these samples.
- Noncarcinogenic PAHs (specifically, acenaphthalene, anthracene, benzo(g,h,i)perylene, fluoranthene, naphthalene, phenanthrene, and pyrene) were detected at concentrations exceeding the screening levels in the sample collected from boring NSC8 at 0.5 feet bgs. Benzo(g,h,i)perylene was detected at concentrations exceeding screening levels in the sample collected from boring NSC9 at 2.5 feet bgs.

Lead and PAH impacts in the Former NSC Area are co-located. The impacts associated with this REC should be addressed prior to site redevelopment through excavation and disposal of shallow soil within the affected portion of the Former NSC Area.

Pistol Range

A total of 11 soil samples were collected from 6 locations in the Pistol Range; samples were analyzed for Title 22 metals. Analytical results are summarized on Table III.

- Cobalt was detected at concentrations exceeding the screening levels in five samples collected from three locations (boring PR4 at 0.5 and 2.5 feet bgs, PR5 at 0.5 and 2.5 feet bgs, and PR8 at 0.5 feet bgs).

The limited cobalt impacts associated with this REC do not significantly exceed the residential screening level and may be considered local background. However, performing excavation and disposal of shallow soil within the affected portion of the Pistol Range may be preferable to pursuing regulatory concurrence on this conclusion given other recommended remediation at the site.

E-1 Drainage Ditch

A total of 10 soil samples were collected from 5 locations in the E-1 Drainage Ditch; samples were analyzed for Title 22 metals, semivolatile organic compounds (SVOCs), PAHs, total petroleum hydrocarbons (TPH) quantified as diesel (TPHd) and as motor oil (TPHmo), volatile organic compounds (VOCs), and pH. Analytical results are summarized on Table IV.

- Arsenic was detected at concentrations exceeding screening levels at 0.5 feet bgs from borings E3, E4, and E5.
- Lead was detected at concentrations exceeding screening levels in samples collected from boring E3 at 0.5 feet bgs and E4 at 0.5 feet bgs.
- TPHd and TPHmo were detected at concentrations exceeding screening levels in the samples collected from borings E3 at 0.5 feet bgs and E4 at 0.5 feet bgs. TPHd was also detected at concentrations exceeding screening levels in samples collected from E2 at 0.5 feet bgs and E5 at 0.5 feet bgs.
- SVOCs, PAHs, and VOCs were not detected at concentrations exceeding screening levels.
- The pH of the soil samples collected in this area ranged from 6.96 to 8.66.

Arsenic and lead impacts are co-located with the TPH impacts in the shallow (0.5 feet bgs) soil; deeper samples collected at 2.5 feet bgs were not impacted. The impacts associated with this REC should be addressed prior to site redevelopment through excavation and disposal of shallow soil within the E-1 Drainage Ditch. Although the entire length of the E-1 Drainage Ditch was not uniformly sampled, impacts at the northern and southern ends are very similar and therefore it should be assumed the entire length will require remediation.

Evaporation Pond

A total of 16 soil samples were collected from 8 locations in the Evaporation Pond Area; samples were analyzed for Title 22 metals and pH. Analytical results are summarized on Table V.

- Metals were not detected at concentrations exceeding screening levels.
- The pH of the soil samples collected in this area ranged from 7.3 to 9.51.

Although there is no specific screening standard for pH levels, a survey of Water Board guidance documents indicates that values greater than 9.0 may be considered outside of the 'normal' range. However, the pH values detected in the Evaporation Pond Area are not significantly outside of that range and should not be considered a significant threat. Obtaining regulatory concurrence on this issue is recommended to confirm no further action would be required in this area prior to site redevelopment.

Detention Basin

A total of 12 soil samples were collected from 4 locations in the Evaporation Pond Area; samples were analyzed for Title 22 metals, SVOCs, PAHs, TPH quantified as gasoline (TPHg), TPHd, TPHmo, and pH. Analytical results are summarized on Table VI.

- Cobalt was detected at concentrations exceeding screening levels in samples collected from DB1 at 0.5 feet bgs and DB3 at 2.5 feet bgs.
- TPHd was detected at a concentration exceeding the screening level in the sample collected from boring DB2 at 2.5 feet bgs.
- The pH of the soil samples collected in this area ranged from 7.81 to 8.67.
- SVOCs, PAHs, TPHg, and TPHmo were not detected at concentrations exceeding screening levels.

The two exceedances for cobalt (24 and 26 mg/kg) only slightly exceeded the screening level of 23 mg/kg; likewise the solitary exceedance for TPHd (130 mg/kg) only slightly exceeded the screening level of 110 mg/kg. Therefore the limited impacts associated with this REC do not pose a significant threat and are not expected to require further action prior to site redevelopment.

Impacted Groundwater

Fourteen soil gas samples were collected from 12 locations to assess potential soil gas impacts that may be associated with impacted groundwater from upgradient off-site sources. Samples were analyzed for

VOCs. Analytical results are summarized on Table VII. Several VOCs were detected; however detected concentrations do not exceed screening levels. Therefore this REC does not pose a vapor intrusion threat. However, the Water Board may still request vapor intrusion engineering controls in this area of the site as part of redevelopment plans due to its proximity to the neighboring Ashland site.

Summary and Conclusions

Former Magnesia Pile: Given the depth of the cobalt exceedances and natural variability of background arsenic concentrations, the limited impacts associated with this REC do not pose a significant threat and are not expected to require further action prior to site redevelopment.

Former Newark Sportsman's Club (NSC) Area: Lead and PAH impacts in the Former NSC Area are co-located. The impacts associated with this REC should be addressed prior to site redevelopment through excavation and disposal of shallow soil within the affected portion of the Former NSC Area.

Pistol Range: The limited cobalt impacts associated with this REC do not significantly exceed the residential screening level and may be considered local background. However, performing excavation and disposal of shallow soil within the affected portion of the Pistol Range may be preferable to pursuing regulatory concurrence on this conclusion given other recommended remediation at the site.

E-1 Drainage Ditch: Arsenic and lead impacts are co-located with the TPH impacts in the shallow (0.5 feet bgs) soil; deeper samples collected at 2.5 feet bgs were not impacted. The impacts associated with this REC should be addressed prior to site redevelopment through excavation and disposal of shallow soil within the E-1 Drainage Ditch. Although the entire length of the E-1 Drainage Ditch was not uniformly sampled, impacts at the northern and southern ends are very similar and therefore it should be assumed the entire length will require remediation.

Evaporation Ponds and Detention Basin: The two exceedances for cobalt (24 and 26 mg/kg) only slightly exceeded the screening level of 23 mg/kg; likewise the solitary exceedance for TPHd (130 mg/kg) only slightly exceeded the screening level of 110 mg/kg. Therefore the limited impacts associated with this REC do not pose a significant threat and are not expected to require further action prior to site redevelopment.

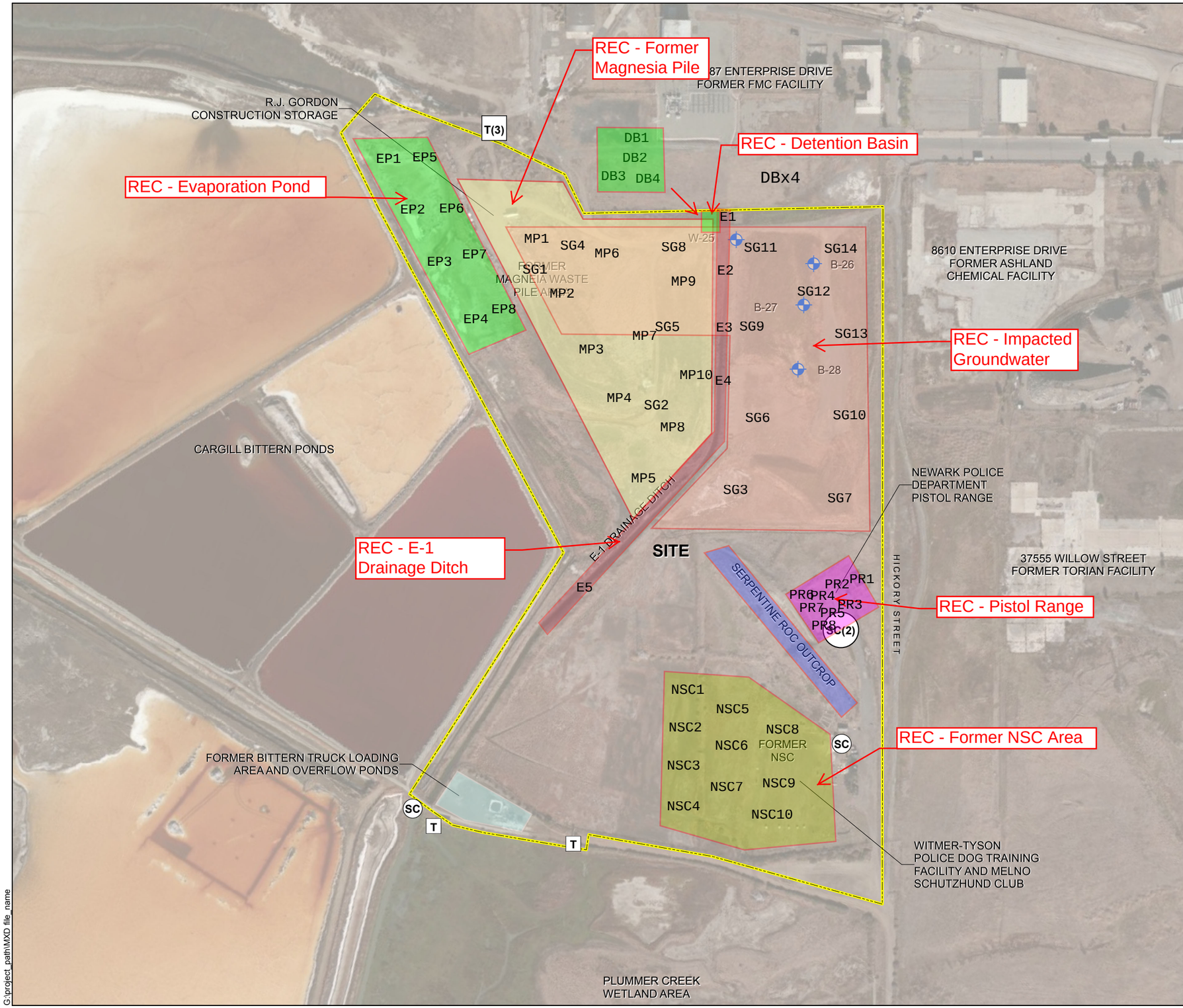
Impacted Groundwater: Detected concentrations of VOCs did not exceed screening levels, therefore this REC does not pose a vapor intrusion threat. However, the Water Board may still request vapor intrusion engineering controls in this area of the site as part of redevelopment plans due to its proximity to the neighboring Ashland site.

Thank you for choosing Haley & Aldrich to perform this investigation. Should you have any questions regarding this letter, please do not hesitate to contact me.

Sincerely yours,
HALEY & ALDRICH, INC.

James Schwartz, PG
Client Leader

Attachments
Figure 1 – Site Plan
Tables I through VII – Site Data



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LEGEND

GROUNDWATER MONITORING WELL LOCATION

SITE BOUNDARY

MP - Soil Sample Locations in Former Magnesia Waste Pile

SG - Soil Gas Sample Locations

NSC - Soil Sample Locations in Former Newark Sportsman's Club

PR - Soil Sample Locations in Existing Pistol Range

E - Soil Sample Locations Along the E-1 Ditch

DB - Soil Sample Locations in Former Detention Basin

EP - Soil Sample Locations in Evaporation Pond

NOTES:

1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.
2. SC = STORAGE CONTAINER
3. T = POLE-MOUNTED TRANSFORMER

N
W
E
S

0 300 600

SCALE IN FEET

HALEY & ALDRICH

CARGILL PROPERTY
54.53-ACRE PARCEL
SOUTHWEST OF HICKORY STREET AND ENTERPRISE DRIVE
NEWARK, CALIFORNIA

SITE PLAN

SCALE: AS SHOWN
OCTOBER 2013

DRAFT FIGURE 1

TABLE I -- DRAFT

SUMMARY OF ANALYTICAL RESULTS - FORMER MAGNESIA PILE[1]
GATEWAY STATION WEST
NEWARK, CALIFORNIA

		Chemical Group	Inorganic Compounds																	
		Chemical Name	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc	pH (lab)
		Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	pH units
Loc.	**Sample Date**	**Sample Depth (bgs)**																		
Residential Screening Level[2]			31	11[3]	15000	160	70	120000	23	3100	80	6.7	390	1500	390	390	0.78	390	23000	-
Soil Leaching ESL[4]			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MP1	10/06/2014	0 - 0.5 (ft)	1.5 R	**4.5**	**200**	**0.33**	< 0.38	**48**	**13**	**71**	**8**	**0.095**	< 1.5	**58**	< 3.1	< 0.77	< 1.5	**46**	**43**	**8.27**
	10/06/2014	2 - 2.5 (ft)	< 1.6	**4.1**	**270**	**0.5**	< 0.40	**51**	**11**	**26**	**6.6**	**0.11**	< 1.6	**46**	< 3.2	< 0.79	< 1.6	**52**	**34**	**7.99**
	10/09/2014	4.5 - 5 (ft)	< 1.9 J	**4.0 J-**	**350**	**0.54**	< 0.47	**63**	**15**	**36**	**4.7**	**0.045**	< 1.9 J	**63**	< 3.8 J	< 0.94	< 1.9	**130**	**57**	**7.59**
MP2	10/06/2014	0 - 0.5 (ft)	1.7 R	**11**	**150**	**0.41**	< 0.43	**54**	**11**	**27**	**11**	**0.11**	< 1.7	**45**	< 3.5	< 0.87	< 1.7	**48**	**61**	**7.79**
	10/06/2014	2 - 2.5 (ft)	**0.69**	**5.8**	**170**	**0.17**	**0.19**	**75**	**10**	**28**	**9.3**	**0.46**	**0.61**	**67**	< 0.92	**0.33**	< 0.46	**33**	**59**	**7.46**
	10/09/2014	4.5 - 5 (ft)	< 1.8 J	**5.0 J-**	**190**	< 0.36	< 0.45	**69**	**16**	**43**	**7.6**	**0.085**	< 1.8 J	**63**	< 3.6 J	< 0.89	< 1.8	**67**	**60**	**7.89**
MP3	10/06/2014	0 - 0.5 (ft)	0.41 R	**3.2**	**120**	**0.23**	< 0.10	**30**	**6.6**	**14**	**5.9**	**0.041**	< 0.41	**29**	< 0.83	< 0.21	< 0.41	**28**	**31**	**8.19**
	10/06/2014	2 - 2.5 (ft)	< 1.6	< 3.2	**110**	< 0.32	< 0.40	**67**	**15**	**29**	**4.2**	**0.038**	< 1.6	**49**	< 3.2	< 0.80	< 1.6	**73**	**41**	**8.27**
	10/09/2014	4.5 - 5 (ft)	< 1.8 J	< 3.5 J	**110**	< 0.35	< 0.44	**150**	**33**	**66**	**2.2**	**0.016**	< 1.8 J	**100**	< 3.5 J	< 0.88	< 1.8	**150**	**68**	**7.54**
	10/09/2014	8.5 - 9 (ft)	-	-	-	-	-	-	**28**	-	-	-	-	-	-	-	-	-	-	-
MP4	10/06/2014	0 - 0.5 (ft)	**0.60 J-**	**6**	**170**	**0.22**	**0.17**	**68**	**11**	**29**	**8.6**	**0.088**	< 0.47	**69**	< 0.93	**0.27**	< 0.47	**33**	**58**	**7.67**
	10/06/2014	2 - 2.5 (ft)	< 1.5	**6**	**130**	< 0.31	< 0.38	**59**	**12**	**31**	**27**	**0.7**	< 1.5	**61**	< 3.1	< 0.76	< 1.5	**45**	**65**	**8.22**
	10/09/2014	4.5 - 5 (ft)	< 1.7 J	< 3.3 J	**150**	< 0.33	< 0.42	**65**	**34**	**46**	< 1.7	**0.028**	< 1.7 J	**57**	< 3.3 J	< 0.83	< 1.7	**180**	**82**	**8.49**
	10/09/2014	7.5 - 8 (ft)	-	-	-	-	-	-	**35**	-	-	-	-	-	-	-	-	-	-	-
MP5	10/06/2014	0 - 0.5 (ft)	1.9 R	**7.1**	**110**	**0.41**	< 0.49	**72**	**16**	**34**	**9.4**	**0.039**	< 1.9	**85**	< 3.9	< 0.97	< 1.9	**43**	**54**	**7.84**
	10/06/2014	2 - 2.5 (ft)	< 1.7	**6.2**	**140**	< 0.35	< 0.43	**68**	**15**	**31**	**7.6**	**0.035**	< 1.7	**86**	< 3.5	< 0.87	< 1.7	**39**	**58**	**7.71**
	10/09/2014	4.5 - 5 (ft)	< 1.7 J	**7.3 J-**	**450**	< 0.34	**0.49**	**67**	**17**	**31**	**9**	**0.065**	< 1.7 J	**92**	< 3.4 J	< 0.85	< 1.7	**34**	**52**	**7.46**
MP6	10/06/2014	0 - 0.5 (ft)	1.6 R	**5.8**	**170**	< 0.32	< 0.40	**68**	**13**	**25**	**6.9**	**0.052**	< 1.6	**81**	< 3.2	< 0.79	< 1.6	**35**	**52**	**8.37**
	10/06/2014	2 - 2.5 (ft)	< 1.4	**5.6**	**210**	**0.48**	< 0.36	**48**	**12**	**28**	**8.6**	**0.086**	< 1.4	**61**	< 2.9	< 0.72	< 1.4	**37**	**50**	**8.67**
	10/09/2014	4.5 - 5 (ft)	< 1.8 J	**12 J-**	**190**	**0.97**	< 0.46	**76**	**20**	**52**	**10**	**0.076**	**3.4 J-**	**120**	< 3.7 J	< 0.92	< 1.8	**69**	**82**	**7.89**
	10/09/2014	8.5 - 9 (ft)	-	**7.6**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MP7	10/06/2014	0 - 0.5 (ft)	1.7 R	**5.9**	**190**	**0.34**	< 0.43	**70**	**14**	**27**	**8.9**	**0.061**	< 1.7	**78**	< 3.4	< 0.86	< 1.7	**39**	**50**	**8.07**
	10/06/2014	2 - 2.5 (ft)	< 1.6	**6**	**170**	**0.32**	< 0.39	**65**	**14**	**25**	**7.4**	**0.046**	< 1.6	**75**	< 3.1	< 0.78	< 1.6	**36**	**47**	**8.28**
	10/09/2014	4.5 - 5 (ft)	< 1.8 J	**7.0 J-**	**230**	**0.42**	< 0.44	**80**	**14**	**29**	**8.4**	**0.077**	< 1.8 J	**93**	< 3.5 J	< 0.88	< 1.8	**40**	**53**	**7.94**
MP8	10/06/2014	0 - 0.5 (ft)	1.4 R	**4.2**	**130**	< 0.27	< 0.34	**45**	**9.6**	**22**	**11**	**0.13**	< 1.4	**36**	< 2.7	< 0.68	< 1.4	**38**	**54**	**8.11**
	10/06/2014	2 - 2.5 (ft)	< 0.47	**4.5**	**140**	**0.26**	**0.23**	**35**	**8.6**	**25**	**10**	**0.046**	**0.52**	**33**	< 0.93	< 0.23	< 0.47	**40**	**59**	**8.05**
	10/09/2014	4.5 - 5 (ft)	< 1.8 J	**4.9 J-**	**170**	**0.4**	< 0.45	**52**	**21**	**22**	**15**	**0.045**	< 1.8 J	**55**	< 3.6 J	< 0.91	< 1.8	**51**	**44**	**7.24**
MP9	10/06/2014	0 - 0.5 (ft)	1.8 R	**4.4**	**300**	**0.55**	< 0.44	**18**	**6.1**	**18**	**7.1**	**0.059**	< 1.8	**13**	< 3.5	< 0.88	< 1.8	**23**	**32**	**7.12**
	10/06/2014	2 - 2.5 (ft)	< 1.8	**5.7**	**130**	< 0.36	< 0.45	**59**	**12**	**26**	**11**	**0.054**	< 1.8	**72**	< 3.6	< 0.91	< 1.8	**34**	**56**	**8.64**
	10/09/2014	4.5 - 5 (ft)	< 1.7 J	**7.4 J-**	**170**	< 0.34	< 0.42	**71**	**14**	**31**	**13**	**0.085**	< 1.7 J	**88**	< 3.4 J	< 0.84	< 1.7	**38**	**58**	**8.64**
MP10	10/06/2014	0 - 0.5 (ft)	1.8 R	**5.3**	**170**	< 0.35	< 0.44	**61**	**13**	**27**	**10**	**0.12**	< 1.8	**71**	< 3.5	< 0.88	< 1.8	**43**	**60**	**8.28**
	10/06/2014	2 - 2.5 (ft)	< 1.6	**4.7**	**250**	< 0.33	< 0.41	**65**	**12**	**25**	**4.4**	**0.082**	< 1.6	**78**	< 3.3	< 0.82	< 1.6	**45**	**54**	**8.32**
	10/09/2014	4.5 - 5 (ft)	< 0.44 J	**5.2 J-**	**220**	**0.27**	**0.26**	**43**	**10**	**21**	**6.5**	**0.056**	**0.45 J-**	**52**	< 0.88 J	< 0.22	< 0.44	**39**	**39**	**8.19**

Notes:

1 Soil samples collected by Haley & Aldrich, Inc. and analyzed by Test America Laboratories, Inc., of Pleasanton, California, for Title 22 metals using EPA Method 6010B/7471A and pH using EPA Method 9045. **Bold** indicates a detected result. Highlighted results exceed screening levels.

2 Lowest (most conservative) value of the following residential screening levels:
- Environmental Screening Levels (ESLs; Water Board, Update to Environmental Screening Levels, Table K-1, Direct Exposure Soil Screening Levels, Residential Exposure Scenario, December 2013).
- Alternative Soil and Tapwater Screening Values (Cal-modified; DTSC Office of Human and Ecological Risk, 2013, HHRA Note 3.2)
- Residential Soil Regional Screening Level (RSLs; USEPA, 2014).

3 Arsenic was evaluated by comparison to background value of 11 mg/kg.

4 ESLs for the protection of groudnwater resources (Water Board, 2013, Update to Environmental Screening Levels, Table G, Soil Screening Levels for Leaching Concerns, Drinking Water Resource, December).

Abbreviations:

- = Not Analyzed/ No action level
< = result not detected at the indicated analytical reporting limit
bgs = below ground surface
J = Estimated value. Quality control deficiencies have compromised result accuracy.
J- = Estimated Biased Low
J+ = Estimated Biased High
mg/kg = milligrams per kilogram
R = result is rejected to data quality deficiencies
Loc. = location

TABLE II - DRAFT

SUMMARY OF ANALYTICAL RESULTS - FORMER NEWARK SPORTSMAN'S CLUB[1]
GATEWAY STATION WEST
NEWARK, CALIFORNIA

		Chemical Group	Inorganic Compounds																
		Chemical Name	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
		Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Loc.	**Sample Date**	**Sample Depth (bgs)**																	
Residential Screening Level[2]			31	11[3]	15000	160	70	120000	23	3100	80	6.7	390	1500	390	390	0.78	390	23000
Soil Leaching ESL[4]			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NSC1	10/02/2014	0 - 0.5 (ft)	**1.0 J-**	**4.2**	**360**	**0.21**	< 0.20	**51**	**12**	**62**	**7.2**	**0.066**	< 0.78	**52**	< 1.6	< 0.39	< 0.78	**44**	**45**
	10/02/2014	2 - 2.5 (ft)	**0.92**	**6.2**	**160**	**0.19**	< 0.11	**52**	**11**	**26**	**5.5**	**0.027**	< 0.45	**65**	< 0.91	< 0.23	< 0.45	**30**	**44**
NSC2	10/02/2014	0 - 0.5 (ft)	**0.90 J-**	**5.8**	**190**	**0.23**	< 0.18	**58**	**13**	**37**	**6.4**	**0.026**	**0.53**	**68**	< 1.5	< 0.36	< 0.73	**39**	**41**
	10/02/2014	2 - 2.5 (ft)	< 0.79	**7.1**	**220**	**0.23**	< 0.20	**61**	**11**	**29**	**6.8**	**0.36**	**0.65**	**75**	< 1.6	< 0.40	< 0.79	**35**	**49**
NSC3	10/02/2014	0 - 0.5 (ft)	**0.93 J-**	**5.3**	**100**	**0.26**	< 0.11	**53**	**8.9**	**21**	**5.2**	**0.033**	**0.61**	**57**	< 0.85	< 0.21	< 0.43	**31**	**36**
	10/02/2014	2 - 2.5 (ft)	**0.99**	**6.5**	**130**	**0.28**	< 0.12	**61**	**12**	**27**	**6.1**	**0.033**	**0.52**	**74**	< 0.98	< 0.25	< 0.49	**33**	**44**
NSC4	10/02/2014	0 - 0.5 (ft)	**0.94 J-**	**6**	**170**	**0.3**	< 0.12	**63**	**11**	**26**	**7**	**0.022**	**0.59**	**73**	< 0.93	< 0.23	< 0.46	**33**	**41**
	10/02/2014	2 - 2.5 (ft)	**0.65**	**6.3**	**160**	**0.18**	< 0.11	**50**	**9.9**	**25**	**5.7**	**0.048**	**0.47**	**63**	< 0.88	< 0.22	< 0.44	**30**	**41**
NSC5	10/02/2014	0 - 0.5 (ft)	**31 J-**	**26**	**120**	**0.24**	**0.12**	**140**	**20**	**23**	**1,400**	**0.055**	< 0.49	**270**	< 0.98	< 0.25	< 0.49	**33**	**40**
	10/02/2014	2 - 2.5 (ft)	< 0.78	**7.1**	**160**	**0.28**	< 0.20	**70**	**12**	**30**	**8.3**	**0.04**	**0.71**	**81**	< 1.6	< 0.39	< 0.78	**36**	**50**
	10/13/2014	4.5 - 5 (ft)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NSC6	10/02/2014	0 - 0.5 (ft)	**1.3 J-**	**6.4**	**150**	**0.3**	< 0.10	**55**	**11**	**23**	**27**	**0.037**	**0.44**	**60**	< 0.80	< 0.20	< 0.40	**34**	**36**
	10/02/2014	2 - 2.5 (ft)	**0.9**	**6.6**	**150**	**0.27**	< 0.12	**57**	**11**	**27**	**6.3**	**0.043**	**0.57**	**67**	< 0.94	< 0.24	< 0.47	**34**	**44**
	10/13/2014	4.5 - 5 (ft)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NSC7	10/02/2014	0 - 0.5 (ft)	**0.99 J-**	**6.2**	**160**	**0.31**	< 0.19	**62**	**11**	**26**	**7.1**	**0.025**	**0.45**	**69**	< 1.5	< 0.38	< 0.77	**37**	**39**
	10/02/2014	2 - 2.5 (ft)	**0.8**	**6.5**	**180**	**0.24**	< 0.12	**54**	**11**	**26**	**6.3**	**0.033**	**0.64**	**70**	< 0.94	< 0.24	< 0.47	**31**	**44**
NSC8	10/02/2014	0 - 0.5 (ft)	**3.5 J-**	**5.5**	**83**	**0.1**	**0.29**	**150**	**20**	**17**	**590**	**0.13**	< 0.43	**330**	< 1.7	< 0.22	< 0.43	**22**	**37**
	10/02/2014	2 - 2.5 (ft)	**1**	**6.2**	**270**	**0.33**	< 0.11	**71**	**11**	**27**	**6.2**	**0.045**	< 0.45	**78**	< 0.90	< 0.23	< 0.45	**33**	**44**
	10/13/2014	4.5 - 5 (ft)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NSC9	10/02/2014	0 - 0.5 (ft)	**0.87 J-**	**5.5**	**180**	**0.29**	< 0.10	**59**	**10**	**24**	**7.2**	**0.037**	< 0.41	**65**	< 0.82	< 0.20	< 0.41	**32**	**38**
	10/02/2014	2 - 2.5 (ft)	**2.4**	**6.1**	**110**	**0.2**	**0.15**	**56**	**11**	**22**	**110**	**0.05**	< 0.49	**81**	< 0.97	< 0.24	< 0.49	**30**	**37**
	10/13/2014	4.5 - 5 (ft)	-	-	-	-	-	-	-	-	**8.5**	-	-	-	-	-	-	-	-
NSC10	10/02/2014	0 - 0.5 (ft)	**0.84 J-**	**5.8**	**160**	**0.3**	< 0.12	**62**	**11**	**25**	**7.3**	**0.042**	< 0.48	**68**	< 0.95	< 0.24	< 0.48	**33**	**40**
	10/02/2014	2 - 2.5 (ft)	**0.77**	**5.4**	**140**	**0.27**	< 0.12	**52**	**11**	**20**	**7.5**	**0.026**	< 0.47	**61**	< 0.93	< 0.23	< 0.47	**30**	**33**
	10/13/2014	4.5 - 5 (ft)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Notes:

1 Soil samples collected by Haley & Aldrich, Inc. and analyzed by Test America Laboratories, Inc., of Pleasanton, California, for Title 22 metals using EPA Method 6461B/7471A and PAHs using EPA Method 8270C with selective ion monitoring (SIM). Highlighted results exceed screening levels. Bold indicates a detected result.

2 Lowest (most conservative) value of the following residential screening levels:
- Environmental Screening Levels (ESLs; Water Board, Update to Environmental Screening Levels, Table K-1, Direct Exposure Soil Screening Levels, Residential Exposure Scenario, December 2013).
- Alternative Soil and Tapwater Screening Values (Cal-modified; DTSC Office of Human and Ecological Risk, 2013, HHRA Note 3.2)
- Residential Soil Regional Screening Level (RSLs; USEPA, 2014).

3 Arsenic was evaluated by comparison to background value of 11 mg/kg.

4 ESLs for the protection of groudnwater resources (Water Board, 2013, Update to Environmental Screening Levels, Table G, Soil Screening Levels for Leaching Concerns, Drinking Water Resource, December).

5 All carcinogenic PAHs are shown, only detected non-carcinogenic PAHs are shown.

Abbreviations:

Loc. = location
< = result not detected at the indicated analytical reporting limit
bgs = below ground surface

J = Estimated value.
Quality control deficiencies have compromised result accuracy.
J- = Estimated Biased Low
J+ = Estimated Biased High

mg/kg = milligrams per kilogram
R = result is rejected to data quality deficiencies
- = Not Analyzed/ No action level

TABLE II - DRAFT

SUMMARY OF ANALYTICAL RESULTS - FORMER NEWARK SPORTSMAN'S CLUB[1]
GATEWAY STATION WEST
NEWARK, CALIFORNIA

		Chemical Group	Polycyclic Aromatic Hydrocarbons[5]															
		Chemical Name	Acenaphthene	Anthracene	Benzo(a) anthracene	Benzo(a) pyrene	Benzo(b) fluoranthene	Benzo(g,h,i) perylene	Benzo(k) fluoranthene	Chrysene	Dibenz(a, h) anthracene	Fluoranthene	Fluorene	Indeno (1,2,3-cd) pyrene	Naphthalene	Phenanthrene	Pyrene	Benzo(A)Pyrene Equivalent (1/2 RL substituted for ND)
		Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Loc.	**Sample Date**	**Sample Depth (bgs)**																
Residential Screening Level[2]			3.40E+06	1.70E+07	150	15	150	-	380	3800	15	2.30E+06	2.30E+06	150	-	-	1.70E+06	900
Soil Leaching ESL[4]			16000	2800	12000	130000	46000	27000	5100	23000	9900	60000	8900	15000	1200	11000	85000	-
NSC1	10/02/2014	0 - 0.5 (ft)	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	**4.38**
	10/02/2014	2 - 2.5 (ft)	< 4.9	< 4.9	< 4.9	< 4.9	< 4.9	< 4.9	< 4.9	< 4.9	< 4.9	< 4.9	< 4.9	< 4.9	< 4.9	< 4.9	< 4.9	**4.29**
NSC2	10/02/2014	0 - 0.5 (ft)	< 4.9	< 4.9	< 4.9	< 4.9	< 4.9	< 4.9	< 4.9	< 4.9	< 4.9	< 4.9	< 4.9	< 4.9	< 4.9	< 4.9	< 4.9	**4.29**
	10/02/2014	2 - 2.5 (ft)	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	**4.38**
NSC3	10/02/2014	0 - 0.5 (ft)	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	**4.38**
	10/02/2014	2 - 2.5 (ft)	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	**4.38**
NSC4	10/02/2014	0 - 0.5 (ft)	< 4.9	< 4.9	**18**	**39**	**41**	**16**	**19**	**19**	**5.8**	**10**	< 4.9	**17**	< 4.9	< 4.9	**16**	**50.66**
	10/02/2014	2 - 2.5 (ft)	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	**4.38**
NSC5	10/02/2014	0 - 0.5 (ft)	**2,500**	**2,600**	**9,300**	**22,000**	**13,000**	**12,000**	**16,000**	**13,000**	**4,900**	**9,700**	**1,600**	**12,000**	**1,100**	**9,600**	**11,000**	**28,826**
	10/02/2014	2 - 2.5 (ft)	< 5.0	< 5.0	**44**	**89**	**99**	**35**	**41**	**45**	**12**	**38**	< 5.0	**35**	< 5.0	**9.2**	**46**	**115.43**
	10/13/2014	4.5 - 5 (ft)	< 4.9	< 4.9	< 4.9	< 4.9	< 4.9	< 4.9	< 4.9	< 4.9	< 4.9	< 4.9	< 4.9	< 4.9	< 4.9	< 4.9	< 4.9	**4.29**
NSC6	10/02/2014	0 - 0.5 (ft)	**62**	**62**	**370**	**690**	**420**	**440**	**550**	**490**	**160**	**450**	**11**	**400**	< 9.9	**180**	**470**	**923.3**
	10/02/2014	2 - 2.5 (ft)	< 5.0	**6**	**45**	**49**	**66**	**16**	**27**	**45**	**6.8**	**62**	< 5.0	**16**	< 5.0	**14**	**65**	**67.16**
	10/13/2014	4.5 - 5 (ft)	< 4.9	< 4.9	< 4.9	< 4.9	< 4.9	< 4.9	< 4.9	< 4.9	< 4.9	< 4.9	< 4.9	< 4.9	< 4.9	< 4.9	< 4.9	**4.29**
NSC7	10/02/2014	0 - 0.5 (ft)	**30**	**23**	**320**	**710**	**430**	**410**	**530**	**440**	**170**	**270**	< 10	**410**	< 10	**65**	**330**	**941.2**
	10/02/2014	2 - 2.5 (ft)	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	**5.2**	**4.38**
NSC8	10/02/2014	0 - 0.5 (ft)	**28,000**	**19,000**	**200,000**	**370,000**	**240,000**	**180,000**	**270,000**	**260,000**	**71,000**	**170,000**	< 4,900	**160,000**	**5,000**	**63,000**	**230,000**	**483,740**
	10/02/2014	2 - 2.5 (ft)	**50**	**240**	**730**	**830**	**660**	**380**	**660**	**870**	**180**	**1,300**	**34**	**390**	< 9.9	**750**	**1,000**	**1,144**
	10/13/2014	4.5 - 5 (ft)	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	**4.38**
NSC9	10/02/2014	0 - 0.5 (ft)	< 5.0	< 5.0	**6.2**	**12**	**8.2**	**8.8**	**8.1**	**9.7**	< 5.0	**5.6**	< 5.0	**6.8**	< 5.0	< 5.0	**6.8**	**15.88**
	10/02/2014	2 - 2.5 (ft)	**2,100**	**2,400**	**35,000**	**60,000**	**47,000**	**32,000**	**39,000**	**49,000**	**12,000**	**27,000**	< 990	**30,000**	< 990	**8,200**	**37,000**	**79,670**
	10/13/2014	4.5 - 5 (ft)	< 4.9	< 4.9	< 4.9	< 4.9	< 4.9	< 4.9	< 4.9	< 4.9	< 4.9	< 4.9	< 4.9	< 4.9	< 4.9	< 4.9	< 4.9	**4.29**
NSC10	10/02/2014	0 - 0.5 (ft)	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	**4.38**
	10/02/2014	2 - 2.5 (ft)	< 5.0	**5.9**	**71**	**130**	**66**	**72**	**56**	**110**	**20**	**42**	< 5.0	**50**	< 5.0	**22**	**69**	**162.2**
	10/13/2014	4.5 - 5 (ft)	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	**4.38**

Notes:

1 Soil samples collected by Haley & Aldrich, Inc. and analyzed by Test America Laboratories, Inc., of Pleasanton, California, for Title 22 metals using EPA Method 6461B/7471A and PAHs using EPA Method 8270C with selective ion monitoring (SIM). **Bold** indicates a detected result. Highlighted results exceed screening levels.

2 Lowest (most conservative) value of the following residential screening levels:
- Environmental Screening Levels (ESLs; Water Board, Update to Environmental Screening Levels, Table K-1, Direct Exposure Soil Screening Levels, Residential Exposure Scenario, December 2013).
- Alternative Soil and Tapwater Screening Values (Cal-modified; DTSC Office of Human and Ecological Risk, 2013, HHRA Note 3.2)
- Residential Soil Regional Screening Level (RSLs; USEPA, 2014).

3 Arsenic was evaluated by comparison to background value of 11 mg/kg.

4 ESLs for the protection of groudnwater resources (Water Board, 2013, Update to Environmental Screening Levels, Table G, Soil Screening Levels for Leaching Concerns, Drinking Water Resource, December).

5 All carcinogenic PAHs are shown, only detected non-carcinogenic PAHs are shown.

Abbreviations:

- = Not Analyzed/ No action level
< = result not detected at the indicated analytical reporting limit
bgs = below ground surface
ESL = environmental screening level
J = Estimated value. Quality control deficiencies have compromised result accuracy.
J- = Estimated Biased Low
J+ = Estimated Biased High
Loc. = location
mg/kg = milligrams per kilogram
PAHs = polynuclear aromatic hydrocarbons
R = result is rejected to data quality deficiencies

TABLE III - DRAFT
SUMMARY OF ANALYTICAL RESULTS - PISTOL RANGE
GATEWAY STATION WEST
NEWARK, CALIFORNIA

		Chemical Group	Inorganic Compounds																
		Chemical Name	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
		Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Loc.	**Sample Date**	**Sample Depth (bgs)**																	
Residential Screening Level[2]			31	11[3]	15000	160	70	120000	23	3100	80	6.7	390	1500	390	390	0.78	390	23000
Soil Leaching ESL[4]			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PR1	10/02/2014	0 - 0.5 (ft)	0.41 R	**1.9**	**70**	< 0.081	**0.11**	**27**	**12**	**28**	**10**	**0.14**	< 0.41 J	**32**	< 0.81	< 0.20	< 0.41	**43**	**43**
	10/02/2014	2 - 2.5 (ft)	< 0.50	**6.2**	**170**	**0.3**	< 0.12	**61**	**15**	**27**	**7.9**	**0.028**	**0.73**	**74**	< 0.99	< 0.25	< 0.50	**39**	**44**
PR2	10/02/2014	0 - 0.5 (ft)	0.90 R	**4.9**	**160**	**0.25**	< 0.23	**150**	**21**	**27**	**9.5**	**0.067**	< 0.45 J	**240**	< 1.8	< 0.45	< 0.90	**36**	**49**
	10/02/2014	2 - 2.5 (ft)	< 0.80	**7.5**	**160**	**0.31**	< 0.20	**89**	**17**	**36**	**9.4**	**0.033**	**0.52**	**120**	< 1.6	< 0.40	< 0.80	**46**	**64**
PR3	10/02/2014	0 - 0.5 (ft)	0.76 R	**6.2**	**170**	**0.28**	< 0.19	**99**	**14**	**30**	**7.9**	**0.031**	**0.77 J-**	**120**	< 1.5	< 0.38	< 0.76	**45**	**50**
	10/02/2014	2 - 2.5 (ft)	< 0.88	**7.2**	**320**	**0.21**	< 0.22	**72**	**13**	**30**	**7.4**	**0.054**	**0.65**	**81**	< 1.8	< 0.44	< 0.88	**44**	**53**
PR4	10/02/2014	0 - 0.5 (ft)	**1.6 J**	**2.8**	**220**	< 0.095	< 0.24	**660**	**64**	**31**	**4.5**	**0.025**	< 0.48 J	**1,200**	< 1.9	< 0.48	< 0.95	**41**	**59**
	10/02/2014	2 - 2.5 (ft)	< 0.99	**2.7**	**150**	< 0.099	< 0.25	**420**	**39**	**26**	**4.6**	**0.031**	< 0.50	**780**	< 2.0	< 0.50	< 0.99	**38**	**49**
PR5	10/02/2014	0 - 0.5 (ft)	**1.5 J**	**2.5**	**220**	**0.1**	< 0.22	**560**	**57**	**28**	**5.1**	**0.03**	< 0.45 J	**990**	< 1.8	< 0.45	< 0.89	**38**	**52**
	10/02/2014	2 - 2.5 (ft)	< 1.0	**3.6**	**200**	**0.14**	< 0.25	**510**	**47**	**32**	**5.5**	**0.065**	< 0.50	**900**	< 2.0	< 0.50	< 1.0	**46**	**58**
PR8	10/02/2014	0 - 0.5 (ft)	0.94 R	**3**	**79**	< 0.094	< 0.24	**200**	**27**	**41**	**9.2**	**0.13**	< 0.47 J	**310**	< 1.9	< 0.47	< 0.94	**47**	**70**

Notes:

1 Soil samples collected by Haley & Aldrich, Inc. and analyzed by Test America Laboratories, Inc., of Pleasanton, California, for Title 22 metals using EPA Method 6010B/7471A.
Bold indicates a detected result. Highlighted results exceed screening levels.

2 Lowest (most conservative) value of the following residential screening levels:
- Environmental Screening Levels (ESLs; Water Board, Update to Environmental Screening Levels, Table K-1, Direct Exposure Soil Screening Levels, Residential Exposure Scenario, December 2013).
- Alternative Soil and Tapwater Screening Values (Cal-modified; DTSC Office of Human and Ecological Risk, 2013, HHRA Note 3.2)
- Residential Soil Regional Screening Level (RSLs; USEPA, 2014).

3 Arsenic was evaluated by comparison to background value of 11 mg/kg.

4 ESLs for the protection of groudnwater resources (Water Board, 2013, Update to Environmental Screening Levels, Table G, Soil Screening Levels for Leaching Concerns, Drinking Water Resource, December).

Abbreviations:

- = Not Analyzed/ No action level
< = result not detected at the indicated analytical reporting limit
bgs = below ground surface
ESL = environmental screening level

J = Estimated value. Quality control deficiencies have compromised result accuracy.
J- = Estimated Biased Low
J+ = Estimated Biased High

Loc. = location
mg/kg = milligrams per kilogram
R = result is rejected to data quality deficiencies

TABLE IV - DRAFT
SUMMARY OF ANALYTICAL RESULTS - E-1 DRAINAGE DITCH
GATEWAY STATION WEST
NEWARK, CALIFORNIA

Loc.	Sample Date	Sample Depth (bgs)	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc	pH (lab)	SVOCs
Chemical Group			Inorganic Compounds																	Other	Semi-Volatile Organic Compounds [5]
Units			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	pH units	mg/kg
Residential Screening Level[2]			31	11 [3]	15000	160	70	120000	23	3100	80	6.7	390	1500	390	390	0.78	390	23000	-	-
Soil Leaching ESL[4]			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.5
E1	10/03/2014	0 - 0.5 (ft)	< 0.86	**7.3**	**190**	**0.2**	**0.22**	**74**	**14**	**56**	**21**	**0.2**	< 0.43	**87**	< 1.7	< 0.43	< 0.86	**42**	**73**	**8.56**	ND
	10/03/2014	2 - 2.5 (ft)	< 0.81	**8.4**	**170**	**0.22**	**0.2**	**73**	**15**	**57**	**24**	**0.18**	< 0.41	**89**	< 1.6	< 0.41	< 0.81	**43**	**70**	**8.66**	ND
E2	10/03/2014	0 - 0.5 (ft)	**1.1**	**10**	**330**	**0.21**	**0.61**	**60**	**9.8**	**69**	**39**	**0.41**	< 0.38	**67**	< 1.5	**0.67**	< 0.76	**34**	**83**	**8.01**	ND
	10/03/2014	2 - 2.5 (ft)	< 0.66	**9.1**	**160**	**0.13**	< 0.17	**66**	**12**	**29**	**7.1**	**0.044**	< 0.33	**83**	< 1.3	< 0.33	< 0.66	**35**	**53**	**8.13**	ND
E3	10/03/2014	0 - 0.5 (ft)	**5.7**	**48**	**300**	**0.13**	**5.7**	**54**	**9.9**	**320**	**220**	**1.3**	**4.6**	**53**	< 0.87	**6.5**	< 0.43	**34**	**430**	**6.96 J**	ND
	10/03/2014	2 - 2.5 (ft)	< 0.83	**11**	**130**	**0.21**	**0.22**	**70**	**14**	**43**	**16**	**0.055**	< 0.41	**87**	< 1.7	< 0.41	< 0.83	**39**	**70**	**7.94 J**	ND
E4	10/03/2014	0 - 0.5 (ft)	**2.3**	**41**	**150**	**0.12**	**0.83**	**48**	**5.2**	**220**	**170**	**2.9**	**2**	**33**	< 0.73	**4.1**	< 0.36	**20**	**320**	**7.03 J**	ND
	10/03/2014	2 - 2.5 (ft)	< 0.89	**11**	**170**	**0.16**	< 0.22	**69**	**13**	**30**	**7.8**	**0.078**	< 0.45	**87**	< 1.8	< 0.45	< 0.89	**39**	**55**	**8.41 J**	ND
E5	10/03/2014	0 - 0.5 (ft)	**2.3**	**25**	**230**	**0.13**	**2.2**	**46**	**6.2**	**140**	**72**	**1.2**	**2.9**	**38**	< 0.81	**3.3**	< 0.40	**23**	**380**	**7.02 J**	ND
	10/03/2014	2 - 2.5 (ft)	< 0.52	**7**	**140**	**0.18**	**0.28**	**63**	**14**	**31**	**8.5**	**0.041**	**0.4**	**80**	< 1.0	< 0.26	< 0.52	**36**	**60**	**7.6 J**	ND

Notes:

1 Soil samples collected by Haley & Aldrich, Inc. and analyzed by Test America Laboratories, Inc., of Pleasanton, California, for Title 22 metals using EPA Method 6010B/7471A, pH using EPA Method 9045, SVOCs using EPA Method 8270C, PAHs using EPA Method 8270c with selective ion monitoring (SIM), total petroleum hydrocarbons quantified as diesel and motor oil using EPA Method 8015M, and VOCs using EPA Method 8260B. **Bold** indicates a detected result. Highlighted results exceed screening levels.

2 Lowest (most conservative) value of the following residential screening levels:
- Environmental Screening Levels (ESLs; Water Board, Update to Environmental Screening Levels, Table K-1, Direct Exposure Soil Screening Levels, Residential Exposure Scenario, December 2013).
- Alternative Soil and Tapwater Screening Values (Cal-modified; DTSC Office of Human and Ecological Risk, 2013, HHRA Note 3.2)
- Residential Soil Regional Screening Level (RSLs; USEPA, 2014).

3 Arsenic was evaluated by comparison to background value of 11 mg/kg.

4 ESLs for the protection of groudnwater resources (Water Board, 2013, Update to Environmental Screening Levels, Table G, Soil Screening Levels for Leaching Concerns, Drinking Water Resource, December).

5 Only detetced analytes shown.

6 All carcinogenic PAHs are shown, only detected non-carcinogenic PAHs are shown.

Abbreviations:

- = Not Analyzed/ No action level
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bgs = below ground surface
ND = Not detected

J = Estimated value. Quality control deficiencies have compromised result accuracy.
J- = Estimated Biased Low
J+ = Estimated Biased High
Loc. = location

mg/kg = milligrams per kilogram
ug/kg = micrograms per kilogram
R = result is rejected to data quality deficiencies
SVOCs = semivolatile organic compounds
VOCs = volatile organic compounds

TABLE IV - DRAFT
SUMMARY OF ANALYTICAL RESULTS - E-1 DRAINAGE DITCH
GATEWAY STATION WEST
NEWARK, CALIFORNIA

Loc.	Sample Date	Sample Depth (bgs)	Benzo(a) anthracene	Benzo(a) pyrene	Benzo(b) fluoranthene	Benzo(g,h,i) perylene	Benzo(k) fluoranthene	Chrysene	Dibenz(a,h) anthracene	Fluoranthene	Indeno (1,2,3-cd) pyrene	Phenanthrene	Pyrene	Benzo(A)Pyrene Equivalent (1/2 RL substituted for ND)	Total Petroleum Hydrocarbons, Diesel (C10-C28)	Total Petroleum Hydrocarbons, Motor Oil (C24-C36)	Total Petroleum Hydrocarbons, gasoline (C5-C12)	Acetone	Carbon disulfide
		Chemical Group	Polycyclic Aromatic Hydrocarbons [6]												Total Petroleum Hydrocarbons			Volatile Organic Compounds [5]	
		Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	mg/kg	mg/kg	ug/kg	ug/kg	ug/kg
Residential Screening Level[2]			150	15	150	-	380	3800	15	2.30E+06	150	-	1.70E+06	900	110	2500	82000	60000	770
Soil Leaching ESL[4]			12000	130000	46000	27000	5100	23000	9900	60000	15000	11000	85000	-	570	-	770000	500	-
E1	10/03/2014	0 - 0.5 (ft)	< 4.9	< 4.9	**7.2**	< 4.9	< 4.9	**5.1**	< 4.9	**5.5**	< 4.9	< 4.9	**5.5**	**8.81**	**54**	**120**	< 250	< 51	< 5.1
	10/03/2014	2 - 2.5 (ft)	< 5.0	< 5.0	**5.5**	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	**8.8**	**60**	**110**	< 280	< 57	< 5.7
E2	10/03/2014	0 - 0.5 (ft)	< 9.9	**13**	**22**	< 9.9	< 9.9	< 9.9	< 9.9	< 9.9	**10**	< 9.9	**22**	**21.64**	**810 J-**	**920 J-**	< 190	< 38	< 3.8
	10/03/2014	2 - 2.5 (ft)	< 4.9	< 4.9	< 4.9	< 4.9	< 4.9	< 4.9	< 4.9	< 4.9	< 4.9	< 4.9	< 4.9	**4.29**	**1.9**	< 50	< 190	< 37	< 3.7
E3	10/03/2014	0 - 0.5 (ft)	< 50	**50**	**90**	< 50	< 50	**65**	< 50	< 50	< 50	< 50	**98**	**91.65**	**2,700**	**2,600**	< 230	< 46	< 4.6
	10/03/2014	2 - 2.5 (ft)	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	**4.38**	**19**	< 50	< 200	< 41	< 4.1
E4	10/03/2014	0 - 0.5 (ft)	**35**	**61**	**110**	**40**	**39**	**75**	< 25	**59**	**42**	**52**	**110**	**92.85**	**2,600**	**2,600**	< 260 J	**87 J-**	< 5.3 J
	10/03/2014	2 - 2.5 (ft)	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	**4.38**	**99**	**100**	< 200	< 40	< 4.0
E5	10/03/2014	0 - 0.5 (ft)	**10**	**19**	**29**	**11**	**13**	**16**	< 5.0	**24**	**12**	**11**	**25**	**27.26**	**370 J-**	**410 J-**	< 270	**140 J+**	**18 J+**
	10/03/2014	2 - 2.5 (ft)	< 4.9	< 4.9	< 4.9	< 4.9	< 4.9	< 4.9	< 4.9	< 4.9	< 4.9	< 4.9	< 4.9	**4.29**	**66**	**80**	< 180	< 35	< 3.5

Notes:

1 Soil samples collected by Haley & Aldrich, Inc. and analyzed by Test America Laboratories, Inc., of Pleasanton, California, for Title 22 metals using EPA Method 6010B/7471A, pH using EPA Method 9045, SVOCs using EPA Method 8270C, PAHs using EPA Method 8270c with selective ion monitoring (SIM), total petroleum hydrocarbons quantified as diesel and motor oil using EPA Method 8015M, and VOCs using EPA Method 8260B. Highlighted results exceed screening levels. **Bold** indicates a detected result.

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- Environmental Screening Levels (ESLs; Water Board, Update to Environmental Screening Levels, Table K-1, Direct Exposure Soil Screening Levels, Residential Exposure Scenario, December 2013).
- Alternative Soil and Tapwater Screening Values (Cal-modified; DTSC Office of Human and Ecological Risk, 2013, HHRA Note 3.2)
- Residential Soil Regional Screening Level (RSLs; USEPA, 2014).

3 Arsenic was evaluated by comparison to background value of 11 mg/kg.

4 ESLs for the protection of groudnwater resources (Water Board, 2013, Update to Environmental Screening Levels, Table G, Soil Screening Levels for Leaching Concerns, Drinking Water Resource, December).

5 Only detetced analytes shown.

6 All carcinogenic PAHs are shown, only detected non-carcinogenic PAHs are shown.

Abbreviations:

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< = result not detected at the indicated analytical reporting limit
bgs = below ground surface
ND = Not detected

J = Estimated value. Quality control deficiencies have compromised result accuracy.
J- = Estimated Biased Low
J+ = Estimated Biased High
Loc. = location

mg/kg = milligrams per kilogram
ug/kg = micrograms per kilogram
R = result is rejected to data quality deficiencies
SVOCs = semivolatile organic compounds
VOCs = volatile organic compounds

TABLE V - DRAFT

SUMMARY OF ANALYTICAL RESULTS - EVAPORATION POND [1]
GATEWAY STATION WEST
NEWARK, CALIFORNIA

		Chemical Group	Inorganic Compounds																	
		Chemical Name	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc	pH (lab)
		Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	pH units
Loc.	**Sample Date**	**Sample Depth (bgs)**																		
Residential Screening Level[2]			31	11[3]	15000	160	70	120000	23	3100	80	6.7	390	1500	390	390	0.78	390	23000	-
Soil Leaching ESL[4]			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
EP1	10/03/2014	0 - 0.5 (ft)	1.8 R	**1.9**	**13**	< 0.071	< 0.089	**10**	**1.9**	**8.6**	**9.3**	< 0.0090	< 0.36	**15**	< 3.6	< 0.18	< 0.36 J	**5.6**	**10**	**9.4**
	10/03/2014	2 - 2.5 (ft)	< 2.4	< 0.95	**0.55**	< 0.095	< 0.12	< 0.48	< 0.19	< 7.1	< 0.48	< 0.0085	< 0.48	< 2.4	< 4.8	< 0.24	< 0.48	< 0.48	< 1.4	**8.82**
EP2	10/03/2014	0 - 0.5 (ft)	0.82 R	**2.6**	**25**	< 0.082	< 0.10	**26**	**4.8**	**12**	**8.9**	**0.068**	< 0.41	**35**	< 1.6	< 0.20	< 0.41 J	**14**	**22**	**9.38**
	10/03/2014	2 - 2.5 (ft)	< 0.48	**4.6**	**140**	**0.13**	< 0.12	**52**	**11**	**19**	**5.2**	**0.069**	**0.53**	**59**	< 0.95	< 0.24	< 0.48	**30**	**35**	**8.51**
EP3	10/03/2014	0 - 0.5 (ft)	0.91 R	**8.4**	**180**	**0.26**	< 0.23	**76**	**12**	**30**	**7.7**	**0.038**	**0.54**	**85**	< 1.8	< 0.45	< 0.91 J	**42**	**58**	**7.89**
	10/03/2014	2 - 2.5 (ft)	< 0.45	**5.5**	**140**	**0.16**	**0.13**	**53**	**12**	**25**	**5.9**	**0.031**	< 0.45	**62**	< 0.91	< 0.23	< 0.45	**35**	**38**	**8.18**
EP4	10/03/2014	0 - 0.5 (ft)	0.48 R	**6.5**	**110**	**0.29**	< 0.12	**57**	**12**	**27**	**7.1**	**0.027**	< 0.48	**67**	< 0.95	< 0.24	< 0.48 J	**38**	**43**	**7.81**
	10/03/2014	2 - 2.5 (ft)	< 3.7	**7.6**	**160**	< 0.74	< 0.92	**80**	**16**	**33**	**9.4**	**0.018**	< 3.7	**100**	< 7.4	< 1.8	< 3.7	**45**	**62**	**7.3**
EP5	10/03/2014	0 - 0.5 (ft)	2.2 R	**4.3**	**75**	< 0.088	**0.11**	**25**	**5.8**	**19**	**12**	**0.034**	< 0.44	**33**	< 4.4	< 0.22	< 0.44 J	**23**	**29**	**8.98**
	10/03/2014	2 - 2.5 (ft)	< 1.7	< 0.68	**1.9**	< 0.068	< 0.084	**0.49**	**0.16**	< 5.1	**1.5**	< 0.0095	**0.4**	< 1.7	< 3.4	< 0.17	< 0.34	**0.55**	**2.4**	**8.19**
EP6	10/03/2014	0 - 0.5 (ft)	1.9 R	< 0.95	**5.3**	< 0.095	< 0.12	**0.58**	< 0.19	< 5.7	**1.6**	< 0.0087	< 0.48	< 1.9	< 3.8	< 0.24	< 0.48 J	< 0.48	**1.7**	**9.51**
	10/03/2014	2 - 2.5 (ft)	< 8.3	< 3.3	**65**	< 0.33	< 0.42	< 1.7	< 0.67	< 25	**3.8**	< 0.0088	< 1.7	< 8.3	< 17	< 0.83	< 1.7	**2.2**	< 5.0	**9.26**
EP7	10/03/2014	0 - 0.5 (ft)	2.0 R	< 3.9	**28**	< 0.39	< 0.49	**2.7**	< 0.78	**13**	**6.1**	**0.11**	< 2.0	**3.1**	< 3.9	< 0.98	< 2.0 J	**2.6**	**6.4**	**9.4**
	10/03/2014	2 - 2.5 (ft)	< 8.8	**2.7**	**38**	< 0.088	< 0.11	**3.6**	**0.67**	**31**	**19**	**0.58**	**0.46**	< 8.8	< 18	< 0.22	< 0.44	**5**	**13**	**9.39**
EP8	10/03/2014	0 - 0.5 (ft)	2.0 R	**3.1**	**51**	< 0.098	< 0.12	**6.3**	**1.9**	**29**	**11**	**0.13**	< 0.49	**9.5**	< 3.9	< 0.25	< 0.49 J	**7.6**	**12**	**9.33**
	10/03/2014	2 - 2.5 (ft)	< 0.38	**4**	**140**	**0.29**	**0.69**	**46**	**11**	**22**	**5.3**	**0.047**	< 0.38	**48**	< 0.75	< 0.19	< 0.38	**34**	**33**	**7.52**

Notes:

1 Soil samples collected by Haley & Aldrich, Inc. and analyzed by Test America Laboratories, Inc., of Pleasanton, California, for Title 22 metals using EPA Method 6010B/7471A and pH using EPA Method 9045. **Bold** indicates a detected result. Highlighted results exceed screening levels.

2 Lowest (most conservative) value of the following residential screening levels:
- Environmental Screening Levels (ESLs; Water Board, Update to Environmental Screening Levels, Table K-1, Direct Exposure Soil Screening Levels, Residential Exposure Scenario, December 2013).
- Alternative Soil and Tapwater Screening Values (Cal-modified; DTSC Office of Human and Ecological Risk, 2013, HHRA Note 3.2)
- Residential Soil Regional Screening Level (RSLs; USEPA, 2014).

3 Arsenic was evaluated by comparison to background value of 11 mg/kg.

4 ESLs for the protection of groudnwater resources (Water Board, 2013, Update to Environmental Screening Levels, Table G, Soil Screening Levels for Leaching Concerns, Drinking Water Resource, December).

Abbreviations:

- = Not Analyzed/ No action level
< = result not detected at the indicated analytical reporting limit
bgs = below ground surface
ESLs = environmental screening levels

J = Estimated value. Quality control deficiencies have compromised result accuracy.
J- = Estimated Biased Low
J+ = Estimated Biased High

Loc. = location
mg/kg = milligrams per kilogram
R = result is rejected to data quality deficiencies

TABLE VI - DRAFT

SUMMARY OF ANALYTICAL RESULTS - DETENTION BASIN[1]
GATEWAY STATION WEST
NEWARK, CALIFORNIA

		Chemical Group	Inorganic Compounds																	Other	Semi-Volatile Organic Compounds
		Chemical Name	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc	pH (lab)	SVOCs
		Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	pH units	mg/kg
Loc.	**Sample Date**	**Sample Depth (bgs)**																			
Residential Screening Level[2]			31	11 [3]	15000	160	70	120000	23	3100	80	6.7	390	1500	390	390	0.78	390	23000	-	-
Soil Leaching ESL[4]			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	27
DB1	10/06/2014	0 - 0.5 (ft)	< 2.0	< 3.9	**260**	< 0.39	< 0.49	**82**	**24**	**34**	< 2.0	**0.058**	< 2.0	**82**	< 3.9	< 0.98	< 2.0	**94**	**67**	**8.16**	ND
	10/06/2014	2 - 2.5 (ft)	< 1.8	**9**	**240**	< 0.36	< 0.45	**86**	**16**	**59**	**23**	**0.27**	< 1.8	**120**	< 3.6	< 0.90	< 1.8	**46**	**98**	**8.65**	ND
	10/08/2014	4.5 - 5 (ft)	< 1.8	**8.6**	**160**	< 0.36	< 0.45	**81**	**15**	**45**	**16**	**0.13**	< 1.8	**100**	< 3.6	< 0.90	< 1.8	**45**	**68**	**8.18**	ND
DB2	10/06/2014	0 - 0.5 (ft)	< 1.9	< 3.8	**170**	< 0.38	< 0.47	**81**	**16**	**28**	< 1.9	**0.13**	< 1.9	**72**	< 3.8	< 0.94	< 1.9	**72**	**48**	**7.88**	ND
	10/06/2014	2 - 2.5 (ft)	< 2.0	**8.7**	**180**	< 0.40	< 0.50	**73**	**13**	**51**	**18**	**0.27**	< 2.0	**100**	< 4.0	< 1.0	< 2.0	**39**	**67**	**8.67**	ND
	10/08/2014	4.5 - 5 (ft)	< 1.8	**7.6**	**160**	**0.36**	< 0.44	**85**	**17**	**37**	**9.9**	**0.03**	< 1.8	**100**	< 3.5	< 0.88	< 1.8	**47**	**59**	**8.17**	ND
DB3	10/06/2014	0 - 0.5 (ft)	< 1.8	< 3.6	**170**	< 0.36	< 0.45	**77**	**21**	**31**	< 1.8	**0.11**	< 1.8	**79**	< 3.6	< 0.89	< 1.8	**81**	**57**	**7.81**	ND
	10/06/2014	2 - 2.5 (ft)	< 1.9	**11**	**370**	< 0.39	< 0.49	**92**	**26**	**41**	**9.8**	**0.099**	< 1.9	**100**	< 3.9	< 0.97	< 1.9	**60**	**65**	**8.45**	ND
	10/08/2014	4.5 - 5 (ft)	< 1.6	**8.3**	**220**	**0.43**	< 0.40	**85**	**16**	**36**	**9.4**	**0.028**	< 1.6	**100**	< 3.2	< 0.79	< 1.6	**48**	**59**	**8.43**	ND
DB4	10/06/2014	0 - 0.5 (ft)	< 1.8	**8.2**	**260**	< 0.37	< 0.46	**85**	**19**	**82**	**31**	**0.34**	< 1.8	**88**	< 3.7	< 0.92	< 1.8	**61**	**110**	**7.96**	ND
	10/06/2014	2 - 2.5 (ft)	< 1.8	**9.4**	**170**	< 0.36	< 0.45	**85**	**16**	**37**	**5.6**	**0.033**	< 1.8	**97**	< 3.6	< 0.91	< 1.8	**51**	**62**	**8.15**	ND
	10/08/2014	4.5 - 5 (ft)	< 1.6	**6.9**	**200**	**0.36**	< 0.41	**84**	**16**	**35**	**9.4**	**0.036**	< 1.6	**100**	< 3.3	< 0.82	< 1.6	**45**	**58**	**7.94**	ND

Notes:

1 Soil samples collected by Haley & Aldrich, Inc. and analyzed by Test America Laboratories, Inc., of Pleasanton, California, for Title 22 metals using EPA Method 6010B/7471A, pH using EPA Method 9045, SVOCs using EPA Method 8270C, PAHs using EPA Method 8270c with selective ion monitoring (SIM), total petroleum hydrocarbons (TPH) quantified as diesel and motor oil using EPA Method 8015M, and TPH quantified as gasoline using EPA Method 8260B. **Bold** indicates a detected result. Highlighted results exceed screening levels.

2 Lowest (most conservative) value of the following residential screening levels:
- Environmental Screening Levels (ESLs; Water Board, Update to Environmental Screening Levels, Table K-1, Direct Exposure Soil Screening Levels, Residential Exposure Scenario, December 2013).
- Alternative Soil and Tapwater Screening Values (Cal-modified; DTSC Office of Human and Ecological Risk, 2013, HHRA Note 3.2)
- Residential Soil Regional Screening Level (RSLs; USEPA, 2014).

3 Arsenic was evaluated by comparison to background value of 11 mg/kg.

4 ESLs for the protection of groudnwater resources (Water Board, 2013, Update to Environmental Screening Levels, Table G, Soil Screening Levels for Leaching Concerns, Drinking Water Resource, December).

Abbreviations:

- = Not Analyzed/ No action level
< = result not detected at the indicated analytical reporting limit
bgs = below ground surface
Loc. = location
ESLs = environmental screening levels

J = Estimated value. Quality control deficiencies have compromised result accuracy.
J- = Estimated Biased Low
J+ = Estimated Biased High
SVOCs = semivolatile organic compounds

mg/kg = milligrams per kilogram
ug/kg = micrograms per kilogram
R = result is rejected to data quality deficiencies
PAHs = polynuclear aromatic hydrocarbons

TABLE VI - DRAFT

SUMMARY OF ANALYTICAL RESULTS - DETENTION BASIN[1]
GATEWAY STATION WEST
NEWARK, CALIFORNIA

		Chemical Group	Polycyclic Aromatic Hydrocarbons											Total Petroleum Hydrocarbons		
		Chemical Name	Benzo(a) anthracene	Benzo(a) pyrene	Benzo(b) fluoranthene	Benzo(g,h,i) perylene	Benzo(k) fluoranthene	Chrysene	Dibenz(a,h) anthracene	Fluoranthene	Indeno (1,2,3-cd) pyrene	Pyrene	Benzo(A)Pyrene Equivalent (1/2 RL substituted for ND)	Total Petroleum Hydrocarbons (C10-C28) DRO	Total Petroleum Hydrocarbons (C24-C36) Motor Oil	Total Petroleum Hydrocarbons (C5-C12) GRO
		Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	mg/kg	mg/kg	mg/kg
Loc.	**Sample Date**	**Sample Depth (bgs)**														
Residential Screening Level[2]			150	15	150	-	380	3800	15	2.30E+06	150	1.70E+06	900	110	2500	82
Soil Leaching ESL[4]			12000	130000	46000	27000	5100	23000	9900	60000	15000	85000	-	570	-	770
	10/06/2014	0 - 0.5 (ft)	< 4.9	< 4.9	< 4.9	< 4.9	< 4.9	< 4.9	< 4.9	< 4.9	< 4.9	< 4.9	**4.29**	**3.1**	< 50	< 0.24
DB1	10/06/2014	2 - 2.5 (ft)	**11**	**13**	**18**	< 9.9	< 9.9	**12**	< 9.9	**17**	< 9.9	**17**	**2.67**	**31**	**93**	< 0.24
	10/08/2014	4.5 - 5 (ft)	< 4.9	< 4.9	< 4.9	< 4.9	< 4.9	< 4.9	< 4.9	< 4.9	< 4.9	< 4.9	**4.29**	**9.1**	< 50	< 0.24
	10/06/2014	0 - 0.5 (ft)	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	**4.38**	**10**	**49**	< 0.24
DB2	10/06/2014	2 - 2.5 (ft)	**5.4**	**7.5**	**13**	< 5.0	< 5.0	**8.9**	< 5.0	**11**	< 5.0	**10**	**1.35**	**130**	**290**	< 0.25
	10/08/2014	4.5 - 5 (ft)	< 4.9	< 4.9	< 4.9	< 4.9	< 4.9	< 4.9	< 4.9	< 4.9	< 4.9	< 4.9	**4.29**	< 0.99	< 50	< 0.25
	10/06/2014	0 - 0.5 (ft)	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	**4.38**	**12**	**53**	< 0.24
DB3	10/06/2014	2 - 2.5 (ft)	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	**4.38**	**23**	**94**	< 0.24
	10/08/2014	4.5 - 5 (ft)	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	**4.38**	**1.8**	< 50	< 0.24
	10/06/2014	0 - 0.5 (ft)	< 9.9	**14**	**25**	**12**	< 9.9	**15**	< 9.9	**18**	**10**	**16**	**2.67**	**75**	**190**	< 0.24
DB4	10/06/2014	2 - 2.5 (ft)	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	**4.38**	**36**	**91**	< 0.25
	10/08/2014	4.5 - 5 (ft)	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	**4.38**	**6.2**	< 49	< 0.24

Notes:

1 Soil samples collected by Haley & Aldrich, Inc. and analyzed by Test America Laboratories, Inc., of Pleasanton, California, for Title 22 metals using EPA Method 6010B/7471A, pH using EPA Method 9045, SVOCs using EPA Method 8270C, PAHs using EPA Method 8270c with selective ion monitoring (SIM), total petroleum hydrocarbons (TPH) quantified as diesel and motor oil using EPA Method 8015M, and TPH quantified as gasoline using EPA Method 8260B. **Bold** indicates a detected result. Highlighted results exceed screening levels.

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3 Arsenic was evaluated by comparison to background value of 11 mg/kg.

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Loc. = location
ESLs = environmental screening levels

J = Estimated value. Quality control deficiencies have compromised result accuracy.
J- = Estimated Biased Low
J+ = Estimated Biased High
SVOCs = semivolatile organic compounds

mg/kg = milligrams per kilogram
ug/kg = micrograms per kilogram
R = result is rejected to data quality deficiencies
PAHs = polynuclear aromatic hydrocarbons

TABLE VII - DRAFT

SUMMARY OF ANALYTICAL RESULTS - SOIL GAS [1]
GATEWAY STATION WEST
NEWARK, CALIFORNIA

			Volatile Organic Compounds [3]																	
		Chemical Name	1,1,1-Trichloroethane	1,1-Dichloroethane	1,2-Dichloroethane	2-Butanone (Methyl Ethyl Ketone)	4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	Acetone	Benzene	Bromo dichloro methane	Carbon disulfide	Chloroform (Trichloro methane)	Dichloro difluoro methane (CFC-12)	m,p-Xylenes	Methylene chloride	o-Xylene	Tetrachloroethene (PCE)	Toluene	Trichloroethene (TCE)	Trichloro fluoro methane (CFC-11)	Trifluoro trichloro ethane (Freon 113)
		Units	ug/m3	ug/m3	ug/m3	ug/m3	ug/m3	ug/m3	ug/m3	ug/m3	ug/m3	ug/m3	ug/m3	ug/m3	ug/m3	ug/m3	ug/m3	ug/m3	ug/m3	ug/m3	ug/m3
Loc.	**Sample Date**	**Sample Type**																			
Residential Screening Level[2]			2.60E+06	760	58	2.60E+06	1.60E+06	1.60E+07	42	33	730000	120	100000	52000	2600	52000	210	160000	300	730000	3.10E+07
SG1	10/17/2014	Primary	**16**	< 1.2	< 3.2	**15 J**	< 1.6	**74 J**	**2**	< 2.0	**20**	**12**	**3.1**	< 3.5	< 1.4	< 1.7	**28**	**2.7**	**3**	**17**	**15**
SG1	10/17/2014	Duplicate	**16**	< 1.2	< 3.2	< 2.4 J	< 1.6	**13 J**	**1.9**	< 2.0	**19**	**12**	**3.1**	< 3.5	< 1.4	< 1.7	**27**	< 1.5	**2.9**	**18**	**15**
SG2	10/17/2014	Primary	< 1.6	< 1.2	< 3.2	**2.7**	< 1.6	**55**	**1.5**	< 2.0	**5.2**	**1.9**	**2.6**	< 3.5	< 1.4	< 1.7	< 2.7	< 1.5	< 2.1	< 2.2	< 3.1
SG4	10/16/2014	Primary	< 1.6	< 1.2	< 3.2	< 2.4	< 1.6	< 12	**1.8**	< 2.0	**5.4**	< 1.5	**2.5**	< 3.5	< 1.4	< 1.7	< 2.7	< 1.5	< 2.1	< 2.2	< 3.1
SG5	10/17/2014	Primary	< 1.6	< 1.2	< 3.2	< 2.4	< 1.6	**15**	**2**	< 2.0	**11**	**3.3**	**2.4**	< 3.5	< 1.4	< 1.7	< 2.7	< 1.5	< 2.1	**4.6**	< 3.1
SG7	10/16/2014	Primary	< 1.6	**10**	< 3.2	**4.4**	< 1.6	**32**	**12**	< 2.0	**190**	**1.9**	**2.5**	< 3.5	< 1.4	< 1.7	< 2.7	**8.7**	< 2.1	< 2.2	< 3.1
SG8	10/17/2014	Primary	< 1.6	< 1.2	< 3.2	**3.1**	< 1.6	**22**	**6.8**	< 2.0	**56**	**27**	**2.2**	< 3.5	< 1.4	< 1.7	< 2.7	**3.9**	< 2.1	**6.6**	< 3.1
SG9	10/15/2014	Primary	< 1.6	< 1.2	< 3.2	**3.4**	**2.2**	**24**	**9.4**	< 2.0	**74**	< 1.5	**2.3**	**4.8**	< 1.4	**1.7**	< 2.7	**14**	< 2.1	< 2.2	< 3.1
SG10	10/16/2014	Primary	< 1.6	< 1.2	< 3.2	**3.7**	< 1.6	**24**	**12**	< 2.0	**79**	**29**	**2.4**	**3.5**	< 1.4	< 1.7	< 2.7	**11**	< 2.1	< 2.2	< 3.1
SG10	10/16/2014	Duplicate	< 1.6	< 1.2	< 3.2	**2.9**	< 1.6	**23**	**12**	< 2.0	**79**	**29**	**2.5**	**3.5**	< 1.4	< 1.7	< 2.7	**11**	< 2.1	< 2.2	< 3.1
SG11	10/15/2014	Primary	< 1.6	**15**	**42**	< 2.4	< 1.6	< 12	**2.5**	**2.2**	**35**	**9.2**	**2.4**	< 3.5	**1.4**	< 1.7	< 2.7	< 1.5	< 2.1	< 2.2	< 3.1
SG12	10/16/2014	Primary	< 1.6	< 1.2	< 3.2	**3.2**	< 1.6	**25**	**8**	< 2.0	**32**	**1.6**	**2.4**	< 3.5	< 1.4	< 1.7	< 2.7	**8.4**	< 2.1	< 2.2	< 3.1
SG13	10/16/2014	Primary	< 1.6	< 1.2	< 3.2	**3.5**	< 1.6	**23**	**6.1**	< 2.0	**31**	**10**	**2.5**	< 3.5	< 1.4	< 1.7	< 2.7	**6**	< 2.1	**7.7**	< 3.1
SG14	10/16/2014	Primary	< 1.6	**1.5**	< 3.2	**3.2**	< 1.6	**21**	**6.5**	< 2.0	**20**	**3.6**	**2.6**	< 3.5	< 1.4	< 1.7	< 2.7	**4.6**	< 2.1	**5.8**	< 3.1

Notes:

1 Soil gas samples collected by Haley & Aldrich, Inc. and analyzed by Test America Laboratories, Inc., of Pleasanton, California for volatile organic compounds using EPA method TO-15. **Bold** indicates a detected result.

2 Lowest (most conservative) value of the following residential screening levels:
- Environmental Screening Levels (ESLs; Water Board, Update to Environmental Screening Levels, Table E-2, Soil Gas Screening Levels for Evaluation of Potential Vapor Intrusion, Residential Exposure Scenario, December 2013).
- Residential Air Regional Screening Level (RSLs; USEPA, 2014), using an attenuation factor of 0.001.

3 Only detetced analytes shown.

Abbreviations:

< = result not detected at the indicated analytical reporting limit
Loc. = location
grams per cubic meter

J = Estimated value. Quality control deficiencies have compromised result accuracy.
J- = Estimated Biased Low
J+ = Estimated Biased High

R = result is rejected to data quality deficiencies

Appendix I

DRAINAGE / WATER QUALITY SUMMARY

Carlson, Barbee & Gibson, Inc.
CIVIL ENGINEERS • SURVEYORS • PLANNERS

February 4, 2015
Job No.: 1496-040

M E M O R A N D U M

TO: Steve Nuedecker, Resource Balance, Inc.
Dave Claycomb, Helix, Inc.

FROM: Greg Miller

CC: Mark Butler, Integral Communities
Glenn Brown, Integral Communities

SUBJECT: Drainage / Water Quality Summary
Gateway Station West
Newark, California

Purpose

The Purpose of this memorandum is to provide a summary of the proposed drainage and storm water quality systems for Gateway Station West to assist with the CEQA Consultant's understanding of the project. Dam Inundation, Tsunami, Seche and Mudplow were addressed in the EIR for the Dumbarton TOD Specific Plan and there is no new or additional information with respect to those issues. Information regarding water quality issues related to hazardous material contamination may be available from Jym Schwartz at Haley & Aldrich.

Watershed Area

The Dumbarton TOD Specific Plan Area lies within the Plummer Creek Watershed which drains to the San Francisco Bay. This watershed is approximately 1,400 acres and extends easterly to the vicinity of Fremont Boulevard on the east side of Interstate 880. Gateway Station West (The Project Site) lies in the lower portion of this watershed and drains to an unnamed tidal slough just upstream from Plummer Creek.

Existing Facilities

The Plummer Creek Watershed lies within Zone 5 of the Alameda County Flood Control and Water Conservation District (ACFC). Zone 5 facilities within the Dumbarton TOD include the F1 Channel along the southerly boundary and the F6 Ditch along the easterly boundary, which are improved man made channels. In addition, the City of Newark has existing storm drains, ranging in size from 18" to 36" in diameter in Willow Street and Enterprise Drive.

The Project Site is largely undeveloped and does not have an improved storm drainage system. Stormwater runoff currently sheet flows to an existing swale along the westerly boundary that flows to the southwest corner of the property. There is a sheet pile across the swale to prevent tidal water from backing up into the Project Site and a culvert just below it that discharges into a tidal slough that flows into Plummer Creek and then to the San Francisco Bay.

FEMA Flood Designation

The FEMA flood designation for the Project Site is shown on the flood insurance rate map, F.I.R.M. Panel 06001C0443G, dated August 3, 2009. The Project Site is in three different zones; Zone X, Zone X shaded and Zone AE (EL11). Zone X is not a high risk flood hazard area and is for areas outside of the 500 year flood plain. Zone X shaded is not considered a high risk flood hazard area and is for areas inside the 500 year flood plain or inside the 100 year flood plain, but with depths less than one foot. Zone AE (EL11) is considered a high risk flood hazard area or commonly the 100 year flood zone and is for areas within the 100 year flood plain with a base flood elevation of 11 (NAVD 88).

City of Newark Elevation / Fill Requirements

Portions of the Project Site are within Special Flood Hazard Area AE (EL11) which has a 100 year base flood elevation of 11 (NAVD 88) or 8.24 (NGVD 29). The City of Newark has adopted flood elevation standards for lands within special flood hazard areas as defined by FEMA. These standards require that building pads of all occupied structures have a minimum elevation of 11.25 feet (NGVD29) and a finished floor elevation, a minimum of, 6 inches above the building pad (Section 15.40.51 Newark Municipal Code). In addition, the City requires that the top of curb grades for new residential streets be no less than elevation 10.0 (NGVD29) throughout the City (Section 16.08.06 Newark Municipal Code). These standards are more stringent and provide a greater level of protection than that required by FEMA.

The preliminary Grading and Drainage Plan which is included in the Vesting Tentative Map package complies with these standards and will result in the entire developed portion of the Project Site being elevated above the 100 year flood plain.

Letter of Map Revisions (LOMR)

FEMA has a process to amend or revise the flood insurance rate maps. A request for a Letter of Map Revision (LOMR-Fill) be filed with FEMA upon the completion of project rough grading which will raise the developed portion of the Project Site above the base flood elevation. The approval of this request will remove those portions of the Project Site from Zone AE (EL11) and re-designate them Zone X.

Pre and Post Project Impervious Area

There are very little existing impervious surfaces on the Project Site. The project will result in an increase in impervious area from 5,260 sf± for the pre-project condition to 1,048,378 sf± for the post-project condition.

Pre and Post Project Stormwater Runoff

The amount of stormwater runoff, among other things, is proportional to the amount of impervious area, i.e. with all other factors equal, an increase in impervious area will result in an increase in stormwater runoff. In addition to an increase in impervious area, the post project condition also includes additional drainage area from the adjacent Ashland and FMC properties as planned in the Dumbarton TOD Specific Plan. The stormwater runoff from the adjacent Torian project has been design to discharge to the existing Wildland properties south of the Project Site. The pre and post project stormwater runoff rates were calculated using the rational method and ACFC design criteria at the southwest corner of the Project Site. The pre and post project stormwater runoff rate from a 15 year storm is 24.2 cfs and 53.4 cfs.

Proposed Facilities

The Project Site is located in Shed 2 as described in the Dumbarton TOD Specific Plan and EIR. Shed 2 was previously planned to drain to Plummer Creek and not to the ACFC F1 Channel.

The Project Site, and adjacent Ashland and FMC properties, will drain to Plummer Creek as described in the Dumbarton TOD Specific Plan and EIR. The adjacent Torian Property has been designed to drain to the Wildlands property located to the south of the Project Site. The Project Site is located at the bottom of the Plummer Creek watershed and will drain directly to a tidal slough connected to Plummer Creek and the San Francisco Bay. Standard practice for these conditions, and as described in the Specific Plan and EIR, such that the project does not require a detention basin which would only delay the peak stormwater runoff and compound it with stormwater runoff from upper portions of the watershed.

The proposed facilities include a storm drain system consisting of catch basins, manholes and storm drain mains that will collect and convey stormwater runoff from the Project Site to the two proposed bioretention areas. The stormwater quality design flow will be treated by the bioretention areas and discharged directly into the wetland reserve. Excess stormwater flows will bypass the bioretention areas and be discharged directly into the wetland reserve. The storm drain mains discharging into the wetland reserve will have outfall protection consisting of loose rock rip rap to dissipate and slow down the flow so as to not cause erosion. Stormwater runoff will flow overland and through existing channels in the wetland reserve and be discharged into the existing tidal slough by way of a new culvert near the southwest corner of the property.

The storm drain system will also include a separate storm drain main to convey stormwater runoff from the adjacent Ashland FMC properties. These properties will provide their own water quality treatment so that storm water runoff from these properties can be discharged directly into the wetland reserve and bypass the bioretention areas.

All facilities will be designed in accordance with the City of Newark and ACFC standards.

Storm Water Quality / Hydromodification

Rules / Requirements

The City of Newark uses the C.3 guidelines from the Alameda Countywide Clean Water Program (ACCWP) which are consistent with and used to implement the requirements of the Municipal Regional Storm Water Permit issued by the San Francisco Bay Region of the California Regional Water Quality Control Board.

The current storm water permit for Alameda County requires 100% LID (Low Impact Development) treatment measures for projects receiving their final discretionary approvals after December 1, 2011. The proposed project does not have its final discretionary approvals, so the requirement to have 100% LID treatment measures applies to the project. The permit requires that projects first evaluate Rain Water Harvesting and Reuse, Infiltration and Evapotranspiration using established protocols. If these three items are proven to be infeasible, a project may use Bio-Retention as a storm water treatment measure. CBG has evaluated the potential for using Rain Water Harvesting, Infiltration or Evapotranspiration at this site by completing the City of Newark's Storm Water Checklist and confirmed that they are infeasible and that the project may use Bio-Retention as the primary storm water quality treatment measure.

The current stormwater permit also requires that projects address hydromodification impacts. This requires implementation of measures to ensure that stormwater runoff rates do not change or increase for smaller, more frequent storm events. CBG has evaluated whether the project is required to provide hydromodification mitigation and confirmed that the project is exempt because it is located in a tidally influenced zone.

Special Projects

The current stormwater permit defines special projects and the criteria by which special projects can obtain LID treatment reduction credits which will allow for a portion of the stormwater to be treated with non-LID measures, such as media filters. The permit defines three types of special projects; Category A, B, and C. Categories A and B are for sites less than 2 acres and are not applicable to this project. Category C is for transit oriented developments located within a half mile of a transit hub or within a Priority Development Area (PDA) and also having a minimum density of 25 DU/AC for residential projects and a minimum F.A.R. of 2:1 for commercial and mixed use projects. The project does meet some of the requirements for a Category C special project, but falls short of the minimum density requirements, so it does not qualify as a special project.

Stormwater Control / Management Plan

CBG has prepared a Storm Water Control Plan which is included in the Vesting Tentative Map package and a separate Storm Water Management Plan that illustrates and describes the storm water quality treatment planned for the project.

The plan includes two bioretention areas located at the downstream end of the improved drainage system to treat the required amount of stormwater runoff prior to discharge into the wetland reserve.

The bioretention areas are designed to be near the same elevation as the proposed streets, allowing stormwater to flow into the Reserve via subdrains after passing through the bioretention system. Gravity storm drain pipes will have invert elevations such that it will be necessary to lift the water quality flows up to the surface of the bioretention areas with higher flows bypassing the bioretention areas and flowing directly to the wetland reserve.

A system of smaller sump pumps will be used for this purpose. Sump pumps are readily available, dependable and simple to operate and maintain. The sump pumps will be sized to use a single phase power source and be small enough to be placed inside a typical storm drain structure. Multiple pumps will be used to deliver the water quality flows to the bioretention areas so that the system will not be dependent on a single pump. Each bioretention area will have a minimum of three pumps capable of delivering the design flow with one pump out of service. In addition, each pump will be installed in separate wet wells with separate power sources. An alarm will be installed with each pump that will send an alert signal to the entity responsible for maintaining the system in the case of pump failure. With these measures in place; multiple pumps, standby pumps, individual wet wells, power supply and alarms, the likelihood of a total system failure is remote.

A separate storm drain main will be located in Hickory Street and "A" Avenue to convey stormwater runoff from the adjacent Ashland and FMC Properties directly to the wetland reserve. Those properties would provide their own stormwater treatment prior to discharging to this storm drain main.

Construction Dewatering

Prior studies have indicated that there is a shallow groundwater zone within the Dumbarton TOD Specific Plan Area. The design level geotechnical investigation, prepared by Berlogar Stevens, Associates, for the Project Site, included a large number of borings that indicate groundwater on the Project Site varies from elevation - 3.0 to 4.0 (NGVD 29). The minimum proposed street elevation for the project is 10.0 (NGVD 29). Most parts of most utility systems will be less than 6' deep and above that anticipated groundwater level. However, the sanitary sewer system is anticipated to vary between 6' and 12' deep so that it and deeper portions of the other utility systems may encounter groundwater during construction and require temporary dewatering. Any dewatering at the Project Site would be regulated by ACWD and require a permit in accordance with ACWD Ordinance No. 2010-01. Dewatering activities may also be regulated by other resource agency permits required for the project.

Storm Water Pollution Prevention Plan (SWPPP)

A SWPPP will be prepared during the preparation of Grading and Improvement Plans and will be filed with the State of California in compliance with the NPDES General Permit.

Attachments

1. Watershed and Existing Facilities Exhibit
2. FEMA FIRM Panel 06001C0443G
3. FEMA Flood Map
4. Pre Project Impervious Area Map
5. Post Project Impervious Area Map
6. Pre Project Stormwater Runoff Map
7. Post Project Stormwater Runoff Map
8. Proposed Stormwater Facilities Map
9. Bioretention Area Details
10. Stormwater Management Plan
11. Stormwater Checklist
12. Tentative Map

WATERSHED AND EXISTING FACILITIES EXHIBIT

GATEWAY STATION WEST

CITY OF NEWARK ALAMEDA COUNTY CALIFORNIA

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The **community map repository** should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where **Base Flood Elevations** (BFEs) and/or **floodways** have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Coastal Base Flood Elevations shown on this map apply only landward of 0.0' North American Vertical Datum of 1988 (NAVD 88). Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Stillwater Elevations tables in the Flood Insurance Study report for this jurisdiction. Elevations shown in the Summary of Stillwater Elevations tables should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the **floodways** were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures**. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for this jurisdiction.

The **projection** used in the preparation of this map was Universal Transverse Mercator (UTM) Zone 10. The **horizontal datum** was NAD 83, GRS80 spheroid. Differences in datum, spheroid, projection or UTM zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same **vertical datum**. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at http://www.ngs.noaa.gov or contact the National Geodetic Survey at the following address:

NGS Information Services
NOAA, N/NGS12
National Geodetic Survey
SSMC-3, #9202
1315 East-West Highway
Silver Spring, Maryland 20910-3282
(301) 713-3242

To obtain current elevation, description, and/or location information for **bench marks** shown on this map, please contact the Information Services Branch of the National Geodetic Survey at **(301) 713-3242**, or visit its website at http://www.ngs.noaa.gov.

Base map information shown on this FIRM was derived from multiple sources. Within the City of Livermore, base map information was derived from digital orthophotos provided by the City of Livermore Engineering Department. This information was produced at scales of 1:1,200 and 1:2,400 with 1-foot pixel resolution from photography dated May 7, 2001. Within the City of San Leandro, base map information was derived from digital orthophotos provided by the City of San Leandro Information Services Department. This information was produced at a scale of 1:2,400 with 1-foot pixel resolution from photography dated April 19, 2003. Additional information was derived from U.S. Geological Survey Digital Orthophoto Quadrangles produced at a scale of 1:12,000 from photography dated 1991 or later.

This map reflects more detailed and up-to-date **stream channel configurations** than those shown on the previous FIRM for this jurisdiction. The floodplains and floodways that were transferred from the previous FIRM may have been adjusted to conform to these new stream channel configurations. As a result, the Flood Profiles and Floodway Data tables in the Flood Insurance Study Report (which contains authoritative hydraulic data) may reflect stream channel distances that differ from what is shown on this map.

Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

Please refer to the separately printed **Map Index** for an overview map showing the layout of map panels; community map repository addresses; and a Listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which each community is located.

Contact the **FEMA Map Service Center** at 1-800-358-9616 for information on available products associated with this FIRM. Available products may include previously issued Letters of Map Change, a Flood Insurance Study report, and/or digital versions of this map. The FEMA Map Service Center may also be reached by Fax at 1-800-358-9620 and its website at http://msc.fema.gov.

LEGEND

SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

ZONE A	No Base Flood Elevations determined.
ZONE AE	Base Flood Elevations determined.
ZONE AH	Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
ZONE AO	Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
ZONE AR	Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
ZONE A99	Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
ZONE V	Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
ZONE VE	Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

ZONE X	Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

ZONE X	Areas determined to be outside the 0.2% annual chance floodplain.
ZONE D	Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

1% annual chance floodplain boundary

0.2% annual chance floodplain boundary

Floodway boundary

Zone D boundary

CBRS and OPA boundary

Boundary dividing Special Flood Hazard Area Zones and boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.

513	Base Flood Elevation line and value; elevation in feet*
(EL 987)	Base Flood Elevation value where uniform within zone; elevation in feet*

* Referenced to the North American Vertical Datum of 1988

A — A	Cross section line
23 - - - - 23	Transect line
87°07'45", 32°22'30"	Geographic coordinates referenced to the North American Datum of 1983 (NAD 83), Western Hemisphere
$^{24}76^{000m}$N	1000-meter Universal Transverse Mercator grid values, zone 10N
600000 FT	5000-foot grid ticks: California State Plane coordinate system, zone III (FIPSZONE 0403), Lambert Conformal Conic projection
DX5510 ×	Bench mark (see explanation in Notes to Users section of this FIRM panel)
● M1.5	River Mile

MAP REPOSITORY
Refer to listing of Map Repositories on Map Index

EFFECTIVE DATE OF COUNTYWIDE
FLOOD INSURANCE RATE MAP
August 3, 2009

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your Insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

MAP SCALE 1" = 500'

250 0 500 1000 FEET

150 0 150 300 METERS

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0443G

FIRM
FLOOD INSURANCE RATE MAP

ALAMEDA COUNTY, CALIFORNIA
AND INCORPORATED AREAS

PANEL 443 OF 725

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

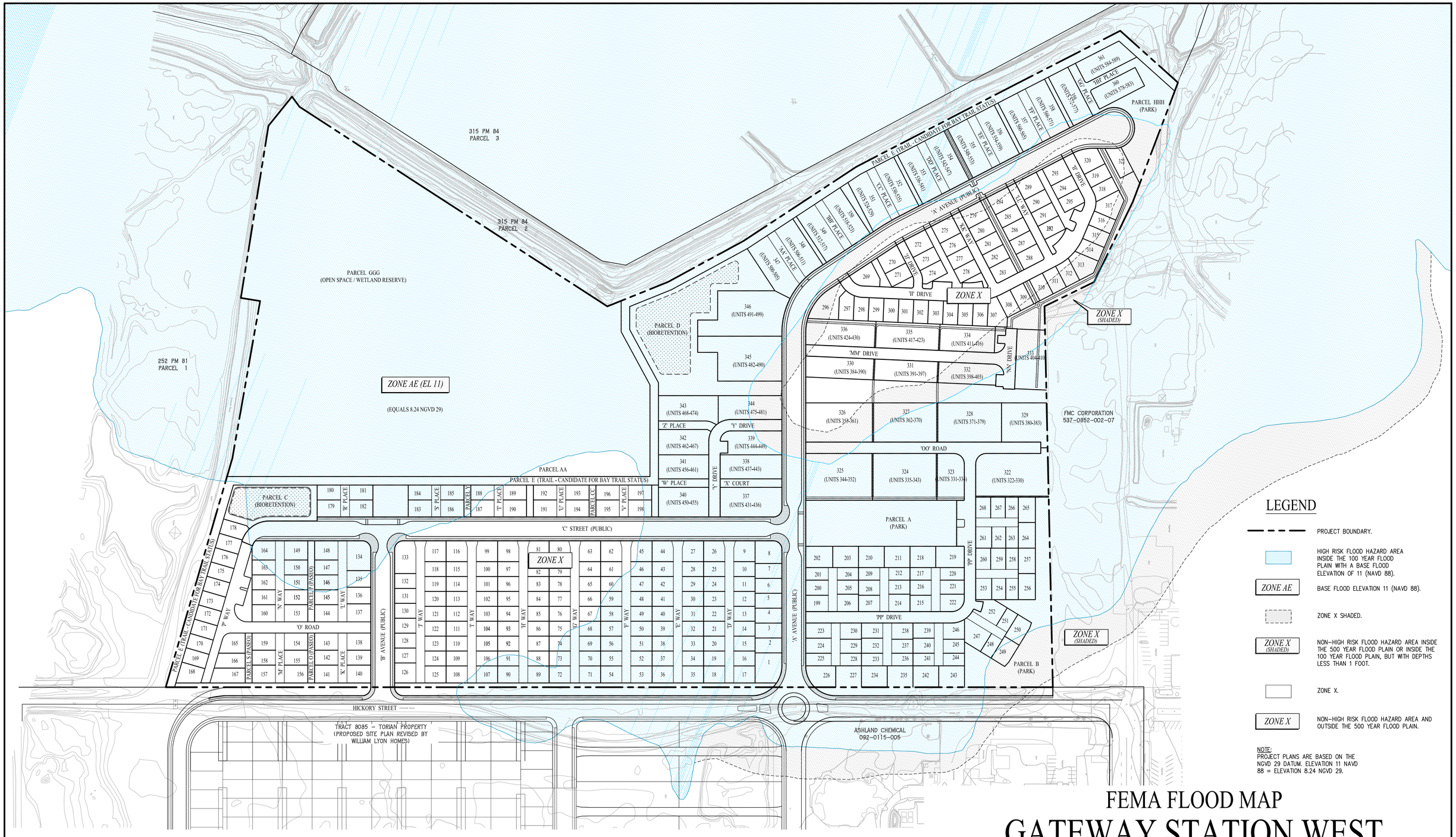
COMMUNITY	NUMBER	PANEL	SUFFIX
FREMONT, CITY OF	065028	0443	G
NEWARK, CITY OF	060009	0443	G

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
06001C0443G

EFFECTIVE DATE
AUGUST 3, 2009

Federal Emergency Management Agency



LEGEND

— — —	PROJECT BOUNDARY.
	HIGH RISK FLOOD HAZARD AREA INSIDE THE 100 YEAR FLOOD PLAIN WITH A BASE FLOOD ELEVATION OF 11 (NAVD 88).
ZONE AE	BASE FLOOD ELEVATION 11 (NAVD 88).
	ZONE X SHADED.
ZONE X (SHADED)	NON-HIGH RISK FLOOD HAZARD AREA INSIDE THE 500 YEAR FLOOD PLAIN OR INSIDE THE 100 YEAR FLOOD PLAIN, BUT WITH DEPTHS LESS THAN 1 FOOT.
	ZONE X.
ZONE X	NON-HIGH RISK FLOOD HAZARD AREA AND OUTSIDE THE 500 YEAR FLOOD PLAIN.

NOTE:
PROJECT PLANS ARE BASED ON THE NGVD 29 DATUM. ELEVATION 11 NAVD 88 = ELEVATION 8.24 NGVD 29.

FEMA FLOOD MAP
GATEWAY STATION WEST

CITY OF NEWARK ALAMEDA COUNTY CALIFORNIA

0' 100' 300' 400'

SCALE: 1" = 100' DATE: JANUARY 30, 2015

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www.cbandg.com

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LEGEND

PROJECT BOUNDARY

EXISTING IMPERVIOUS AREA

EXISTING SURFACES SUMMARY			
DESCRIPTION	AREA (sf.)	AREA (ac.)	PERCENTAGE
IMPERVIOUS	5,260	0.12	0.22
PERVIOUS	2,369,958	54.41	99.78

PRE-PROJECT IMPERVIOUS AREA MAP

GATEWAY STATION WEST

CITY OF NEWARK ALAMEDA COUNTY CALIFORNIA

0' 100' 300' 400'

SCALE: 1" = 100' DATE: JANUARY 30, 2015

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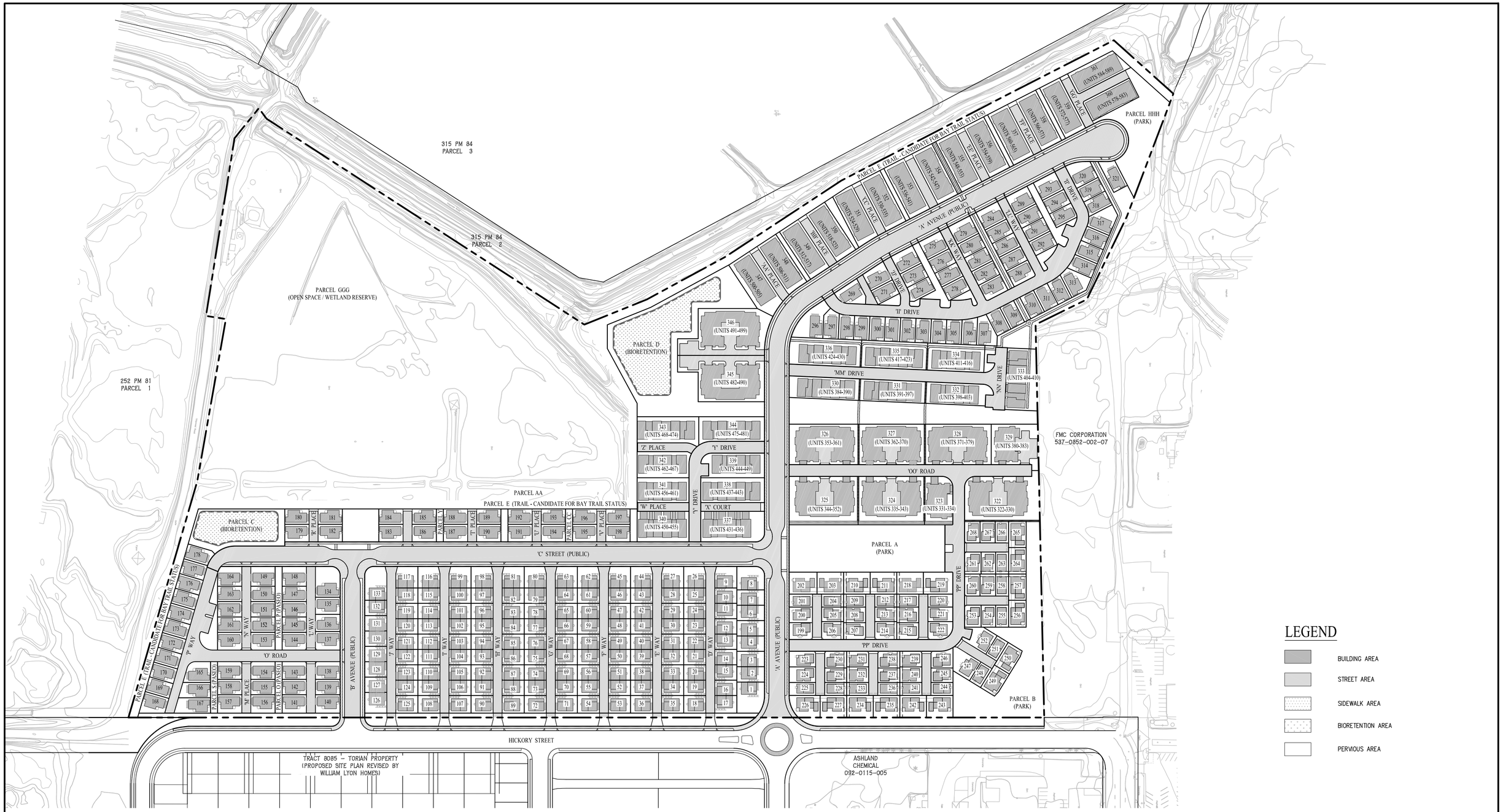

PROPOSED SURFACES SUMMARY			
DESCRIPTION	AREA (sf.)	AREA (ac.)	PERCENTAGE
IMPERVIOUS	1,048,378	24.07	44.1
PERVIOUS	1,326,838	30.46	55.9

POST PROJECT IMPERVIOUS AREA MAP
GATEWAY STATION WEST

CITY OF NEWARK ALAMEDA COUNTY CALIFORNIA

0' 100' 300' 400'

SCALE: 1" = 100' DATE: JANUARY 30, 2015

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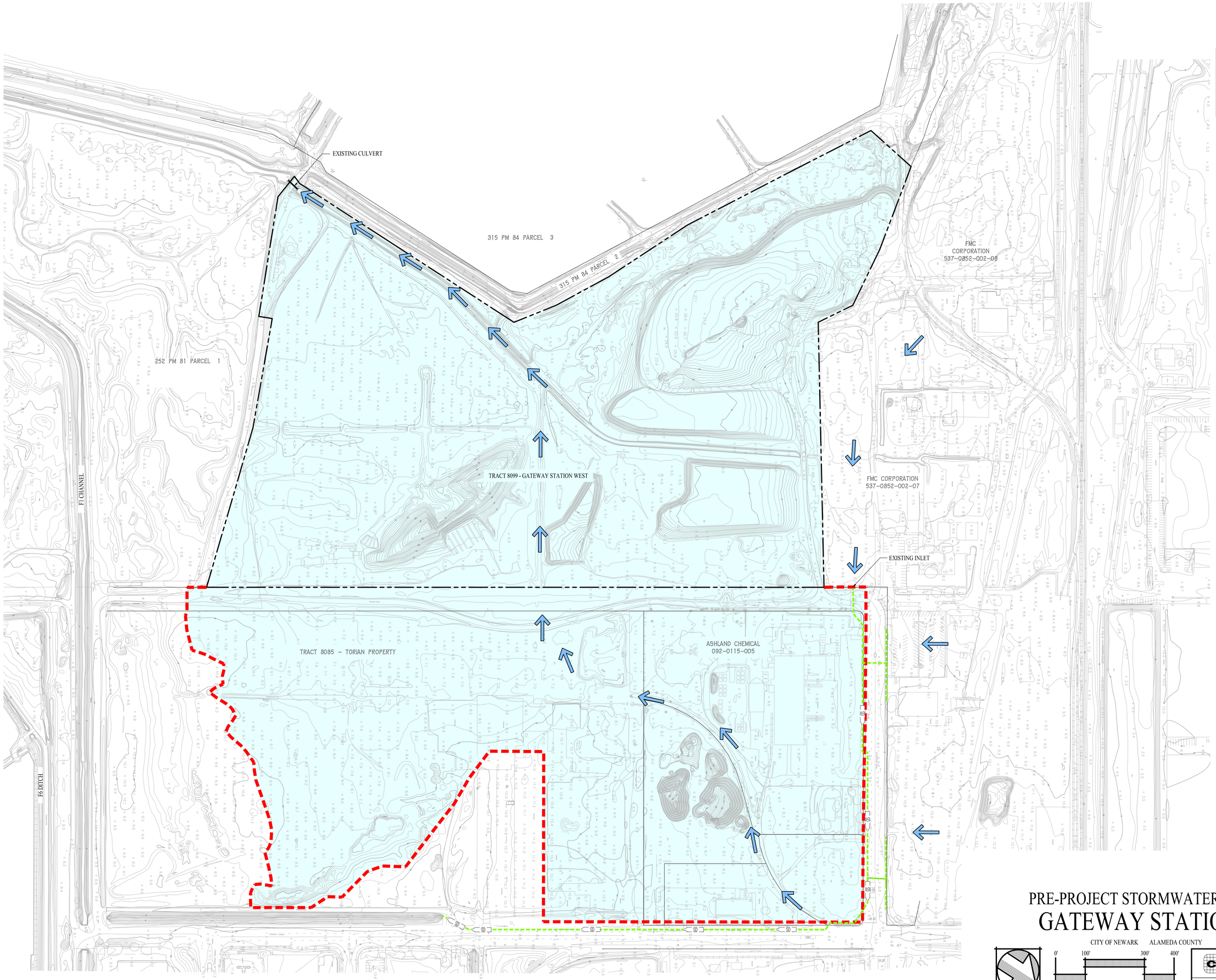

LEGEND:

RUNOFF PATH OF TRAVEL

WATERSHED BOUNDARY

EXISTING STORM DRAIN

PRE-PROJECT RUNOFF CALCULATIONS	
RUNOFF COEFFICIENT	0.35
TIME OF CONCENTRATION	35 MIN
RAINFALL INTENSITY FACTOR[2]	0.058
RAINFALL INTENSITY	0.78 IN/HR
AREA	103.46 AC
LENGTH OF TRAVEL	3,400 FT
MEAN ANNUAL PRECIPITATION	13.5 IN
Q_{10}	24.2 CFS

NOTES:

1. RUNOFF COEFFICIENT AND RAINFALL INTENSITY BASED ON WESTERN ALAMEDA COUNTY HYDROLOGY AND HYDRAULIC'S CRITERIA SUMMARY, DATED AUGUST 7, 1989.
2. RAINFALL INTENSITY FACTOR DETERMINED USING TIME OF CONCENTRATION DURING A 15 YEAR STORM EVENT. RAINFALL INTENSITY IS CALCULATED BY MULTIPLYING THIS FACTOR WITH THE MEAN ANNUAL PRECIPITATION.

PRE-PROJECT STORMWATER RUNOFF MAP
GATEWAY STATION WEST

CITY OF NEWARK ALAMEDA COUNTY CALIFORNIA

0' 100' 300' 400'

SCALE: 1" = 100' DATE: JANUARY 30, 2015

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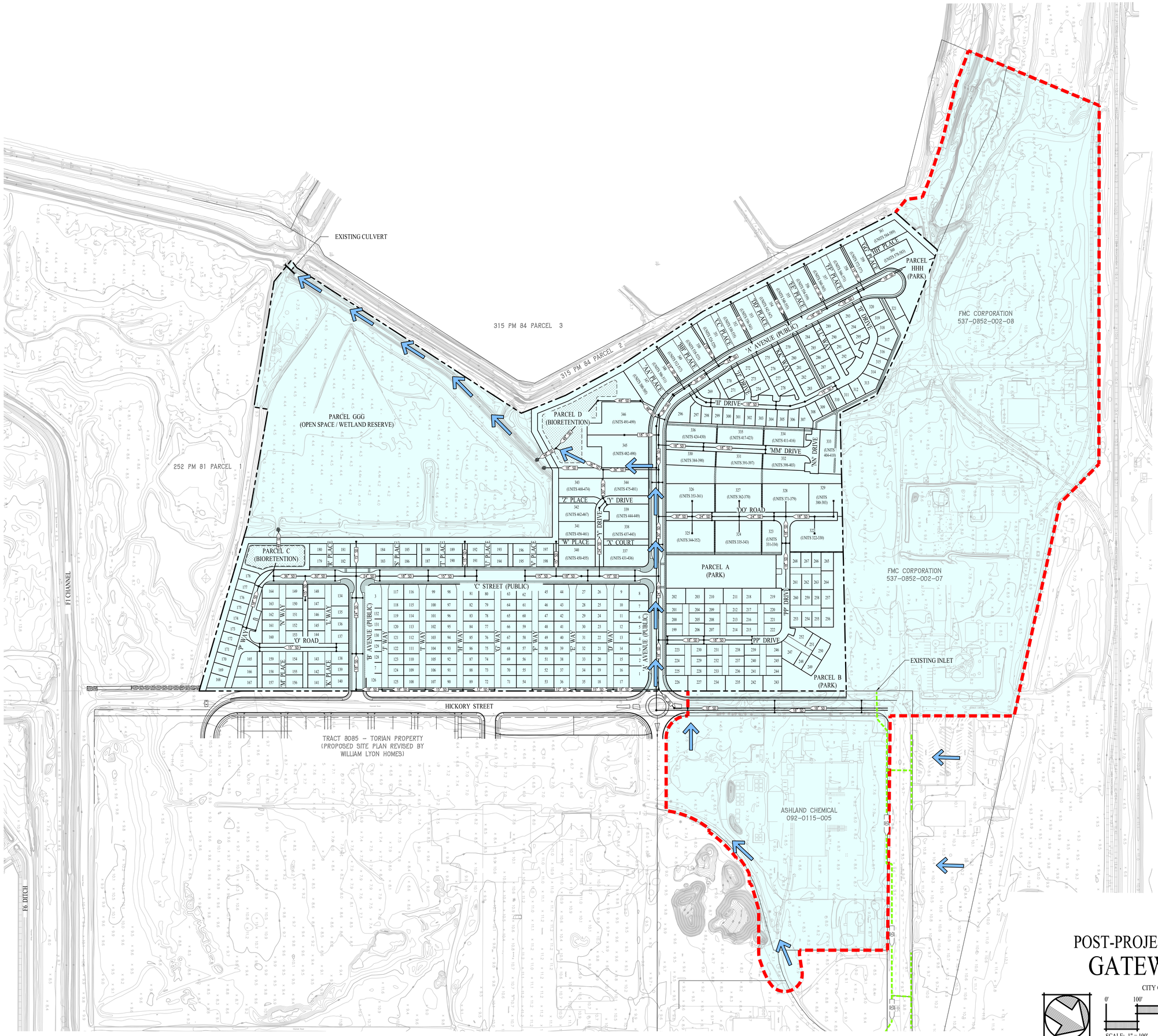

LEGEND:

- RUNOFF PATH OF TRAVEL
- WATERSHED BOUNDARY
- EXISTING STORM DRAIN

PRE-PROJECT RUNOFF CALCULATIONS	
RUNOFF COEFFICIENT[1]	0.70
TIME OF CONCENTRATION	32 MIN
RAINFALL INTENSITY FACTOR[1,2]	0.059
RAINFALL INTENSITY	0.80 IN/HR
AREA	95.30 AC
LENGTH OF TRAVEL	3,270 FT
MEAN ANNUAL PRECIPITATION	13.5 IN
Q_{15}	53.4 CFS

NOTES:

1. RUNOFF COEFFICIENT AND RAINFALL INTENSITY BASED ON WESTERN ALAMEDA COUNTY HYDROLOGY AND HYDRAULICS CRITERIA SUMMARY, DATED AUGUST 7, 1989.
2. RAINFALL INTENSITY FACTOR DETERMINED USING TIME OF CONCENTRATION DURING A 15 YEAR STORM EVENT. RAINFALL INTENSITY IS CALCULATED BY MULTIPLYING THIS FACTOR WITH THE MEAN ANNUAL PRECIPITATION.

POST-PROJECT STORMWATER RUNOFF MAP

GATEWAY STATION WEST

CITY OF NEWARK ALAMEDA COUNTY CALIFORNIA

0' 100' 300' 400'

SCALE: 1" = 100' DATE: JANUARY 30, 2015

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Carlson, Barbee & Gibson, Inc.
CIVIL ENGINEERS • SURVEYORS • PLANNERS
2633 CAMINO RAMON, SUITE 350
SAN RAMON, CALIFORNIA 94583
(925) 866-0322
www.cbandg.com

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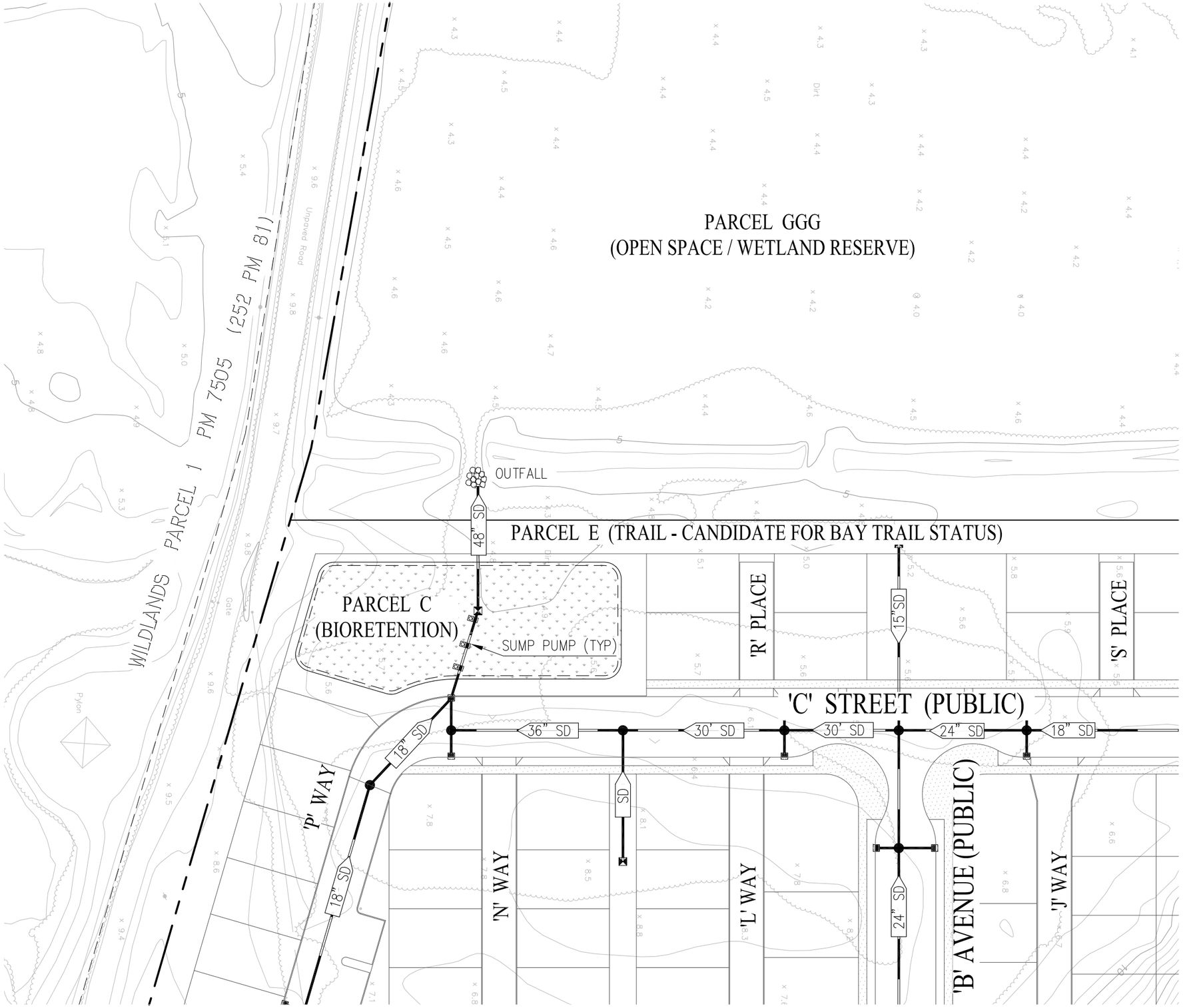

CONCEPTUAL BIORETENTION PLAN

GATEWAY STATION WEST

CITY OF NEWARK ALAMEDA COUNTY CALIFORNIA

DATE: JANUARY 30, 2015

SCALE: 1"=60'

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SHEET NO. 1 OF 3 SHEETS

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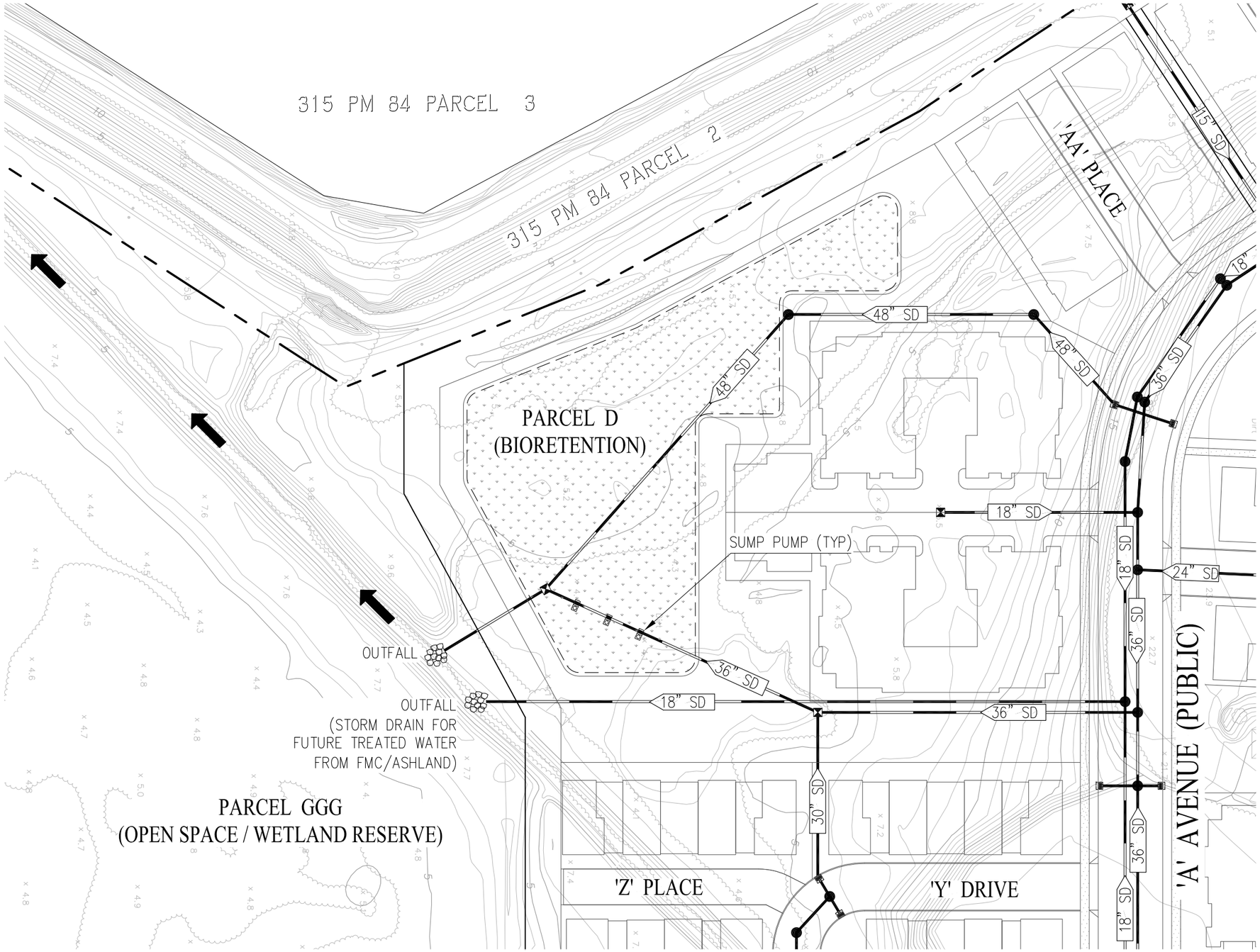

CONCEPTUAL BIORETENTION PLAN

GATEWAY STATION WEST

CITY OF NEWARK ALAMEDA COUNTY CALIFORNIA

DATE: JANUARY 30, 2015

SCALE: 1"=60'

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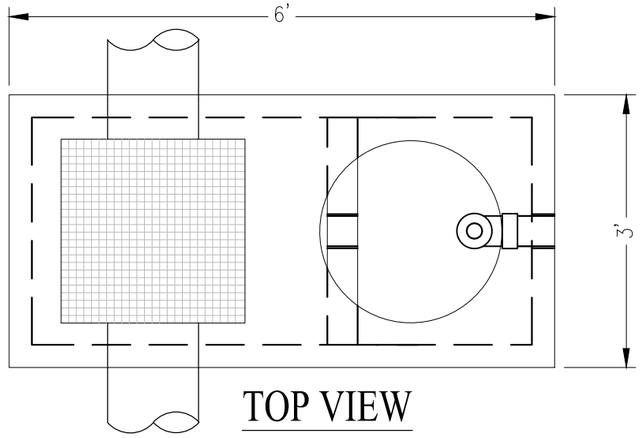
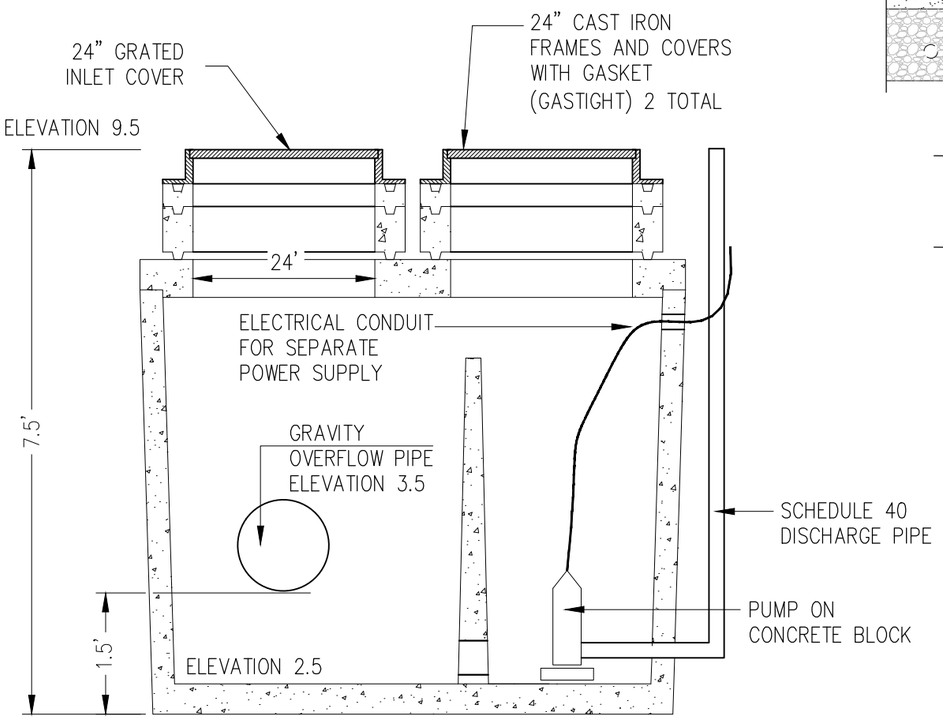


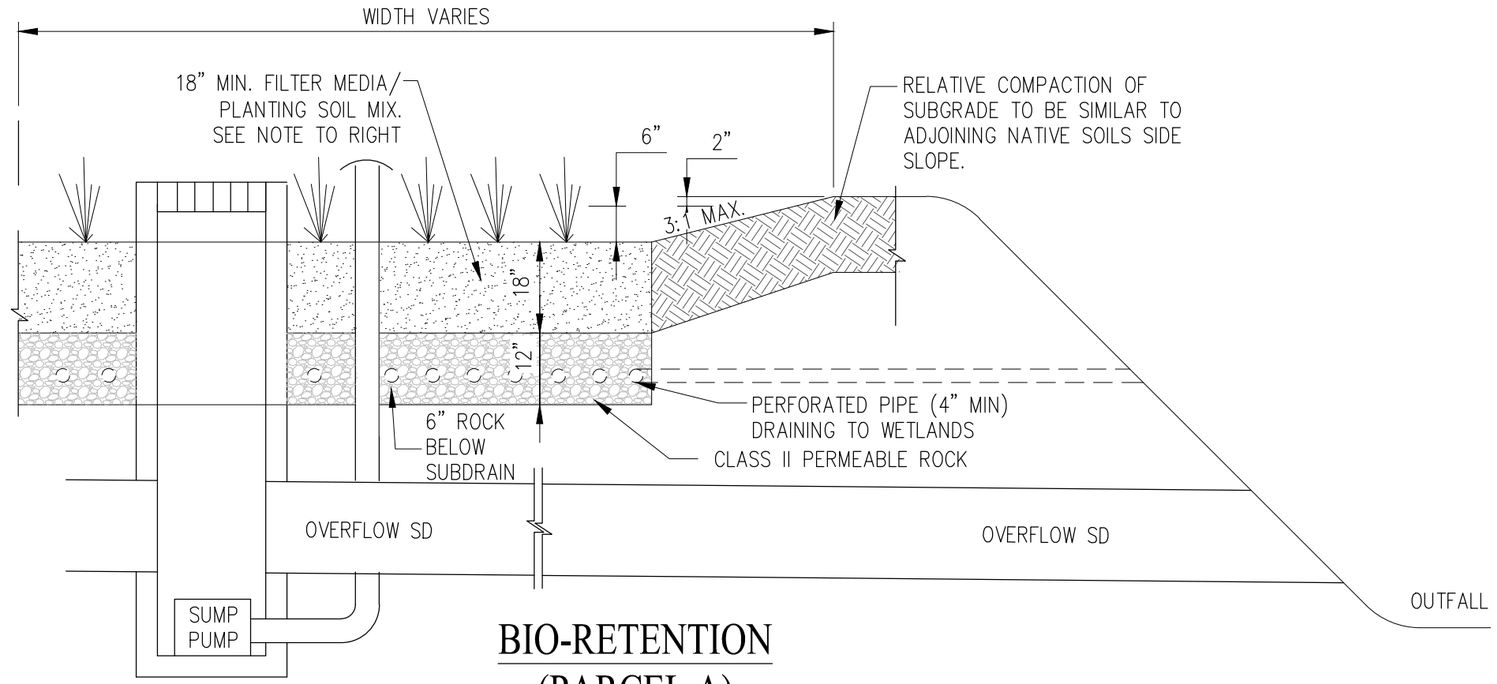
TOP VIEW

(COVERS & RINGS REMOVED)



SIDE SECTION VIEW

INLET (SUMP PUMP)



BIO-RETENTION (PARCEL A)

NOT TO SCALE

CONCEPTUAL BIORETENTION DETAIL

GATEWAY STATION WEST

CITY OF NEWARK ALAMEDA COUNTY CALIFORNIA

DATE: JANUARY 30, 2015

SCALE: NOT TO SCALE

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Appendix J

ACOUSTICAL SITE ASSESSMENT REPORT

Gateway Station West Project

Acoustical Site Assessment Report

June 2015

Prepared for:
City of Newark
Community Development Department
37101 Newark Boulevard
Newark, CA 94560

Prepared by:
HELIX Environmental Planning, Inc.
11 Natoma Street, Suite 155
Folsom, CA 95630

ACOUSTICAL SITE ASSESSMENT REPORT

for the

Gateway Station West Project

Prepared for:

City of Newark
Community Development Department
37101 Newark Boulevard
Newark, CA 94560

Prepared by:

HELIX Environmental Planning, Inc.
11 Natoma Street, Suite 155
Folsom, CA 95630

June 2015

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ACRONYMS

ADT	Average Daily Trips (roadway traffic)
Amsl	above mean sea level
ANSI	American National Standards Institute
CADNA	Computer Aided Noise Abatement
CEQA	California Environmental Quality Act
City	City of Newark
CNEL	Community Noise Equivalent Level
County	County of Alameda
dBA	A-weighted decibels
DRC	Dumbarton Rail Corridor
DRS	Dumbarton Rail Service
du	dwelling unit
EIR	Environmental Impact Report
FHWA	Federal Highway Administration
FRA	Federal Railroad Administration
FTA	Federal Transit Administration
HNL	Hourly Noise Level
HT	Heavy truck
HVAC	Heating, ventilating, and air conditioning
Hz	hertz
In/sec	inches per second
kHz	kilohertz
L_{DN}	Day-Night level
LDR	Low-density Residential
LEQ	Time-averaged noise levels, with a specified duration
NSLU	Noise-sensitive land uses
MDR	Medium-density Residential
MF	Multi-Family
MG	General Industrial District
MHDR	Medium/High-density Residential
ML	Limited Industrial District
MP	Industrial Park District
mPa	micro-Pascals
mph	Miles per hour
MT	Medium trucks

ACRONYMS (cont.)

P	Park
PPV	Peak particle velocity
Project	Gateway Station West Project
RCNM	Roadway Construction Noise Model
RMS	root mean square
SF	Square feet (foot)/Single-Family
SPL	sound pressure level
SWL	sound power levels
TNM	Traffic Noise Model
TOD	Dumbarton Transit-Oriented Development
U.S. DOT	U.S. Department of Transportation

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EXECUTIVE SUMMARY

The proposed Gateway Station West Project (Project) would involve the construction of a residential development on approximately 41 acres of the approximately 54.5-acre Project site in the City of Newark (City) in southwestern Alameda County (County). The property is located in a planned development area covered by the Dumbarton Transit-Oriented Development (TOD) Specific Plan and Environmental Impact Report (EIR). The Project proposes the development 589 single- and multi-family residential units and associated features (parks, trails, etc.) including 321 detached single-family units and 268 attached multi-family units.

Exterior use areas associated with the proposed multi- and single-family residences adjacent to Hickory Street would be consistent with City thresholds (60 Community Noise Equivalent Level [CNEL] for single-family uses, 65 CNEL for multi-family uses). Additionally, noise levels for the proposed park located adjacent to Hickory Street in the northeastern portion of the Project site would also be consistent with the City's threshold (70 CNEL for parks).

The Cargill solar salt basins are located immediately west of the proposed Project site. Cargill harvests salt approximately once per year over a 7 to 14 day period. As the truck trips associated with the salt harvest events would not result in noise levels in excess of the 65 CNEL multi-family or 60 CNEL single-family thresholds, associated impacts would be less than significant.

Heating, ventilation, and air conditioning (HVAC) equipment would potentially result in a significant impact if ground-mounted HVAC equipment is located closer than 25 feet from adjacent residential property lines. To reduce this potential impact, attenuation of exterior HVAC noise to levels of 45 dBA LEQ is required (Mitigation Measure Noi-1).

Construction activities would be conducted in accordance with the Alameda County Noise Ordinance. Additionally, modeled construction noise levels at the nearest residence (1,670 feet away) would be 50.9 A-weighted decibels over an hour (dBA LEQ hourly). These noise levels are below the standard 75 dBA LEQ construction noise limits for residentially zoned property, and thus, no significant impact would occur. Construction vibration impacts would also be less than significant. Further, the Project would implement all required measures from the Dumbarton TOD EIR (Mitigation Measures 4.10-1a and 4.10-1b) to reduce construction noise levels to the extent feasible.

Potential noise from the Dumbarton Railroad corridor at a distance of 560 feet (minimum distance from the rail line to the northern Project boundary) with no intervening structures (worst-case) would be 38 CNEL, and would not be audible over ambient noise levels. Impacts to the Project site would be less than significant. No impact related to aircraft noise would occur.

A cumulative traffic noise impact was identified for Enterprise Drive from Hickory Street to Willow Street. Prior to the issuance of building permits, the Project's contribution to the cumulatively significant noise levels on this segment shall be reduced to less than significant levels via speed limit reductions (to 25 miles per hour [mph]) and site-specific noise analysis (Mitigation Measures Noi-2 and Noi-3).

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1.0 INTRODUCTION

The proposed Gateway Station West Project (hereafter referred to as the "Project" or "Proposed Project") involves the construction of a residential development on approximately 41 acres of the approximately 54.35-acre Project site in the City of Newark (City) in southwestern Alameda County (County). The property is located within a planned development area covered by the Dumbarton Transit-Oriented Development (TOD) Specific Plan (City of Newark 2010).

This report addresses the potential for noise impacts on proposed on-site uses and the surrounding community generated by the Project, as well as potential noise impacts from off-site and on-site noise sources on the Project's usable outdoor and indoor residential areas.

1.1 PROJECT LOCATION

The proposed Project site is situated within the City in the southwestern area of the County; it is located at the southwest corner of the intersection of Hickory Street and Enterprise Drive. The Project site is bounded by Hickory Street on the east and solar salt basins on the west. Enterprise Drive (formerly Wells Avenue) terminates near the northeast corner of the property. The Project site is bounded by vacant industrial land on the north and vacant undeveloped land on the south. Construction of residential development associated with the Dumbarton TOD Specific Plan is underway to the east of the Project site, east of Hickory Street and south of Enterprise Drive. Refer to Figure 1, *Site and Vicinity Map,* for the Project location in the region. Refer to Figure 2, *Aerial Map*, for an aerial photograph of the Project site.

1.2 PROJECT DESCRIPTION

The proposed Project site is within the Dumbarton TOD Specific Plan area, and the Environmental Impact Report (EIR) for the Specific Plan (State Clearinghouse number: 2010042012) serves as the foundation document for subsequent projects proposed under the program. The Specific Plan area encompasses approximately 233 acres in the vicinity of the Union Pacific Railroad corridor, which is also the future Dumbarton Rail Corridor (DRC). The purpose of the Dumbarton TOD Specific Plan is to facilitate the development of a new neighborhood around a train station planned separately as part of the Dumbarton Rail Service (DRS) Project (City of Newark 2011a). The DRS is still under development and will undergo separate environmental analysis in the future. The proposed Gateway Station West Project will be analyzed and reviewed in light of the prior certified Dumbarton TOD Specific Plan EIR as the next step in the City's California Environmental Quality Act (CEQA) process for implementation of projects within the approved Dumbarton TOD Specific Plan.

The proposed Project includes the development of 589 single- and multi-family residential units and associated features (parks, trails, etc.) on approximately 41 acres of the approximately 54.35-acre site. A total of 321 detached single-family units and 268 attached multi-family units are proposed for construction. The proposed residential development is consistent with the approved Specific Plan Area Low-density Residential (LDR), Medium-density Residential (MDR), and Medium/High-density Residential (MHDR) land use designations and zoning codes.

In preparing the site for construction, the Project would require the demolition of the buildings associated with the pistol range and dog training area. Additionally, off-site improvements will take place within an approximately 1.6-acre portion of the 80-foot-wide Hickory Street right-of-way (an unimproved 12-foot-wide public road) located adjacent to the eastern Project site boundary. Refer to Figure 3, *Site Plan*, for the detailed site plan for the proposed Project.

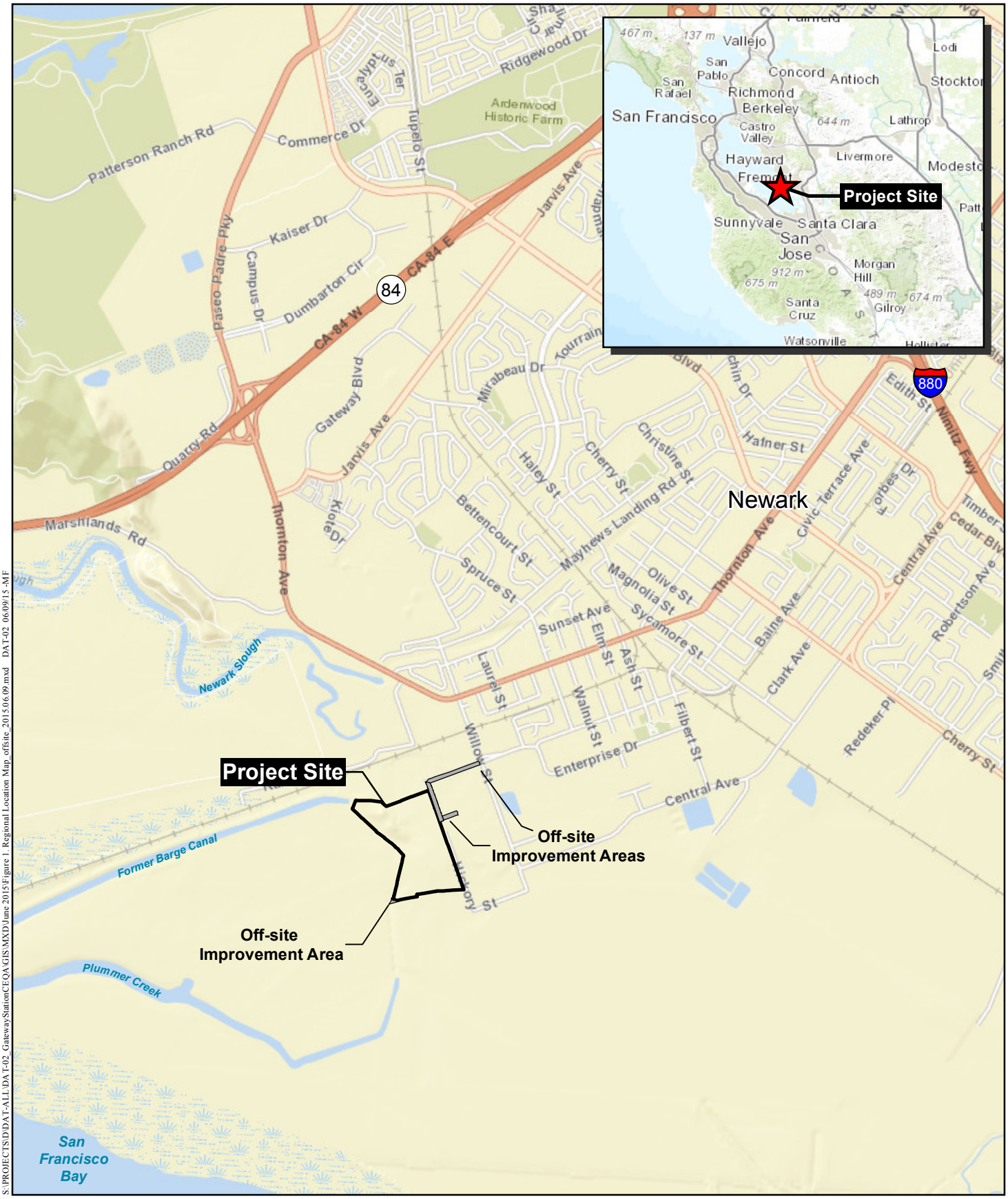
1.3 PROJECT DESIGN FEATURES

The Project would comply with the applicable mitigation measures pertaining to noise included in the Dumbarton TOD Specific Plan EIR. These measures would be included as Project Design Features (City of Newark 2011a).

Mitigation Measure 4.10-1a from the Dumbarton TOD Specific Plan EIR stipulates that projects require construction contractors to implement a site-specific noise reduction program, subject to City review and approval. The program includes the following measures that would be required throughout demolition, grading, and/or construction:

- Restrict noise-generating activities at the construction site or in areas adjacent to the construction site to the hours of 7:00 a.m. to 7:00 p.m., Monday through Friday, and between 8:00 a.m. to 5:00 p.m. on Saturdays.
- Equipment and trucks used for project construction shall utilize the best available noise control techniques (e.g., improved mufflers, equipment redesign, use of intake silencers, ducts, engine enclosures, and acoustically attenuating shields or shrouds, wherever feasible).
- Impact tools (e.g., jack hammers, pavement breakers, and rock drills) used for project construction shall be hydraulically or electronically powered wherever possible to avoid noise associated with compressed air exhaust from pneumatically powered tools. However, where use of pneumatic tools is unavoidable, an exhaust muffler shall be used; this muffler can lower noise levels from the exhaust by up to about 10 dBA. External jackets on the tools themselves shall be used where feasible, and this could achieve a reduction of 5 dBA. Quieter procedures shall be used, such as drills rather than impact equipment, whenever feasible.
- Stationary noise sources shall be located as far from adjacent receptors as possible, and they shall be muffled and enclosed within temporary sheds, incorporated insulation barriers, or other measures to the extent feasible.
- If feasible, the noisiest phases of construction shall be limited to less than 10 days at a time.

Mitigation Measure 4.10-1b from the Dumbarton TOD Specific Plan EIR requires project applicants to implement a list of measures to respond to and track complaints pertaining to



S:\PROJECTS\DDAT-ALL\DAT-02_GatewayStationCEQA\GIS\MXD\June 2015\Figure 1. Regional Location Map_offsite_2015.06.09.mxd DAT-02 06/09/15-MF

Base Map: USGS, ESRI 2014 Map Date: 06-09-2015

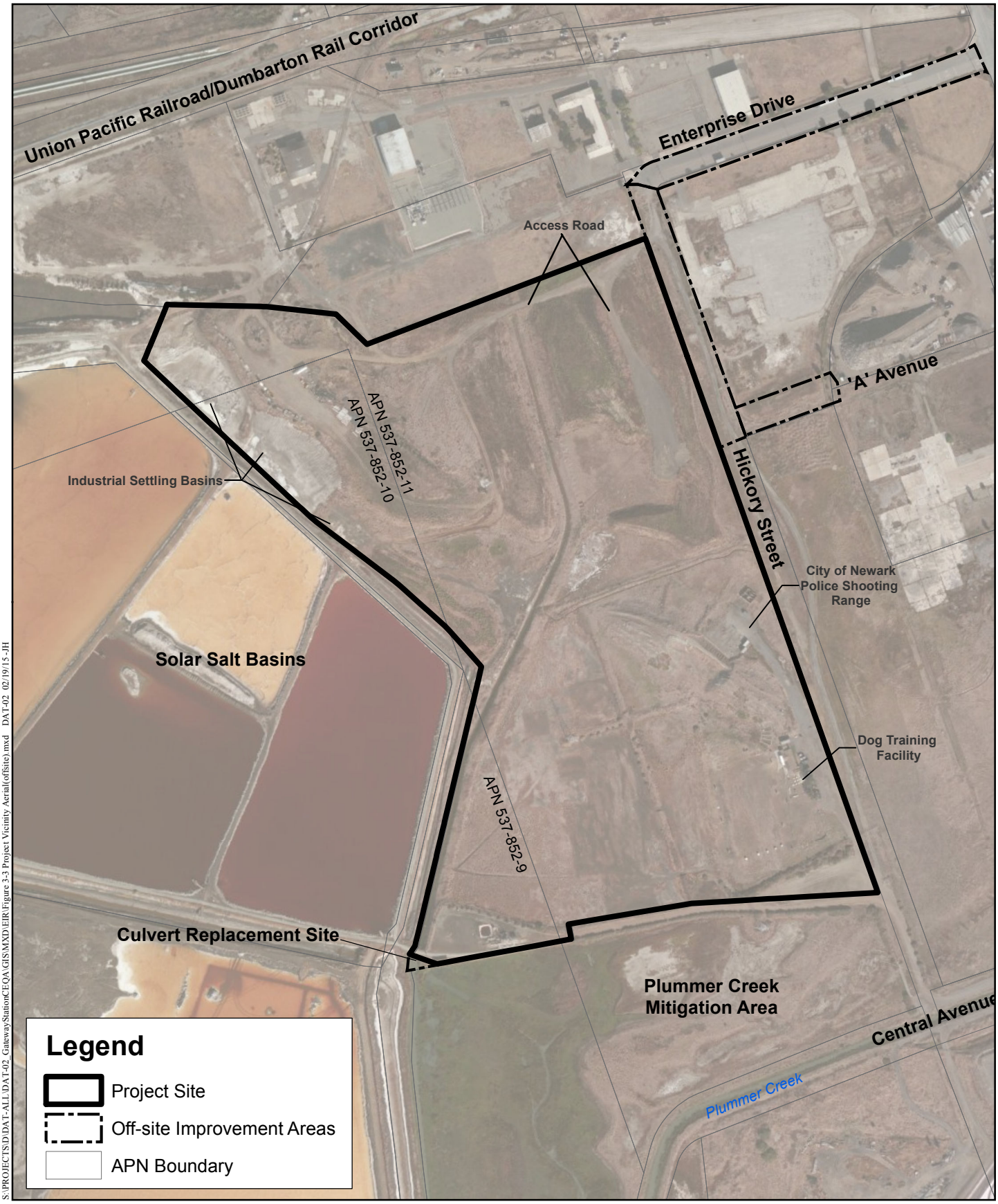
Site and Vicinity Map

GATEWAY STATION WEST

HELIX Environmental Planning

N 0 0.5 Miles 1 inch = 0.5 miles

Figure 1



S:\PROJECTS\D\DAT-ALL\DAT-02_GatewayStationCEQA\GIS\MXD\EIR\Figure 3-3 Project Vicinity Aerial(offsite).mxd DAT-02 02/19/15 -JH

Map Date: 06-17-2015

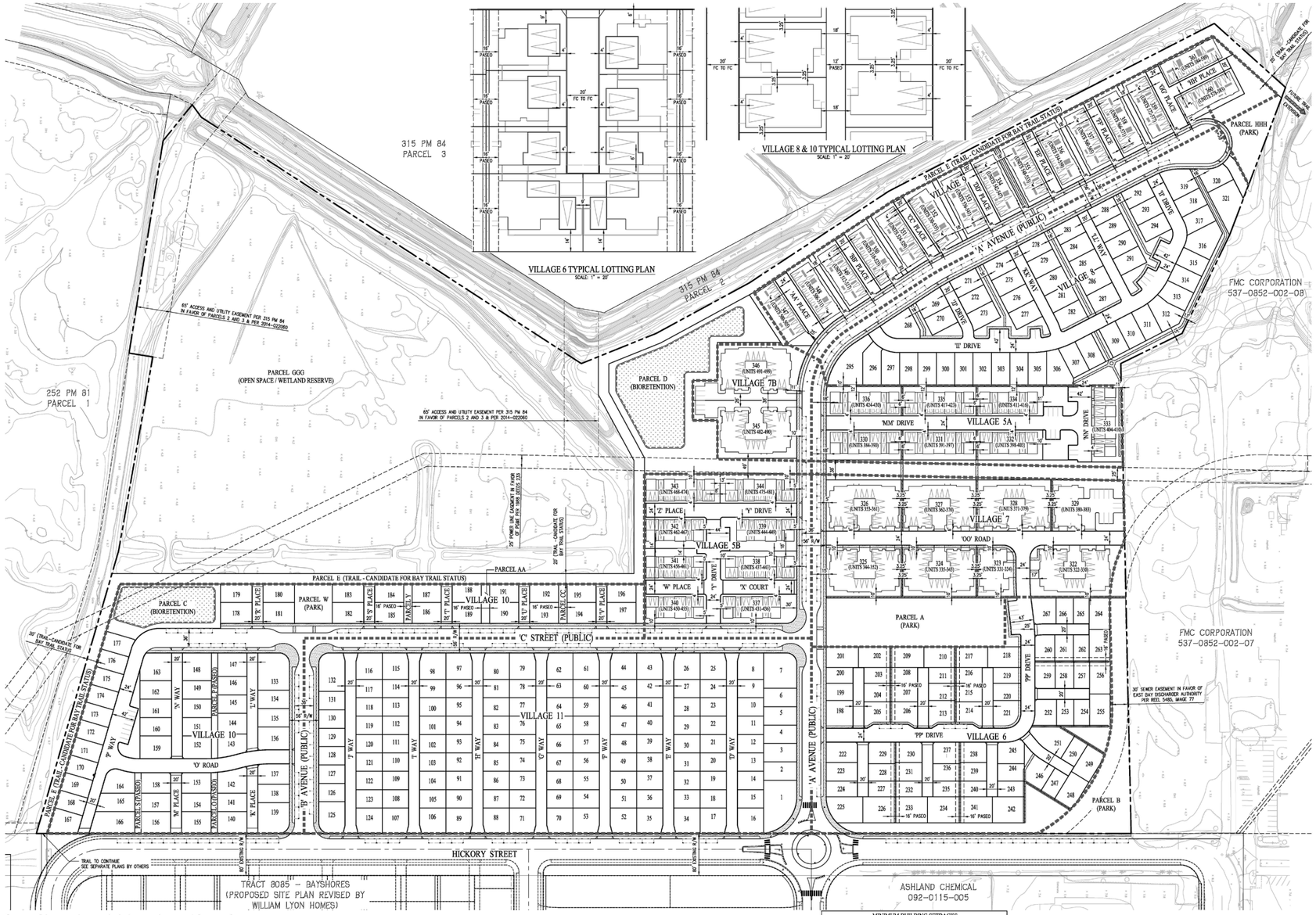
Aerial Map

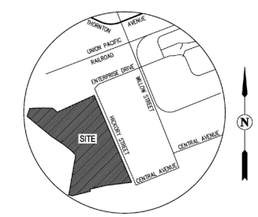
GATEWAY STATION WEST

HELIX Environmental Planning

0 400 Feet 1 inch = 400 feet

Figure 2





VICINITY MAP

NOT TO SCALE

GENERAL NOTES:

1. OWNER/DEVELOPER: DUMBARTON AREA 2, LLC
500 LA GONDA WAY, SUITE 102
DANVILLE, CA 94526
CONTACT: GLENN BROWN
(925) 362-3749

2. ENGINEER: CARLSON, BARBEE & GIBSON, INC.
2633 CAMINO RAMON, SUITE 350
SAN RAMON, CA 94583
CONTACT: GREG MILLER
(925) 866-0322

3. SOILS ENGINEER: BERLOGAR, STEVENS & ASSOCIATES
5587 SUNOL BOULEVARD
PLEASATON, CA, 94566
CONTACT: FRANK BERLOGAR
(925) 484-0220
(925) 846-9645 (FAX)

4. EXISTING USE: LIGHT INDUSTRIAL

5. SUBDIVISION AREA: 54.53±
DEVELOPABLE AREA: 41.0±

6. NUMBER OF UNITS 589 UNITS

7. THIS PROPERTY LIES IN THE JURISDICTION OF:

FIRE PROTECTION
CITY OF NEWARK FIRE PROTECTION DISTRICT

DOMESTIC WATER
ALAMEDA COUNTY COUNTY WATER DISTRICT

SANITARY SEWER
UNION SANITARY DISTRICT

STORM DRAIN WITHIN STREETS, LANES & PASEOS
CITY OF NEWARK (SDC)

STORM DRAIN WITHIN PRIVATE YARDS
PRIVATELY MAINTAINED BY HOMEOWNERS (PSDE)

GAS & ELECTRIC SERVICE
PACIFIC GAS & ELECTRIC

TELEPHONE SERVICE
AT&T

8. ROADWAYS AND PARCELS: UNLESS OTHERWISE NOTED (I.E. PUBLIC) ALL ROADWAYS AND PARCELS ARE TO BE MAINTAINED BY THE HOA ESTABLISHED WITH THE PROJECT. PUBLIC ACCESS EASEMENTS WILL BE DEDICATED OVER PARCEL E FOR PUBLIC USE.

9. PROPOSED LAND USE SUMMARY: SEE TABLE (THIS SHEET)

10. ASSESSORS PARCEL NUMBERS: 537-0852-009
537-0852-010
537-0852-011

11. BENCHMARK: CITY OF NEWARK OFFICIAL BENCHMARK NO. 62,
ALSO BEING AN ALAMEDA COUNTY BENCHMARK, THE TOP OF CURB AT STORM WATER INLET AT THE NORTH-EAST CORNER OF THORTON AVENUE AT WILLOW STREET, ELEVATION TAKEN AS 11.39 (NAVD 88) (8.661 NGVD 29 PER CITY OF NEWARK RECORDS).

12. TOPOGRAPHY: PREPARED BY HJW GEOSPATIAL, INC. DATED MAY 2005

13. FLOOD ZONE: ZONED X AND AE
FLOOD INSURANCE RATE MAP (FIRM)
COMMUNITY PANEL NUMBER: 060009 0443 G

14. THIS PROJECT MAY BE BUILT IN PHASES AND MULTIPLE FINAL MAPS MAY BE FILED. A PHASING PLAN WILL BE PROVIDED TO THE CITY OF NEWARK PRIOR TO FINAL MAP APPROVAL.

15. LOTS 1 – 321 WILL BE RESIDENTIAL LOTS
LOTS 322 – 361 (UNITS 322–589) WILL BE CONDOMINIUM UNITS.

16. LOT DIMENSIONS AND AREAS ARE APPROXIMATE AND ARE ROUNDED TO THE NEAREST WHOLE NUMBER. EXACT DIMENSIONS AND AREAS WILL BE PROVIDED ON THE FINAL MAP

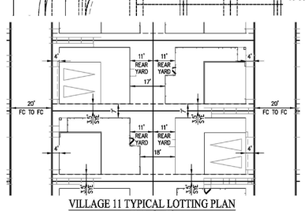
17. ALL BUILDINGS SHALL BE EQUIPPED WITH AN AUTOMATIC FIRE SPRINKLER SYSTEM AS REQUIRED BY CHAPTER 15.09.020.G OF THE NEWARK MUNICIPAL CODE.

18. GRADING SHOWN IS PRELIMINARY AND SUBJECT TO CHANGE DURING FINAL DESIGN.

19. ALL UTILITIES SHOWN ARE TO BE USED AS A GUIDE AND MAY CHANGE DURING FINAL DESIGN.

20. GENERAL PLAN DESIGNATION: CONSERVATION/OPEN SPACE (PORTION), LOW–MEDIUM DENSITY RESIDENTIAL (PORTION), MEDIUM DENSITY RESIDENTIAL (PORTION), HIGH DENSITY RESIDENTIAL (PORTION), SALT HARVESTING, REFINING & PRODUCTION (PORTION).

21. ZONING: EXISTING: MT–1 HIGH TECHNOLOGY PARK DISTRICT
PROPOSED: DUMBARTON FORM BASED CODE



PARKING SUMMARY

PARKING REQUIRED:	
OFF-STREET COVERED SPACES PER UNIT (2 PER UNIT) =(321X2)+(268X2) =	1,178 SPACES
GUEST SPACES= = .20X OF MULTI-FAMILY UNITS + 1 = (268X0.20+1) =	56 SPACES
TOTAL PARKING REQUIRED =	**1,233 SPACES**
PARKING PROVIDED:	
OFF-STREET COVERED SPACES (589X2) =	1,178 SPACES
GUEST	
ON-SITE PARALLEL SPACES (IN-TRACT) =	152 SPACES
OFF-SITE PARALLEL SPACES (NOKORY STREET) =	53 SPACES
ON-SITE 90 DEGREE SPACES (IN-TRACT) =	54 SPACES
ON-SITE ACCESSIBLE SPACES (IN-TRACT) =	12 SPACES
TOTAL GUEST PARKING =	271 SPACES
TOTAL PARKING PROVIDED =	**1,449 SPACES**

(*17.60.090A.2.C OF NEWARK MUNICIPAL CODE REQUIRES .20X +1)

NOTE
PARKING SPACES ARE SHOWN ON SHEET 1W

LAND USE SUMMARY

LAND USE	AREA (AC)
SINGLE FAMILY LOTS	15.29
MULTI FAMILY LOTS	8.31
PUBLIC STREETS	4.47
PRIVATE STREETS & ALLEYS	5.78
PARKS	2.24
PASEOS/OPEN SPACE	1.64
TRAIL	1.58
WATER QUALITY	1.67
OPEN SPACE	13.55
TOTAL PROJECT AREA	54.53

UNIT SUMMARY

VILLAGE	NUMBER OF UNITS
VILLAGE 5A & 5B – LIA LOFT SPLIT	68
VILLAGE 6 – LIA SFD CLUSTER	70
VILLAGE 7A & 7B – LIA PB	80
VILLAGE 8 – 35 x 55 UA ALLEY	54
VILLAGE 9 – LIA FLATS	90
VILLAGE 10 – 35 x 55 LIA ALLEY	85
VILLAGE 11 – 35 x 50 UA FRONT	132
TOTAL	589

MINIMUM BUILDING SETBACKS

	REQUIRED SINGLE FAMILY DETACHED (ALLEY LOADED)	REQUIRED SINGLE FAMILY ATTACHED (ALLEY LOADED)
LOT SIZE		
WIDTH, ft	30–60	15–35
DEPTH, ft	50–150	50–90
SETBACKS		
FRONT		
PORCH/STOOPS, ft	6	6
BUILDING FACE, ft	8	8
REAR		
MAIN BUILDING, ft	10	10
GARAGE, ft (2)	4	4
SIDE		
MAIN BUILDING, ft	3.25	3.25
MAIN BUILDING AT CORNERS, ft (4)	8.52/5	8.25/5
PORCH/STOOPS AT CORNERS, ft	6	6
GARAGE, ft	3.25	3.25
GARAGE AT CORNERS, ft (4)	8.25/5	8.25/5
MAXIMUM SITE COVERAGE, % (NOT INCLUDING PORCHES) (3)	60	85

NOTES:
1.REQUIRED SETBACKS AREA BASED ON THE TABLE IN SECTION 17.37.080 UNLESS OTHERWISE NOTED.

2. FOR ALL ALLEY-LOADED HOMES, THE SETBACK MAY BE REDUCED TO FOUR FEET TO THE GARAGE DOOR.

3. FRONT SETBACK AND SITE COVERAGE MEASURED TO THE CENTERLINE OF TRAIL AND CENTERLINE OF PASSEO PER SECTION 17.37.080 F.

4. SIDE STREET SETBACK OF 5 FEET PER SECTION 17.37.060 D AND 17.37.080 H.

TITLE SHEET AND SITE PLAN
VESTING TENTATIVE MAP
TRACT 8099
GATEWAY STATION WEST

CITY OF NEWARK ALAMEDA COUNTY CALIFORNIA

0' 60' 180' 240'
SCALE: 1" = 60'
DATE: JUNE 3, 2015

Carlson, Barbee & Gibson, Inc.
CIVIL ENGINEERS • SURVEYORS • PLANNERS
2633 CAMINO RAMON, SUITE 350
SAN RAMON, CALIFORNIA 94583
(925) 866-0322
www.cbandg.com

SHEET NO.
TM-1
OF 8 SHEETS

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Source: Carlson, Barbee & Gibson, Inc. 2015

Site Plan

GATEWAY STATION WEST

HELIX Environmental Planning

Figure 3

construction noise, ongoing throughout demolition, grading, and/or construction. These measures include the following:

- A procedure and phone numbers for notifying the City Building Inspection Division staff and Newark Police Department (during regular construction hours and off-hours);
- A sign posted on site pertaining to the permitted construction days and hours and complaint procedures and who to notify in the event of a problem. The sign shall also include a listing of both the City and construction contractor's telephone numbers (during regular construction hours and off-hours);
- The designation of an on-site construction complaint and enforcement manager for the project. The manager shall act as a liaison between the project and its neighbors (including on-site residents). The manager's responsibilities and authority shall include the following:
  - An active role in monitoring project compliance with respect to noise;
  - Ability to reschedule noisy construction activities to reduce effects on surrounding noise sensitive receivers;
  - Site supervision of all potential sources of noise (e.g., material delivery, shouting, debris box pick-up and delivery) for all trades; and,
  - Intervening or discussing mitigation options with contractors.
- Notification of neighbors and occupants within 300 feet of the project construction area at least 30 days in advance of construction activities regarding the details and estimated duration of the activity; and,
- A preconstruction meeting shall be held with the job inspectors and the general contractor/on-site project manager to confirm that noise measures and practices (including construction hours, neighborhood notification, posted signs, etc.) are completed.

2.0 ENVIRONMENTAL SETTING

2.1 NOISE AND SOUND LEVEL DESCRIPTORS AND VIBRATION BASICS

All noise level or sound level values presented herein are expressed in terms of decibels (dB), with A-weighting (dBA) to approximate the hearing sensitivity of humans. Time-averaged noise levels are expressed by the symbol L_{EQ}, with a specified duration. The Community Noise Equivalent Level (CNEL) is a 24-hour average, where noise levels during the evening hours of 7:00 p.m. to 10:00 p.m. have an added 5 dB weighting, and sound levels during the nighttime hours of 10:00 p.m. to 7:00 a.m. have an added 10 dB weighting. This is similar to the Day-Night sound level (L_{DN}), which is a 24-hour average with an added 10 dB weighting on the same nighttime hours but no added weighting on the evening hours. Sound levels expressed in CNEL are always based on dBA. These metrics are used to express noise levels for both

measurement and municipal regulations, as well as for land use guidelines and enforcement of noise ordinances.

Sound can be described as the mechanical energy of a vibrating object transmitted by pressure waves through a liquid or gaseous medium (e.g., air) to a hearing organ, such as a human ear. Noise is defined as loud, unexpected, or annoying sound.

In the science of acoustics, the fundamental model is comprised of a sound (or noise) source, a receiver, and the propagation path between the two. The loudness of the noise source and obstructions, or atmospheric factors affecting the propagation path to the receiver, determine the sound level and characteristics of the noise perceived by the receiver. The field of acoustics deals primarily with the propagation and control of sound.

Continuous sound can be described by frequency (pitch) and amplitude (loudness). A low-frequency sound is perceived as low in pitch. Frequency is expressed in terms of cycles per second, or Hertz (Hz) (e.g., a frequency of 250 cycles per second is referred to as 250 Hz). High frequencies are sometimes more conveniently expressed in kilohertz (kHz), or thousands of Hertz. The audible frequency range for humans is generally between 20 Hz and 20,000 Hz.

The amplitude of pressure waves generated by a sound source determines the loudness of that source. A logarithmic scale is used to describe sound pressure level (SPL) in terms of decibels (dB). The threshold of hearing for the human ear is about 0 dB, which corresponds to 20 micro-Pascals (mPa).

Because decibels are logarithmic units, SPL cannot be added or subtracted through ordinary arithmetic. Under the decibel scale, a doubling of sound energy corresponds to a 3-dB increase. In other words, when two identical sources are each producing sound of the same loudness, the resulting sound level at a given distance would be 3 dB higher than one source under the same conditions.

Vibration is defined as any oscillatory motion induced in a structure or mechanical device as a direct result of some type of input excitation. Sources of ground-borne vibrations include natural phenomena (earthquakes, volcanic eruptions, sea waves, landslides, etc.) or manmade (explosions, trains, machinery, traffic, construction equipment, etc.). Vibration sources may be transient, steady-state (continuous), or pseudo steady-state. Examples of transient construction vibrations are those that result from blasting with explosives, impact pile driving, demolition, and wrecking balls.

Ambient and source vibration information are expressed in terms of the peak particle velocity (PPV) in inches per second (in/sec). The root mean square (RMS) of a signal is the average of the squared amplitude of the signal in decibels (re 1 micro-inch per second). Because the net average of a vibration signal is zero, the RMS amplitude is used to describe the “smoothed” vibration amplitude. The RMS of a signal is the average of the squared amplitude of the signal. The RMS amplitude is always less than the PPV and is always positive. The RMS average is typically calculated over a one-second period.

2.2 NOISE AND VIBRATION SENSITIVE LAND USES

Noise-sensitive land uses (NSLU) are land uses that may be subject to stress and/or interference from excessive noise, such as residential dwellings, transient lodging, dormitories, hospitals, educational facilities, and libraries. Specifically, sensitive noise receptors in the City include residential areas, the National Wildlife Refuge, major parks, Newark Unified School District schools, senior housing, and neighborhood churches (City of Newark 2011a). Industrial and commercial land uses are generally not considered sensitive to noise. There are no existing residential or other NSLU locations adjacent to the Project site. There are residential developments to the north and northeast, at a distance of approximately 1,730 feet or more from the northeastern Project boundary and approximately 740 feet from the Enterprise Drive off-site improvement area).

This analysis includes an assessment of potential Project-added traffic noise impacts to the residences that are located to the northeast of the Project site along Willow Street south of Thornton Avenue, and potential future residences associated with the Dumbarton TOD Specific Plan that would be located along Enterprise Drive west of Willow Street with Specific Plan implementation (City of Newark 2011a). The planned on-site residences (including outdoor use areas) are also considered noise-sensitive receptors.

Land uses in which ground-borne vibration could potentially interfere with operations or equipment, such as research, manufacturing, hospitals, and university research operations (Federal Transit Administration [FTA] 2006) are considered "vibration-sensitive." The degree of sensitivity depends on the specific equipment that would be affected by the ground-borne vibration. Excessive levels of ground-borne vibration of either a regular or an intermittent nature can result in annoyance to residential uses. No vibration-sensitive land uses are located on or within 200 feet of the Project site.

2.3 REGULATORY FRAMEWORK

California Noise Insulation Standards (California Code of Regulations, Title 24)

Title 24 establishes an Interior Noise Standard of 45 CNEL for multiple-unit and hotel/motel structures. Acoustical studies must be prepared for proposed multiple-unit residential and hotel/motel structures within the CNEL noise contours of 60 dBA or greater. The studies must demonstrate that the design of the building will reduce interior noise in habitable rooms to 45 CNEL or lower.

City of Newark General Plan

The City General Plan Noise Element identifies noise and land use compatibility standards for various land uses. These standards are intended to provide compatible land uses throughout the community as related to environmental noise. Table 2-1, *City of Newark Exterior Land Use/Noise Compatibility Guidelines,* summarizes the City's exterior land use-noise compatibility guidelines. Shading in this table represents the maximum noise exposure level considered compatible for each land use category. Single-family residential land uses residential land uses

are considered "normally acceptable" in exterior noise environments of 60 dBA CNEL or less, multi-family residential land uses are considered "normally acceptable" in exterior noise environments of 65 dBA CNEL or less and playgrounds and neighborhood parks are considered "normally acceptable" in exterior noise environments of 70 dBA CNEL or less.

Table 2-1
CITY OF NEWARK EXTERIOR LAND USE/NOISE COMPATIBILITY GUIDELINES

Land Use Category	Annual CNEL (dBA)				
	55	60	65	70	75
Residential – Low Density Single Family, Duplex, and Mobile homes					
Residential – Multiple Family					
Transient Lodging – Motels, Hotels					
Schools, Libraries, Churches, Hospitals, and Nursing Homes					
Auditoriums, Concert Halls, Amphitheaters*					
Sports Arena, Outdoor Spectator Sports*					
Playgrounds, Neighborhood Parks					
Golf Courses, Riding Stables, Water Recreation, Cemeteries					
Offices Buildings, Business, Commercial, and Professional					
Industrial, Manufacturing, Utilities, Agriculture					

Notes: Shading represents the maximum noise exposure level considered normally acceptable for each land use category.
* Land use categories for which "Normally Acceptable" levels were not presented; "Conditionally Acceptable" levels are presented for these land use categories.
Source: City of Newark General Plan Noise Element, 2011 (City of Newark 2011c)

The City of Newark Municipal Code prohibits noisy or otherwise objectionable machinery or equipment used in the conduct of the home occupation, that no radio or television interference is created, and that the conduct of the home occupation shall not create any noise audible beyond the boundaries of the site (excluding parcels with Industrial Park District [MP], Limited Industrial District [ML], and General Industrial District [MG] zoning).

The following goals and implementation policies from the Noise Element are relevant to the proposed Project:

> *Policy NO 1.2.1: The City shall require that all new developments incorporate design elements to minimize adverse noise impacts on surrounding land uses.*
>
> > *Program NO 1.2.1a: Establish design and planning requirements that lessen the impact of noise such as setbacks, earthen berms, building orientation, and landscaping.*

Program NO 1.2.1b: Require multi-family residences and hotels comply with the California Noise Insulation Standards, in the California Administrative Code, Title 25, Chapter 1, Subchapter 1, when they fall within the 60 dB (CNEL or L_{DN}) noise exposure contours.

Program NO 1.2.1c: Establish planning requirements for designers and architects on placement of windows, doors, and bedrooms relative to noise sources.

Policy NO 1.3.4: Control noise that causes discomfort between neighbors.

Program NO 1.3.4c: No person shall be allowed to cause any noise to be emitted past his/her property line in any manner so as to create any noise that would cause the ambient noise level to be increased by more than 6 dB.

Alameda County Noise Ordinance

As there are no noise guidelines related to construction and stationary noise thresholds within the Municipal Code for the City, therefore, guidelines from the Alameda County Noise Ordinance are utilized in this analysis.

The County Municipal Code (Section 6.60.040) includes zoning-specific noise standards for stationary noise sources. Operation of the Project would result in a noise impact if it exceeds the noise limits at the affected land uses listed in Section 2.3. A significant operational noise impact would occur if the maximum operational exterior noise limit for residential uses exceeds 50 dBA L_{EQ} during the daytime hours of 7:00 a.m. to 10:00 p.m., and 45 dBA L_{EQ} during the nighttime hours of 10:00 p.m. to 7:00 a.m. Further, the noise criteria for multi-family housing should comply with the Noise Insulation Standards of the California Code of Regulations, Part 2, Title 24, which require a noise analysis for multi-family housing whenever exterior noise sources exceed 60 dBA (CNEL) or greater, to demonstrate that the interior noise level has been designed to limit interior noise to 45 dBA (CNEL).

With regard to construction noise, the County Code (Chapter 6.60, Noise) states that construction activities must not violate the hourly limits established in Section 6.60.070(E) of the County Code. That ordinance prohibits construction activity between 7:00 p.m. and 7:00 a.m. Monday through Friday, and between 5:00 p.m. and 8:00 a.m. on Saturday or Sunday.

2.4 EXISTING CONDITIONS

2.4.1 Existing Site Conditions

The Project site is approximately 54.35 total acres in size of which 41 acres are proposed to be developed. The Project site is generally located in a largely industrial area, with open space and residential uses in the vicinity. The surrounding land uses are characterized by existing and former industrial parcels, with nearby business/professional centers and residential lots. To the north of the site is the former FMC Corporation facility and the existing Union Pacific Railroad

corridor, to the east is the former Ashland Chemical Company and Torian facility, to the south is the Plummer Creek Wetland Mitigation Bank, and to the west are the Cargill solar salt basins.

Terrain in the study area is characterized by a series of natural hills, soil stockpile storage areas placed in upland areas, and man-made basins. The surface elevations in the study area range from about 8 - 10 feet above mean sea level (amsl), with the exception of a rock outcrop that extends to approximately 26 feet amsl, and stockpile storage areas that reach 30 to 35 feet amsl. The rock outcrop is located in the southeastern portion of the site, and is comprised of serpentine bedrock that contains chrysotile, a form of naturally occurring asbestos.

2.4.2 Existing Noise Environment

The dominant noise source in the vicinity of the Project site is associated with vehicular traffic on Willow Street, with a minor potential contribution from the railroad lines east of the site.

Traffic and Ambient Noise Measurements

Two 15-minute noise measurements were conducted during the site visit on September 11, 2014. One traffic noise measurement was located along the western side of Willow Street (approximately 1,050 feet south of Enterprise Drive) in the driveway entrance to the SHH/FMC project site (another project within the Dumbarton TOD Specific Plan). Additionally, one ambient noise measurement was taken on site near the western edge of the site that abuts the solar salt basins. During the noise measurement along Willow Street, vehicle counts were made for cars, medium trucks (double-tires/two axles), and heavy trucks (three or more axles).

The measured noise levels and related weather conditions are shown in Table 2-2, *Noise Measurements Conditions and Results*. Traffic counts for the timed measurement and the one-hour equivalent volumes are shown in Table 2-3, *Traffic Counts – Willow Street*. Refer to Appendix A for the site visit field sheets documenting the noise measurements. Currently the Project area is comprised of industrial land uses that generate medium and heavy truck traffic with little to no concurrent residential or commercial traffic.

Table 2-2 NOISE MEASUREMENT CONDITIONS AND RESULTS	
Date	**September 11, 2014**
Conditions	Sunny, north/northeast winds of approximately 8 mph, temperature of approximately 68°F with 83% humidity
Measurement 1: Ambient Measurement	
Time	11:05 a.m. – 11:20 a.m.
Location	Approximately 37°31'7.71"N, 122°3'23.69"W
Measured Noise Level	50.5 dBA L_{EQ}
Notes	Minor aircraft noise may have been captured during the sound measurement, but had no substantial effect on the noise measurement due to the limited duration of aircraft flyovers.
Measurement 2: Traffic Noise Measurement	
Time	11:45 a.m. – 12:00 p.m.
Location	Willow Street south of Enterprise Drive in the driveway entrance to the SHH/FMC project site (~GPS: 37°31'12.22"N, 122° 2'56.65"W)
Measured Noise Level	65.1 dBA L_{EQ}
Notes	Distance to roadway centerline was approximately 50 feet.

Table 2-3
TRAFFIC COUNTS – WILLOW STREET

Roadway	Traffic	Autos	MT[1]	HT[2]
Willow Street	15-minute count	59	7	6
	One-hour Equivalent	236	28	24

[1] Medium Trucks (double tires/two axles)
[2] Heavy Trucks (three or more axles)

Calculated Noise Level

The calculated noise level for the measurement location is shown in Table 2-4. Note that posted traffic speed limits along Willow Street are 45 mph for southbound traffic and 40 mph for northbound traffic. For modeling purposes, all vehicles were assumed to be traveling at 45 mph. Table 2-4 shows the difference between the calculated and measured noise level. According to the Caltrans Technical Noise Supplement, a difference of less than two dB is considered sufficiently accurate and does not require an adjustment to the noise model (Caltrans 2009a). As

shown in Table 2-4, the measured noise level and modeled noise level were both 65.1 dBA L_{EQ}; therefore no correction was necessary.

Table 2-4
CALCULATED VERSUS MEASURED TRAFFIC NOISE LEVELS

Receiver Position	Calculated	Measured	Difference	Correction Factor
Willow Street	65.1 dBA	65.1 dBA	0.0 dBA	0.0 dBA

2.4.3 Existing Transportation Noise Sources

Roadways

Enterprise Drive north of the site is a two-lane roadway that terminates just northeast of the site with a posted 45 mph speed limit. Hickory Street is a currently inaccessible (surrounded by fences) unpaved roadway located immediately to the east of the Project site. Willow Street is a two-lane undivided roadway that runs north/south located to the east of the site; other proposed projects within the Dumbarton TOD Specific Plan lie between the proposed Project and Willow Street. Willow Street terminates at an industrial facility, and has a posted speed limit of 45 mph for southbound traffic and 40 mph for northbound traffic.

Cargill Solar Salt Basins

The Cargill solar salt basins are located immediately west of the proposed Project site. Cargill harvests salt approximately once per year over a 7 to 14 day period; during this time, there are as many as 200 truck trips per day (round-trip), occurring 24 hours per day, transporting salt. These trucks may utilize Cargill access roads that are located immediately adjacent to the western and southern perimeter of the Project site.

Aviation

The nearest airports to the proposed Project site are the Palo Alto general aviation airport located 6 miles southwest of the site and the Hayward Executive Airport located 10 miles to the north. The San Jose International Airport is 13 miles southeast of the Project site.

Railroads

The Union Pacific Railroad/Dumbarton Railway corridor located approximately 560 feet north of the site (at the closest Project boundary) is not currently in use but it is planned to be active in the future in conjunction with the Dumbarton TOD Specific Plan. There is also a passenger railroad line in use approximately one mile east of the site.

2.5 FUTURE NOISE ENVIRONMENT

The area surrounding the Project site is currently undeveloped, but the Dumbarton TOD Specific Plan calls for a mixture of developments in this vicinity. It is reasonable to assume that the area will experience some increases in noise levels associated with increased roadway traffic.

3.0 METHODOLOGY AND SIGNIFICANCE CRITERIA

3.1 METHODOLOGY AND EQUIPMENT

The following equipment was used to measure existing noise levels at the Project site:

- Larson Davis System LD 831 Sound Level Meter
- Larson Davis Model CA250 Calibrator
- Windscreen and tripod for the sound level meter
- Digital camera

The sound level meter was field-calibrated immediately prior to the noise measurements to ensure accuracy. All measurements were made with a meter that conforms to the American National Standards Institute (ANSI) specifications for sound level meters (ANSI SI.4-1983 R2001). All instruments were maintained with National Bureau of Standards traceable calibration per the manufacturers' standards.

Modeling of the outdoor noise environment for this report was accomplished using two computer noise models. The Computer Aided Noise Abatement (CADNA) is a model-based computer program developed by *DataKustik* for predicting noise impacts in a wide variety of conditions. The model assists in the calculation, presentation, assessment, and mitigation of noise exposure. It allows for the input of project information, such as noise source data, barriers, structures, and topography to create a detailed CADNA model and uses the most current calculation standards to predict outdoor noise impacts. The CADNA model includes the existing site topography, existing nearby buildings, and planned on-site structures. The models take into consideration that some of the structures provide noise shielding to other areas of the Project site. The traffic noise prediction generated by CADNA is based on the data and methodology used in the Traffic Noise Model (TNM), the other noise model utilized in this analysis. The TNM was originally released in 1998 by the U.S. Department of Transportation (U.S. DOT) and most recently updated in 2004. The TNM calculates the daytime average Hourly Noise Level (HNL) from three-dimensional model inputs and traffic data.

The one-hour L_{EQ} noise level is calculated utilizing peak-hour traffic; peak-hour traffic volumes may be available in a project-specific traffic report, or can be estimated based on the assumption that 8 to 10 percent of the average daily trips (ADT) would occur during a peak hour. The model-calculated one-hour L_{EQ} noise output is the equivalent to the CNEL (Caltrans 2009a).

Project construction noise was analyzed using the Roadway Construction Noise Model (RCNM; U.S. DOT 2008), which utilizes estimates of sound levels from typical construction equipment.

3.2 ASSUMPTIONS

3.2.1 Construction

Construction would require heavy equipment during mass grading, utility installations, building construction and paving. Construction equipment utilized on site would include but not be limited to: dozers, excavators, graders, trackers, cranes, loaders and backhoes. Project construction is anticipated to occur over 42 months, starting in January 2015, with an anticipated operational date of June 2018. Refer to Table 3-1, *Anticipated Construction Schedule*, for more specific information regarding the schedule of construction activities.

Table 3-1
ANTICIPATED CONSTRUCTION SCHEDULE

Phase	Construction Activity	Construction Period		
		Start	End	Number of Working Days
1	Site Prep	1/1/2015	2/11/2015	30
2	Grading	2/12/2015	5/27/2015	75
3	Building Construction	5/28/2015	3/28/2018	740
4	Architectural Coating	5/28/2016	7/31/2018	555
5	Paving	3/29/2018	6/13/2018	55

Based on the types of soil located on the Project site and the plans to raise the project elevation with compacted fill, pile driving is not anticipated to be necessary for construction. The most likely source of vibration during the Project construction would be a vibratory roller, which may be used to achieve soil compaction as part of the foundation construction, or for the Project streets and driveways.

3.2.2 Operation

Stationary Sources

Specific planning data for the future heating, ventilation, and air conditioning (HVAC) systems is not available at this stage of Project design; however, analysis using a typical to larger-sized residential condenser mounted on ground level pads provides a reasonable basis for analysis. The unit used in this analysis is a Carrier 38HDR060 split system condenser. The manufacturer's noise data is provided below in Table 3-2, *Carrier HDR060 Condenser Noise.*

Table 3-2 CARRIER HDR060 CONDENSER NOISE							
Noise Levels in Decibels[1] (dB) Measured at Octave Frequencies							Overall Noise Level in A-weighted Scale (dBA)[1]
125 Hz	250 Hz	500 Hz	1 KHz	2 KHz	4 KHz	8 KHz	
63.0	61.5	64.0	66.5	66.0	64.5	55.5	72.0

[1] Sound Power Levels (S_{WL})
KHz = kilohertz

General assumptions were made to estimate noise impacts from Project HVAC equipment. For Project multi-family housing units, it is assumed that HVAC equipment would be roof-mounted. For single-family residences, it is assumed that HVAC equipment would be ground-mounted.

Transportation Sources

Traffic

Traffic generation used in the acoustic analysis is based on the Dumbarton TOD Specific Plan EIR (City of Newark 2011a) and the Project-specific transportation evaluation prepared by Fehr & Peers in September 2014 (Fehr & Peers, 2014a). Table 3-3 provides the updated trip generation for the Project.

Table 3-3 PROJECT TRAFFIC GENERATION							
Land Use	Daily	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
Single-Family (321 DU)	3,056	60	178	241	202	118	321
Multi-family Apartment (268 DU)	1,782	27	109	137	108	58	166
TOTAL	**4,838**	**88**	**287**	**377**	**310**	**177**	**487**
Internalization	435	8	26	34	28	16	44
Net External Project Trips	4,403	80	262	343	282	161	443

Source: Fehr & Peers, January 2015
Note: DU = Dwelling Unit.
As in the Specific Plan EIR, it is assume that 9 percent of the residential trips would be internal to the Specific Plan area.

Off-site traffic peak hour segment volumes for Enterprise Drive and Willow Street were derived from the Dumbarton TOD Specific Plan EIR. The Project's estimated contribution to the trips generated by the Specific Plan is 31 percent for a typical weekday (Fehr & Peers 2015).

Year 2035 Specific Plan buildout (without Project) volumes were calculated by subtracting 31 percent of the overall Year 2035 with Specific Plan (including Project) ADT volumes. These values are reflected in Table 3-4. Table 3-5 includes the assumed traffic distribution and speeds used in the traffic modeling. With implementation of the Specific Plan, the area is expected to be developed with single and multi-family residential with light commercial uses, which would result in a lower overall percentage of truck traffic (particularly heavy trucks) compared to current conditions. The buildout traffic volumes for Hickory Street were included in the update memorandum for the Gateway Station West Transportation Analysis (Fehr & Peers 2015).

For the purposes of this analysis, it is conservatively assumed that Hickory Street would have a speed limit of 35 mph, which is the proposed speed limit for Enterprise Drive west of Willow Street according to Circulation Element of the City General Plan.

Table 3-4
EXISTING AND FUTURE TRAFFIC VOLUMES (PEAK HOUR)

Segment	Existing	Project	Existing + Project	Year 2035 Buildout (without Project)	Year 2035 Buildout + Project
Enterprise Drive					
Hickory Street to Willow Street	0	228	228	550	797
Willow Street					
Enterprise Drive to Thornton Avenue	530	280	799	1,016	1,472
Hickory Street					
Enterprise Drive to Central Avenue	0	443	443	17	460

Notes: Peak hour volumes use either AM or PM, whichever is higher based on the traffic analysis.
Volumes for Enterprise and Willow Street were derived from the Dumbarton TOD Specific Plan EIR.
Volumes for Hickory Street were presented in the update memorandum for the Gateway Station West Transportation Analysis (Fehr & Peers 2015).

Table 3-5
ASSUMED VEHICLE DISTRIBUTION AND SPEEDS

Segment	Cars	Medium Trucks	Heavy Duty Trucks	Speed (mph)
Enterprise Drive	97.0%	2.5%	0.5%	45
Willow Street	95.5%	2.5%	2.0%	45[1]
Hickory Street	95.5%	2.5%	2.0%	35

Notes: Distribution was assumed to be the same for all analyzed scenarios.
[1] For future conditions, Willow Street was modeled with 25 mph speeds due to Mitigation Measure 4.10-4 of the Dumbarton TOD EIR

Note that, for future year conditions, the posted speed limit along Willow Street (between Thornton Avenue and Central Avenue) will change to 25 mph (from 40 mph and 45 mph) as part of the requirement that is included in Mitigation Measure 4.10-4 of the Dumbarton TOD EIR. Modeling for future year 2035 assumed 25 mph traffic speeds for this segment.

Railroad

Detailed projections of future rail usage of the Dumbarton Rail Transit corridor are not currently available. However, for analysis purposes it is assumed that future rail operations would include four freight trains with four engines and 40 cars moving at 40 mph during the nighttime hours. The Dumbarton TOD Specific Plan EIR assumes that the proposed passenger terminal will have 6 stops during the daytime (City of Newark 2011), which leads to the assumption that 6 passenger trains with 6 cars and 1 engine will travel at 40 mph during the daytime.

Cargill Solar Salt Basins

It is assumed salt would be harvested from the Cargill solar salt basins (located immediately west of the proposed Project site) at least once per year for a 7-14 day period. During this time, there would be as many as 200 truck trips per 24-hour day (round-trip), transporting salt. It is assumed that the 200 one-way truck trips (or a total of 400 trips entering and exiting) would be evenly distributed over the 24 hour period; this would result in approximately 18 truck trips every hour. It is assumed that these trucks will utilize Cargill access roads that are located immediately adjacent to the Project western perimeter and southern perimeter.

3.3 SIGNIFICANCE CRITERIA

Based on Appendix G of the State CEQA Guidelines, implementation of the Project would result in a significant adverse impact if it would:

Threshold 1: *Expose persons to or generate noise levels in excess of standards established in the City of Newark General Plan or applicable standards of other agencies.*

Transportation

Relevant noise standards for the proposed Project are those outlined in the Noise Element for the City (General Plan) and Noise Ordinance for the County. The Project would result in a significant noise impact related to this threshold if it results in the exposure of the proposed land uses to noise levels that exceed the limits of the City's Noise Element (see Section 2.3). For single-family residential land uses, the exterior noise limit is 60 L_{DN} or CNEL (City of Newark 2012); for multi-family residential land uses, the exterior noise limit is 65 L_{DN} or CNEL. The interior noise limit for residential uses is 45 L_{DN} or CNEL. For neighborhood parks, like the park located in the northeast corner of the Project site, the noise limit is 70 CNEL.

Stationary

The County Municipal Code (Section 6.60.040) also includes zoning-specific noise standards for stationary noise sources. Operation of the Project would result in a noise impact if it exceeds the noise limits at the affected land uses listed in Section 2.3. A significant operational noise impact would result if the maximum operational exterior noise limit for residential uses exceeds 50 dBA L_{EQ} during the daytime hours of 7:00 a.m. to 10:00 p.m., and 45 dBA L_{EQ} during the nighttime hours of 10:00 p.m. to 7:00 a.m.

Threshold 2: *Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.*

Substantial permanent increases in ambient noise levels are associated with sources such as traffic, which cannot be controlled by the Municipal Code. A substantial direct or cumulative permanent increase in traffic noise could occur if the resulting ambient noise level meets the following criteria:

- An increase of the existing ambient noise levels by 5 dB or more, where the existing ambient level is less than 60 dB CNEL;
- An increase of the existing ambient noise level by 3 dB or more, where the existing ambient level is 60 to 65 dB CNEL; or
- An increase of the existing ambient noise level by 1.5 dB or more, where the existing ambient level is greater than 65 dB CNEL.

A project would result in a significant noise impact if a permanent increase in ambient noise levels exceeds these criteria, and the resulting noise level exceeds the City's applicable exterior standard at a noise-sensitive use.

In order for a project's effects to be cumulatively considerable: (1) a noise level must exceed the applicable exterior noise level limit at a noise-sensitive use; and (2) a significant portion of the noise increase must be the result of the project, using the following criterion:

- The "cumulative plus project" condition results in a 1 dBA increase in noise over the "cumulative no project" noise level.

A significant impact would also occur if a project is inconsistent with policies within the City's Noise Element that apply to minimizing noise exposure to sensitive land uses (refer to Section 2.2).

Threshold 3: *Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.*

The City Municipal Code is silent regarding construction noise standards or limitations. Therefore, consistent with the Dumbarton TOD Specific Plan EIR, the County Code (Chapter 6.60, Noise) was utilized in this analysis (City of Newark 2011a). Construction activity

would be considered significant if it violates the limits established in Section 6.60.070(E) of the County Code. The ordinance prohibits construction activity between 7:00 p.m. and 7:00 a.m. Monday through Friday, and between 5:00 p.m. and 8:00 a.m. on Saturday or Sunday.

Regarding construction noise limits, in the absence of other standards, it is assumed that a significant construction noise impact would result if the use of any tools, power machinery or equipment causes noise in excess of 75 dBA (8-hour average) between the hours of 7:00 a.m. and 7:00 p.m. and that the noise disturbs the comfort and repose of any person residing or working in the vicinity.

Threshold 4: *Expose persons to or generation of excessive ground-borne vibration or ground-borne noise levels.*

With respect to ground-borne vibration from construction activities, the FTA has adopted guidelines/recommendations to limit ground-borne vibration based on the age and/or condition of the structures that are located in close proximity to construction activity. According to the FTA, ground-borne vibration level of 0.2 inch-per-second PPV should be considered as the damage threshold criterion for structures deemed "fragile" (FTA 2006). Consistent with the Dumbarton TOD Specific Plan EIR, this analysis has assumed a conservative threshold of 0.2-inch-per-second PPV (City of Newark 2011a). Construction activities within 200 feet and pile driving within 600 feet of a vibration sensitive use would be potentially disruptive to vibration-sensitive operations (Caltrans 2013).

Threshold 5: *For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public use airport or private airstrip, expose people residing or working in the project area to excessive noise.*

Aircraft noise levels would be considered excessive if they exceed the noise compatibility guidelines in the City General Plan Noise Element or in an applicable airport land use plan.

4.0 IMPACTS

4.1 ISSUE 1: ON-SITE NOISE LEVELS IN EXCESS OF STANDARDS

Would the project expose persons to or generate noise levels in excess of standards established in the City of Newark General Plan or applicable standards of other agencies?

4.1.1 Impact Analysis

4.1.1.1 *Transportation Noise*

Exterior Residential Traffic Noise Levels

Transportation noise generated in the Project vicinity is primarily from vehicular traffic noise; other off-site noise sources have a negligible contribution to ambient noise levels. There is a

potential for the proposed residential uses to have land use-noise compatibility issues resulting from traffic noise for residences located along Hickory Street. Park uses with a full or partial view of Hickory Street may also experience excessive noise levels.

Noise receiver locations were placed along the periphery of the proposed residential property lines, where either a balcony or yard may be located; these receivers were generally located between 55 and 65 feet from the centerline of the proposed Hickory Street alignment. A receiver was also identified for the park located in the northeast corner of the Project site.

These receiver points, Park (P-) 1, Multi-Family (MF-) 1 through MF-4 and Single-Family (SF-) 1 through SF-6, were numbered based on type of receiver, and from north to south along Hickory Street. Receiver locations are shown on Figure 4, *Receiver Locations*. Table 4-1 shows the calculated future traffic noise levels at the park receiver and at the proposed residential building facades at a first-story level (the second-story level of the buildings would have similar noise exposure). As stated in Section 3.3, the exterior noise limit is 60 CNEL for single-family residential land uses and 65 CNEL for multi-family residential land uses; the interior noise limit for residential uses is 45 CNEL. For neighborhood parks, like the Project park located in the northeast corner of the site (P-1), the noise limit is 70 CNEL.

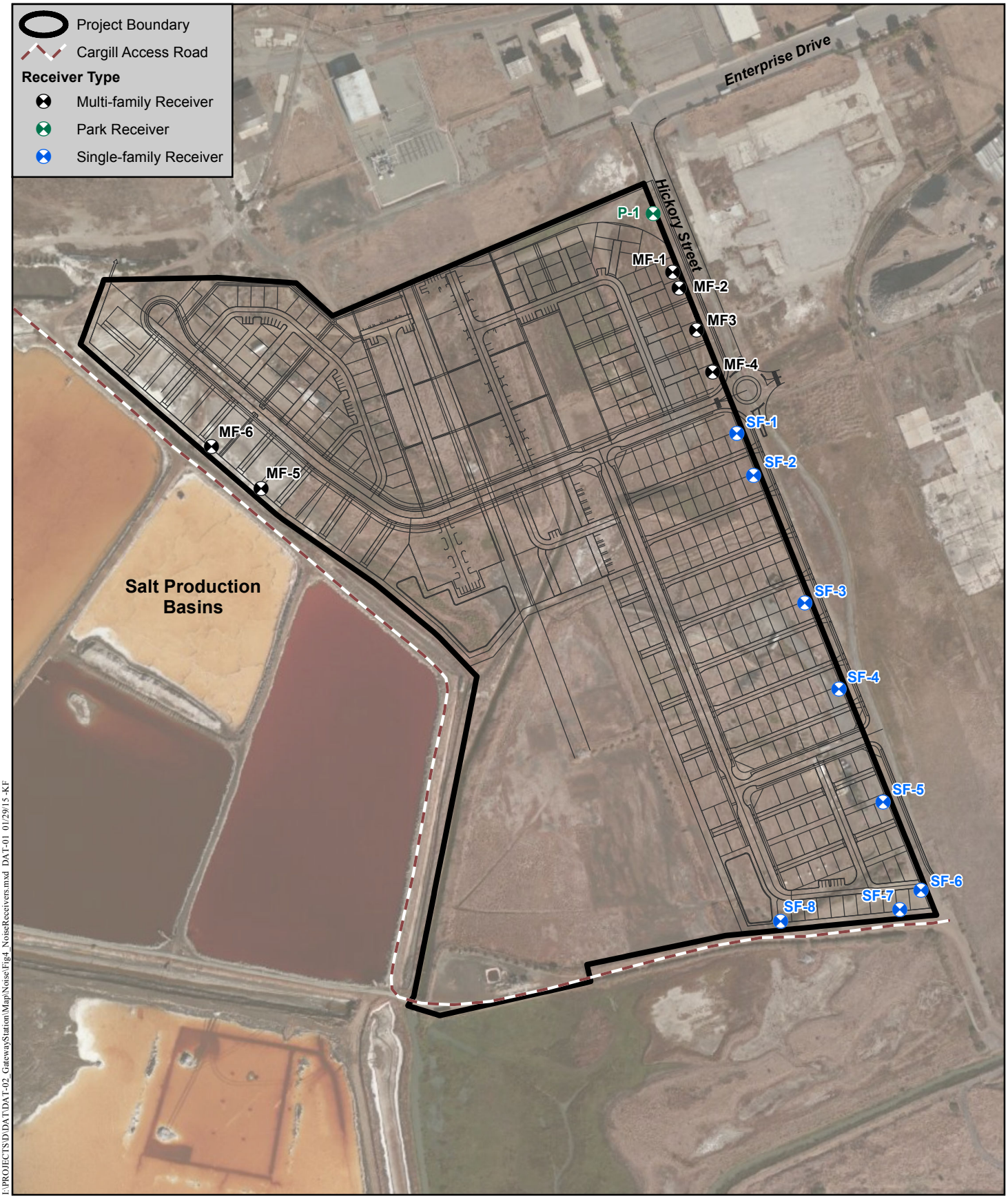
Table 4-1
2035 BUILDOUT TRAFFIC NOISE LEVELS FOR ON-SITE RECEIVER LOCATIONS

Receiver Name	Applicable Threshold (CNEL)	CNEL at Receiver[1]	Significant Exterior Noise Impact?
P-1	70	61	No
MF-1	65	60	No
MF-2	65	60	No
MF-3	65	60	No
MF-4	65	60	No
SF-1	60	60	No
SF-2	60	60	No
SF-3	60	60	No
SF-4	60	60	No
SF-5[2]	60	60	No
SF-6	60	59	No

Notes: Noise levels listed are for ground-level receivers. See Figure 4 for receiver locations. Traffic levels are based on projected 2035 traffic levels for Hickory Street.

[1] Noise levels rounded to nearest decibel per Caltrans guidelines (Caltrans 2009a).

[2] The second story balcony level for SF-5 was modeled to be 64.3 CNEL at a height of 15 feet.



I:\PROJECTS\D\DAT\DAT-02_GatewayStation\Map\Noise\Fig4_NoiseReceivers.mxd DAT-01 01/29/15 -KF

Map Date: 01-29-2015

Receiver Locations

GATEWAY STATION WEST

HELIX Environmental Planning

0 350 Feet

Figure 4

As demonstrated in Table 4-1, noise levels for the park (P-1) would be below thresholds (70 CNEL) for Year 2035 conditions, as would outdoor use areas for the multi-family residences (below the 65 CNEL limit). Exterior noise levels for single-family residences were all modeled to be approximately 60 CNEL or less; therefore, noise impacts to Project single-family residences would also be less than significant.

Second- and third-story balconies would experience similar noise levels (within 0.5-1.0 dBA) as the ground floor exterior use space. As the first-story single family residential receivers would not experience noise levels in excess of 60 CNEL, second- and third-story single-family residential balconies (that have a full or partial view of Hickory Street) would also not be expected to experience noise levels in excess of thresholds; impacts to single-family residential balconies would be less than significant.

Interior Residential Traffic Noise Levels

Exterior to interior analysis assumes a minimum 15 CNEL reduction from the outside to the inside of a structure, assuming standard building construction methods. Therefore, interior noise levels (which are required to be 45 CNEL or less) for residential land uses are assumed to be compatible with an exterior noise level up to 60 CNEL. As shown above in Table 4-1, all residential receivers (both multi- and single-family) were modeled to have exterior noise levels of 60 CNEL or lower; based on the estimated exterior noise levels at the façades of the residences, interior noise levels would not be expected to exceed the interior noise standard of 45 CNEL. Impacts related to interior residential noise levels would be less than significant.

Railroad Noise

Trains have the potential to produce noise levels in excess of the normally acceptable land use compatibility standards for residential uses. Typically, the 65 dBA CNEL noise contour falls within 500 feet or less from the centerline of tracks that experience a mix of freight and commuter rail operations. Noise levels may be further reduced as intervening topography and structures serve to shield noise or function as noise berms and walls. The actual distance to the 65 dBA CNEL can only be determined on a case-by-case basis, taking local obstructions, barriers/reflectors, and detailed site plans into account.

The Federal Railroad Administration (FRA) railroad noise modeling estimate for the future rail use within the Dumbarton transit corridor of 6 daytime and 4 nighttime passenger trains at a distance of 560 feet with no intervening structures (worst-case) is 38 CNEL. This noise level is below thresholds for all exterior use areas proposed on-site (including the most stringent of 60 CNEL for single-family residences), and would not lead to interior noise levels in excess of the 45 CNEL threshold. Additionally, it is below the measured ambient noise level (from the September 11, 2014 site visit) of 50.5 dBA L_{EQ}. The rail noise would therefore not be audible above the ambient noise levels, and impacts would be less than significant.

Material Transport Truck Noise from Solar Salt Basins

Noise from annual material transport from the solar salt basins could potentially affect proposed residential uses along access roads. The access roads are located immediately west of and south of the Project boundary, and in close proximity to 12 proposed multi-family residential buildings in the northwest portion of the Project site and 11 single-family residences in the southwest portion of the Project site. Assuming 18 truck trips per hour over a 24-hour period, the worst-case noise level for the multi-family residences in the western portion of the site (without accounting for the proposed wall/fence along the access roads) was modeled to be 57.4 CNEL; for the single-family residences located in the southern portion of the site, the worst-case noise level was 55.9 CNEL. Refer to Table 4-2 for modeled noise levels related to these access road truck trips at single- and multi-family receptors located near the access roads.

Table 4-2
SALT HARVEST TRANSPORT NOISE LEVELS

Receiver Number	Receiving Land Use Type	Noise Level (CNEL)
SF-7	Single-Family	54.8
SF-8	Single-Family	55.9
MF-5	Multi-Family	57.4
MF-6	Multi-Family	57.2

As the truck trips associated with the infrequent salt harvest events would not generate noise levels in excess of the 65 CNEL multi-family or 60 CNEL single-family thresholds, impacts would be less than significant. Refer to Figure 4 for the receiver locations of residences assessed for potential noise impacts related to these truck trips.

4.1.1.2 *Stationary Noise (Residential HVAC Units)*

The operation of residential HVAC units could potentially result in noise disturbances to adjacent residences.

As noted in Section 3.2, specific planning information related to HVAC placement is not available at this time. For Project multi-family housing units, it is assumed that HVAC equipment would be roof-mounted. For the three-story multi-family buildings, it is assumed that the roof would be approximately 35 feet high (10 feet per story plus an additional 5 feet for the roofing material). With the incorporation of a standard 4-foot parapet wall, roof-mounted HVAC units would generate noise levels of approximately 18 dBA L_{EQ} for first-story receivers; an adjacent third-story residential receiver would experience noise levels of approximately 21 dBA L_{EQ}. As these noise levels are less than 45 dBA L_{EQ}, roof-mounted HVAC units (with the incorporation of a standard 4-foot parapet wall) would not create noise levels in excess of the

nighttime thresholds at nearby residences. Impacts from roof-mounted HVAC units would therefore be less than significant.

For single-family residences, it is assumed that HVAC equipment could be ground-mounted; ground-mounted HVAC equipment would have the potential to generate noise levels in excess of thresholds depending upon the proximity of the equipment to nearby NSLUs.

The County Noise Ordinance states that exterior noise levels are compatible with operational exterior noise limit for residential uses of 50 dBA L_{EQ} during the daytime hours of 7:00 a.m. to 10:00 p.m. and 45 dBA L_{EQ} during the nighttime hours of 10:00 p.m. to 7:00 a.m.

Based on estimated equipment noise levels, provided that ground-mounted HVAC equipment is located at least 25 feet away from adjacent residential property lines, noise levels would be the most restrictive nighttime noise level of 45 dBA L_{EQ}; if ground-mounted HVAC equipment is located closer than 25 feet from adjacent residential property lines, impacts would be potentially significant.

4.1.2 Mitigation Measures

To ensure that residential noise levels are within acceptable noise levels, the following mitigation measure is required:

Noi-1 HVAC Condenser Noise Attenuation. For residences located within 25 feet of ground mounted HVAC equipment, attenuation of exterior HVAC noise to levels to 45 dBA L_{EQ} (for usable outdoor space) shall be ensured prior to issuance of certificates of occupancy. For single-family attached or multi-family development, potential noise control measures to achieve the performance standard for outdoor usable space include, but are not limited to: noise control barriers around the HVAC units and/or the outdoor usable space, and/or installing roof-mounted units with a standard parapet wall.

4.1.3 Significance of Impacts After Mitigation

Implementation Noi-1 would ensure that noise impacts related to HVAC equipment would be reduced to below the 45 CNEL exterior threshold for adjacent residential properties.

4.2 ISSUE 2: PERMANENT INCREASE IN AMBIENT NOISE

Would the project result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?

4.2.1 Impact Analysis

The proposed Project would generate 4,403 external Project trips (Fehr & Peers 2015). Refer to Table 4-3, *Direct Project Traffic Noise Impacts at 75-foot Representative Distance*, for the traffic noise levels along street segments surrounding the Project for the Existing and Existing plus Project conditions, and for the analysis of direct Project impacts.

Table 4-3 DIRECT PROJECT TRAFFIC NOISE IMPACTS AT 75-FOOT REPRESENTATIVE DISTANCE (CNEL)				
Roadway Segment	**Existing**	**Existing + Project**	**Change**	**Impact?**
Willow Street				
Enterprise Dr. to Thornton Ave.	63.2	64.9	+1.7	No
Enterprise Drive				
Hickory St. to Willow St.	50.5[1]	59.0	+8.5	No[2]

Direct impacts are assessed when:

- An increase of the existing ambient noise levels by 5 dB or more, where the ambient level is less than 60 dB CNEL;
- An increase of the existing ambient noise level by 3 dB or more, where the ambient level is 60 to 65 dB CNEL; or
- An increase of the existing ambient noise level by 1.5 dB or more, where the ambient level is greater than 65 dB CNEL.

[1] As no existing traffic volume for this segment was available, the traffic noise measurement from the Project site visit was utilized for existing noise levels on this segment.

[2] Although a change over 5 dB occurs no impacts are assessed because total noise levels are below the 60 CNEL threshold.

As demonstrated in Table 4-3, the Existing plus Project traffic noise level generated along Willow Street from Enterprise Drive to Thornton Avenue would increase traffic noise levels by approximately 1.7 dBA. Since the existing levels were between 60 and 65 dBA, the threshold for a significant impact for this scenario is a 3 dBA increase; therefore, the change from existing traffic noise levels to existing plus Project traffic noise levels on this segment of Willow Street is less than significant.

The on-site ambient noise measurement (50.5 dBA LEQ) is used as the Existing (no Project) baseline noise level for Enterprise Drive where there are currently no residential receptors and no reported or projected traffic volumes. Existing plus Project noise levels for this segment were modeled to be approximately 59.0 CNEL. For this segment, the difference between Existing (ambient measurement) and Existing plus Project noise levels is approximately 8.5 dBA. As stated in Section 3.3, when the baseline noise level is less than 60 dBA, an increase in noise of 5 dBA or more is considered to be a significant impact. However, similar to the way that impacts are assessed in the Dumbarton TOD EIR, although the increase is greater than 5 dBA, the resultant noise level is below the City's residential standard of 60 CNEL, which is within the acceptable exterior noise levels for residential uses. Therefore, all Project-added traffic noise impacts are considered less than significant.

4.2.2 Mitigation Measures

Because impacts related to Issue 2 would be less than significant, no mitigation is required.

4.2.3 Significance of Impacts After Mitigation

Direct impacts related to traffic noise would be less than significant.

4.3 ISSUE 3: TEMPORARY INCREASE IN AMBIENT NOISE

Would the project result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?

4.3.1 Impact Analysis

Construction of the Project would generate elevated noise levels that may disrupt nearby noise sensitive receptors. The magnitude of the impact would depend on the type of construction activity, equipment, duration of each construction phase, distance between the noise source and receiver, and the presence of any intervening structures.

Project construction would entail the use of equipment throughout the site for the full term of construction. Construction activities would be roughly divided into six phases. These phases may contain some overlap depending upon location and timing. The phases would include the following:

1. Demolition
2. Grading (including materials import/export)
3. Foundation excavation
4. Utilities excavation
5. Foundation pour
6. Building construction

Most construction equipment does not operate at full power (maximum noise) for a full hour. The Federal Highway Administration (FHWA) guidelines analyze most equipment at an assumed 40-percent hourly operating time.

The buildings associated with the existing pistol range and dog training area would be removed as a part of Project construction. The structures to be demolished, located in the southern area of the Project site, are located well over 2,000 feet from the nearest residences (located east of the Project site at the intersection of Enterprise Drive and Aleppo Drive); further, industrial uses are located between these facilities and the nearest residence, which would provide additional noise shielding. These existing on-site facilities are relatively small and would be easily demolished and removed with a loader and dump trucks. Demolition is not anticipated to be a substantial source of noise for Project construction.

Other potential noise impacts to off-site uses could occur during site preparation when a dozer, excavator, and a loader would be utilized to over-excavate, backfill, and compact the site to prepare the site for the Project's installation of utilities and building foundation.

The FHWA Roadway Construction Noise Model (RCNM) Version 1.0 (U.S. DOT 2008) lists the noise level of an excavator as 85 dBA at 50 feet. Excavation will occur throughout much of the site. The closest existing residential use to the Project site to where excavation may occur is located approximately 1,730 feet away along Willow Street just south of Thornton Avenue. The closest existing residence (at the corner of Aleppo Drive and Hickory Street) from the Enterprise Drive ROW off-site improvement area is located approximately 740 feet away.

An excavator operating at 740 feet from the nearest existing off-site residential property line (to the off-site improvement area) would result in a noise level of 53 dBA L_{EQ} (hourly), not taking into consideration shielding provided by intervening structures (see Appendix B for model output). If a dozer, excavator and a loader were all operational at the same time, noise levels at the nearest residence (740 feet away) would be 58 dBA L_{EQ} (hourly).

These noise levels are lower than the standard 75 dBA L_{EQ} construction noise limits for residentially zoned property, and thus, no significant impact would occur. Further, as described in Section 1.6, the Project would implement a number of construction best management practices that would reduce construction noise to the maximum extent feasible.

Additionally, in line with the County Noise Ordinance, construction activities at the Project site would be restricted to the hours of 7:00 a .m. to 7:00 p.m., Monday through Friday, and between 8:00 a.m. to 5:00 p.m. on Saturdays.

4.3.2 Mitigation Measures

Because impacts related to Issue 3 would be less than significant, no mitigation is required.

4.3.3 Significance of Impacts After Mitigation

Impacts related to construction noise would be less than significant.

4.4 ISSUE 4: EXCESSIVE GROUND-BORNE VIBRATION

Would the project expose persons to or generation of excessive ground-borne vibration or ground-borne noise levels?

4.4.1 Impact Analysis

There is no current off-site vibration source within a reasonable impact distance (typically 250 feet), including the railroad, that would affect proposed uses within the Project site. Therefore, the vibration analysis is limited to construction-related impacts to off-site land uses.

The main concern associated with ground-borne construction vibration is annoyance; however, vibration-sensitive instruments and operations (such as those found in hospitals and laboratories) can be disrupted at much lower levels than would typically affect other uses. In extreme cases, the vibration can cause damage to buildings, particularly those that are old or otherwise fragile. No vibration-sensitive land uses are located within 200 feet of Project site. Although residences

are not typically considered vibration-sensitive, they could be adversely affected by excessive construction vibration. The nearest off-site residence is located over 740 feet away from the off-site improvement area.

No pile driving is anticipated to be necessary as part of project construction; the loudest source of potential vibration from Project construction would be the potential use of a vibratory roller, that may be used to achieve soil compaction as part of the foundation construction (and possibly for on-site driveways at a later time). The vibration threshold utilized in the Dumbarton TOD Specific Plan EIR assumed a conservative threshold of 0.2 inch-per-second PPV, as discussed in Section 3.3 above. A vibratory roller creates approximately 0.210 inch-per-second PPV at 25 feet, according to the Transportation and Construction Vibration Guidance Manual (Caltrans 2013). As all construction equipment would be located at distances of over 740 feet to the nearest existing residence, vibration impacts would be less than significant.

4.4.2 Mitigation Measures

Because impacts related to Issue 4 would be less than significant, no mitigation is required.

4.4.3 Significance of Impacts After Mitigation

Impacts related to ground-borne vibration would be less than significant.

4.5 ISSUE 5: AIRPORT NOISE

For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public use airport or private airstrip, would the project expose people residing or working in the project area to excessive noise?

4.5.1 Impact Analysis

The nearest airports are the Palo Alto general aviation airport located 6 miles southwest of the site and the Hayward Executive Airport located 10 miles to the north. The San Jose International Airport is 13 miles southeast of the Project site. The Project site is located outside of the 65 CNEL noise contour for all airports. At these distances, no effect related to airport noise would occur at the Project site, and impacts would be less than significant.

4.5.2 Mitigation Measures

Because impacts related to Issue 5 would be less than significant, no mitigation is required.

4.5.3 Significance of Impacts After Mitigation

Impacts related to noise from public use airports and private airstrips would be less than significant.

5.0 CUMULATIVE IMPACTS

5.1 CUMULATIVE IMPACT ANALYSIS

5.1.1 Exceedance of Noise Standards

The implementation of cumulative development projects would have the potential to increase ambient noise by increasing traffic and human activity throughout the surrounding area and from new operational noise sources. Future regional growth to be developed within the Project vicinity would result in increases in traffic that would cumulatively increase traffic noise. The potential noise impacts that would result from cumulative projects and regional growth are included in the Specific Plan buildout (2035) scenario.

Noise levels at the proposed locations of residences and parks as presented in Section 4.1.1.1 were based on Year 2035 Specific Plan buildout traffic volumes, which includes cumulative projects. The Project would not be expected to expose residences to noise levels in excess of City standards and would not be responsible for a cumulatively considerable contribution to a cumulative impact. Further, all new development within the Dumbarton Specific Plan would need to comply with Mitigation Measure 4.10-3 if the projects in question are within 600 feet of the Dumbarton rail corridor, and would need to comply with the same County Noise Ordinance and City Noise Element standards prior to the issuance of building permits.

5.1.2 Permanent Increases in Noise Levels

Cumulative impacts are assessed by comparing the Existing (no Project) conditions to the Year 2035 buildout with Project conditions. Refer to Table 5-1, *Cumulative Traffic Noise Impacts*, for the cumulative impact analysis. As shown in Table 5-1, for Willow Street from Enterprise Drive to Thornton Drive, traffic noise levels in the Year 2035 buildout (with Project) scenario would be slightly reduced (by 1.6 dBA) compared to existing conditions. This is because of the assumption that based on implementation of Mitigation Measure 4.10-4 from the Dumbarton EIR, posted speed levels will be reduced from 45 mph to 25 mph. Even though there will be more cars traveling on this segment, no cumulative noise impact would occur because of this reduction in automobile speeds.

Enterprise Drive from Hickory Street to Willow Street would experience a 13.6 dBA increase (from 50.5 CNEL to 64.1 CNEL) in traffic noise levels from Existing (no Project) to Year 2035 buildout (with Project) conditions; note that ambient on-site measurement was used as the Existing (no Project) noise level because existing traffic levels along this segment are negligible. As this increase is greater than 5 dBA, a significant cumulative impact is assessed for this segment. Additionally, modeling demonstrated that the Project would contribute a 1.6 dBA increase to this 13.6 dBA change; because the Project contributes more than 1 dBA to the cumulative impact, it would have a cumulatively considerable contribution to a cumulative impact on this street segment.

Table 5-1
CUMULATIVE TRAFFIC NOISE IMPACTS AT 75-FOOT REPRESENTATIVE DISTANCE (CNEL)

Roadway Segment	Existing No Project[1]	2035 With Specific Plan (without Project)	2035 With Specific Plan (with Project)	Cumulative + Project Change from Existing	Significant Cumulative Impact?	Project Contribution to Cumulative	Significant Contribution to a Significant Cumulative Impact?
Willow Street							
Enterprise Dr. to Thornton Ave.	63.2	61.0	61.6	-1.6	No	+0.6	No
Enterprise Drive							
Hickory St. to Willow St.	50.5[2]	62.5	64.1	+13.6	Yes	+1.6	Yes

Cumulative impacts are assessed when:

- An increase of the existing ambient noise levels by 5 dB or more, where the ambient level is less than 60 dB CNEL;
- An increase of the existing ambient noise level by 3 dB or more, where the ambient level is 60 to 65 dB CNEL; or
- An increase of the existing ambient noise level by 1.5 dB or more, where the ambient level is greater than 65 dB CNEL.
- A cumulatively considerable contribution to a cumulative impact is assessed when the "Cumulative Plus Project" causes a 1 dBA increase in noise over the "Cumulative No Project" noise level. A significant impact would result only if both the combined and incremental effects criteria have been exceeded and the resulting noise level exceeds the applicable exterior standard at a noise sensitive use.

[1] Existing conditions modeling assume the current speed limit of 45 mph along Willow Street; Year 2035 modeling for Willow Street assumed the future speed limit of 25 mph (hence the reduction in traffic noise even with an increase

[2] As no existing traffic volume for this segment was available, the traffic noise measurement from the Project site visit was utilized for existing noise levels on this segment.

5.1.3 Construction Noise

Construction noise impacts are localized because they are limited to the construction site where construction equipment is operating. As discussed in Section 4.3.1, if a dozer, excavator and a loader were all operational at the same time, noise levels at the nearest residence (740 feet away) would be 58 dBA L_{EQ} (hourly). Future cumulative projects would be subject to the County's construction noise ordinance, which prohibits construction activity between 7:00 p.m. and 7:00 a.m. Monday through Friday, and between 5:00 p.m. and 8:00 a.m. on Saturday or Sunday. Additionally, future projects implemented within the TOD Specific Plan would be required to implement Mitigation Measures 4.10-1a and 4.10-1b from the Program EIR, which would reduce construction noise to a less than significant level. Implementation of Project design features described in Section 1.5 and compliance with the County ordinance and policies in the City Noise Element would reduce impacts to a less than significant level. Therefore, cumulative impacts would be less than significant.

5.1.4 Vibration

Vibration impacts are localized and not all construction activities for cumulative projects would occur at the same time or at the same location. Consistent with the Dumbarton TOD Specific Plan EIR, the Project vibration analysis has assumed a conservative threshold of 0.2-inch-per-second PPV (City of Newark 2011a); based on this threshold, the proposed Project would not result in an impact associated with construction vibration. According to the FTA, ground-borne vibration level of 0.2 inch-per-second PPV should be considered as damage threshold criterion for structures deemed "fragile" (FTA 2006). Cumulative projects within the Dumbarton TOD Specific Plan would need to comply with these limits for vibration impacts. Additionally, future projects implemented within the TOD Specific Plan would be required to implement Mitigation Measures 4.10-2 from the Program EIR if pile driving is required, which would reduce vibration impacts to a less than significant level. Therefore, a cumulative ground-borne vibration impact would not occur.

5.1.5 Airport Noise

No additional aviation uses are planned to be introduced in the immediate vicinity of the Project site. In addition, the Project does not propose any new air traffic. No NSLUs would be exposed to excessive noise levels from aviation as a result of the proposed Project. Therefore, a cumulative impact related to aviation would not occur.

5.2 MITIGATION MEASURES

The following mitigation measure shall be implemented to reduce cumulative traffic noise levels along Enterprise Drive from Hickory Street to Willow Street.

Noi-2 Reduce Posted Speed Levels Along Enterprise Drive. Prior to the issuance of building permits, the Project applicant shall coordinate with the City's Public Works Director to change the posted speed limit along Enterprise Drive (between Hickory Street and Willow Street) to 25

miles per hour. Implementation of this measure shall be indicated on all Project plans and specifications.

Noi-3 Site-Specific Noise Analysis for Proposed Uses along Enterprise Drive. Prior to the approval of building permits for residences located within 75 feet of the roadway centerline of Enterprise Drive between Hickory Street and Willow Street, a site-specific acoustic analysis shall be conducted to ensure exterior and interior sound levels are equal to or less than the applicable allowable limits (60 CNEL for single-family exterior, 65 CNEL for multi-family exterior, 45 CNEL for residential interior).

5.3 SIGNIFICANCE AFTER MITIGATION

Mitigation Measure Noi-2 would require the posted speed level along Enterprise Drive (between Hickory Street and Willow Street) to be reduced to 25 miles per hour. Modeling results for the Year 2035 scenario demonstrate that implementation of this measure would reduce exterior noise levels to within City standards, as shown in Table 5-2, *Mitigated Cumulative Exterior Traffic Noise Levels at 75-foot Representative Distance*. With implementation of Mitigation Measure Noi-3, proposed uses along Enterprise Drive within 75 feet of the roadway centerline would not be exposed to interior and exterior noise levels in excess of thresholds. Cumulative impacts would be less than significant.

Table 5-2
MITIGATED CUMULATIVE EXTERIOR TRAFFIC NOISE LEVELS AT 75-FOOT REPRESENTATIVE DISTANCE (CNEL)

Roadway Segment	Existing No Project	Mitigated 2035 With Specific Plan (without Project)	Mitigated 2035 With Specific Plan (with Project)	Cumulative + Project Change from Existing	Significant Cumulative Impact?	Project Contribution to Cumulative	Significant Contribution?
Enterprise Drive							
Hickory St. to Willow St.	50.5	56.3	57.8	+7.3	No[1]	+1.5	No[1]

Cumulative impacts are assessed when:

- An increase of the existing ambient noise levels by 5 dB or more, where the ambient level is less than 60 dB CNEL;
- An increase of the existing ambient noise level by 3 dB or more, where the ambient level is 60 to 65 dB CNEL; or
- An increase of the existing ambient noise level by 1.5 dB or more, where the ambient level is greater than 65 dB CNEL.
- A cumulatively considerable contribution to a cumulative impact is assessed when the "Cumulative Plus Project" causes a 1 dBA increase in noise over the "Cumulative No Project" noise level. A significant impact would result only if both the combined and incremental effects criteria have been exceeded and the resulting noise level exceeds the applicable exterior standard at a noise sensitive use.

[1] Although a change over 5 dB CNEL occurs and the Project contributes over 1 dBA to this change, there is no cumulative impact because total noise levels are below the 60 CNEL threshold; no impacts are assessed.

6.0 LIST OF PREPARERS

Elizabeth Scott	Acoustic Analyst
Charles Terry	Senior Acoustic Specialist
Joanne M. Dramko, AICP, GISP	Quality Assurance Reviewer

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Appendix A

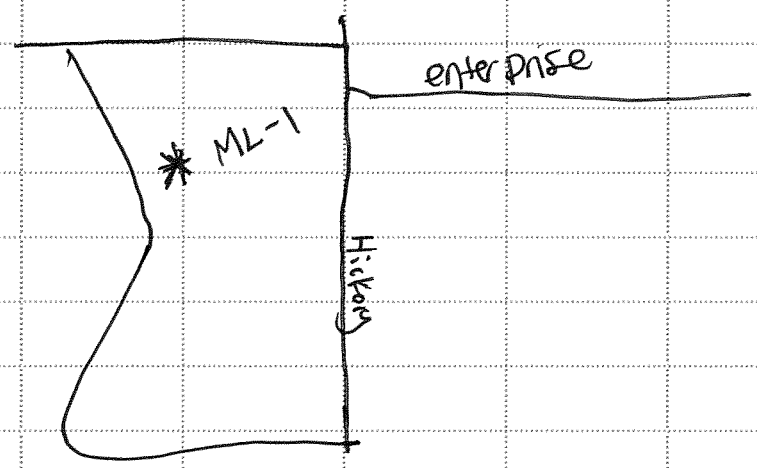
SITE VISIT SURVEY SHEETS

Site Survey

Job # Gateway (west)	Project Name: DAT-02	
Date: 9/11/14	Site #: ML-1 (ambient)	Engineer: Liz Scott
Address: 37°31'6.89" N, 122° 3'22.29" W (approximate)		
Meter: LD 720	Serial #:	Calibrator: LD CA250 / Serial #: 2520

Notes: Very quiet. Almost no birds. Some planes

Sketch:



Temperature: 68°F	Wind Speed: 8 mph NNE	Humidity: 83%
Start of Measurement: 11:05	End of Measurement: 11:20	50.5 dBA L_{EQ}

Cars (tally per 5 cars)	Medium Trucks (MT)	Heavy Trucks (HT)
NA	NA	NA
on-site ambient		

Noise Measurement for Information Only

No Through Roadways

No Calibration Analysis Will Be Provided

Gateway Station West – Noise Measurement Location ML-1

Site Survey

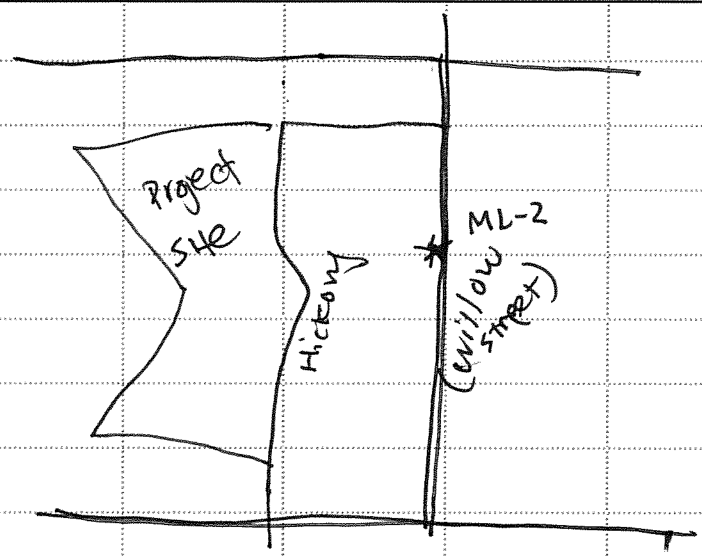
Job # Gateway	Project Name: DAT-02	
Date: 9/11/14	Site #: ML-2 (traffic Noise)	Engineer: Liz Scott

Address: 37° 31'12.21"N, 122° 2'56.70"W (approximate)

Meter: LD 720	Serial #:	Calibrator: LD CA250	Serial #:

Notes: 50 feet from centerline (26 feet from first lane)
-HT & car Truck pulled in next to me increased noise level @ 6:00 minutes in -Plane @ ~7:30 -Plane @ 12:55

Sketch:



Temperature: 68	Wind Speed: 8 NNE	Humidity: 83%
Start of Measurement: 11:45	End of Measurement: 12:06	65.1 dBA L_{EQ}

Cars (tally per 1 cars)	Medium Trucks (MT)	Heavy Trucks (HT)

Noise Measurement for Information Only

No Through Roadways

No Calibration Analysis Will Be Provided

Gateway Station West – Noise Measurement Location ML-2

Appendix B

CONSTRUCTION NOISE MODEL RESULTS

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 6/10/2015
Case Description: Gateway

---- Receptor #2 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Receptor 2	Residential	50	45	45

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Excavator	No	40		80.7	740	0
Dozer	No	40		81.7	740	0
Front End Loader	No	40		79.1	740	0

Results

	Calculated (dBA)		Noise Limits (dBA)					
			Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Excavator	57.3	53.3	N/A	75	N/A	N/A	N/A	N/A
Dozer	58.3	54.3	N/A	75	N/A	N/A	N/A	N/A
Front End Loader	55.7	51.7	N/A	75	N/A	N/A	N/A	N/A
Total	58.3	58	N/A	75	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Appendix K

TRANSPORTATION EVALUATION MEMORANDUM

FEHR PEERS

MEMORANDUM

Date: January 26, 2015

To: Dave Claycomb and Elizabeth Scott, HELIX Environmental Planning, Inc.

From: Mollie Pelon and Matthew Ridgway

Subject: Gateway Station West Transportation Analysis

OK14-0021

This memorandum updates the Gateway Station West Transportation Evaluation prepared for HELIX and dated September 23, 2014. The report presented the findings of a transportation evaluation of the Gateway Station West Project located west of Hickory Street between Perrin Avenue and Enterprise Drive in Newark, CA. This memorandum details project trip generation and estimated volume on Hickory Street based on the site plan dated December 1, 2014.

TRIP GENERATION

The following section analyzes trip generation for the Gateway Station West Project within the Dumbarton TOD. This section also includes a summary of updated trip generation estimates for approved and pending entitlements in the Dumbarton TOD.

Trip generation was estimated using rates developed by the Institute of Transportation Engineers (ITE) and published in *Trip Generation (9th Edition)*. The Gateway Station West Project is estimated to generate approximately 4,400 daily external vehicle trips, 340 and 440 AM and PM peak hour external vehicle trips, respectively, as shown in **Table 1**. In comparison, the trip generation for the previously proposed Cargill project at this site, as calculated based on the information presented in the Specific Plan EIR (SP EIR), estimates 4,380 daily external trips, 340 AM peak hour trips and 425 PM peak hour trips. The SP EIR estimates that all Specific Plan land uses would generate 14,130 daily external vehicle trips, 1,165 and 1,320 AM and PM peak hour external vehicle trips, respectively.

TABLE 1: TRIP GENERATION

Land Use	Units[1]	ITE Code	Daily	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
Single-Family	321 DU	210	**3,056**	60	178	**241**	202	118	**321**
Multi-Family Apartment[3]	268 DU	220	**1,782**	27	109	**137**	108	58	**166**
		Total	**4,838**	88	287	**377**	310	177	**487**
		Internalization[2]	*435*	*8*	*26*	*34*	*28*	*16*	*44*
		Net External Project Trips	**4,403**	80	262	**343**	282	161	**443**

Notes: 1. DU = dwelling unit
2. As in the Specific Plan EIR, 9% of the residential trips would be internal to the Specific Plan area.
Source: Fehr & Peers, 2015.

The Project's estimated contribution to the trips generated by the Specific Plan is 31 percent for a typical weekday, 29 percent for the AM peak hour, and 34 percent for the PM peak hour. On a land use basis, the Gateway Station West Project is about 24 percent of the Specific Plan residential dwelling units. In physical size, the Gateway Station West Project site is 34 percent of the land area designated for residential uses and 26 percent total land area for the site addressed in the Specific Plan.

Despite the Gateway Station West Project having a disproportionate amount of daily trips relative to the percentage of residential units on the Specific Plan site (24 percent of the total residential units and 31 percent of daily trips) as well as disproportionate amounts of the daily trips relative to land area (26 percent of the land area and 31 percent of the daily trips) the trip generation of the Gateway Station West Project is estimated to be only slightly greater (approximately 1% daily) than that of the calculated trip generation for the Cargill project, which included the same land area, for the SP EIR.

The proposed Gateway Station West project would generate approximately 23 more daily trips, 3 more AM peak hour trips and 18 more PM peak hour trips than the Cargill project. However,

previous entitlements granted or in review in the Dumbarton TOD Area have generated similar or fewer trips than analyzed in the SP EIR. Due to previous entitlements generating fewer trips than analyzed in the SP EIR, the total combined trip generation of approved and pending entitlements, including the Gateway Station West development, would not exceed the trips assumed in the SP EIR. Therefore, the proposed project would result in off-site transportation impacts consistent with the SP EIR.

The entitlements granted or in review for the Dumbarton TOD have generated the same or fewer trips than analyzed in the SP EIR. These sites are identified in **Figure 1**.

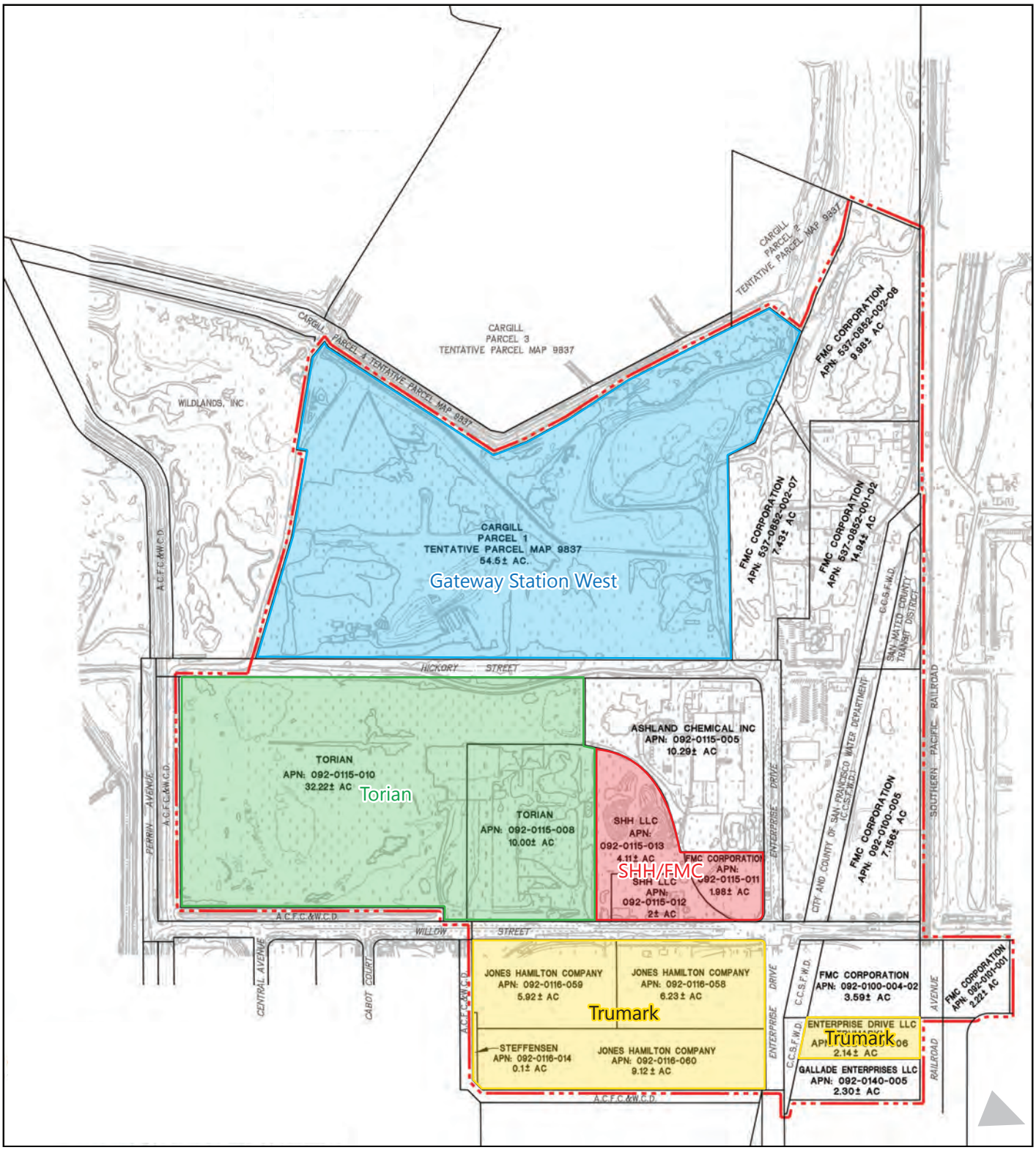
- **Trumark**: In March 2014, a Final Supplemental Environmental Impact Report (SEIR) was published for the Trumark Dumbarton TOD Project. No further analysis was necessary as part of the Trumark Project SEIR as "the traffic generated by the proposed project would be consistent with the trip generation estimates made in the Specific Plan EIR" (*Trumark Dumbarton TOD Residential Project Draft SEIR*, December 2013, p. 107).
- **Torian:** On November 29, 2012, the City of Newark City Council reviewed the addendum to the Dumbarton TOD EIR. As stated in the meeting minutes, the Torian project would consist of fewer residential units than already analyzed by the SP EIR. Consequently, "the Torian Project calls for development exclusively on land analyzed by the EIR, and calls for less impactful development on the Torian Project site than analyzed under the EIR, the EIR fully covers all impacts of the Torian Project… Thus, no new or increased significant impacts will result" (City of Newark, *Addendum to the Environmental Impact Report for the Dumbarton Transit Oriented Development Specific Plan*, Torian Project, p. 2).
- **SHH/FMC:** The Fehr & Peers Memorandum prepared for HELIX Environmental Planning, Inc. on February 26, 2014 provides a trip generation estimate for the revised land uses of the SHH/FMC project site. This memo provides "a trip generation estimate to confirm that the development generates similar or fewer trips than the land uses within the Specific Plan EIR, and hence is consistent with the Specific Plan from an off-site transportation impacts perspective" (*Transportation Evaluation of the SHH/FMC Project in Newark, CA,* p. 2). This site generates approximately 2,100 daily trips, 90 AM peak period trips and 170 PM peak hour trips fewer than identified in the SP EIR. In conclusion, the memorandum finds "Given that the trip generation of the SHH/FMC Project is less than that of the SP EIR, we do not anticipate that the development would produce off-site transportation impacts that were not already addressed in the EIR."

In conclusion, the trip generation estimate confirms that the Gateway Station West development generates similar trips to the land uses identified for the site within the SP EIR and that other entitled developments within the Dumbarton TOD would generate fewer trips than assumed in the SP EIR. Therefore, we do not anticipate that the development would cause off-site transportation impacts that were not already identified in the SP EIR (associated with development of the Gateway Station West site). The SP EIR identifies all transportation related impacts by the Gateway Station West project or combined with other entitled developments within the Dumbarton TOD.

TRAFFIC VOLUME ON HICKORY STREET

All access for the Gateway Station West development would be off of Hickory Street. The proximate Torian development will also provide access from Hickory Street however, it is expected most vehicle trips will use the development's Central Avenue and Willow Street access points as they provide more convenient access to the gateways of the Dumbarton TOD. Therefore, it is anticipated that vehicle trips on Hickory Street would be limited to those generated by the Gateway Station West project and approximately 5% of the Torian development trips.

It is estimated that about 4,590 vehicles per day would use Hickory Street. Of these trips, approximately 360 would occur during the AM peak hour and 460 would occur during the PM peak hour.



Source: RBF Consulting, Dumbarton TOD Specific Plan EIR

Figure 1

Specific Plan Site Plan

Gateway Station West Transportation Evaluation

Prepared for:
HELIX

September 23, 2014

OK14-0021.00

FEHR PEERS

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EXISTING CONDITIONS

This report presents the findings of a transportation evaluation of the Gateway Station West Project located west of Hickory Street between Perrin Avenue and Enterprise Drive in Newark, CA. The proposed Project is part of a larger development area addressed in the *Dumbarton Transit Oriented Development Specific Plan Environmental Impact Report* (SP EIR) (Final EIR – July 2011). The site of the Gateway Station West Project (referred to as the Cargill site in the SP EIR) was originally designated for low, medium and high-density residential uses. The 54.43-acre Gateway Station West Project is currently planned for a transit-oriented residential development (TOD) with 234 single-family units and 373 multi-family units and 62 senior housing units for a total of 669 units. The original proposal was for 168 single family units and 484 multi-family units to total 652 units.

The Gateway Station West Project represents 27 percent of the planned residential units (669 of 2,500 units in the Specific Plan). Of the currently planned residential units in Gateway Station West Project, 35 percent are planned for single family residential units (234 of 669 units) as compared to 26 percent planned for the Cargill site in the SP EIR (168 of 652 units). Since single family residences generate more trips per unit than multi-family residences, a review of the effect of a unit mix change on traffic generation is part of this transportation evaluation.

The following transportation analysis is divided into two parts: (1) a trip generation estimate and comparison it to the total trip generation found in the SP EIR and (2) a site circulation and access evaluation.

TRIP GENERATION

The following section analyzes trip generation for the Gateway Station West Project within the Dumbarton TOD. This section also includes a summary of updated trip generation estimates for approved and pending entitlements in the Dumbarton TOD.

SUMMARY OF TRIP GENERATION

Trip generation was determined using rates developed by the Institute of Transportation Engineers (ITE) and published in *Trip Generation (9th Edition)*. The Gateway Station West Project is estimated to generate 4,478 daily external vehicle trips, 373 and 464 AM and PM peak hour external vehicle trips, respectively, as shown in **Table 1**. In comparison, the trip generation for the previously proposed Cargill project site, as calculated based on the information presented in the SP EIR, estimates 4,323 daily external trips, 336 AM peak hour trips and 413 PM peak hour trips. The SP EIR estimates that all Specific Plan land uses will generate 14,131 daily external vehicle trips, 1,165 and 1,320 AM and PM peak hour external vehicle trips, respectively.

The Project's estimated contribution to the trips generated by the Specific Plan is 32 percent for a typical weekday, 32 percent for the AM peak hour, and 35 percent for the PM peak hour. On a land use basis, the Gateway Station West Project contains 27 percent of the Specific Plan residential dwelling units. In physical size, the Gateway Station West Project site is 34 percent of the land area designated for residential uses and 26 percent total land area for the site addressed in the Specific Plan.

Despite the Gateway Station West Project having a disproportionate amount of daily trips relative to the percentage of residential units on the SP site (27% of the total residential units and 32% of daily trips) as well as disproportionate amounts of the daily trips relative to land area (26% of the land area and 32% of the daily trips) the trip generation of the Gateway Station West Project is estimated to be only slightly greater than that of the calculated trip generation for the Cargill site, which included the same land area, for the SP EIR.

The proposed Gateway Station West project will generate approximately 155 daily trips more than the Cargill site. However, previous entitlements granted or in review in the Dumbarton TOD Area have generated similar or fewer trips than analyzed in the SP EIR. Due to previous entitlements generating fewer trips than analyzed in the SP EIR by a large margin, the cumulative trip generation of approved and pending entitlements, including the Gateway Station West development, would not exceed the trips

analyzed in the SP EIR. Therefore, the proposed project would produce off-site transportation impacts commensurate with what was analyzed in the SP EIR.

TABLE 1: UPDATED TRIP GENERATION AT GATEWAY STATION WEST

Land Use	Units[1]	ITE Code	Daily	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
Single-Family	234 DU	210	**2,228**	47	133	**180**	153	86	**239**
Multi-Family Apartment[3]	373 DU	220	**2,467**	59	145	**204**	152	97	**249**
Senior Adult Housing Attached	62 DU	252	**213**	11	13	**24**	12	10	**22**
		Total	**4,921**	117	292	**410**	317	193	**510**
		Internalization[2]	*443*	*11*	*26*	*37*	*29*	*17*	*46*
		Net External Project Trips	**4,478**	**107**	**266**	**373**	**289**	**176**	**464**

Notes: 1. DU = dwelling unit

2. As in the Specific Plan EIR, 9% of the residential trips would be internal to the Specific Plan area.

3. The ITE *Trip Generation* defines apartments as rental units located within the same building with at least three other dwelling units. Trip generation rates for apartment land use are higher (i.e they generate more trips) than townhouse/condominium therefore, this classification was used to provide a conservative estimate.

Values may not sum exactly to totals due to rounding.

Source: Fehr & Peers, 2014.

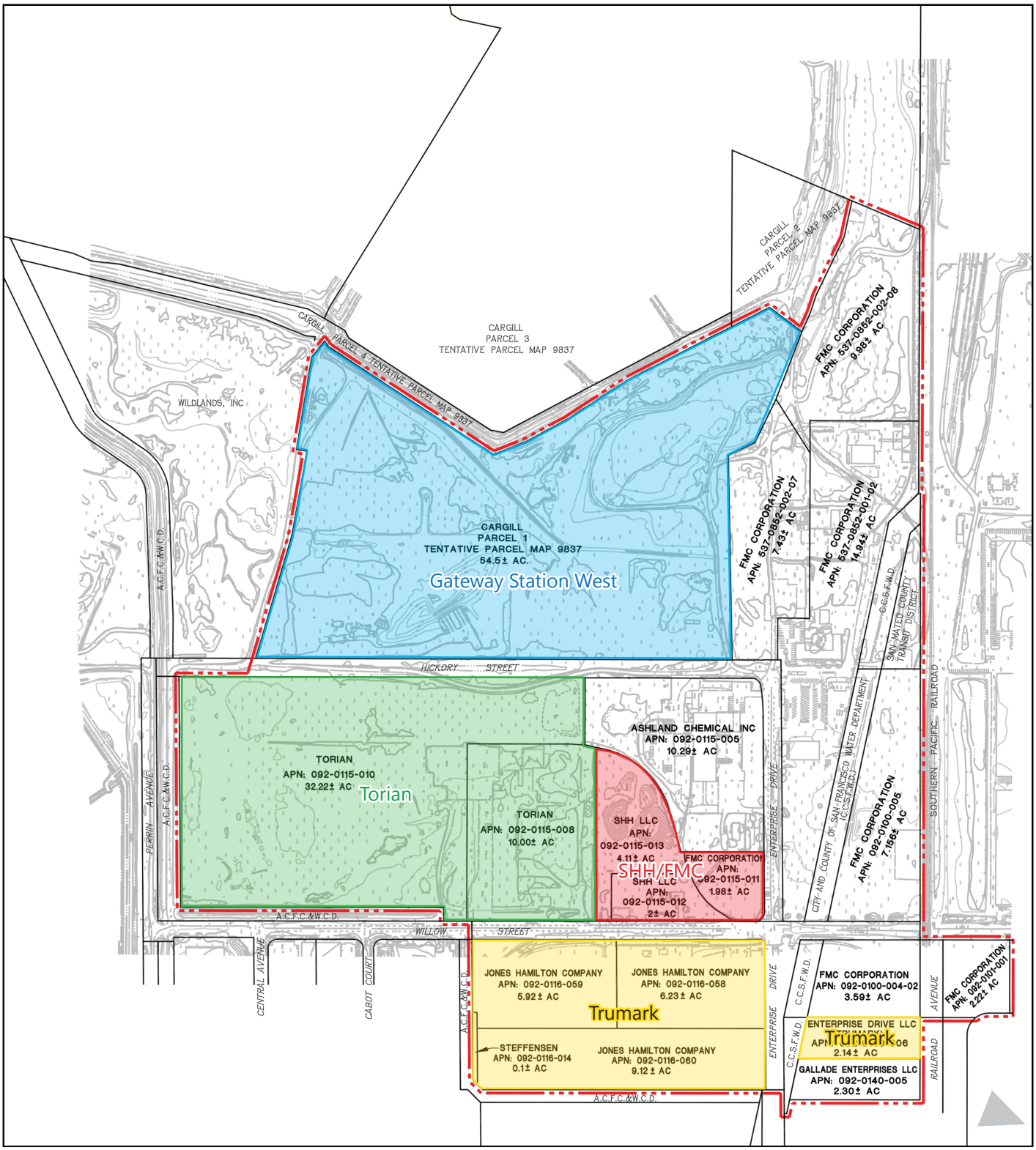
Of the entitlements already granted or in review for the Dumbarton TOD, all have generated the same or less trips than analyzed in the SP EIR. These sites are identified in **Figure 1**.

- In March 2014, a Final Supplemental Environmental Impact Report (SEIR) was published for the Trumark Dumbarton TOD Project. No further analysis was necessary as part of the Trumark Project SEIR as "the traffic generated by the proposed trip would be consistent with the trip generation estimates made in the Specific Plan EIR" (*Trumark Dumbarton TOD Residential Project Draft SEIR*, December 2013, p. 107).
- On November 29th, 2012, the City of Newark City Council reviewed the addendum to the Dumbarton TOD EIR. As stated in the meeting minutes, the Torian project calls for less residential units than already analyzed by the EIR. Consequently, "the Torian Project calls for development exclusively on land analyzed by the EIR, and calls for less impactful development on the Torian Project site than analyzed under the EIR, the EIR fully covers all impacts of the Torian Project… Thus, no new or increased significant impacts will result" (City of Newark, *Addendum to the*

Environmental Impact Report for the Dumbarton Transit Oriented Development Specific Plan, Torian Project, p. 2).

- The Fehr & Peers Memorandum prepared for HELIX Environmental Planning, Inc. on February 26th, 2014 provides a trip generation estimate for the revised land uses of the SHH/FMC project site. This memo provides "a trip generation estimate to confirm that the development generates similar or fewer trips than the land uses within the SP EIR, and hence is consistent with the SP from an off-site transportation impacts perspective" (*Transportation Evaluation of the SHH/FMC Project in Newark, CA,* p. 2). This site generates approximately 2,064 trips less than identified in the SP EIR. In conclusion, the memorandum finds "Given that the trip generation of the SHH/FMC Project is less than that of the SP EIR, we do not anticipate that the development would produce off-site transportation impacts that were not already addressed in the EIR."

In conclusion, the trip generation estimate confirms that the Gateway Station West development generates similar trips to the land uses identified for the site within the SP EIR and that other entitlements within the Dumbarton TOD have represented lesser traffic generation than was analyzed in the SP EIR. Therefore, we do not anticipate that the development would produce off-site transportation impacts that were not already addressed in the SP EIR. Any expected transportation impacts associated with development of the Gateway Station West site or the sum of entitlements issued to date within the Dumbarton TOD area are addressed in the SP EIR.



Source: RBF Consulting, Dumbarton TOD Specific Plan EIR

Figure 2

Specific Plan Site Plan

SITE ACCESS AND ON-SITE CIRCULATION

This section analyzes site access and internal circulation for vehicles, pedestrians, bicycles, and transit vehicles based on the site plan (July 31st, 2014) presented in Figure 1. The site access and on-site circulation is considered adequate with several recommended changes described below. These recommendations address on-site vehicle circulation issues to reduce driver confusion and pedestrian and bicycle safety. Active and transit mode recommendations include provision of pedestrian and bicycle facilities and direct connections, and efficient linkages with existing and potential future transit stops external to the site.

VEHICLE SITE ACCESS AND CIRCULATION

Access to the Gateway Station West Project site would be provided via two main driveways and seven alleyways. All driveways would be along Hickory Street. The northernmost and southernmost driveways would serve as the main entrances. The northernmost entrance would provide direct access to Villages 6A, 6B, 7, 8 and 9 as well as two parks. The southernmost entrance would provide direct access to Villages 10 and 11. Alleyway entrances would provide access to Village 11.

The internal circulation for the proposed residential area was reviewed for issues related to safety, dead end aisles, and accessibility of parking spaces. As proposed, all circulation aisles accommodate two-way travel and all of the proposed parking spaces are parallel or perpendicular to the drive aisle centerline.

RECOMMENDATIONS

The Project is well-designed, but the following recommendation would further enhance transportation operations:

- (A) Redesign the drive aisle denoted in **Figure 2** by the letter "A" to decrease intersection size and subsequent internal circulation conflicts and visibility issues between vehicles, bicycles and pedestrians. This could be done by extending parking on the northwest corner of the intersection. Traffic control is not addressed in the current site plan so should be included in subsequent more detailed plans, but this location should likely be all-way stop controlled.
- (B) Alleyways coincide with neighborhood street requirements; however, turnaround maneuvers may be difficult at dead end alleys identified in Figure 1. Subsequent more detailed site plans should specifically address/demonstrate adequate access to driveways and circulation patterns for regular truck activities such as garbage pickup.

- Adequate service and emergency vehicle access is provided via the two entry streets. In subsequent, more detailed site plans, corners should be sized to accommodate regular use large vehicles (mainly garbage trucks) with larger vehicles, such as moving trucks, permitted to execute three-point turns and cross centerlines as their use of the site will be infrequent.
- (E) If additional housing is added at the location denoted by the letter "E", the end of the cul-de-sac could cause emergency circulation issues. Specifically, there would be too many units accessible by a single access route. Consideration should be given for connecting this street to adjacent development, at least for pedestrian, bicycle and emergency vehicle access.

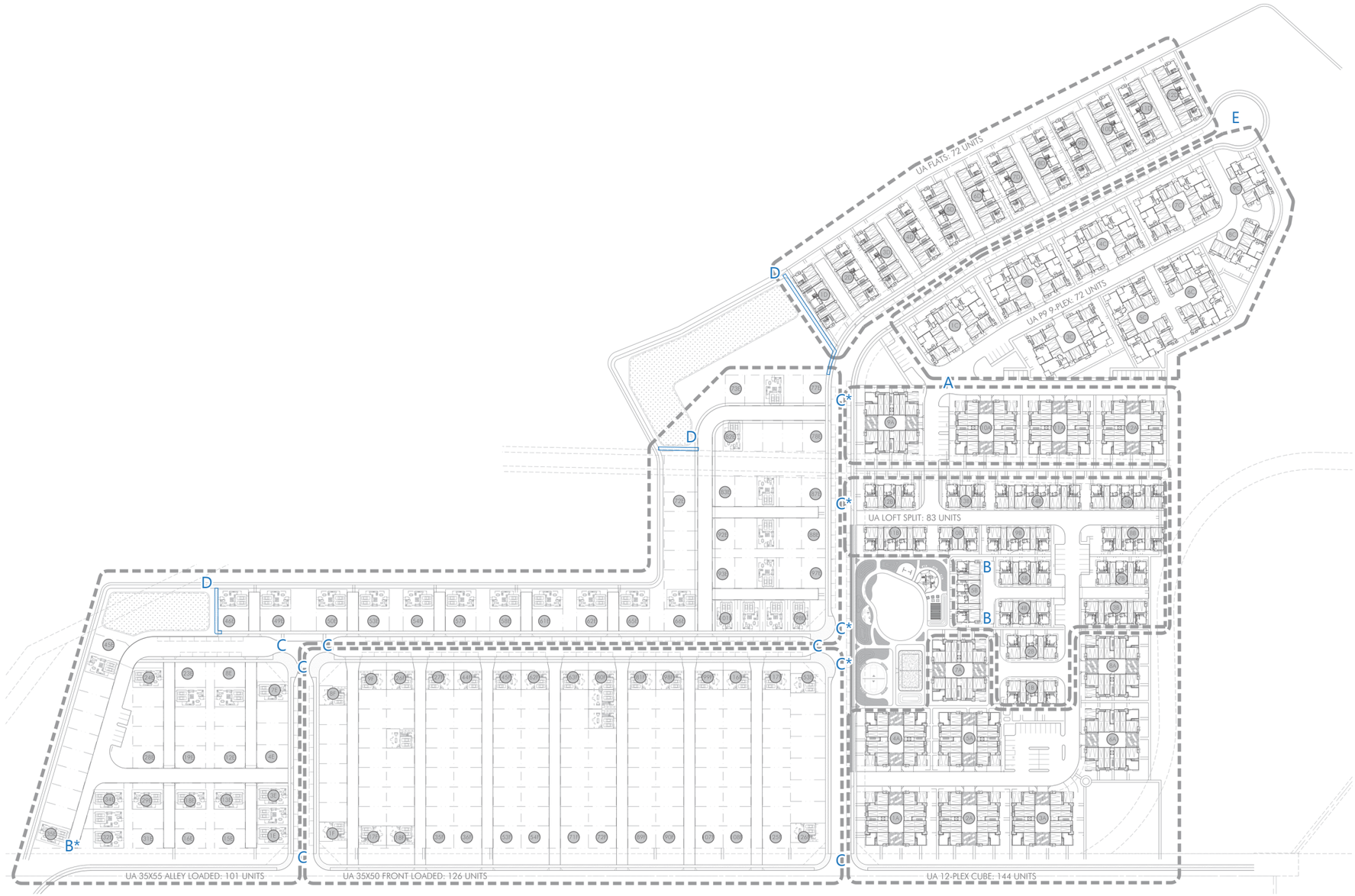


Figure 2

Summary of Site Access Recommendations

PEDESTRIAN, BICYCLE, AND TRANSIT ACCESS AND CIRCULATION

This section of the report addresses both on-site facilities that provide pedestrian and bicycle access and circulation for the project.

ON-SITE PEDESTRIAN AND BICYCLE FACILITY EVALUATION

The existing site plan provides exceptional pedestrian facilities but the following would further enhance the pedestrian and bicycle environment:

- (C) Provide crosswalks at intersections and locations where bicycle/pedestrian pathways provide access to main sidewalks and streets. In accordance with Policy C-25 of the Specific Plan, it is recommended that contrasting or textured paving be used to finish crosswalks. The Specific Plan also recommends the use of in-ground, blinking crosswalk lights where feasible, but that guidance, while current in 2010/2011 should be revisited with greater emphasis on rapid rectangular flashing beacons as a preferred treatment. These improvements should meet ADA requirements.
- (C*)Remove parallel parking in locations where crosswalks are added and for 25 feet on either side of the crosswalk to "daylight" the crossing. If crosswalks are bulbed, daylighting is not required.
- (D) Bicycle and pedestrian connections to the perimeter trail along the north edge of the site should be provided where feasible.
- (D) Consider providing access to the perimeter trail in existing open spaces to decrease bicycle and pedestrian traffic in drive aisles.

BICYCLE ACCESS EVALUATION

The proposed project does not conflict with existing or planned off-site bicycle facilities, and no modifications to off-site bicycle facilities are recommended. Class III bicycle facilities are planned near the project site on Hickory Street and a Class I separated bike trail runs along the north border of the site. This trail is described as a perimeter trail in the Specific Plan. The Project would most likely increase bicycle demand and the project should ensure appropriate bicycle accommodations are provided for residents. These accommodations should be positioned in locations that provide direct access to recreational and residential uses on-site such as near building and park entrances and to the proposed Dumbarton station.

TRANSIT ACCESS

AC Transit's Line 275, a local bus line, has a stop along Willow Street approximately 0.2 miles from the Project site. The Specific Plan site plans provide continuous sidewalks from the Gateway Station West Project site to the location of the bus stop at full build out of the Specific Plan area. The Dumbarton TOD Specific Plan (Updated September 8th, 2010) includes the following policy: C-24: Where necessary, design streets to accommodate transit services, including bus stops and shelters.

This report recognizes the Dumbarton Rail project is currently on indefinite hold due to a failed transportation sales tax measure in Alameda County in 2012 however, transit, bicycle and pedestrian access should still be provided as detailed in the recommendations above.

Appendix L

WATER SUPPLY ASSESSMENT

APPENDIX L

INFORMATION FOR THE READER

The City of Newark requested a Water Supply Verification (WSV) from the Alameda County Water Authority (ACWD) on May 28, 2015. The WSV was received on September 10, 2015, and is provided with full attachments in Section C of Volume I of the Final Supplemental Environmental Impact Report (Final SEIR). For the convenience of readers using technical report files, the WSV itself is also attached here, immediately following this Information sheet.

ACWD
ALAMEDA COUNTY WATER DISTRICT

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September 10, 2015

RECEIVED
SEP 14 2015
COMMUNITY DEVELOPMENT

Terrence Grindall
Assistant City Manager
City of Newark
37101 Newark Boulevard
Newark, CA 94560

Dear Mr. Grindall

Subject: Written Verification of Sufficient Water Supply for the Gateway Station West

ACWD has received the City's request for a Water Supply Verification (WVS) for the 589-unit Gateway Station West project (Gateway) (see Attachment A). Gateway lies within the Dumbarton Transit Oriented Development (TOD) Specific Plan for which ACWD completed a Water Supply Assessment in October of 2010 (WSA) (see Attachment B). Gateway is the first of several developments within the TOD which will rely upon the WSA for completion of their respective Supplemental Environmental Impact Reports (EIR). The Gateway project is a combination of 321 single-family residential units, 268 multi-family units, local parks/recreation areas, and undeveloped land on a 54.5 acre area. Because Gateway exceeds 500 residential units, it requires an additional written verification of sufficient water supply (written verification, WVS) under California Water Code Section 66473.7.

The 2010 WSA found that the TOD was consistent with ACWD planning assumptions and included in our forecast and water supply planning and our 2010-2015 Urban Water Management Plan (UWMP). The area within the TOD that Gateway will occupy was considered for 669 units in the Specific Plan, the 2010 WSA and the original EIR; therefore the 589 unit Gateway proposal represents a net decrease in size and water demand from what was considered and deemed to have sufficient water supply in 2010. Since completion of the 2010-2015 UWMP, there have been no substantive changes in ACWD's long-term water supply assumptions and therefore the analysis in both the UWMP and 2010 WSA remain the same. Based on the analysis and documentation within the 2010 WSA, as supplemented by the content of this letter, ACWD confirms that there are sufficient water supplies available for the Gateway

RECYCLED PAPER

Station West Project during normal, single-dry, and multiple-dry years within a 20-year projection that will meet the projected demand associated with the proposed subdivision, in addition to existing and planned future uses. ACWD's written verification is based on ACWD's UWMP and the 2010 WSA.

Since the 2010 WSA was completed, there have been four successive years of low rainfall and the State is currently experiencing a severe drought. Consequently, ACWD has declared a water shortage emergency and has adopted a Water Shortage Emergency Ordinance. Drought and water shortage contingency plans are fully consistent with ACWD's long-term planning and are documented in the UWMP. To address the current conditions, the following updates supplement the 2010 WSA, by Section, which may also be helpful for the Project's supplemental EIR.

SECTION 1 INTRODUCTION

BACKGROUND

As a result of four successive years of low rainfall, the State is currently experiencing a severe drought. Due to the record-dry conditions, Governor Edmund G. Brown proclaimed a drought emergency on January 17, 2014 ordering, amongst other actions, State agencies to execute a statewide conservation campaign to reduce water usage by 20%. On March 13, 2014, ACWD Board of Directors adopted Ordinance No. 2014-01 declaring a water shortage emergency and adopting water use regulations, restrictions and guidelines for the water shortage emergency (see Attachment C), designed to achieve a 20% service area-wide reduction in water use by prohibiting wasteful uses of water and limiting landscape irrigation. On July 29, 2014 the State Water Resources Control Board (SWRCB) adopted statewide emergency conservation regulations that largely mirrored the District's Ordinance prohibitions.

As the drought entered its fourth year, the State passed additional emergency conservation regulations on March 27, 2015 which extended and expanded the regulations adopted in 2014[1]. These regulations were further expanded and adopted on May 5, 2015. During the intervening month, the Governor issued another Executive Order on April 1, 2015 which included, for the first time ever, a mandate to reduce statewide water use, specifically by 25% from 2013 levels. In response, the SWRCB replaced the statewide target established in July of 2014 with agency-specific goals based on each agency's average residential gallons per capita per day (R-GPCD), as reported to the State, for July 2014 - September 2014; ACWD's target reduction is 16% from its baseline use between July 2013-December 2013, and January/February 2013. The SWRCB also expanded water agency reporting requirements and added additional end-

[1] March 27, 2015 Regulations included: prohibiting irrigation during and within 48 hours following measurable rainfall, prohibiting restaurants from serving water unless requested, requiring hotels/motels to offer guests the option to not have linens/towels laundered daily and required water agencies to notify customers about leaks within the customer's control

user prohibitions including prohibiting irrigation with potable water of ornamental turf on public medians and called for new standards for irrigation of landscaping in new development. The new development standards are addressed under an emergency regulation adopted by the Building Standards Commission in June 2014 and through a revised Model Water Efficient Landscape Ordinance (MWELO) that all cities will be required to adopt. The revised MWELO includes much stricter efficiency standards for irrigation systems and greatly limits the installation of non-functional turf for new developments and for renovated landscapes at existing developments.

The District's Ordinance is consistent with the revised State goal for ACWD and therefore has not been changed, even though the savings target was reduced from 20% to 16%. Water demand for FY 2014-2015 was 38,500 AF, or roughly 20% less than the pre-drought demand as well as the baseline demand reported in and contemplated by the WSA.

SECTION 2 WATER DEMAND

WATER DEMANDS – ACWD SERVICE AREA

It is anticipated that the current State and ACWD water conservation regulations will have a lasting, long-term effect of reduced demand for water and therefore it is anticipated that ACWD's post-drought water demand forecast will be reduced from the previous forecast reported in the 2010-2015 UWMP and Table 2 of the Dumbarton TOD WSA. Post-drought demand reductions have been historically demonstrated and are a result of customers embracing and implementing conservation and water-use efficiency measures during a drought. Such actions include increased rate of replacement of old, high water-use plumbing fixtures with new, more efficient water-use plumbing fixtures as well as replacing high water-use landscaping, such as ornamental turf grass, with drought tolerant plants and hardscape. Also, the stricter MWELO and plumbing code efficiency standards included in the Governor's April 2015 Executive Order will result in a reduction in forecast future demands.

Should the demand forecast be reduced as anticipated, there will be a corollary improvement in long-term water supply reliability. These updates will be further studied in the fall of 2015 and reflected in the 2015-2020 UWMP.

WATER DEMANDS – GATEWAY STATION WEST PROJECT

Estimation of Project Water Demands

The following estimated water demand for the Project updates the project information in Table 5 of the WSA, which considered the entire TOD Specific Plan development and resulting water demand.

Table 5 Water Demands for the Gateway Station West Project

Element	Planning units		GPD/ Unit	Demand estimate (AF/yr.)
Residential (2,000 ft² lots)	379	Dwelling units	179	76
Residential (3,000 ft² lots)	210	Dwelling units	247	58
Open space	4.57	Acres	4,630	24
Estimated Total Project Demand *(rounded to nearest 100 AF)*				158
Water Supplies Required *(8.4% Unaccounted for Water)*				172
Approximate peak day demand in mgd *(1.6x peaking factor)*				0.25

IMPACTS OF DROUGHT ON DEMANDS

Current Drought Restrictions Apply

As discussed in Section 1, the State of California is imposing water use restrictions, regulations, and standards due to the severe drought and ACWD is operating under a water shortage emergency ordinance. These restrictions will remain in place through the end of the water shortage emergency. The Project is subject to all water use restrictions and limitations as described in Ordinance No. 2014-01 until it is rescinded by the Board. In addition, ACWD may adopt additional water use restrictions or implement other measures should they become necessary. Additional restrictions could potentially include limitations on new service, such as denying new or additional water service connections, and therefore impact new development in the service area, including the Project, while the drought persists. Chapter 10 of the 2010 UWMP, *Water Shortage Contingency Plan*, describes a non-exhaustive list of potential actions the District may take under various water shortage scenarios.

SECTION 3 WATER SUPPLY

LOCAL SOURCES

Niles Cone Groundwater Basin

On September 16, 2014, the Governor signed the Sustainable Groundwater Management Act (Act) into law establishing a new structure for groundwater management, recognizing that groundwater management in California is best accomplished locally. Since the District was created by statute to manage groundwater resources, ACWD is identified in the Act, as a statutorily designated agency. As a result, ACWD can comply with the Act

by either meeting specific requirements outlined in the Act for functionally equivalent plans or by becoming a groundwater sustainability agency. The framework for how the Act will be implemented is still in development. However, the implementation of the Act will not have a negative impact on the reliability of local groundwater supply.

WATER SUPPLY IN NORMAL AND DRY YEAR CONDITIONS

Water Supply under Critical Dry Year Conditions

ACWD's UWMP defines 1977 as the single critical dry year for planning analysis as required under the Urban Water Management Planning Act. While ACWD had to declare a Water Shortage Emergency in 2014, seeking a 20% reduction in demand, 1977 remains the single most critical water supply year for ACWD planning and therefore the analysis in the UWMP is unchanged.

ACWD planning criteria, as described in ACWD's UWMP for a single critical dry year, takes into account that State Water Project (SWP) deliveries would be reduced to approximately 10% of the maximum contractual amounts (referred to as the "Table A" amounts in the SWP contracts) during single critically dry years. On January 31, 2014, DWR announced a zero allocation of SWP entitlements for the first time in its 54-year history. Although the allocation was subsequently raised to 5%, this water was not available before September 1, 2014, after the typically high summer demand season. This disruption of the SWP supply source led to ACWD declaring a Water Shortage Emergency, following plans outlined in the Chapter 9 of the UWMP *(Water Shortage Contingency Plan).*

Despite the less than 5% allocation, total water supply available to ACWD in 2014 was greater than that which is projected to be available under hydrologic conditions of 1977. Local rainfall-runoff used to recharge the Niles Cone Groundwater basin was marginally higher in 2014 than in 1977. Similarly, SFPUC supply in 2014 was higher than that projected for 1977. Whereas the SFPUC only requested a voluntary 10% reduction in 2014, they estimate that they would require a mandatory 20% reduction under the hydrologic conditions of 1977 should they occur again with present day demands, facilities and operating requirements, as is documented in the UWMP.

SECTION 4 WATER SUPPLY AND DEMAND ANALYSIS

SINGLE DRY YEAR WATER SUPPLY

In 2014, ACWD experienced a water supply emergency due primarily to interrupted delivery of SWP as discussed in Section 3. In addition to challenges on the SWP, local supply rivaled all-time driest supply and the SFPUC called for a voluntary 10% reduction in water use from 2013 levels. Despite these challenges, the water supply conditions of 1977 remain the single driest conditions in ACWD's planning data and, therefore, the

single dry year reliability data reflected in ACWD's UWMP Table 8-3 and in Table 14 of the WSA remains unchanged.

SECTION 5 SUMMARY AND CONCLUSIONS

For purposes of this written verification, ACWD revisited the Summary and Conclusions section of the WSA factoring in all that is set forth in this letter. This conclusion remains unchanged – the Gateway project demand, which is lower than projected in the WSA, is consistent with the planning assumptions and is included in ACWD's forecast and water supply planning. The existing and on-going water shortage emergency does not impact this conclusion because ACWD implemented, and will continue to implement, its water shortage contingency plan as contemplated by ACWD's UWMP. However, given the passage of almost 5 years since the approval of the WSA, the following paragraphs in the Summary and Conclusions of the WSA, which apply to the entire TOD, are tailored for this WVS for the Gateway project.

A. Paragraph 8 of WSA. ACWD is currently in a Water Shortage Emergency and has implemented the Water Shortage Emergency Plan as detailed in the UWMP. ACWD has secured additional supplies through the DWR drought water bank in 2014, as well as a transfer from Contra Costa Water District (CCWD) in 2013. ACWD has also implemented a drought contingency plan. Because the Project's demands are consistent with the UWMP demand forecast, the development of the Project will not result in increased shortages from that which is already factored into ACWD's planning. The project is subject to the water use restrictions set forth in Ordinance No 2014-01, the current SWRCB emergency regulations and other state restrictions, and all future regulations, restrictions and limitations that may be adopted by ACWD, the state, or other government agencies.

B. Paragraph 9 of WSA. The Water Efficiency Measures for New Developments have been updated; please refer to Attachment D to this written verification.

C. Paragraph 10. In 2010 ACWD was contemplating a recycled water project at the Dumbarton Storm Water Pumping Station, adjacent to the TOD, and required the Project to implement recycled water for non-potable uses when developed. This recycled water source was ultimately not included in ACWD's Preferred Projects identified in the 2010 ACWD-USD Recycled Water Feasibility Study and is therefore not available for the Project.

D. Paragraph 13. This written verification is based on the proposed land use of the Gateway Station West Project, as provided to ACWD by the City of Newark (documented in ATTACHMENT A). If, prior to Project approval, the proposed land use within the Project area changes from what is currently incorporated in this written verification, ACWD will evaluate the impacts that these changes may have on ACWD's water supplies. In the event that the land use changes impact the

conclusions of this written verification, ACWD may require additional mitigation measures as a condition of providing water service to the Project. If the proposed land use changes occur after Project approval and approval of the final subdivision maps, ACWD will evaluate the potential water supply impacts of these changes, and may require additional mitigation as a condition of providing water service to those areas with the changed land use condition.

Sincerely,

Robert Shaver
General Manager

TN:bbm
Enclosures

Attachment A - Letter of Request for Water Supply Verification; email communication and development details for all of Dumbarton TOD parcels
Attachment B - 2010 Dumbarton TOD Water Supply Assessment, report only
Attachment C - Water Shortage Emergency Ordinance (ACWD Ordinance No. 2014-01)
Attachment D - Updated Water Efficiency Measures for New Developments

COPY

RESOLUTION NO. 15-055

OF BOARD OF DIRECTORS OF ALAMEDA COUNTY WATER DISTRICT APPROVING THE WRITTEN VERIFICATION OF SUFFICIENT WATER SUPPLY FOR THE GATEWAY STATION WEST PROJECT

WHEREAS, California Government Code Section 65867.5 requires that a development that includes a subdivision with 500 or more housing units shall not be approved unless a written verification of sufficient water supply is provided pursuant to California Government Code Section 66473.7;

WHEREAS, on May 29, 2015, the District received the City of Newark's (City) request for a written verification of sufficient water supply for the 589 housing unit Gateway Station West Project (Project);

WHEREAS, the Project is a subset of the Dumbarton Transit Oriented Development Specific Plan for which the District completed a Water Supply Assessment (WSA) in October 2010;

WHEREAS, since the WSA was completed, there has been four successive years of low rainfall, the State of California is experiencing a severe drought, and the District has adopted an Ordinance declaring a water shortage emergency;

WHEREAS, droughts and water shortage emergencies are consistent with the District's long-term planning and are contemplated in the District's 2010-2015 Urban Water Management Plan (UWMP);

WHEREAS, staff has reviewed the Project details and concluded that they are consistent with the District's planning assumptions and water supply analysis in the UWMP and WSA, which documents the sufficiency of water supply; and

WHEREAS, staff has prepared a written verification of sufficient water supply for the Project that is based on the analysis in the WSA as supplemented to address the current water shortage emergency conditions.

NOW, THEREFORE, BE IT RESOLVED by the Board of Directors of the Alameda County Water District that the written verification of sufficient water supply for the Gateway Station West Project is hereby approved and the General Manager is authorized to send the written verification of sufficient water supply to the City of Newark.

PASSED AND ADOPTED this 10th day of September, 2015, by the following vote:

AYES: Directors Huang, Gunther, Sethy, and Koller

NOES: None

ABSENT: Director Weed

Martin L. Koller, President
Board of Directors
Alameda County Water District

ATTEST:

Andrew Warren, Assistant District Secretary
Alameda County Water District
(Seal)

APPROVED AS TO FORM:

Patrick T. Miyaki, Attorney
Alameda County Water District

2010 WSA Circulated with the Draft Supplemental EIR

WATER SUPPLY ASSESSMENT

FOR THE

DUMBARTON TRANSIT ORIENTED

DEVELOPMENT PROJECT

OCTOBER 2010

PREPARED FOR

CITY OF NEWARK,
CALIFORNIA

Prepared by:

ALAMEDA COUNTY WATER DISTRICT
43885 S. Grimmer Blvd.
Fremont, CA 94538

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SECTION 1
INTRODUCTION

BACKGROUND

The City of Newark (City) has requested a Water Supply Assessment (WSA) for the Dumbarton Transit Oriented Development Project (Project). The project is a mixed use proposal of high, medium and low density residential housing, commercial retail / office building area, and open space. The Project site covers approximately 207 acres and is located adjacent to the proposed Dumbarton Commuter Rail Line in Newark (Figure 1). The Project site is located in the middle of the Newark Dumbarton Transit Area Priority Development Area (PDA) as outlined by the Association of Bay Area Governments (ABAG) in Projections and Priorities 2009. ACWD's 2009 Water Demand Forecast (Forecast) included all ABAG projections. Prior to the 2009 Forecast, this area was included in ACWD planning under the previous Specific Plan Area 2, which contemplated primarily a commercial and industrial project. As the Project relies on individual and independent developers, there is no specific timeline or phasing for completion of the Project.

The Project will require water supplies for the new homes, businesses and institutional uses. The existing water provider in the area is the Alameda County Water District (ACWD). ACWD is a retail water purveyor with a service area that includes the cities of Fremont, Newark and Union City. ACWD provides water primarily to urban customers: approximately 70% of supplies are used by residential customers, with the balance (approximately 30%) utilized by commercial, industrial, and institutional customers. Net distribution system water use was approximately 47,600 acre-feet (AF), or an average of 42.5 million gallons per day (mgd) in fiscal year 2009-10. The District's primary sources of supply come from the California State Water Project (SWP), the San Francisco Regional Water System, and local supplies from the Alameda Creek Watershed and Niles Cone Groundwater Basin (underlying the ACWD service area).

California Water Code (Water Code) Section §10910 requires that a water supply assessment be provided to cities and counties for a project that is subject to the California Environmental Quality Act (CEQA), and which surpasses a threshold for the number of housing units and/or square feet of commercial/industrial buildings. The cities and counties are mandated to identify the public water system that might provide water supply to the project and then to request a water supply assessment. The water supply assessment documents sources of water supply, quantifies water demands, evaluates drought impacts, and provides a comparison of water supply and demand that is the basis for an assessment of water supply sufficiency.

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PURPOSE

The purpose of this Water Supply Assessment is to document ACWD's existing and future water supplies for its service area and compare them to the area's future water demands, including the future water demands of the Project. This comparison, conducted for both normal hydrologic conditions and drought conditions, is the basis for an assessment of water supply sufficiency in accordance with the requirements of California Water Code Section §10910.

METHODOLOGY

ACWD's long-term water supply strategy was developed as part of the District's Integrated Resources Planning Study (IRP), and adopted by the ACWD Board in 1995. ACWD's 2006-2010 Urban Water Management Plan (UWMP, or 2005 UWMP) incorporates this water supply strategy. The UWMP documented ACWD's existing water supplies as well as the projected future demand for water and changing availability of our supplies. The projections were made the year prior to completion of the UWMP, or 2004, and relied on the most current published supply reliability and land use planning data at that time.

ACWD is currently in the process of compiling data and information needed to prepare the 2011-2015 UWMP (2010 Draft UWMP Data). The 2010 Draft UWMP Data reflects substantial changes in both supply and demand from that which was reported in the 2005 UWMP. This WSA will rely on the 2010 Draft UWMP Data for purposes of analyzing and reporting water supply reliability and the 2005 UWMP (attached) for purposes of documenting ACWD's sources of supply as required under the Water Code.

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SECTION 2
WATER DEMAND

This section provides an overview of historical and current water use in the District, and a summary of future projected water demands for the Project and ACWD's service area.

WATER USE CATEGORIES

Water use in the ACWD service area is divided into two categories: 1) distribution system use, and 2) groundwater system use. The distribution system use includes all water uses supplied by ACWD's treatment and production facilities, and conveyed to ACWD customers via the District's distribution system. This use is further subdivided into the categories of single family residential (SFR), multi-family residential (MFR), commercial, industrial, institutional, landscape and other use.

Groundwater system use includes private (non-ACWD) groundwater pumping (primarily for industrial and municipal landscape irrigation uses), ACWD's Aquifer Reclamation Program pumping, and saline groundwater outflow to San Francisco Bay. The Aquifer Reclamation Program (ARP) pumping is an ongoing ACWD program to pump saline groundwater out of the aquifer system and replace it with fresh water recharged at the District's groundwater recharge facilities. Saline groundwater outflow to San Francisco Bay represents the groundwater outflow required to maintain groundwater flow in a bayward direction necessary to prevent seawater intrusion into the local aquifer system and to flush saline groundwater back to San Francisco Bay.

The District's groundwater system use is not anticipated to change significantly in the future. Therefore, the following discussions of water use are focused on the District's distribution system water use.

HISTORICAL AND CURRENT WATER USE

Table 1 provides a summary of the last ten years of water use within the District. As shown in the table, residential water use comprises approximately 70% of District water use, with the remaining 30% used by commercial, industrial and institutional customers.

Water consumption patterns in the ACWD service area are a function of many independent factors including growth, weather conditions, economic conditions and water conservation behaviors. The District saw dramatic declines in consumption during the 1987-1992 drought due to voluntary conservation and District-sponsored demand management efforts. However, during the drought recovery period since 1992, several significant factors have influenced consumption. From 1993-2001 accelerated growth of both residential and business customers (including the high technology industry) occurred due to a strong economy. During this period, vacancy rates decreased and water consumption rose. From 2001 to 2007 the overall consumption in the District was relatively flat, attributed primarily to less robust local economic conditions, mild weather and on-going water conservation programs. In 2008, 2009 and continuing in 2010, ACWD has seen declines in overall water consumption, which ACWD

attributes to a combination of successive dry year conditions, Statewide conservation campaigns and a continued economic downturn. The resulting substantive reduction in demand for water has changed ACWD's near and mid-term anticipated level of new demands.

WATER DEMANDS - ACWD SERVICE AREA

ACWD's approach to water demand forecasting for the UWMP is to: 1) evaluate existing demands of lands already developed in the service area; 2) estimate future demands of currently undeveloped lands that are designated for development; and 3) combine the existing and future demands to estimate the overall District-wide future demands. This demand forecasting is done for six primary land use categories: single family residential, multi-family residential, commercial, industrial, institutional, and "other". In order to estimate future demands of currently undeveloped lands in each of these categories, ACWD obtains the most recent zoning information for these lands. The land use information is provided by the cities' planning staff, and includes general plan land use designations and, when available, more detailed information from specific plans or other planning documents. A District-wide water demand forecast for each land use category is then developed by multiplying the planned land use under each land use category by a District-wide average unit water use specific to that land use category. Additional potential future land use is also accounted for in the demand projections, and is based on city-approved plans for redevelopment and/or intensification of specific areas. The demand forecast also considers future demands associated with Association of Bay Area Governments (ABAG) Smart Growth projections.

Actual unit water use for any specific land use project may vary significantly from the District-wide average. However, determining the actual unit water use for each specific development project in the service area is beyond the scope of ACWD's UWMP demand forecast. Rather than providing demand forecasts for specific land use projects, the UWMP provides an aggregated, District-wide demand forecast for each land use category, as well as the total District-wide demand. This approach is proven sufficiently accurate for long-term, District-wide demand forecasting and is consistent with the California Water Code requirements for urban water management planning. However, if the District has detailed information about the water demands of a specific project during the time it is preparing the UWMP, the District will account for the specific project's water demands in the UWMP in lieu of the District-wide average.

ACWD's 2009 Forecast is substantially revised from the 2004 Forecast in several key areas with a combined effect of reduced long-term demand. Key changes since 2004 are a slower rate of growth in the service area, continued restructuring of the local economy with a net loss of high water use industry (manufacturing), prolonged economic recovery from the recession, increased natural conservation with plumbing code updates, and accelerated conservation effect resulting from recent drought message and public awareness.

The projected future demands in the ACWD service area are summarized in Table 2 (for the years 2010, 2015, 2020, 2025 and 2030). The water demand forecast also includes projected savings from water conservation, both District-sponsored water conservation and "natural conservation" resulting from new plumbing code standards. Also called "code-based savings"

or "passive conservation", these demand reductions come about due to the replacement of old inefficient plumbing fixtures with low flow fixtures. ACWD is a signatory to the California Urban Water Conservation Council's (CUWCC) MOU on Urban Water Conservation and is committed to the implementation of all locally cost-effective water conservation best management practices. A complete description of ACWD's water conservation program, as well as water saving assumptions, is provided in Chapter 7 of the attached UWMP.

As described in the following section, the Project's demands are considered to be consistent with the District's demand forecast, and therefore, are not listed separately in Table 2. Demands listed in this table include the demands from all WSAs completed to date except for the Ballpark Village Specific Plan and Masonic Homes Flatlands Projects which have both been rescinded.

WATER DEMANDS – DUMBARTON TRANSIT ORIENTED DEVELOPMENT PROJECT

Estimation of Project Water Demands

The Dumbarton Transit Oriented Development Project is a mixed use proposal of high, medium and low density residential housing, commercial retail / office building area, and open space. The Project site covers approximately 207 acres and is located adjacent to the proposed Dumbarton Commuter Rail Line in Newark (Figure 1). The Project site is located in the middle of the Newark Dumbarton Transit Area Priority Development Area (PDA) as outlined by the Association of Bay Area Governments (ABAG) in *Projections and Priorities 2009*. ACWD's 2009 Water Demand Forecast (Forecast) included all ABAG projections. Prior to the 2009 Forecast, this area was included in ACWD planning under the previous Specific Plan Area 2, which contemplated primarily commercial and industrial development. As the Project relies on individual and independent developers, there is no specific timeline or phasing for completion of the Project.

Information on the Project's proposed land use was provided by the City of Newark and is listed in Table 5 and represents the upper end of development potential. Roughly one third of the Project site is currently developed with low intensity industrial activity, with less than two AF/yr of water demand. ACWD estimates the Project will result in 780 AF/yr of new demand.

Water Efficiency Measures to be Incorporated in the Project

In order to ensure that the Project incorporates the most up to date water efficiency measures, the Project should be developed with the latest technology in water efficient plumbing fixtures and irrigation systems at both residential and non-residential developments, including but not limited to those listed in ATTACHMENT D: Water Efficiency Measures for New Developments.

IMPACTS OF DROUGHT ON DEMANDS

Dry periods may impact water demands in the ACWD service area in several ways. Because approximately 40% of the District's residential demand is for landscape irrigation, dry periods may result in an increase in demands due to less local rainfall available to meet the evapotranspiration requirements of lawns and other landscaping. However, demands may also be reduced due to customer efforts to be more water efficient during dry periods. As an example, during the 1987-1992 drought, ACWD customers reduced overall water use by approximately 20%. This response to the drought was due both to voluntary efforts and mandatory restrictions imposed by ACWD. However, because many customers have retained a "water conservation ethic" since the 1987-92 drought, and because of increased efficiencies of plumbing fixtures and the implementation of on-going District-sponsored water conservation programs, the ability to reduce overall water use during future droughts by similar levels may be lessened. For example, during the current drought period between FY 03/04 and FY 09/10, ACWD customers reduced water consumption by 15%, however a portion of this reduction may also be attributed to the recent economic downturn.

For planning purposes, it is assumed that during drought periods water demands for ACWD's distribution system customers (including those of the Project) do not change from those during normal years. However, the groundwater system demands are typically lower in dry years as lower groundwater levels, caused by reduced local recharge and increased reliance on groundwater storage, result in reduced saline groundwater outflows. ACWD will often minimize ARP pumping as well during dry periods. Summaries of projected demands under single dry year and multiple dry year conditions (based on a five year drought under 2026-2030 demand conditions) are provided in Table 3 and Table 4 respectively.

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SECTION 3
WATER SUPPLY

ACWD's three primary sources of water supply are: 1) the State Water Project (SWP); 2) San Francisco's Regional Water System; and 3) local supplies. The SWP and San Francisco Regional Water Supplies are imported into the District service area through the South Bay Aqueduct and Hetch-Hetchy Aqueduct, respectively. Local supplies include fresh groundwater from the Niles Cone Groundwater Basin (underlying the District service area), desalinated brackish groundwater from portions of the groundwater basin previously impacted by seawater intrusion, and surface water from the Del Valle Reservoir. The primary source of recharge for the Niles Cone Groundwater Basin is percolation of runoff from the Alameda Creek watershed. To a lesser degree, a portion of ACWD's SWP supplies are also used for local groundwater percolation. Infiltration of rainfall and applied water within the ACWD service area also contribute to local groundwater recharge.

ACWD's planned future water supplies also include recycled water. As described below, ACWD anticipates implementing a recycled water program to provide up to 1,600 AF/Yr for non-potable uses (i.e. irrigation and industrial uses) by the year 2020.

Due to the configuration of ACWD's water production facilities and the interconnection with the District's distribution system, the proposed Project may receive water supplies from all three primary sources of supplies, and would not be dependent on any single source of supply. Therefore, a description of all of ACWD's water supplies is provided below. Table 6 provides a summary description of the contracts and permits for these supplies and Table 7 provides a summary of the historical use of these supplies by ACWD.

WHOLESALE WATER SUPPLIES

As described above, ACWD's wholesale water supplies are: 1) State Water Project supplies purchased from the California Department of Water Resources; and 2) San Francisco Regional Water System supplies purchased from San Francisco. ACWD's contracts for these wholesale supplies are provided in Attachment C and each supply is described in greater detail below.

State Water Project

In 1961, the District signed a contract with the State Department of Water Resources (DWR) for a maximum annual amount of 42,000 acre-feet from the SWP, referred to as ACWD's "maximum Table A allocation". The SWP, managed by the DWR, is the largest state-built, multi-purpose water project in the country. The SWP facilities include 28 dams and reservoirs, 26 pumping and generating plants, and approximately 660 miles of aqueducts. The water stored in the SWP storage facilities originates from rainfall and snowmelt runoff in Northern and Central California watersheds. The SWP's primary storage facility is Lake Oroville in the Feather River Watershed. Releases from Lake Oroville flow down the Feather River to the Sacramento River, which subsequently flows to the Sacramento-San Joaquin Delta. The SWP diverts water from the Delta through the Banks Pumping Plant which lifts water from the Clifton Court Forebay (in the Delta) to the California Aqueduct and Bethany Reservoir. From Bethany Reservoir, the South Bay Pumping Plant lifts water into the South Bay Aqueduct,

which delivers State Water Project supplies to ACWD and other Bay Area water agencies in Alameda and Santa Clara Counties.

Semitropic Banking of ACWD's SWP Supplies: Because of the variability in the SWP supply availability, ACWD's 1995 IRP identified the need to secure 140,000 AF of off-site storage capacity to improve the dry year reliability of this supply source. Based on this IRP recommendation, ACWD has contracted with Semitropic Water Storage District for participation in the Semitropic Groundwater Banking Program in Kern County. In wet years, ACWD delivers its unused (excess) SWP supplies to Semitropic for storage in their groundwater basin. In dry years, ACWD can recover these supplies through: (1) an "in-lieu" exchange whereby ACWD will receive a portion of Semitropic's SWP supplies (and Semitropic will utilize groundwater previously stored by ACWD in its basin); and (2) a "pumpback" program where Semitropic directly pumps stored groundwater into the California Aqueduct and ACWD recovers this supply through SWP exchanges.

The rate at which ACWD can recover stored water in dry years is constrained by contractual limitations and limitations on the capacity of the Semitropic pumpback facilities. Based on the terms of the agreements with Semitropic, the amount of return capacity is based on the amount of storage capacity purchased. Because of these limitations, ACWD secured a total of 150,000 AF of storage capacity at Semitropic (in excess of the IRP's recommendation of 140,000 AF), in order to provide sufficient dry year return capacity to meet ACWD's projected needs in all but the most severe drought conditions.

As with local groundwater storage in the Niles Cone Groundwater Basin, the Semitropic Groundwater Banking Program does not provide a new source of supply for the District. Rather, it provides a means to store the District's unused SWP supplies in wet years for use during dry years when the delivery of SWP supplies may be significantly curtailed.

San Francisco's Regional Water System

ACWD also receives water from the San Francisco Regional Water System, operated by the San Francisco Public Utilities Commission (SFPUC). This supply is predominantly from the Sierra Nevada, delivered through the Hetch-Hetchy aqueducts, but also includes treated water produced by the SFPUC from its local watersheds and facilities in Alameda and San Mateo Counties. The amount of imported water available to the SFPUC's retail and wholesale customers is constrained by hydrology, physical facilities, and the institutional parameters that allocate the water supply of the Tuolumne River.

In 2009, ACWD, along with the other wholesale customers, signed a new Master Sales Agreement with San Francisco, supplemented by an individual Water Sales Contract. The new agreements have a term of 25 years and provide a commitment from San Francisco to provide, collectively, up to 184 mgd to its wholesale customers. ACWD's individual supply assurance is 13.76 mgd.

LOCAL SOURCES

As described above, ACWD's local sources include fresh groundwater from the Niles Cone Groundwater Basin, brackish groundwater desalination, and surface water supplies from the Del Valle Reservoir. Each of these supplies is described in greater detail below.

Niles Cone Groundwater Basin

The principal source of local supply for the District is the local aquifer system known as the Niles Cone Groundwater Basin. The primary source of recharge for the Niles Cone Groundwater Basin is local runoff from the Alameda Creek Watershed, which is captured, diverted and recharged at the District's groundwater recharge facilities. To a lesser extent, infiltration of rainfall and applied water within the ACWD service area also provide a local source of recharge for the groundwater basin. ACWD also uses a portion of its imported State Water Project supplies for groundwater recharge.

The water quality in the groundwater system is characterized by fresh groundwater in the eastern portion of the groundwater basin transitioning into brackish groundwater in the western portion of the basin. The brackish groundwater is a result of historical seawater intrusion from the adjacent San Francisco Bay. Since the 1960's ACWD has managed the groundwater basin to prevent any additional seawater intrusion and has an on-going program to pump trapped brackish groundwater back to San Francisco Bay through the District's Aquifer Reclamation Program wells.

The Niles Cone Groundwater Basin has capacity to store water from year to year ("local groundwater storage"). However, the usable storage capacity of the groundwater basin is significantly limited by the potential for seawater intrusion if groundwater levels are maintained too low. Although local groundwater storage (i.e. groundwater supplies in excess of recharge) provides a short term source of supply during dry years, it is not a supply that is available every year because the groundwater system will require replenishment from freshwater sources, without which seawater intrusion would occur.

Chapter 4 of the UWMP (attached) provides a comprehensive description of the Niles Cone Groundwater Basin, including groundwater quality, groundwater levels, historical and projected groundwater pumping, and ACWD's groundwater management activities. A copy of ACWD's groundwater management policy is also provided in the UWMP. The Niles Cone Groundwater Basin is also described in DWR Bulletin 118 – Update 2003: *California's Groundwater*, and is not listed as in "overdraft" or "potentially overdraft condition" by the DWR.

Brackish Groundwater Desalination

In 2003 ACWD commissioned the Newark Desalination Facility. This 5-mgd facility utilizes the reverse osmosis process to remove salts and other impurities from the brackish groundwater pumped at ACWD's Aquifer Reclamation Program wells. Treated water from the Newark Desalination Facility is blended with untreated local groundwater and provided as a

supply for the distribution system demands. ACWD is currently expanding this facility to 10-mgd.

Del Valle Reservoir

The District and Zone 7 Water Agency of the Alameda County Flood Control and Water Conservation District (hereafter referred to as "Zone 7"), have equal rights on Arroyo Del Valle to divert water to storage. When the California Department of Water Resources (DWR) constructed Del Valle Dam in the upper Alameda Creek Watershed, those rights were recognized in an agreement among DWR, the District, and Zone 7. Consequently, DWR typically makes a total of 15,000 AF of storage available annually in Del Valle Reservoir for use by ACWD and Zone 7. ACWD and Zone 7 equally share this storage capacity, thereby providing up to 7,500 AF of storage capacity annually to ACWD.

Recycled Water

Although ACWD does not currently have a recycled water supply, the District's long-term supply strategy includes a recycled water program to be implemented by 2020, which will provide up to 1,600 AF/yr of non-potable supply (e.g. landscape irrigation and industrial process water). A potential source of recycled water is from a joint project with Union Sanitary District (USD). Similar to ACWD, USD's service area includes the cities of Fremont, Union City and Newark. USD currently treats approximately 28 mgd (approximately 31,000 AF/Yr) of wastewater, the majority of which is discharged to San Francisco Bay via the East Bay Dischargers Authority pipeline facilities. Because ACWD's planning is based on providing 1,600 AF/Yr of recycled water, it is anticipated that there will be a sufficient source of wastewater supply available for a future recycled water project in the ACWD service area.

Recycled water distribution pipelines will be separate from the District's existing potable distribution system and, therefore, would not adversely affect existing potable supply operations. The volume of recycled water produced would be the same in drought years as in normal years, thus providing a firm source of supply. Demand for recycled water for irrigation purposes is highest in the summer months. Therefore, in addition to increasing water supply, use of recycled water would help meet peak monthly and daily production capacity needs.

ACWD and USD have evaluated two potential sources of recycled water: In 1993 and in 1999 ACWD and USD evaluated a potential program whereby the recycled water would originate at USD's Alvarado Wastewater Treatment Plant (Alvarado WWTP), located at the north end of the service area in Union City. As an alternative to constructing a recycled water treatment facility at the Alvarado WWTP, in 2003 ACWD and USD completed an evaluation of the feasibility of constructing a satellite recycled water treatment facility in southern Fremont at USD's Irvington Pump Station. These options are currently being reevaluated as well as the potential for other feasible options in an update to the Recycled Water Feasibility study. In addition, ACWD will continue to consider the potential use of other regional recycled water supplies, should such supplies become available. The ultimate decision on the source of a recycled water supply will likely be based on a variety of factors including costs, permitting issues, environmental constraints and location of recycled water customers.

WATER SUPPLY UNCERTAINTIES

The purpose of this section is to identify factors which may impact current planning assumptions, the significance and magnitude of which are currently unknown. As described below, the potential impacts of global warming are a key uncertainty which may impact all of ACWD supplies. In addition, each of ACWD's supplies face uncertainties which may be unique to the source of supply. A summary of water supply uncertainties facing ACWD's supplies is provided in Table 8 and discussed in greater detail below.

Climate Change

Climate change may result in less snowfall, more local rainfall and rising sea-levels. Under current conditions, much of ACWD's imported water supplies are held in "storage" in winter and spring snowpack in the Sierra Nevada Mountains. With a diminished snowpack, the yield of the State Water Project and San Francisco Regional System may be significantly impacted. The magnitude of the impact of climate change on water supplies is not known. However, the following provides an overview of recent studies that have evaluated potential impacts on surface water and groundwater supplies in California.

Surface Water: In 2006 DWR's Climate Action Team (CAT) released a report on climate change and its potential impact on California's water resources. Entitled *Progress on Incorporating Climate Change into Management of California's Water Resources* (*2006 Climate Change Report*), the report summarizes recent research into change in precipitation, air temperatures, snow levels, and snowmelt runoff. The report also evaluates possible future impact on California water supply through model simulations reflecting multiple climate change scenarios, weather conditions and geopolitical conditions.

The main results of the *2006 Climate Change Report* related to climate change's estimated impacts on the State Water Project around the year 2050:

- Estimated changes in annual average SWP south-of-Delta Table A deliveries range from a slight increase of about 1 percent for a wetter scenario to about a 10 percent reduction for one of the drier climate change scenarios.

- Estimated increased winter runoff and lower Table A allocations resulting in slightly higher average annual Article 21 deliveries in the three drier climate change scenarios[1]. However, the increases in Article 21 deliveries do not offset the losses to Table A. The wetter scenario with higher Table A allocations results in fewer Article 21 delivery opportunities and slightly lower annual Article 21 deliveries.

[1] Article 21deliveries refer to Article 21 of the SWP contracts which allows for contractors to receive additional water deliveries only under specific conditions. These conditions include: 1) Article 21 water is available only when excess water is available in the Delta, and 2) Article 21water is available only when conveyance capacity through the SWP facilities is available. Due to the uncertainties regarding the availability of Article 21 water, ACWD does not include this supply in its water supply planning and Urban Water Management Plan.

- Estimated SWP carryover storage is reduced in the drier climate change scenario and is somewhat increased in the wetter climate change scenario.

The 2009 Biennial Report of the CAT includes updates to the findings of the 2006 study. The update expands the number of future climate scenarios, methods for estimating sea-level rise, estimates for irrigation demands, reservoir inflows, and restrictions in Delta operations anticipated with sea-level rise and resultant salt-intrusion. The updated study qualitatively reports that SWP reliability will be further diminished from previous findings, however, as determined in 2006, those impacts do not become significant until the latter half of the 21st century. Therefore, while included in this analysis, the water supply impacts anticipated from climate change are minimal during the 20-year purview of the UWMP and WSA. The *State Water Project Delivery Reliability Report, 2009* (2009 SWP Reliability Report, 2009 SWP) includes these revised climate change assumptions, the impacts of which are reflected in the reliability data used in this WSA.

Groundwater: In 2003, and then again in an update prepared in August of 2005, the Pacific Institute for Studies in Development, Environment and Security prepared a literature search report for DWR, which summarized recommendations for coping with and adapting to climate change from key peer-reviewed publications and specifically considered the potential impacts of climate change on groundwater. The Pacific Institute's report is entitled, *Climate Change and California Water Resources: A Survey and Summary of the Literature*, by Michael Diparsky and Peter H. Gleick, Pacific Institute (*Climate Change and Water Resources*).

Climate Change and Water Resources found that little work has been done on the impacts of climate change for specific groundwater basins, or for general groundwater recharge characteristics or water quality. As the following conclusions from the report illustrate, the potential impacts of climate change on groundwater resources are divided, with some potentially resulting in increased availability of groundwater and others potentially resulting in less.

- Changes in recharge will result from change in effective rainfall as well as a change in the timing of the recharge season. Increased winter rainfall could lead to increased groundwater recharge.

- Higher evaporation or shorter rainfall seasons could mean that soil deficits persist for longer periods of time, shortening recharge seasons.

- Because a significant portion of winter recharge comes from deep percolation of precipitation below the rooting zone, warmer winter temperatures between storms would be expected to increase and dry out the soil between storms. A greater amount of rain in subsequent storms would then be required to wet the root zone and provide water for deep percolation.

- Sea-level rise could affect coastal aquifers through saltwater intrusion.

- Warmer, wetter winters would increase the amount of runoff available for groundwater recharge. However this additional runoff would be occurring at a time when some basins are either being recharged at their maximum capacity or are already full.

- Reductions in spring runoff and higher evapotranspiration because of higher temperatures could reduce the amount of water available for recharge.

Local Supplies

In addition to potential climate change impacts, the availability of ACWD's local supplies may be influenced by a variety of other factors including operational and facility modifications to accommodate on-going Alameda Creek fishery restoration efforts. Upstream land use, flood control and water supply projects in the Alameda Creek Watershed may also impact the supply and quality of water available at ACWD's groundwater recharge facilities. Similarly, efforts to develop groundwater supplies by agencies in the South East Bay Plain (north of ACWD) may also impact ACWD's groundwater supply availability. However, the extent of these impacts on ACWD's local supplies, if any, is not currently known.

San Francisco Regional Supplies

In order to enhance the ability of the SFPUC water supply system to meet identified service goals for water quality, seismic reliability, delivery reliability, and water supply, the SFPUC is undertaking a Water System Improvement Program (WSIP). Completion of the projects in the WSIP is critical to ensuring the reliability of the San Francisco Regional supplies. However, it is currently uncertain if the SFPUC will be successful in fully implementing this program, and if it will be accomplished in a timely manner.

State Water Project Supplies

The reliability of ACWD's State Water Project supplies will continue to remain uncertain due to the on-going concerns regarding the sustainability of the Delta. These concerns include the Delta ecosystem and potential future environmental regulations, levee stability and the potential for catastrophic failure of these levees, urban encroachment within the Delta, and water quality within the Delta due to urban and agricultural discharges.

Most notably, successive actions to protect endangered species within the Delta have resulted in reductions in long term reliability from 69% to 60% of Maximum Table A allocation over the past four years. Beginning in December of 2007, Federal District Court Judge Oliver Wanger issued a final court order ("Wanger Decision") which put into place an operational plan requiring the State Water Project and Central Valley Project (CVP) to reduce Delta export pumping operations in order to protect the Delta smelt. This court action was replaced by a biological opinion in December of 2008, which largely upheld the operating restrictions imposed by the Wanger Decision. Most recently, in June of 2009 a revised biological opinion for salmonids was published which further restricted the State's ability to deliver supplies presently and for the foreseeable future.

Most recently, on July 20, 2010, the State Water Resources Control Board (State Water Board) released a report titled "Draft Report on the Development of Flow Criteria for the Sacramento-San Joaquin Delta Ecosystem". Development of these criteria was required under SBX7 1, passed in November of 2009, which sought to protect the public trust resources of the Delta ecosystem. The purpose for developing the criteria is to inform planning decisions for the Delta Plan and the Bay Delta Conservation Plan (BDCP), a multiagency effort with the goal of providing long-term Federal and State Endangered Species Act compliance for Delta export operations. At this point, the extent to which these criteria will be implemented and what effect they may have on the State's ability to deliver water supplies is as of yet unknown.

The net effect of existing uncertainties is that projected reliability of the SWP has been reduced from 72% to 60% of Maximum Table A since 2002 (Table 9).

Semitropic Banking Program

Over the past several years ACWD faced uncertainties with regard to recovery of water from the Semitropic Banking Program. These uncertainties include: 1) water quality concerns with regard to groundwater from Semitropic that is pumped back into the California Aqueduct; and 2) the ability to make the upstream exchanges needed to deliver the recovered water to the ACWD service area. With regards to the water quality issues, Semitropic has initiated a pilot water treatment plant which has treated the groundwater to meet the required criteria for pumping this water into the California Aqueduct. Semitropic has indicated that this pilot treatment plant will form the basis for a future permanent treatment facility. With regards to the exchange capacity needed to recover dry year supplies from Semitropic, over the past year, ACWD has coordinated with Semitropic, DWR, and other Semitropic Banking partners to ensure coordination of the planned use of the Semitropic recovery capacity and the needed exchanges. However, the risk remains that under certain critical dry year conditions ACWD may not be able to recover 100% of the District's contractual recovery capacity from Semitropic.

As part of the update to the ACWD IRP and UWMP, ACWD is evaluating the potential constraints with the Semitropic recovery capacity and how these constraints may affect ACWD's dry year supply reliability. ACWD will also be evaluating potential mitigation measures to minimize the risk associated with the constraints in Semitropic dry year recovery. These measures may include: 1) re-operation of local and other storage available to ACWD (i.e. Niles Cone Groundwater Basin, Del Valle Reservoir, San Luis Reservoir) in coordination with recovery from Semitropic and/or: 2) alternative dry year supply programs.

SB 7 – Water Conservation Requirements under the 2009 Comprehensive Water Package

In November of 2009, the California State Assembly passed a suite of water bills designed, among other things, to address long range water supply reliability. One of these bills, SB 7, also known as 20x2020, requires the state to achieve a 20% reduction in urban per capita water use by December 31, 2020.

SB 7 acknowledges that not all water agencies should be held to one fixed target as many have been actively implementing conservation for some time. To address this, SB 7 provides agencies with a choice of four different methodologies to set and achieve their water use target. The bill requires ACWD to hold a public meeting to present the method and to publish it in the 2010 UWMP. Given that one of the four methodologies to choose from has yet to be published by DWR, the State has extended the UWMP deadline to July 1, 2011.

ACWD has begun to analyze several of the choices, but will have to complete further studies over the coming year to determine which target and implementation strategies are in the District's best interest. Having identified programmatic conservation as a critical component in meeting long-term water supply reliability in the 1995 IRP, and as a signatory to the CUWCC MOU, ACWD and its customers have already achieved significant levels of conservation. As a result of these efforts, ACWD estimates that the actual required reductions in per-capita use between the present and 2020 will be something less than a true 20%. Implementation of the efficiency standards expected of this development will help achieve these new goals (ATTACHMENT D : WATER EFFICIENCY MEASURES FOR NEW DEVELOPMENTS)

WATER SUPPLY IN NORMAL AND DRY YEAR CONDITIONS

The projected availability for each of ACWD's water supplies under normal, critical dry year and multiple dry year conditions are provided in Table 10 through Table 12. As documented in the District's 2005 UWMP, information on the projected availability of ACWD's local supplies is based on the long-term historical hydrologic conditions in the Alameda Creek Watershed. Information on the projected reliability of ACWD's wholesale supplies from the State Water Project and San Francisco Regional Water System supplies were provided by the DWR and San Francisco Public Utilities Commission, respectively. As discussed, the WSA differs from the last published UWMP, but reflects the 2010 Draft UWMP Data.

Water Supply under Normal Year Conditions

In order to be consistent with the recommendations by the DWR in the use of SWP reliability information, this water supply assessment characterizes long-term average conditions as normal year conditions. As shown in Table 10, under normal year conditions supplies from the SWP and San Francisco Regional Water System comprise approximately 55% of the water available to ACWD, with the balance coming from local supplies. All of the supplies listed in Table 10, with the exception of recycled water, are existing supplies available to ACWD, and have been historically utilized by the District. Recycled water, not currently available to ACWD, is anticipated to add approximately 1,600 AF/Yr to the District's normal year water supplies by the year 2020. Supplies from local groundwater storage and the Semitropic Groundwater Banking Program are not included as normal year supplies because these supplies are intended for dry year conditions (or other water shortages) and are not intended to meet normal year demands.

Water Supply under Critical Dry Year Conditions

As shown in Table 11, the availability of ACWD's overall water supplies under a critically dry year may be significantly reduced. Under critically dry conditions, the SWP deliveries would be reduced to approximately 10% of the maximum contractual amounts (referred to as the "Table A" amounts in the SWP contracts). In addition, ACWD's other supplies from the San Francisco Regional Water System and local supplies from the Alameda Creek Watershed may also be substantially reduced during a critically dry year.

In order to mitigate these potentially severe water supply cut-backs, ACWD would rely on groundwater reserves stored in the local Niles Cone Groundwater Basin, and reserves stored at the Semitropic Groundwater Banking Program. As described above, the amount of storage in the local Niles Cone Groundwater Basin is limited due to threats of seawater intrusion when groundwater elevations fall below sea-level. ACWD has therefore invested in additional off-site storage at the Semitropic Groundwater Banking Program. Under two separate agreements with Semitropic, ACWD has contracted for a combined total of 150,000 AF of storage capacity. The District currently has approximately 110,000 AF of water in storage at the Semitropic banking program. However, the maximum rate at which stored water can be returned to ACWD from Semitropic is constrained by ACWD-Semitropic contractual limitations. As shown in Table 11, under the most severe drought conditions, the maximum rate at which water can be returned to ACWD is 13,800 AF/Yr[2].

Water Supply under Multiple Dry Year Conditions

Table 12 provides summaries of the projected supply availabilities under a long-term (five-year) drought for 2026-2030 demand conditions. This multiple year drought sequence is based on the 1929-1933 historical hydrologic conditions, which represents the most severe five-year drought on record (based on projected availability of ACWD's supplies over the 1922-94 hydrologic period). The results from this analysis indicate that ACWD's water supplies may be significantly reduced during a multiple year drought. However, the supply reduction would not be as severe as during a single, critically dry year condition. As with the single dry year condition, both local groundwater storage and off-site groundwater storage in Semitropic will play key roles in offsetting shortfalls in the District's other local and imported supplies.

2 ACWD's maximum rate of recovery from the Semitropic Groundwater Banking Program during critically dry years will increase by 300 AF/Yr (from 13,500 AF/Yr to 13,800 AF/Yr) as a condition of ACWD providing water service to the Patterson Ranch Development Project in Fremont, per the 2010 Patterson Ranch Recirculated Draft EIR.

SECTION 4
WATER SUPPLY AND DEMAND ANALYSES

The following provides a comparison of ACWD water supplies and projected future demands, including the demands associated with the proposed Project. The supply/demand comparisons are provided for normal, single year dry, and multiple dry year conditions.

NORMAL YEAR WATER SUPPLY

Table 13 provides a comparison of normal year water supply and demands under future levels of development in five-year increments from 2010 through 2030. As shown in the tables, ACWD's projected supply under normal year conditions is sufficient to meet current and projected future demands, which include demands for this Project.

SINGLE DRY YEAR WATER SUPPLY

Table 14 documents the comparison of water supply and demand under a single critical dry year condition based on 1977 hydrologic conditions. As with the normal year conditions, the single dry year supply/demand comparison is provided in the same five-year increments between 2010 and 2030.

As shown in the table, ACWD anticipates facing a water supply shortage during single critical dry year supply conditions. This shortage is less than previously anticipated in the 2005 UWMP due primarily to the reduction in forecast demands, discussed under WATER DEMANDS - ACWD SERVICE AREA. District planning has held since the 1995 IRP that shortages anticipated during critical droughts of this magnitude and frequency (1 in 35 years) will be mitigated through a combination of demand management measures (including rationing) and purchases of dry year water through programs such as the Drought Water Bank (initiated during the 1987-92 drought by the DWR).

MULTIPLE DRY YEAR WATER SUPPLY

Table 15 documents projected water supply and demand under an extended dry period (multiple year drought). As documented in the UWMP, ACWD recognizes the hydrology of 1929 to 1933 to be most severe five-year period for the District's imported and local supplies. The multiple year dry period was reviewed for the level of demand anticipated between the years of 2026 and 2030 as that is the highest level of demands anticipated during the next 20 years.

Unlike the single dry year analysis, shortages are not anticipated during a multiple year drought (similar to the 1929-33 conditions) experienced during the next 20 years.

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SECTION 5
SUMMARY AND CONCLUSIONS

1. The City of Newark has proposed the Dumbarton Transit Oriented Development Project which includes 2,500 high density residential housing, 230,000 sq. ft of commercial retail building area, and 17 acres of open space.

2. The total projected demand for the Project is 780 AF/yr.

3. The Project demand is consistent with planning assumptions and is included in ACWD's forecast and water supply planning.

4. ACWD has diverse sources of supply that include imported water from the State Water Project and San Francisco Regional Water System, as well as local supplies from the Alameda Creek Watershed and underlying Niles Cone Groundwater Basin. Due to the configuration of ACWD's water production facilities, the proposed Project would not be dependent on any single source of supply.

5. ACWD's imported and local water supplies may be significantly cut back during droughts. In order to improve ACWD's dry year reliability, ACWD has secured 150,000 AF of off-site storage capacity at the Semitropic Groundwater Banking Program in Kern County. ACWD currently has approximately 110,000 AF in storage at the Semitropic Program.

6. Key uncertainties facing ACWD's supplies include the effects of climate change as well as supply restrictions due to endangered species and environmental protection. ACWD's projected long-term average supply reliability from the State has been reduced from 72% to 60% of Maximum Table A Allocation, primarily as a result of Delta export pumping restrictions to protect endangered species.

7. Under normal year conditions, ACWD's water supplies are projected to be sufficient to meet the future demands in the service area, including the Project's demands.

8. ACWD's UWMP identifies that ACWD may face water supply shortages during critically dry years. As described in the UWMP, ACWD would look to secure additional supplies through a DWR drought water bank or similar water purchase/transfer program under these severe drought conditions. ACWD may also implement a drought contingency plan, which would include provisions for ACWD customers to cut back on water use, the magnitude of which would depend on the severity of the shortage. Because the Project's demands are consistent with the UWMP demand forecast, the development of the Project will not result in increased shortages from that which is already factored into ACWD's planning. However, because ACWD anticipates potential future shortages under severe drought conditions, water supplies to the Project may be cut back during these severe dry year conditions. The level of cut back to the Project would be consistent with the rest of ACWD's customers, and would depend on the magnitude of the dry-year shortage facing the entire District.

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9. As part of the Project description, the Project shall be developed with the latest technology in water efficient plumbing fixtures and irrigation systems at both residential and non-residential developments, including but not limited to those listed in ATTACHMENT D: Water Efficiency Measures for New Developments.

10. The Project is required to use recycled water for non-potable uses (such as irrigation and industrial process water) as the supply becomes available. Specific requirements related to the extent of the installation of recycled water infrastructure will be determined by ACWD at the time water service is requested.

11. The determination of water supply sufficiency is based on the implementation of the water efficiency measures set forth in paragraph 9-10 above and these water efficiency measures must be included in the environmental analysis for this Project and in the City's conditions of Project approval.

12. Under Government Code §66473.7 ACWD will be required to issue a written verification ensuring sufficient water supply if a residential subdivision is part of the Project. ACWD will re-evaluate the assumptions and conclusions of this water supply assessment at that time. If these assumptions have changed significantly ACWD may require additional mitigation measures as a condition of providing a water supply verification and/or as a condition of providing water service.

13. This water supply assessment is based on the proposed land use of the Dumbarton Transit Oriented Development Project, as provided to ACWD by the City of Newark (documented in ATTACHMENT A). If, prior to Project approval, the proposed land use within the Project area changes from what is currently incorporated in this water supply assessment, ACWD will evaluate the impacts that these changes may have on ACWD's water supplies. In the event that the land use changes impact the conclusions of this water supply assessment, ACWD may require additional mitigation measures as a condition of providing water service to the Project. If the proposed land use changes occur after Project approval and approval of the final subdivision maps, ACWD will evaluate the potential water supply impacts of these changes, and may require additional mitigation as a condition of providing water service to those areas with the changed land use condition.

14. The determination made in this water supply and demand analysis is based on the circumstances as of the date this water supply assessment was approved. In the event that subsequent evaluation of District-wide demands and supplies in-light of the water supply uncertainties set forth in this water supply assessment indicates that there will be an imbalance between demands and supplies, ACWD may require additional mitigation for the Project. For example, if District supplies are not sufficient to meet the demands, as a condition of water service, ACWD may require the Project proponent to: 1) acquire a new water supply to offset the water supply impacts of the Project, and/or: 2) invest in District-wide conservation programming (above and beyond that which is planned by the District) to offset the increase in District-wide demands that are a result of the Project; and/or 3) provide other mitigations deemed necessary to offset specific impacts identified (such as purchasing storage and recovery capacity in Semitropic Groundwater Banking Program).

ACWD reserves the right to impose conditions that go beyond the conditions that the City of Newark may impose as part of the environmental analysis at the time ACWD provides a verification of sufficient supply for the Project and/or enters into a water service agreement with the developer to provide water service to the Project.

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Table 1 ACWD Past and Current Water Use (Acre-Feet)

Water Use Category	Fiscal Year										
	99-00	**00-01**	**01-02**	**02-03**	**03-04**	**04-05**	**05-06**	**06-07**	**07-08**	**08-09**	**09-10**
Distribution System											
Single Family Residential	25,000	25,700	25,200	25,300	26,000	23,700	24,900	25,200	24,600	24,100	21,500
Multi-Family Residential	8,600	8,900	8,200	8,500	8,100	8,200	8000	8,100	8,100	8,100	7,600
Commercial	5,800	5,600	5,200	5,000	5,200	5,300	5,500	5,300	5,200	5,100	4,700
Industrial	4,700	4,600	4,300	4,100	4,100	3,400	3,500	3,400	3,100	2,800	2,500
Institutional	2,100	2,300	2,200	2,200	2,300	2,000	2,100	2,100	2,100	2,100	1,800
Landscape	5,200	5,300	5,600	5,600	6,300	5,700	5,200	5,700	5,900	5,600	4,800
Other	200	200	200	200	200	100	100	100	100	200	100
Total Consumption	51,700	52,600	50,800	50,700	52,300	48,400	49,300	49,900	49,100	48,000	43,000
Unaccounted for Water	4,200	3,600	4,300	3,700	4,100	3,200	3,800	5,000	5,700	3,000	4,600
Distribution System Total	55,900	56,200	55,100	54,400	56,400	51,600	53,100	54,900	54,800	51,000	47,600
Groundwater System											
Private Groundwater	3,100	3,800	3,100	3,400	3,600	3,800	3,000	3,000	2,100	2,100	2,000
Groundwater Reclamation											
-ARP Pumping	6,300	4,300	7,400	7,700	11,100	9,400	11,600	9,900	6,600	4,900	6,800
-Saline Outflow	7,400	6,600	6,300	5,800	7,200	6,600	7,500	6,800	7,400	7,400	7,400 (est)
Groundwater System Total	16,800	14,700	16,800	16,900	21,900	19,800	22,100	19,700	16,100	11,300	14,200
Grand Total	72,700	70,900	71,900	71,300	78,300	71,400	75,200	74,600	70,900	64,400	63,800 (est)

Notes:

1. Annual consumption is based on units billed during the Fiscal Year (July 1 to June 30). ACWD uses bi-monthly billing cycle.
2. All values rounded to the nearest 100.
3. Total Consumption values may not equal sum of individual components due to rounding.
4. Multi-Family Residential, Commercial, Industrial, and Institutional categories do not include dedicated landscape irrigation water use within these categories.
5. Landscape water use includes all dedicated landscape accounts for Multi-Family Residential, Commercial, Industrial and Institutional customers.
6. Distribution System Total represents total water production, as reported in ACWD's Annual Groundwater Survey Reports.
7. System Losses are calculated as the difference between Distribution System Total (total production) and Total Measured Consumption and include water for fire suppression, distribution system flushing, distribution system and service line leaks, etc.
8. Groundwater System demands are based on annual reported values in ACWD's Annual Survey Report on groundwater conditions. FY 09/10 Figures are currently an estimate
9. Groundwater Reclamation demands represents groundwater system demands to protect and reclaim the groundwater system from seawater intrusion.
10. Groundwater System demands do not include "Other Outflows" as reported in ACWD's Annual Survey Report on Groundwater Conditions.

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Table 2 Estimated Future Water Demands in the ACWD Service Area – Normal Year (AF/yr)

Water Use Category	Year				
	2010	**2015**	**2020**	**2025**	**2030**
Distribution System					
Single Family Residential	23,800	26,500	26,900	27,200	27,500
Multi-Family Residential	9,700	10,100	10,400	10,800	11,100
Commercial	6,200	6,600	7,000	7,200	7,500
Industrial	3,700	4,300	4,800	5,100	5,400
Institutional	3,100	3,800	4,200	4,500	5,100
Other	100	100	100	100	100
Sub-Total	**46,600**	**51,400**	**53,400**	**54,900**	**56,700**
Adjustment for plumbing code savings	(100)	(800)	(1,500)	(2,000)	(2,400)
Sub-Total Demand	*46,500*	*50,600*	*51,900*	*52,900*	*54,300*
Total Distribution System Demand with unaccounted for waters	*50,500*	*55,000*	*56,400*	*57,500*	*59,000*
Adjustments for water conservation savings	(100)	(800)	(1,400)	(1,400)	(1,400)
Groundwater System Demand	14,800	14,800	14,800	14,800	14,800
Total ACWD Forecast Demands	**65,200**	**69,000**	**69,800**	**70,900**	**72,400**

Notes:

1. All numbers are from ACWD's 2009 water demand forecast, developed in preparation for the 2010 UWMP. Forecast includes demand assumptions for the Project.
2. All values rounded to the nearest 100. Total values may not equal sum of individual components due to rounding errors.
3. Numbers do not reflect demand reductions resulting from SB-7.
4. Landscape Irrigation included within Multi-Family Residential, Commercial, Industrial, and Institutional categories.
5. Adjustment for conservation includes savings due to District-sponsored water conservation programs.
6. Total Distribution System Demand includes 8% unaccounted for water or UAW. UAW is calculated as the difference between total production and total measured consumption and is mostly comprised of meter inaccuracy but also includes physical water such as water used for fire suppression, distribution system flushing, distribution system and service line leaks.
7. Groundwater System demands include: (1) private pumping, (2) ARP pumping and (3) saline groundwater outflows.

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Table 3 Estimated Future Water Demands in the ACWD Service Area – Critical Dry Year (AF/yr)

Water Use Category	Year				
	2010	**2015**	**2020**	**2025**	**2030**
Distribution System					
Single Family Residential	23,800	26,500	26,900	27,200	27,500
Multi-Family Residential	9,700	10,100	10,400	10,800	11,100
Commercial	6,200	6,600	7,000	7,200	7,500
Industrial	3,700	4,300	4,800	5,100	5,400
Institutional	3,100	3,800	4,200	4,500	5,100
Other	100	100	100	100	100
Sub-Total	**46,600**	**51,400**	**53,400**	**54,900**	**56,700**
Adjustment for plumbing code savings	(100)	(800)	(1,500)	(2,000)	(2,400)
Sub-Total Distribution System Demand (without losses)	*46,500*	*50,600*	*51,900*	*52,900*	*54,300*
Sub-Total Distribution System Demand (with losses)	*50,500*	*55,000*	*56,400*	*57,500*	*59,000*
Adjustments for water conservation savings	(100)	(800)	(1,400)	(1,400)	(1,400)
Groundwater System Demand	10,500	10,500	10,500	10,500	10,500
Total ACWD Forecast Demands	**60,900**	**64,700**	**65,500**	**66,600**	**68,100**

Notes:

1. All numbers are from ACWD's 2009 water demand forecast, developed in preparation for the 2010 UWMP. Forecast includes demand assumptions for the Project.
2. All values rounded to the nearest 100. Total values may not equal sum of individual components due to rounding errors.
3. Numbers do not reflect demand reductions resulting from SB-7.
4. Landscape Irrigation included within Multi-Family Residential, Commercial, Industrial, and Institutional categories.
5. Adjustment for conservation includes savings due to District-sponsored water conservation programs.
6. Total Distribution System Demand (with losses) includes estimated system losses of 8.4%. Distribution system losses are calculated as the difference between total production and total measured consumption and include water for fire suppression, distribution system flushing, distribution system and service line leaks, etc.
7. Groundwater System demands include: (1) private pumping, (2) ARP pumping and (3) saline groundwater outflows.

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Table 4 Estimated Future Water Demands in the ACWD Service Area – Multiple Dry Years (AF/Yr)

Water Use Category	Year				
	2026	**2027**	**2028**	**2029**	**2030**
Distribution System					
Single Family Residential	27,300	27,300	27,400	27,400	27,500
Multi-Family Residential	10,800	10,900	10,900	11,000	11,100
Commercial	7,300	7,300	7,400	7,400	7,500
Industrial	5,200	5,200	5,300	5,400	5,400
Institutional	4,500	4,600	4,600	4,900	5,100
Other	100	100	100	100	100
Sub-Total	55,200	55,400	55,700	56,200	56,700
Adjustment for plumbing code savings	(2,100)	(2,200)	(2,200)	(2,300)	(2,400)
Sub-Total Distribution System Demand (without losses)	53,100	53,200	53,400	53,900	54,300
Sub-Total Distribution System Demand (with losses)	57,700	57,800	58,000	58,600	59,000
Adjustments for water conservation savings	(1,400)	(1,400)	(1,400)	(1,400)	(1,400)
Groundwater System Demand	10,800	9,900	5,600	5,500	6,400
Total ACWD Forecast Demands	67,100	66,300	62,200	62,700	64,000

Notes:

1. All numbers are from ACWD's 2009 water demand forecast, developed in preparation for the 2010 UWMP. Forecast includes demand assumptions for the Project.
2. All values rounded to the nearest 100. Total values may not equal sum of individual components due to rounding errors.
3. Numbers do not reflect demand reductions resulting from SB-7.
4. Landscape Irrigation included within Multi-Family Residential, Commercial, Industrial, and Institutional categories.
5. Adjustment for conservation includes savings due to District-sponsored water conservation programs.
6. Total Distribution System Demand (with losses) includes estimated system losses of 8.4%. Distribution system losses are calculated as the difference between total production and total measured consumption and include water for fire suppression, distribution system flushing, distribution system and service line leaks, etc.
7. Groundwater System demands include: (1) private pumping, (2) ARP pumping and (3) saline groundwater outflows.

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Table 5 Water Demands for Dumbarton Transit Oriented Development Project

Element	Planning units		GPD/ Unit [1]	Demand estimate (AF/yr)
Retail / Commercial	230,000	Building Area	0.282	73
Residential (high density MFR)	430	Dwelling units	150	72
Residential (2,000 ft2 lots)	1,176	Dwelling units	179	236
Residential (3,000 ft2 lots)	726	Dwelling units	247	201
Residential (4,000 ft2 lots)	168	Dwelling units	247	46
Open space	17	Acres	4,630	88
Estimated Total Project Demand *(rounded)*				720
Water Supplies Required *(8.4% Unaccounted for Water)*				780
Approximate peak day demand in mgd *(1.6x peaking factor)*				1.11

[1] Demand units from the 2009 Water Demand Forecast.
[2] Figures provided by City of Newark.

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Table 6 Overview of Contracts and Permits for ACWD's Existing Water Supplies

SUPPLY COMPONENT	Category	Description	Maximum Quantity (AF/Yr)	Ever Used
Imported Supplies				
- State Water Project	Contract	In 1961, ACWD signed an agreement with the California State Department of Water Resources for a maximum annual amount of 42,000 AF/Yr from the State Water Project (SWP). SWP water is delivered to ACWD via the South Bay Aqueduct. This contract expires in the year 2035.	42,000	Yes
- San Francisco Regional Water System	Contract	In 2009, ACWD along with the other wholesale customers signed a new Master Sales Agreement with San Francisco. The new agreement has a term of 25 years and provides a commitment from San Francisco to provide, collectively, up to 184 mgd to its wholesale customers. ACWD's contractual purchase amount is 13.76 mgd.	15,344	Yes
Local Supplies				
- Alameda Creek Diversions for Groundwater Recharge	Water-rights permit	ACWD applied for a water rights permit from the SWRCB in 1949, granted in 1951 (permit no. 8428) to appropriate up to 40,000 AF/Yr of unappropriated water from the Alameda Creek for groundwater storage and replenishment.	40,000	Yes
- Del Valle Reservoir	Water-rights permit	ACWD received a water rights permit in from the SWRCB in 1958 (permit no. 11320) to appropriate up to 60,000 AF/Yr of unappropriated water from Arroyo Del Valle in the Alameda Creek Watershed for storage and later beneficial use.	60,000	Yes
- Groundwater Storage in Niles Cone Groundwater Basin - Desalination of Brackish Groundwater	Other	ACWD manages and protects the Niles Cone Groundwater Basin for water supply under its Groundwater Management Policy (adopted 1989, amended 2001). This Policy is based on the statutory authority granted to ACWD under the County Water District Law; the Replenishment Assessment Act of ACWD; and local well ordinances.	N/A	Yes
Banking / Transfers				
- Semitropic Groundwater Banking Program	Contract	In 1996 and in 2001 entered into agreements with Semitropic Water Storage District for 150,000 AF of combined groundwater storage capacity for banking of ACWD's excess SWP supplies in wet years. The banked water is to be returned to ACWD in dry years via a series of exchanges. These banking agreements expire in the year 2035.	13,500 (maximum return quantity during critically dry years)	Yes

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Table 7 Historical Water Supply Utilization by ACWD (AF/Yr)

Fiscal Year	SWP supplies used at ACWD facilities	Del Valle	San Francisco Regional Water	Newark Desal Facility	Net Local Groundwater Recharge (2)	Recovered from Semitropic GW bank	Total In-District Water Supply	SWP Supply delivered to Semitropic GW bank
93-94	21,600	5,000	12,200	-	28,500	-	67,300	-
94-95	16,100	4,200	13,000	-	35,900	-	69,200	-
95-96	18,600	5,300	12,200	-	27,600	-	63,700	-
96-97	7,700	15,900	14,700	-	25,300	-	63,600	6,200
97-98	12,900	10,600	13,700	-	58,000	-	95,200	10,000
98-99	20,800	5,300	13,600	-	33,200	-	72,900	18,780
99-00	25,200	3,800	13,800	-	26,900	-	69,700	7,230
00-01	26,400	200	13,000	-	31,000	-	70,600	7,250
01-02	21,900	4,600	13,500	-	32,100	-	72,100	90
02-03	17,600	7,400	14,000	-	31,400	-	70,400	20,800
03-04	18,500	6,700	13,700	2,600	30,700	-	72,200	4,000
04-05	18,800	6,000	11,800	3,900	38,700	-	79,200	9,300
05-06	15,600	7,700	11,700	2,100	31,100	-	68,200	41,540
06-07	13,800	11,000	15,300	2,800	26,000	-	68,900	11,940
07-08	22,600	500	15,000	3,600	24,900	5,500	72,100	-
08-09	16,600	4,200	12,600	3,200	23,700	10,600	58,313	-

1. All values rounded to the nearest 100. Total values may not equal sum of individual components due to rounding errors.
2. Recharge figures less evaporation and other losses.

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Table 8 Summary of Potential Future Factors that may Influence ACWD Water Supply Reliability

SUPPLY	Factor		
	Legal/Environmental	**Water Quality**	**Climatic**
Imported Supplies			
-State Water Project	ESA* requirements may constrain Delta pumping	Potential seawater intrusion impacts if Delta Levees fail.	Supply is dependent on hydrologic conditions
- San Francisco Regional Supply	ESA requirements may require additional reservoir releases	None anticipated	Supply is dependent on hydrologic conditions
Local Supplies			
- Groundwater Recharge	ESA requirements may impact groundwater recharge operations	None anticipated	Supply is dependent on hydrologic conditions
- Groundwater Storage	None anticipated	None anticipated	Supply is dependent on availability of water to store in wet years
- Del Valle	ESA requirements may require downstream flow releases	None anticipated	Supply is dependent on hydrologic conditions
- Desalination	None anticipated	None anticipated	Supply is dependent on local groundwater conditions
- Recycled Water	None anticipated	None anticipated	None anticipated
Banking/Transfers			
- Semitropic Banking	Delta pumping constraints may impact ability to recover water through SWP exchanges	Banked groundwater may require treatment	Supply is dependent on availability of water to store in wet years

* Endangered Species Act

Table 9 Recent DWR publications and stated reliability of Deliveries from the State Water Project

	2002 Report	2005 Report	2007 Report	2009 Report
Average % of Full Allocation in year of report	72%	69%	63%	60%
Primary cause for reduction	N/A	Changes in modeling assumptions and demands	Wanger Decision + Climate Change	Biological Opinions on Salmonids & Smelt + expanded climate change

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Table 10 Projected Normal Year Supply

SUPPLY	2010	2015	2020	2025	2030
Imported Supplies					
- State Water Project	25,500	25,500	25,500	25,500	25,500
- San Francisco Regional	15,400	15,400	15,400	15,400	15,400
Total Imported Supplies	40,900	40,900	40,900	40,900	40,900
Local Supplies					
- Groundwater Recharge	21,400	21,400	21,400	21,400	21,400
- Groundwater Storage	0	0	0	0	0
- Del Valle	7,100	7,100	7,100	7,100	7,100
- Desalination	5,100	5,100	5,100	5,100	5,100
- Recycled Water	0	0	1,600	1,600	1,600
Total Local Supplies	33,600	33,600	35,200	35,200	35,200
Banking/Transfers					
- Semitropic Banking	*N/A – Not intended or needed to meet normal year demands*				
TOTAL SUPPLY	*74,500*	*74,500*	*76,100*	*76,100*	*76,100*

Table 11 Projected Critical Year Supply

SUPPLY	2010	2015	2020	2025	2030
Imported Supplies					
- State Water Project	4,000	4,000	4,000	4,000	4,000
- San Francisco Regional	11,700	13,700	14,100	12,700	13,100
Total Imported Supplies	15,700	17,700	18,100	16,700	17,100
Local Supplies					
- Groundwater Recharge	15,600	15,600	15,600	15,600	15,600
- Groundwater Storage	10,000	10,000	10,000	10,000	10,000
- Del Valle	100	100	100	100	100
- Desalination	5,600	5,600	5,600	5,600	5,600
- Recycled Water	0	0	1,600	1,600	1,600
Total Local Supplies	31,300	31,300	32,900	32,900	32,900
Banking/Transfers					
- Semitropic Banking	13,800	13,800	13,800	13,800	13,800
TOTAL SUPPLY	*60,800*	*62,800*	*64,800*	*63,400*	*63,800*

Notes:

1. Critical Dry Year conditions are based on projected water supply availability under 1977 drought conditions.
2. Semitropic Banking assumes ACWD's existing recovery capacity increased by 300 AF/Yr (from 13,500 AF/Yr to 13,800 AF/Yr), per 2010 Re-circulated Draft EIR for the Patterson Ranch Planned District.

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Table 12 Projected Multiple Dry Year Supply

SUPPLY	2026	2027	2028	2029	2030
Imported Supplies					
-State Water Project	13,900	17,400	12,400	16,200	16,300
- San Francisco Regional	15,300	15,300	13,100	15,300	15,300
Total Imported Supplies	29,200	32,700	25,500	31,500	31,600
Local Supplies					
- Groundwater Recharge	12,700	12,100	9,900	19,800	14,000
- Groundwater Storage	9,100	0	10,000	0	3,300
- Del Valle	900	5,200	1,000	3,400	1,000
- Desalination	5,000	5,000	2,000	1,900	2,600
- Recycled Water	1,600	1,600	1,600	1,600	1,600
Total Local Supplies	29,300	23,900	24,500	26,700	22,500
Banking/Transfers					
- Available Semitropic Banking	17,900	19,900	17,100	19,200	19,200
TOTAL SUPPLY	*76,400*	*76,500*	*67,100*	*77,400*	*73,300*

Notes:

1. Multiple Dry Year conditions based on projected water supply availability under 1929-33 drought conditions.
2. Semitropic Banking assumes ACWD's existing pump back recovery capacity increased by 300 AF/Yr (from 13,500 AF/Yr to 13,800 AF/Yr), per 2010 Re-circulated Draft EIR for the Patterson Ranch Planned District.

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Table 13 Water Supply and Demand Comparison: Normal Year

SUPPLY/DEMAND	Year				
	2010	**2015**	**2020**	**2025**	**2030**
Total Supply	74,500	74,500	76,100	76,100	76,100
Forecast Demands	65,200	69,000	69,800	70,900	72,400
Anticipated Shortage	*none*	*none*	*none*	*none*	*none*

Notes:

1. All values rounded to the nearest 100 AF.
2. Forecast Demands include Project demands.

Table 14 Water Supply and Demand Comparison: Critical Dry Year

SUPPLY/DEMAND	Year				
	2010	**2015**	**2020**	**2025**	**2030**
Total Supply	60,800	62,800	64,800	63,400	63,800
Forecast Demands	60,900	64,700	65,500	66,600	68,100
Anticipated Shortage	-100	-1,900	-700	-3,200	-4,300

Notes:

1. All values rounded to the nearest 100 AF.
2. Forecast Demands include Project demands.
3. Critical Dry Year conditions are based on projected water supply availability under 1977 drought conditions.

Table 15 Water Supply and Demand Comparison: Multiple Dry Year

SUPPLY/DEMAND	Year				
	2026	**2027**	**2028**	**2029**	**2030**
Total Supply	76,400	76,500	67,100	77,400	73,300
Forecast Demands	67,100	66,300	62,200	62,700	64,000
Anticipated Shortage	*none*	*none*	*none*	*none*	*none*

Notes:

1. All values rounded to the nearest 100 AF.
2. Forecast Demands include Project demands.
3. Multiple Dry Year conditions are based on projected water supply availability under 1929-1933 drought conditions; supply includes access to stored water in Semitropic

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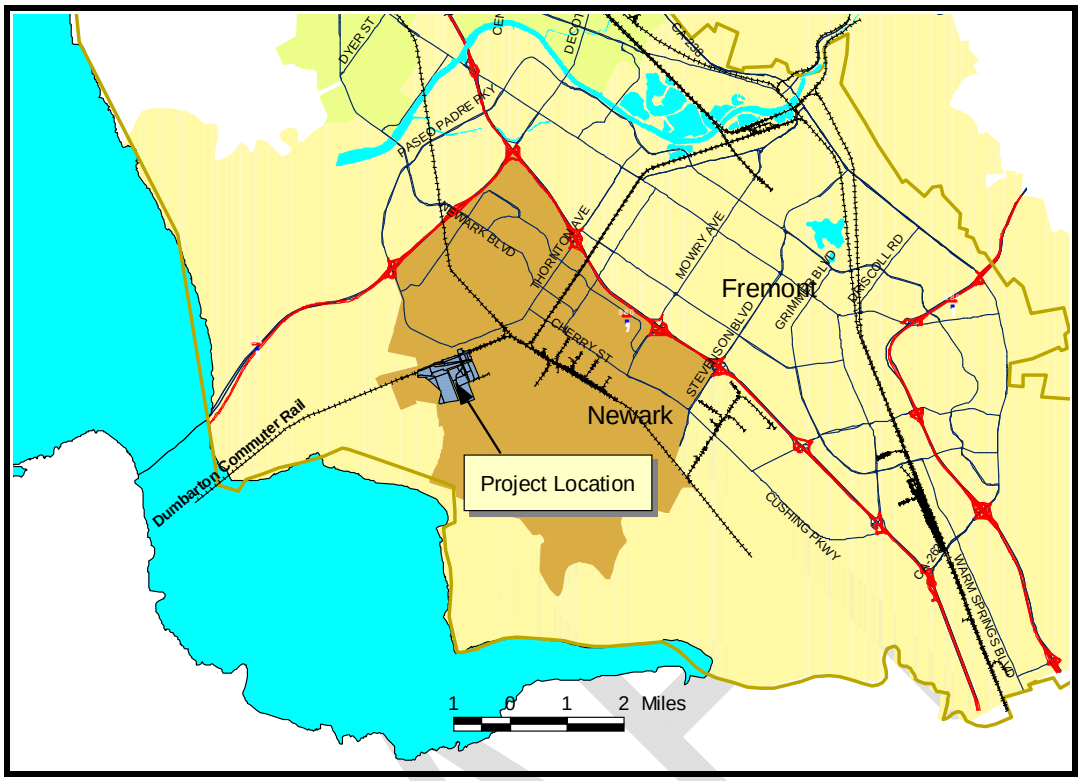

Figure 1 ACWD Service Area and Dumbarton Transit Oriented Development Project Location Map

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ATTACHMENT A
Letter of Request from City of Newark for Water Supply Assessment

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CITY OF NEWARK, CALIFORNIA

37101 Newark Boulevard • Newark, California 94560-3796 • (510) 578-4000 • FAX (510) 578-4306

July 15, 2010

Eric Cartwright
Alameda County Water District
43885 South Grimmer Boulevard
Fremont, CA 94538

RE: **Water Supply Assessment for Draft Environmental Impact Report for the Dumbarton Transit Oriented Development**

Dear Mr. Cartwright:

As the Lead Agency, the City of Newark is preparing an Environmental Impact Report for the Dumbarton Transit Oriented Development, located in Newark. This is a 2,500 unit residential community with pedestrian and transit orientation. A description of the proposed project and a location map are attached. In accordance with the requirements of State law (SB 610) and the California Environmental Quality Act (CEQA) Guidelines, the City of Newark requests that you provide an analysis of whether the Alameda County Water District has adequate water supply to serve this project.

Please provide the City of Newark with a water supply assessment identifying whether the projected water supply for the next 20 years, based on normal, single dry, and multiple dry years, and including existing and planned future water users, is adequate to meet the demand projected for the proposed development. In conformance with the California Water Code Section 10910(d)(1), please include an identification of any existing water supply entitlements, water rights, or water service contracts relevant to the identified water supply for the proposed project, and a description of the quantities of water received in prior years by the public water system. In addition, please include the following information in the water supply analysis:

a) Written contracts or other proof of entitlement to an identified water supply;
b) Copies of a capital outlay program for financing the delivery of a water supply that has been adopted by the public water system;
c) Federal, State, and local permits for construction of necessary infrastructure associated with delivering the water supply; and
d) Any necessary regulatory approvals that are required in order to be able to convey or deliver the water supply.

If the water supply for this project will include groundwater, please also provide the following additional information in your analysis:

a) A review of any information contained in the urban water management plan relevant to the identified water supply for the proposed project;
b) A description of any groundwater basin or basins from which the proposed project will be supplied;
c) A detailed description and analysis of the amount and location of groundwater pumped by the public water system; and
d) An analysis of the sufficiency of the groundwater from the basin or basins from which the project will be supplied to meet the projected water demand associated with the proposed project.

According to California Water Code Section 10910(g)(1), the deadline for your response is 90 days after receipt of this request; however, we would appreciate an earlier response, if possible. Please identify a contact person, and send your response to:

Terrence Grindall
Community Development Director
City of Newark
37101 Newark Blvd.
Newark, California 95020

Thank you for your assistance in this matter. Please do not hesitate to contact me at 510-578-4208, if you have any questions regarding this request or the proposed project.

Sincerely,

Terrence Grindall

Terrence Grindall
Community Development Director

Attachment: Description and location map

DUMBARTON TOD PROJECT DESCRIPTION

The Dumbarton Transit-Oriented Development (TOD) is an infill development containing a mix of 2,500 housing units designed to meet the demands of the City of Newark and the surrounding community. The Dumbarton TOD project is located in the City limits, and is a 207-acre project area. Approval of the Specific Plan, Zoning Amendments, Development Agreement and other City entitlements will facilitate the Dumbarton TOD Development. It will provide a broad range of new housing opportunities, retail and business opportunities, park and open space amenities.

The Dumbarton TOD Community Plan will include a wide range of housing types in an integrated design that encourages interaction between residents of each housing type. The design incorporates open space areas throughout the property at varying levels of use intensity.

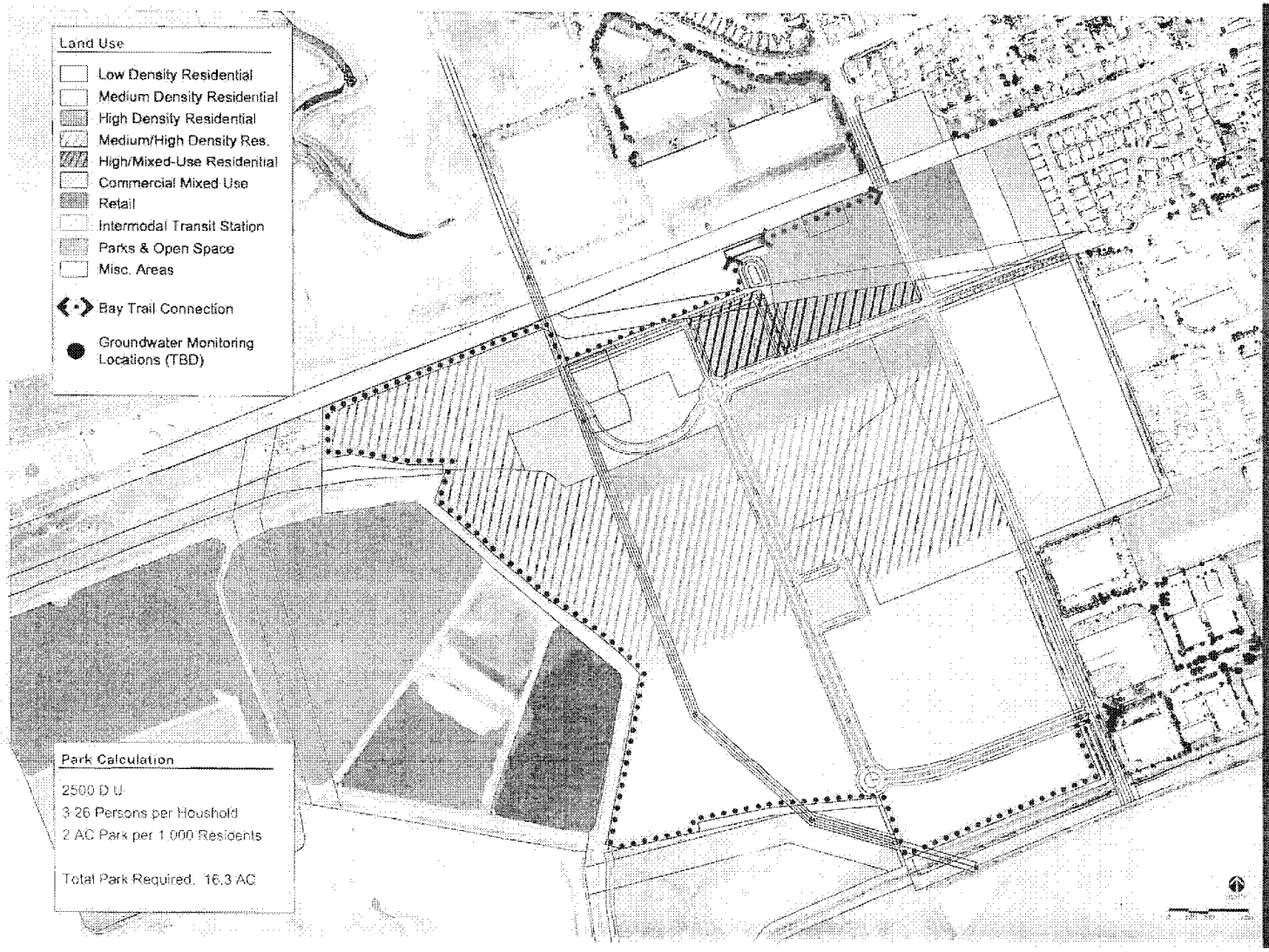
The largest of the planned open space area is located in the northwestern portion of the site, adjacent to the west side of the Dumbarton Commuter Rail Line Station. This park and open space area is intended to serve the greater community of Newark as it's size allows for the larger programmed sports fields, picnic areas, outdoor amplified musical and dramatic performances and open areas for both active and passive recreation. This park is approximately 6 acres in size and utilizes land that is unavailable to residential uses due to PG&E power lines and associated easements that run directly through this area.

The proposed project includes approximately 135 acres of for sale and for rent single-family homes, multi-family homes and affordable homes; approximately 17 acres of parks and open space; approximately 12 acres of commercial retail and commercial office; and approximately 6 acres of municipal uses. The remainder of the project land will be used for road right-of-way and easements around the project area.

The chart below shows how the distribution of home types and other land uses could be distributed as an example:

Land Use	Density Range/Acre	Average Lot Size SQFT	Units/SQFT	Gross Acres
Low Density Residential	8-14	4,000	168	13
Medium Density Residential	14-25	3,000	726	66
Medium High Density Res.	14-60	2,000 per unit	1176	43
High Density Residential	26-60	1,500 per unit	310	11
High/Mixed-Use Res.	26-60	1,500 per unit	120	5
Commercial Retail/Office	40% FAR		230,000	13
Parks and Open Space				17

Above: Figure 1.2: Depot Concept with site shown in transparent white color. Map provided by Google.



Dumbarton TOD Specific Plan

Newark, CA

DAHLIN GROUP

Conceptual Land Use Plan

01.29.10

ATTACHMENT B – ACWD URBAN WATER MANAGEMENT PLAN 2006-2010

DRAFT

ATTACHMENT C
ACWD WATER SUPPLY CONTRACTS

- **State Water Project Water Supply Contract (partial)**
- **San Francisco Water Supply Contract**

(note: Complete State Water Project Supply Contract is available on DWR website: http://www.swpao.water.ca.gov/wsc/index.cfm)

DRAFT

ATTACHMENT D – WATER EFFICIENCY MEASURES FOR NEW DEVELOPMENTS

DRAFT

WATER EFFICIENCY MEASURES FOR NEW RESIDENTIAL DEVELOPMENT - V.060810			
GPF = gallons per flush, GPM = gallons per minute, WF = water factor			
Indoors	**Flow Rate**	**Recommendation Details**	**Future Federal or State Requirements**
Toilets	**1.28 GPF**	High efficiency toilets (HET) have a flush volume of 1.28 GPF, dual flush models are also considered HETs, with an average flush less than 1.28 GPF. Choose HETs that are third party tested and certified as passing a 350 g or higher flush volume test as established by the Uniform North American Requirements.	Will be mandatory to comply with CALGreen under the prescriptive method - effective 1/1/2011 Required for all after 2013
Showerheads	**2.0 GPM**	EPA's Water Sense Program recommends showerheads with a flow rate of 2.0 GPM or less.	Will be mandatory to comply with CALGreen under the prescriptive method - effective 1/1/2011
Lavatory Faucets	**1.5 GPM**	Lavatory faucets with aerators that restrict flow to 1.5 GPM or less.	
Kitchen Faucets	**1.5 GPM**	Kitchen faucets with aerators that restrict flow to 1.5 GPM or less.	
Clothes Washers	**6 WF**	High efficiency clothes washers (HEW) with a water factor of 6 have a maximum average water use of 6 gallons per cubic foot of laundry. HEWs are typically front loading horizontal axis washers.	Potential requirement In 3-5 years
Outdoors		**Recommendation Details**	**Future Federal or State Requirements**
Turf Landscaping		Limit turf to areas where it is functional. Avoid planting turf in narrow, odd-shaped areas which are hard to irrigate efficiently.	Many of these measures are now required as part of the CA Model Water Efficient Landscape Ordinance effective 1/1/2010
Non-turf Landscaping		Select native or low water using plant species. High water using plants should be grouped together and irrigated seperately.	
Irrigation System		Irrigation systems should be designed to maximize efficiency and reduce water waste by minimizing overspray and runoff. Use low volume (e.g., drip) irrigation in non-turf areas.	
Irrigation Controller		An automatic, self-adjusting irrigation controller is recommended. Automatic, self-adjusting controllers utilize prevailing weather conditions, current and historic evapotranspiration, soil moisture levels, and other relevant factors to adapt water applications to meet the needs of plants.	
Overhead Sprinklers and Spray Heads		Should not be used in narrow areas, eight (8) feet wide or less, or where adjacent to impervious surfaces where overspray and excess run-off can occur.	
Valves and Circuits		Should be separated into hydrozones based on plant type and plant water needs.	
Decorative		All decorative fountains should recycle water.	
Swimming Pools and Spas		Covers should be used on all pools or spas.	
Bay-Friendly Landscaping Best Practices		Adopt the Bay-Friendly Program's (Stopwaste.org) 7 best practices for landscaping and gardening. 1. Landscape Locally; 2. Landscape for Less to the Landfill; 3. Nurture the Soil; 4. Conserve Water; 5. Conserve Energy; 6. Protect Water & Air Quality; 7. Create Wildlife Habitat	

WATER EFFICIENCY MEASURES FOR NEW COMMERCIAL DEVELOPMENT- V.060810			
GPF = gallons per flush, GPM = gallons per minute, WF = water factor			
Indoors	**Flow Rate**	**Recommendation Details**	**Future Federal or State Requirements**
Toilets	**1.28 GPF**	High efficiency toilets (HET) have a flush volume of 1.28 GPF, dual flush models are also considered HETs, with an average flush less than 1.28 GPF. Choose HETs that are third party tested and certified as passing a 350 g or higher flush volume test as established by the Uniform North American Requirements.	Will be mandatory to comply with CALGreen under the prescriptive method - effective 1/1/2011 Required for all after 2013
Urinals	**0.5 GPF**	High efficiency urinals (HEU) have a flush volume of 0.5 GPF or less.	
Showerheads	**2.0 GPM**	EPA's Water Sense Program recommends showerheads with a flow rate of 2.0 GPM or less.	Will be mandatory to comply with CALGreen under the prescriptive method - effective 1/1/2011
Lavatory Faucets	**.5 GPM**	Lavatory faucets with aerators that restrict flow to .5 GPM or less.	
Kitchen Faucets	**1.5 GPM**	Kitchen faucets with aerators that restrict flow to 1.5 GPM or less.	
Clothes Washers	**6 WF**	High efficiency clothes washers (HEW) with a water factor of 6 have a maximum average water use of 6 gallons per cubic foot of laundry. HEWs are typically front loading horizontal axis washers.	Potential requirement in 3-5 years
Cooling Towers		Should be equipped with a recirculating system with a minimum of five (5) cycles of concentration. Newly constructed cooling towers should be operated with conductivity controllers, as well as make up and blowdown meters	
Food Steamers		Should be boiler less or self-contained where applicable.	
Ice Machine		Should be air-cooled, or use no more than 25 gallons of water per 100 pounds of ice and should be equipped with a recirculating cooling unit.	
Commercial Refrigeration		Should be air-cooled or if it is water cooled it should have a closed loop system.	
Pre-rinse Dishwashing Spray Valve	**1.2 GPM**	Should have a maximum flow rate of 1.2 or less GPM.	
Vehicle Wash		Shall reuse a minimum of 50% of the water.	
Outdoors		**Recommendation Details**	**Future Federal or State Requirements**
Turf Landscaping		Limit turf to areas where it is functional. Avoid planting turf in narrow, odd-shaped areas which are hard to irrigate efficiently.	Many of these measures are now required as part of the CA Model Water Efficient Landscape Ordinance effective 1/1/2010
Non-turf Landscaping		Select native or low water using plant species. High water using plants should be grouped together and irrigated seperately.	
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Decorative fountains		All decorative fountains should recycle water.	
Swimming Pools and Spas		Covers should be used on all pools or spas.	
Bay-Friendly Landscaping Best Practices		Adopt the Bay-Friendly Program's (Stopwaste.org) 7 best practices for landscaping and gardening. 1. Landscape Locally; 2. Landscape for Less to the Landfill; 3. Nurture the Soil; 4. Conserve Water; 5. Conserve Energy; 6. Protect Water & Air Quality; 7. Create Wildlife Habitat	