Pacific Gas and Electric Company

Environmental Services
P.O. Box 7640
San Francisco, CA 94120
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July 25, 1996

Mr. Dale Klettke
Alameda County Health Department
1131 Harbor Bay Parkway
Alameda, CA 94502-6577

Dear Mr. Klettke:

Enclosed please find one copy of the Site Characterization Report for the 5051 Coliseum Way Property in Oakland, California. We plan to discuss the results presented in this report during our meeting on July 31, 1996. Please call me at (415) 973-1116 if you have any questions or require any additional information.

Sincerely,

Nancy Hendrickson
Site Mitigation Unit

NH:msl

Enclosure

cc: Sumadhu Arigala (w/enclosure)
California Regional Water Quality Control Board
San Francisco Bay Region
2101 Webster Street, Suite 500
Oakland, CA 94612

100 Pine Street, 10th Floor
San Francisco, CA 94111
(415) 434-9400 • FAX (415) 434-1365

GEOMATRIX

28 June 1996
Project 2906

Ms. Yvonne J. Meeks
Environmental Services
Pacific Gas and Electric Company
77 Beale Street, Room 2439C-B24A
San Francisco, California 94105

Subject: Site Characterization Report
5051 Coliseum Way
Oakland, California

Dear Ms. Meeks:

We are herewith providing you nine copies of the Site Characterization Report for the subject site prepared by Geomatrix Consultants, Inc. (Geomatrix). This report presents the results of soil and groundwater investigations performed by Geomatrix on behalf of Pacific Gas and Electric Company.

We appreciate the opportunity to provide you with our consulting services. Please contact the undersigned if you have any questions or require further information.

Sincerely,

GEOMATRIX CONSULTANTS, INC.

Sally E. Goodin

Sally E. Goodin, R.G.
Principal Geologist

SEG:mdg
K:\WPDOCS\2906\SCR-LTR.DOC (WORD)

Enclosure

cc: Earl Hagström, Esq. (2 copies)

GEOMATRIX

SITE CHARACTERIZATION REPORT
5051 Coliseum Way
Oakland, California

Prepared for

Pacific Gas & Electric Company
77 Beale Street
San Francisco, California

June 1996
Project No. 2906

Geomatrix Consultants

GEOMATRIX

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SITE CHARACTERIZATION REPORT
5051 Coliseum Way
Oakland, California

1.0 INTRODUCTION

This report presents results of soil and groundwater investigations performed at Pacific Gas & Electric Company's (PG&E) property located at 5051 Coliseum Way in Oakland, California. The work was performed by Geomatrix Consultants, Inc. (Geomatrix), on behalf of PG&E. The purpose of these investigations was to characterize the distribution and extent of chemicals in soil and groundwater at the site.

The work performed included:

- review of investigations performed at immediately adjacent properties;
- review of available historical aerial photographs and historical documentation to identify past activities at the 5051 Coliseum Way property and adjacent properties;
- an initial Phase 1 investigation to evaluate the possible presence of materials disposed on the 5051 Coliseum Way site from the adjacent property;
- observation of and split sample collection during a Phase 2 Investigation performed by Miller Brooks Environmental, Inc. (Miller Brooks), of Huntington Beach, California, under the direction of Forensic Management Consultants of San Mateo, California;
- a Phase 3 Investigation to delineate the lateral and vertical extent of waste materials at the 5051 Coliseum Way site and evaluate the distribution of chemicals in groundwater; and
- preparation of a report summarizing our investigation methods, results, and conclusions.

The remainder of the report is organized as follows:

Section 2.0 - Site Setting

Section 3.0 - Historical Review of: environmental investigations at the adjacent properties; aerial photographs of the 5051 Coliseum Way site and vicinity; and available documents regarding the lithopone manufacturing process

Section 4.0 - Summary of Field Investigation Programs

Section 5.0 - Results of Field Investigations

Section 6.0 - Discussion of Results

Section 7.0 - Conclusions

2.0 SITE SETTING

The 5051 Coliseum Way site is located in Oakland, California, adjacent to Interstate 880 and approximately 0.5 miles from San Leandro Bay (Figure 1). The surrounding area is industrial. The 5051 Coliseum Way site encompasses approximately 5 acres and is approximately 10 feet above sea level in elevation. Regional groundwater generally flows west towards San Francisco Bay.

The 5051 Coliseum Way site is divided by a cyclone fence; the area north of the fence is unpaved and previously was used by PG&E for temporary storage of construction materials. Two electrical transmission towers are located on this portion of the property. The area south of the fence is paved and used for weekend parking. Along the western perimeter of the 5051 Coliseum Way site there is a tidally influenced storm water drainage channel. The drainage channel is underground, beneath and north of 50th Avenue. The channel is open and concrete lined along the northwestern perimeter of the site, and an open, unlined channel along the southwestern perimeter of the property, prior to entering a culvert under Interstate 880 (Figure 2).

Northwest of the 5051 Coliseum Way site and across the drainage channel is PG&E's Substation J; southwest of the 5051 Coliseum Way site is Interstate 880. Southeast of the 5051 Coliseum Way site there is an additional parking area, a pump station and a small drainage ditch. Coliseum Way runs along the northeastern edge of the site; northeast of Coliseum Way there are the buildings associated with a former Volvo-GM truck maintenance facility and a mini-storage facility. The former Volvo-GM truck maintenance facility property at 750 - 50th Avenue and 5050 Coliseum Way is the location of a former lithopone manufacturing facility. This property, referred to as the Volvo-GM site, is an environmental site under the jurisdiction of the Alameda County Health Care Services Agency (ACHCSA). Available information about the Volvo-GM site is summarized in Section 3.1 below. The mini-storage facility at 5200 Coliseum Way was also part of the former lithopone manufacturing facility. Limited soil and groundwater investigation has been performed at this site; these results are summarized in Section 3.2.

3.0 HISTORICAL REVIEW

Historical information was obtained by reviewing environmental investigations conducted at the adjacent former lithopone manufacturing facility at 750 - 50th Avenue and 5050 Coliseum Way and at the 5200 Coliseum Way site and by reviewing historical aerial photographs and information on the lithopone manufacturing process. The results of the historical review are presented below.

3.1 750 - 50TH AVENUE AND 5050 COLISEUM WAY: VOLVO-GM SITE

From approximately 1926 to 1963, a lithopone manufacturing facility occupied the property at 750 - 50th Avenue and 5050 Coliseum Way. These properties are currently owned by Volvo-GM Heavy Truck Corporation (Volvo-GM). Volvo-GM, under the oversight of ACHCSA, has performed a remedial investigation of the portion of the former lithopone manufacturing site owned by Volvo-GM. The discussions of site operations and chemical distribution presented below are based on the Remedial Investigation Report for 5050 Coliseum Way and 750 - 50th

Avenue dated 19 September 1994 prepared by Levine-Fricke, Inc. (Levine-Fricke) on behalf of Volvo-GM. The subsurface investigative work performed at the site is summarized on Figure 3.

Lithopone consists of a chemically co-precipitated pigment of barium sulfate and zinc sulfide used in the production of paint pigment. Baryte ore (barium sulfate) was crushed, heated using petroleum coke, and converted to a barium sulfide-rich solution. Crude zinc (e.g., zinc dross, zinc fumé) was mixed with sulfuric acid to form a zinc sulfate solution. Impurities in the zinc solution such as iron and manganese were removed using an oxidation step involving potassium permanganate and lead peroxide; other impurities such as copper, cadmium, nickel, and other heavy metals were removed by reduction steps. The zinc sulfate and barium sulfide solutions were then mixed together to produce lithopone. Various metals such as cadmium, selenium, and titanium were added to the lithopone to give it pigment.

The liquid and solid wastes generated in the lithopone manufacturing process reportedly were regularly removed from the manufacturing areas but were not transported to an off-site disposal facility. Wastes generated on the 750 - 50th Avenue/5050 Coliseum Way property were disposed on the adjacent 5051 and 5200 Coliseum Way properties.

3.1.1 Distribution of Chemicals

There are two broad areas of soil containing elevated metals at the Volvo-GM site, one in the northern portion of the site and the other in the southern portion as illustrated on Figure 3. The northern area has arsenic, cadmium, copper, lead, and zinc in soil at concentrations greater than their respective total threshold limit concentration (TTLC; California Code of Regulations Title 22). The southern area has these same metals plus barium and mercury at concentrations greater than their respective TTLC. The maximum metals concentrations, particularly arsenic, are higher in the southern area soils than in the northern area soils. The pH of the soils in the northern area is typically acidic, with pHs as low as 4; the pH of the southern area soils is typically neutral. Elevated levels of arsenic, cadmium, copper, lead, nickel, and zinc have been

reported in groundwater in both the northern and southern areas. The metals concentrations in groundwater are generally higher in the northern area, probably due to the low pH of groundwater in this area. However, arsenic concentrations in groundwater generally are higher and more extensive in the southern area. The metals concentrations in groundwater decrease with distance away from the soils with elevated metals concentrations.

3.2 5200 COLISEUM WAY

Historical site usage review and soil and groundwater investigation at the 5200 Coliseum Way site have been performed by Subsurface Consultants, Inc. (SCI), for the current owner. These data are presented in SCI's 22 March 1995 report entitled "Limited Soil and Groundwater Investigation, 5200 Coliseum Way, Oakland, California"; the results of these investigations are summarized below. The subsurface investigative work performed at the site is summarized on Figure 3.

The 5200 Coliseum Way site was originally part of a larger site that was used for manufacturing and industrial purposes and included the former Volvo-GM site. Previous manufacturing and processing structures located at the 5200 Coliseum Way property included aboveground tar storage tanks, a tar storage building, and tar drum storage. In 1963, the entire lithopone manufacturing facility was sold and one year later all buildings were demolished. SCI's report states that grade at the 5200 Coliseum Way site was raised with fill material that included debris derived from the demolished lithopone manufacturing facility structures. The 5200 Coliseum Way property was sold separately from the 750 - 50th Avenue and 5050 Coliseum Way properties in 1973. The mini-storage facility was constructed in 1978-1979.

Soil samples were collected at six locations on the 5200 Coliseum Way site; grab groundwater samples were collected at three of the six soil sample locations. Barium, cadmium, copper, lead, and zinc were reported at concentrations greater than their respective TTLCs. Elevated levels of total petroleum hydrocarbons as diesel (TPHd), polynuclear aromatic hydrocarbons (PAHs), and

benzene, toluene, ethylbenzene, and xylenes (BTEX) were reported, particularly in soil samples in the vicinity of the former tar storage areas.

Arsenic, barium, and cadmium were reported in groundwater at concentrations above the MCL. TPH in the kerosene range, PAHs, and BTEX were reported in groundwater in the two borings near the former tar storage areas.

The metals in the soil and groundwater at the 5200 Coliseum Way site have been attributed to the past activities which occurred on the Volvo-GM site and the use of contaminated waste materials from the Volvo-GM site as fill material to raise the site grade at 5200 Coliseum Way. The occurrence of TPH, PAHs, and BTEX at some locations is attributed to the former tar storage, distillation facility, and associated piping located on the 5200 Coliseum Way property.

3.3 AERIAL PHOTOGRAPH REVIEW

Geomatrix reviewed aerial photographs of the site and adjacent properties dated 1930, 1937, 1947, 1950, 1953, 1957, 1959, 1963, 1966, 1968, 1969, and 1973. The 1930 and 1937 photos are oblique photos; the primary information which they provide is that the former lithopone manufacturing facility at the Volvo-GM site was already in existence and that at this time, the area which is currently the 5051 Coliseum Way property was a tidal marsh. Discharge from the former lithopone manufacturing operations to the property at 5051 Coliseum Way is visible in two distinct areas on all six photographs taken between 1947 and 1963. These areas are referred to below as the Northern Discharge Area and the Southern Discharge Area.

In the Northern Discharge Area (northeastern corner of the 5051 Coliseum Way site), the discharged material generally appears light colored and circular in extent. In four of the five photographs (1950, 1953, 1957, and 1959), when the lithopone manufacturing facility was active, a pipeline from the property edge of the former lithopone manufacturing facility to the center of the circle of light colored material is visible. In the 1950 and 1957 photographs,

discharge from the pipeline is evident. Based on the presence of the pipeline and its location with respect to the buildings on the former lithopone facility, it appears that this area received wastes from the lithopone manufacturing process, probably the zinc sulfate plant.

In the Southern Discharge Area (southeastern corner of the 5051 Coliseum Way site), the aerial photographs show that the 5051 Coliseum Way site received material that drained off the property now occupied by the mini-storage facility at 5200 Coliseum Way, southeast of the Volvo-GM site. The aerial photographs indicate that the mini-storage facility property was actively used by the lithopone manufacturing facility. In most of the photographs taken during the period that lithopone manufacturing facility was active (approximately 1920-1963), a road connecting the two properties is present and piles of materials are present on the mini-storage facility property at 5200 Coliseum Way. In several photographs (in particular 1953, 1957, and 1959), a pipeline extending onto the 5200 Coliseum Way property from the vicinity of the former baryte plant is visible. In the 1953 and 1957 photographs, the pipeline terminates at a dark area which is likely the black ash sludge tailings pond. The 1947 and 1950 photographs show the southern portion of the 5051 Coliseum Way site being filled by material carried by stormwater and/or overflow from fluids disposed on the 5200 Coliseum Way property. The 1953, 1957, and 1959 photographs show this portion of the 5051 Coliseum Way property to be partially filled.

A roadway across the west central portion of the 5051 Coliseum Way property is present in the 1953 aerial photograph. In this photograph, the roadway is located to the west of the observed discharge areas, discussed above. In this photograph and subsequent photographs, this roadway appears to act as a barrier to the movement of surface water (stormwater and/or disposed fluids) further westward. The roadway is no longer present in the 1966 photograph.

On the 1966 photograph, the structures and buildings on the 5050 Coliseum Way and 750 - 50th Street properties have been removed and these properties and 5051 and 5200 Coliseum Way

properties have been graded or filled and graded. In addition, Coliseum Way south of 50th Avenue has been constructed. In the 1966 photograph, the ground surface on all four properties has been graded to an approximately flat surface. The flat surface on all the properties indicates that additional fill must have been placed on the 5051 Coliseum Way property prior to grading (because low-lying areas were still visible in the 1963 photograph of the 5051 Coliseum Way property). Based on similarities in the final grade and the information that the lithopone manufacturing facility was removed at close to the same time the 5051 property was graded, we interpret that the filling/grading of all the properties likely occurred at the time the lithopone manufacturing facilities were torn down.

3.4 LITHOPONE MANUFACTURING PROCESS

Geomatrix reviewed information on the lithopone manufacturing process. In particular, we reviewed testimony by Mr. Martin Hight, a lab assistant at the former lithopone manufacturing facility at 750 - 50th Avenue and 5050 Coliseum Way from 1947 to 1950 and 1952 to 1961, and Mr. Donald Turner, plant engineer at the former lithopone manufacturing facility from 1956 to 1960 and plant manager from 1960 to 1963. Mr. Hight's testimony was given on 6, 13, and 22 September 1995; Mr. Turner's testimony was given on 8 and 9 January, 8 February, 18 March, and 31 May 1996. We also reviewed a document entitled "The Manufacture of Lithopone" produced by The Chemical and Pigment Company, Oakland, California. We understand that Chemical and Pigment Company's Oakland facility was the site at 750 - 50th Avenue and 5050 Coliseum Way.

The lithopone manufacturing process at the 750 - 50th Avenue and 5050 Coliseum Way property involved taking baryte ore (barium sulfate) and producing barium sulfide as a liquid solution and taking crude zinc (e.g., zinc dross, zinc fumé) and producing zinc sulfate as a liquid solution. The barium sulfide and zinc sulfate solutions were then mixed, precipitated as a barium sulfate/ zinc sulfide mixture and dried and ground to produce the lithopone.

The baryte to dissolved barium sulfide process occurred in the baryte plant. The process involved roasting crushed baryte ore and coke to produce black ash. The black ash was then placed in leaching tanks, where circulating hot water removed the barium sulfide from the black ash. The primary waste produced in this process was the residue remaining in the bottom of the leaching tank. This residue was referred to as black ash sludge and was sluiced out to the tailing pond on the 5200 Coliseum Way property. The black ash sludge was fine grained and black in color. The sludge contained barium sulfate, barium sulfide, iron, manganese, and any other impurities in the particular source baryte ore. The sludge had a basic pH.

The crude zinc to dissolved zinc sulfate process occurred in the zinc sulfate plant. The crude zinc (e.g., zinc dross, zinc fumé) was mixed with water and sulfuric acid to leach zinc sulfate. The produced liquid was then filtered and moved to the oxidation step. The oxidation step involved the addition of potassium permanganate, sodium carbonate, and lead peroxide to precipitate iron and manganese. The zinc sulfate fluid was then filtered again and the oxidation step repeated if the iron and manganese had not been removed. After the oxidation step and filtration, the zinc sulfate solution moved to the reduction step. The reduction step involved suspending zinc plates in the fluid to remove cadmium and adding zinc dust and copper sulfate to remove other heavy metal impurities, primarily copper, lead, and nickel. The fluid was then filtered and sent to the lithopone building. Wastes produced by the zinc process consisted primarily of the muds which collected on the filters during the four filtration steps. The collected mud after the leaching step consisted primarily of silica, zinc sulfide, and some iron. The muds which collected after the two oxidation steps consisted primarily of iron, manganese, zinc, and lead. The mud which collected after the reduction step consisted primarily of zinc, copper, cadmium, lead, nickel, and other heavy metals present in the zinc dross. All of the muds had an acidic pH and many were colorful. These muds were cleaned from the filters and disposed. Mr. Turner's testimony indicated that these filter muds were disposed via a slurry pipeline to the northern portion of the 5051 Coliseum Way property.

The remainder of the lithopone manufacturing process occurred in the lithopone building and the finishing building. The process involved precipitation of the barium sulfate/zinc sulfide mixture, roasting, drying, grinding, and packaging.

In summary, the lithopone manufacturing process at the 750 - 50th Avenue and 5050 Coliseum Way property generated two primary types of waste: black ash sludge from the baryte plant and filtration muds from the zinc sulfate plant. The black ash sludge was black in color, fine grained, basic, and dominantly contained barium sulfate and barium sulfide. The filtration muds were generally fine grained, variable in color, acidic, and dominantly contained zinc, iron, manganese, copper, cadmium, lead, nickel, and other heavy metals.

4.0 FIELD INVESTIGATIONS

Three phases of soil and groundwater investigations were conducted at the 5051 Coliseum Way site during 1995. The first phase of work was conducted in January 1995 and included the advancement of seven soil borings and groundwater sampling points. The second phase was conducted in June 1995 and included the advancement of two soil borings and the installation of three groundwater monitoring wells. The third phase of site investigation was conducted in December 1995 and included the advancement of six soil borings, the installation of five monitoring wells, and the collection of water-level measurements. A brief discussion of each phase of work is presented below; the description of field methods is presented in Appendix A. Complete details for wells at the 5051 Coliseum Way site are summarized in Table 1. Water-level measurements collected in December 1995 are presented in Table 2. Boring logs that document the stratigraphy encountered at each location are presented in Appendix B.

4.1 PHASE 1 INVESTIGATION

Geomatrix conducted the Phase 1 investigation at the 5051 Coliseum Way site. Seven borings (B-2 through B-8) were advanced at the 5051 Coliseum Way site on 23 January 1995; the locations are shown on Figure 2. The Geomatrix field geologist documented the stratigraphy

encountered while boring and collected one soil sample for analysis from each boring from the material immediately overlying the Bay Mud. The soil samples were submitted to American Environmental Network (AEN), a State of California certified analytical laboratory, for analyses for metals by U.S. Environmental Protection Agency (EPA) Method Series 6000/7000 and pH by EPA Method 9045.

Following completion of the soil borings, 1-inch-diameter polyvinyl chloride (PVC) well casings and screens were placed in each boring. Groundwater samples were collected from the borings and were filtered in the field through a 0.45-micron filter. The samples were submitted to AEN for analysis for metals by EPA Method Series 6000/7000.

4.2 PHASE 2 INVESTIGATION

Miller Brooks designed and implemented the Phase 2 investigation at the site under the direction of Forensic Management Consultants. The Phase 2 investigation included drilling two soil borings (BA-4 and BA-5) and installing three monitoring wells (MWA-1, MWA-2, and MWA-3) at the locations indicated on Figure 2. A Geomatrix field geologist was present during the investigation to observe the investigation and collect duplicate soil samples from the five boreholes and duplicate groundwater samples from the three monitoring wells.

4.2.1 Soil Sampling

The five soil borings were advanced on 31 May and 1 June 1995. Soil samples were collected at various depths in each boring based on the stratigraphy encountered. At least one soil sample was collected from each of the fill, waste, and native soil layers encountered beneath the site. Soil samples collected by Geomatrix were submitted to AEN for analysis for metals and total sulfur by EPA Method Series 6000/7000, pH by EPA Method 9045, and soluble sulfate by EPA Method 300.

4.2.2 Monitoring Well Installation and Groundwater Sampling

Groundwater monitoring wells were installed in three of the soil borings. Geomatrix collected duplicate groundwater samples from the monitoring wells on 2 June 1995. Following collection, the groundwater samples collected for metals analyses were filtered by Miller Brooks through 0.2-micron filters. Groundwater samples collected for anions and alkalinity analyses were poured from the disposable bailer directly into 500-milliliter plastic sample containers.

The groundwater samples collected by Geomatrix were submitted to AEN for analysis for anions (fluoride, chloride, nitrate, phosphate, and sulfate) by EPA Method 300, for alkalinity by EPA Method 310.1, and for metals by EPA Method Series 6000/7000.

Geomatrix measured the depth to water in the three wells on the 5051 Coliseum Way property on 2 June 1995; Miller Brooks measured water levels in seven wells on the 750 - 50th Avenue/5050 Coliseum Way property on the same day.

4.3 PHASE 3 INVESTIGATION

Geomatrix conducted the Phase 3 Investigation at the 5051 Coliseum Way property. The Phase 3 investigation included drilling six soil borings (B-9 through B-14) and five monitoring wells (MW-4 through MW-8).

4.3.1 Soil Sampling

Eleven soil borings (B-9 through B-14 and MW-4 through MW-8) were advanced from 5 to 7 December 1995. The borings ranged in depth from 18 to 25 feet below ground surface (bgs). Soil samples were collected at various depths in each boring based on the stratigraphy encountered in the boring; the soil samples selected for analysis were chosen to assess the chemical composition of the fill, waste, and native soil units beneath the site. The samples were submitted to AEN for metals analysis by EPA Method Series 6000/7000.

4.3.2 Monitoring Well Installation and Groundwater Sampling

Geomatrix installed groundwater monitoring wells in five of the soil borings (MW-4 through MW-8) and collected groundwater samples from the new and existing monitoring wells. Samples submitted for metals analyses were first filtered through a 0.45-micron filter. The samples were submitted to AEN for analysis for volatile organic compounds (VOCs) by EPA Method 8240, semivolatile organic compounds by EPA Method 8270, and metals by EPA Methods Series 6000/7000.

4.3.3 Surveying

All site monitoring wells were surveyed for vertical and horizontal control by PLS Surveys, Inc. of Alameda, California, on 19 December 1995. The measuring points on the monitoring well casings were surveyed relative to mean sea level (msl) according to the National Geodetic Vertical Datum of 1929.

4.3.4 Groundwater Elevation Measurements

Geomatrix measured depth to groundwater to the nearest hundredth foot in the wells on the 5051 Coliseum Way property using a steel tape and chalk on 19 December 1995. The wells were measured during both a high tide and a low tide to assess the potential tidal effect on the hydraulic gradient beneath the site. The high-tide measurements were taken at approximately 9:30 in the morning, corresponding to a high tide of 6.7 feet msl, and the low-tide measurements were taken at approximately 3:30 in the afternoon, corresponding to a low tide of minus 0.7 feet msl, as predicted by the National Oceanic & Atmospheric Administration. Water-level measurements are summarized on Table 2.

5.0 RESULTS

The results of investigations at the 5051 Coliseum Way site are described below, including site stratigraphy, hydrogeology, and soil and groundwater analytical results.

5.1 SITE STRATIGRAPHY

Three distinct soil layers were encountered beneath the 5051 Coliseum Way site: an upper fill unit, a waste layer, and native soils (Bay Mud). Geologic cross sections depicting site geology based on the soil boring logs are presented on Figures 5 through 9; cross-section locations are shown on Figure 4.

The upper fill unit was encountered in all soil borings and consists of a brown clayey sand with gravel containing varying amounts of wood, brick, and concrete fragments along with other general debris such as glass and metal fragments. The fill was present from the ground surface to depths ranging from 2 to 20 feet bgs in the borings; typical fill thicknesses were 6 to 10 feet.

A waste layer was encountered beneath the fill in 16 out of 23 borings. The waste layer appears to be limited to the eastern half of the site (east of a former roadway, shown on Figure 2). The thickness of the waste layer, where encountered, ranged from 0.5 to 7 feet. The waste layer is thickest at locations along the Coliseum Way property boundary and thins to the west, away from the former lithopone manufacturing site (illustrated on Figures 7, 8, and 9). Field observation of the waste indicates that it varied across the site. In the vicinity of the northern discharge area observed on the aerial photographs (borings B-2, B-3, B-4, B-5, and B-8 and monitoring wells MWA-1 and MW-4), the waste was generally a lean clay in composition and very colorful, with colors ranging from white to dusky red to brown to black. In the southeastern portion of the site, under the pavement near the southern boundary of the site (borings B-6, B-11, and BA-5 and monitoring well MW-6), the waste was a black silty clay to clayey silt unit. In between these two areas (borings BA-4 and B-7 and monitoring wells MWA-2 and MWA-3), the waste was more variable in composition; the waste ranged from silty clay to sandy gravel to glassy fragments. The color of the waste in this central area was highly variable, ranging from blue black to streaked gray, brown, white, and orange. The color pattern was typically more similar to the northern discharge area than to the southern area.

Native materials belonging to the Bay Mud Formation were encountered beneath the fill and/or waste layer. Plant fibers were commonly present at the interface of the Bay Mud and fill/waste layers, suggesting that the top of the Bay Mud unit is likely the top of the former tidal marsh. The Bay Mud unit consists predominantly of grayish green lean clay with lenses of sandy clay and clayey sand.

5.2 HYDROGEOLOGY

Depth to water at the 5051 Coliseum Way site ranged from approximately 4 to 10 feet bgs excluding MW-7 (depth to water in monitoring well MW-7 was approximately 17.5 feet bgs; this measurement is not considered representative of static conditions due to the slow recharge characteristics of this well and the recentcy of development). The waste layer was generally saturated.

A potentiometric surface map based on the water level-measurements taken 2 June 1995 in seven wells on the 5050 Coliseum Way property and the three then-existing wells on the 5051 Coliseum Way property is presented on Figure 10. As presented on Figure 10, groundwater flow in the vicinity of the 5051 Coliseum Way property is generally from the properties east of Coliseum Way (5050 and 5200 Coliseum Way), across the 5051 Coliseum Way property toward the stormwater drainage channel. A potentiometric surface map based on water-level measurements taken on 19 December 1995 in the seven wells (excluding MW-7, which had not stabilized) on the 5051 Coliseum Way property is presented on Figure 11. As presented on Figure 11, flow at the 5051 Coliseum Way property is toward the stormwater drainage channel. Flow under the northern portion of the 5051 Coliseum Way property is to the northwest, and flow is toward the west beneath the rest of the property.

Groundwater levels were measured on 19 December 1995 at low and high tide; the measurements are presented on Table 2. Only MW-4 showed a pronounced response to the tidal

fluctuation. The water level measured in MW-4 was 0.32 at high tide and -1.18 at low tide. There also was a slight water level change measured at MW-6. However, this change was small (0.22 feet) and did not correlate with the tide (i.e., the water level was higher at low tide).

5.3 SOIL ANALYTICAL RESULTS

As indicated in Section 4, soil samples collected by Geomatrix from the 5051 Coliseum Way site were analyzed for metals and general chemistry. Analytical results for the soil samples are presented on Table 3. The analytical results for samples collected by Miller Brooks are included in the table; however, because the results are generally comparable to results obtained by Geomatrix, these results are not discussed in the text of this report. Miller Brooks also submitted soil samples for polychlorinated biphenyls (PCBs) analyses; no PCBs were detected. Copies of the laboratory analytical reports and chain-of-custody records prepared for and by Geomatrix are included in Appendix C.

The analytical results are summarized in the following sections by unit: fill, waste, and Bay Mud unit. For discussion purposes, metals concentrations in soil are compared to the TTLCs. The TTLC is the concentration which, if equaled or exceeded in a waste material, determines that the material must be handled and disposed as hazardous.

5.3.1 Chemical Distribution in the Fill Layer

A total of 33 samples were collected from the fill. All metals concentrations detected in the fill unit are below the TTLCs with the exception of lead and zinc (Table 3). Lead was present at concentrations above the TTLC of 1000 milligrams per kilogram (mg/kg) in 15 percent of the fill soil samples (5 out of 33 samples) at concentrations up to 3900 mg/kg. Zinc was detected at concentrations above the TTLC of 5000 mg/kg in 6 percent of the fill samples (2 out of 33 samples) at concentrations up to 29,000 mg/kg. There is no discernible pattern to the occurrence of metals above their TTLCs in the fill, although some occur at the base of the fill and are likely related to the placement of fill directly over the waste.

Sulfate was detected in fill soil samples at concentrations ranging from 16 to 320 mg/kg. Total sulfur was detected in fill soil samples at concentrations ranging from 100 to 1200 mg/kg. The pH of soil samples collected in the fill were generally similar across the site. The pH of fill soil samples collected at the 5051 Coliseum Way site was neutral (average pH 7.9).

5.3.2 Chemical Distribution in the Waste Layer

Metals were detected at high concentrations in the waste layer; 81 percent of samples collected from the waste layer (17 out of 21 samples) contained concentrations of at least one metal above its TTLC. As discussed in Section 5.1, field observation of the appearance/composition of the waste layer indicates that it varies across the site. However, the field observations indicate textural and color similarities among the waste samples from the vicinity of the northern discharge area observed in aerial photographs and among waste samples from the southern portion of the site which received runoff from the 5200 Coliseum Way property. In between these two areas, the texture and color of the waste is more variable, although some samples do appear more like the waste samples from the northern area. To simplify the discussion of metals distribution and based on relationships to observed disposal on the aerial photographs, the concentrations of metals in the waste are summarized by area (northern, central, and southern) in the following sections. The discussion of metals concentrations is followed by a discussion of the general chemistry results for the three waste areas. The observed metals concentrations and general chemistry results for all waste samples are included on Table 3. Concentrations of all metals whose concentration exceeded the TTLC in at lease one waste sample are presented on Figures 12 through 19.

5.3.2.1 Metals in the Northern Waste Area (Borings B-2, B-3, B-4, B-5, and B-8 and Monitoring Wells MWA-1 and MW-4). A total of nine waste samples were collected in the northern area. Arsenic, cadmium, copper, mercury, lead, antimony, and zinc were detected in these samples at concentrations above the TTLC. Arsenic was detected at concentrations greater

than the TTLC of 500 mg/kg in two waste samples at concentrations up to 1500 mg/kg. Cadmium was detected at concentrations greater than the TTLC of 100 mg/kg in four waste samples at concentrations up to 2100 mg/kg. Copper was detected at concentrations greater than the TTLC of 2500 mg/kg in three waste samples at concentrations up to 3800 mg/kg. Mercury was detected at concentrations greater than or equal to the TTLC of 20 mg/kg in three waste samples at concentrations up to 65 mg/kg. Lead was detected at concentrations greater than the TTLC of 1000 mg/kg in four waste samples at concentrations up to 30,000 mg/kg. Antimony was detected at concentrations greater than the TTLC of 500 mg/kg in one waste sample at a concentration of 610 mg/kg. Zinc was detected at concentrations greater than the TTLC of 5000 mg/kg in eight waste samples at concentrations up to 54,000 mg/kg.

5.3.2.2 Metals in the Central Waste Area (Borings B-4 and B-7 and Monitoring Wells MWA-2 and MWA-3). A total of six waste samples were collected in the central portion of the site. Arsenic, cadmium, copper, lead, antimony, and zinc were detected in these samples at concentrations greater than the TTLC. These are the same metals that are above the TTLC in the northern area of the site, as described above, except that mercury did not exceed its TTLC in any of the central area samples. Arsenic was detected at concentrations greater than the TTLC of 500 mg/kg in three waste samples at concentrations up to 1200 mg/kg. Cadmium was detected at a concentration greater than the TTLC of 100 mg/kg in one waste sample at a concentration of 180 mg/kg. Copper was detected at concentrations greater than the TTLC of 2500 mg/kg in three waste samples at concentrations up to 4100 mg/kg. Lead was detected at concentrations greater than the TTLC of 1000 mg/kg in five waste samples at concentrations up to 42,000 mg/kg. Antimony was detected at concentrations greater than the TTLC of 500 mg/kg in two waste samples at concentrations up to 850 mg/kg. Zinc was detected at concentrations greater than the TTLC of 5000 mg/kg in five waste samples at concentrations up to 42,000 mg/kg.

5.3.2.3 Metals in the Southern Waste Area (Borings BA-5, B-6, and B-11 and Monitoring Well MW-6). A total of six waste samples were collected in the southern area. Barium was the

only metal in the southern zone detected at a concentration greater than the TTLC. Barium was detected at concentrations greater than the TTLC of 10,000 mg/kg in three waste samples at concentrations up to 100,000 mg/kg.

5.2.3.4 General Chemistry of the Waste. The pH of soil samples collected in the waste were acidic (4.5 to 6.2) in the northern area of the 5051 Coliseum Way site, basic (8.5 to 11.2) in the southern area, and slightly acidic to slightly basic (6.1 to 8.2) in the area in between (the central area).

Total sulfur and sulfate were analyzed in waste samples from five locations. Sulfate was detected in waste soil samples at concentrations ranging from 45 to 9000 mg/kg. Total sulfur was detected in waste samples at concentrations ranging from 780 to 38,000 mg/kg.

5.3.3 Chemical Distribution in Native Soil

A total of 27 samples were collected from the native soil. In general, concentrations of metals in the native soil beneath the fill and/or waste layer are low. Copper (one sample; less than 4 percent of the samples), lead (one sample; less than 4 percent of the samples), and zinc (three samples; approximately 11 percent of the samples) were detected in native soil samples at concentrations greater than the TTLC. These samples with metals concentrations exceeding the TTLC were collected in the uppermost foot of native soil, directly beneath the waste layer. In all cases, the metal which exceeded the TTLC in the native soil was present in the overlying waste at elevated concentrations. Metals concentrations in samples collected from deeper than 1 foot into the native soil were below the TTLC and generally low. This distribution pattern indicates that the elevated metals concentrations in native soil are associated with the waste material.

Native soil samples collected in close proximity to the waste in the northeast area of the site generally had an acidic pH (approximate pH of 5); native soil samples collected near the waste in the southeast area of the site had a basic pH (approximate pH of 9); other native soil samples had

neutral pH. These results further confirm the impact of the waste on the uppermost portion of the native soil.

Sulfate was detected in native soil samples at concentrations ranging from 6 to 3000 mg/kg. Total sulfur was detected in native soil samples at concentrations ranging from 189 to 9800 mg/kg.

5.4 GROUNDWATER ANALYTICAL RESULTS

Groundwater analytical results are presented on Tables 4 and 5. The analytical results for samples collected by Miller Brooks have been included on the tables for completeness; however, because the results are generally comparable to results obtained by Geomatrix, they are not discussed below. Copies of the laboratory analytical reports and chain-of-custody records prepared for and by Geomatrix are included in Appendix C.

5.4.1 METALS IN GROUNDWATER

Analytical results indicate that groundwater beneath the site is primarily affected by elevated concentrations of metals. For discussion purposes, concentrations of metals in groundwater are compared to the federal and California Maximum Contaminant Levels (MCLs) for drinking water. It is important to note that MCLs are not directly applicable to groundwater at the site. MCLs apply only to drinking water; groundwater at the site is not now used for drinking water, and its potential future uses have not been evaluated.

All grab groundwater and monitoring well samples have been analyzed for the 17 Title 22 metals. Concentrations of arsenic, barium, cadmium, nickel, lead, antimony, selenium, and thallium were greater than their respective MCLs in at least one groundwater sample from the site. Concentrations of these metals in groundwater are presented on Figures 20 through 27. Arsenic was detected in groundwater above the MCL of 0.05 milligrams per liter (mg/l) at 5 of the 15 sampling points at concentrations up to 1.2 mg/l. Barium was detected in groundwater

above the MCL of 1 mg/l in 4 of the 15 sampling points at concentrations up to 200 mg/l. Cadmium was detected in groundwater above the MCL of 0.005 mg/l in 10 of the 15 sampling points at concentrations up to 2.8 mg/l. Nickel was detected in groundwater above the MCL of 0.1 mg/l in 7 of the 15 sampling points at concentrations up to 3 mg/l. Lead was detected in groundwater above the MCL of 0.05 mg/l in 5 of the 15 sampling points at concentrations up to 0.6 mg/l. Antimony was detected in groundwater above the MCL of 0.006 mg/l in two groundwater sampling points at concentrations up to 0.06 mg/l. Selenium was detected in groundwater above the MCL of 0.01 mg/l at one sampling location at a concentration of 0.013 mg/l. Thallium was detected in groundwater above the MCL of 0.002 mg/l in three sampling locations at concentrations up to 0.12 mg/l. Zinc was detected in groundwater above the MCL of 5 mg/l in 8 of the 15 sampling points at concentrations up to 1,000 mg/l.

5.4.2 VOCs, SVOCs, Anions, pH, and Alkalinity in Groundwater

Groundwater samples from the eight on-site monitoring wells were analyzed for VOCs, SVOCs, and pH. No VOCs were reported. The only SVOC detected was phenol; phenol was reported at concentrations less than 0.052 mg/l in five of the eight wells. The pH of groundwater in contact with waste was acidic under the northern portion of the site (between 5.6 and 6.8 at locations B-4, B-5, B-8, MWA-1, MW-4, and MW-5); neutral in the central portion of the site (between 7.1 and 7.6 at locations B-7 and MWA-2); and basic under the southern portion of the site (between 7.9 and 9.1 at locations B-6 and MW-6). The pH of groundwater not in contact with waste was neutral (between 7.1 and 7.3 at locations MW-5, MW-7, and MW-8).

Fluoride, chloride, nitrate, phosphate, sulfate, and alkalinity were analyzed for in three wells (MWA-1, MWA-2, and MWA-3). Fluoride was not detected in any of the wells sampled. Chloride ranged from 490 mg/l to 660 mg/l; these chloride levels are in excess of the secondary MCL of 250 mg/l for drinking water. Nitrate ranged from not reported to 2.5 mg/l. Phosphate was not detected. Sulfate ranged from 390 to 3900 mg/l; these sulfate levels exceed the secondary MCL of 250 mg/l for drinking water. Alkalinity ranged from 150 to 1000 mg/l.

6.0 DISCUSSION

A discussion of the findings of the investigations are discussed below for soil and groundwater.

6.1 HISTORICAL REVIEW

The historical review of aerial photographs and the Levine-Fricke reports for the Volvo-GM site indicate that a lithopone manufacturing facility operated at the Volvo-GM site adjacent to the 5051 Coliseum property from the early 1900s until 1963. The Levine-Fricke reports indicate that wastes from the facility were disposed on properties to the south (5200 Coliseum Way) and east (5051 Coliseum Way). Based on testimony and aerial photographs, waste material (black ash sludge) from the baryte plant operation is known to have been disposed on the 5200 Coliseum Way property. The aerial photographs indicate that material disposed on the 5200 Coliseum Way property was transported onto the 5051 Coliseum Way property via overflow and/or stormwater runoff. The aerial photographs also indicate pipe discharge from the lithopone manufacturing facility to the northeastern corner of the 5051 Coliseum Way property. The pipe appears to emanate from the vicinity of the zinc sulfate plant.

Review of testimony and documents regarding the wastes which would be produced during the manufacture of lithopone has indicated one primary waste was produced in the baryte plant, black ash sludge, and four were produced in the zinc plant, all filter mud wastes. The black ash sludge would be expected to be black in color and to contain primarily barium (as sulfate and sulfide) with lesser amounts of iron, manganese, and other impurities which would have been present in the baryte ore. The pH of the black ash sludge would be basic. The black ash sludge was pumped to tailing ponds on the 5200 Coliseum Way property.

The filter mud from the leaching phase of the zinc process would likely have been composed of zinc sulfide, silica, and iron. The filter muds from the two oxidation steps in the zinc process would likely have been composed of iron, manganese, zinc, and lead. The filter mud from the

reduction step would be composed of zinc, lead, copper, cadmium, and other heavy metals which may have been present in the zinc source material as impurities. The pH of all filter mud wastes would be acidic and many of the muds would be colorful. The filter muds were disposed via a slurry pipeline to the northern portion of the 5051 Coliseum Way property.

6.2 SOIL RESULTS

The data indicate that the fill unit and the native soils generally do not contain chemical constituents at elevated concentrations. The waste unit, however, has elevated concentrations of numerous metals. Metals which exceed their TTLC in at least one waste sample include arsenic, barium, cadmium, copper, mercury, lead, antimony, and zinc.

Table 6 presents a comparison of the maximum metals concentrations reported at the 5051 Coliseum Way property with those reported at the Volvo-GM site (750 - 50th Avenue and 5050 Coliseum Way) and 5200 Coliseum Way. This table includes all metals which exceed their TTLC in any soil sample on any of the three properties. This table indicates that the same metals are present at similar elevated concentrations on both the 5051 Coliseum Way property and the Volvo-GM site. Similar metals are also present at the 5200 Coliseum Way property at elevated concentrations.

Table 7 presents a comparison of the maximum metals concentrations (for metals which exceeded the TTLC in any soil sample) and the range of pHs for each of the three waste areas identified on the 5051 Coliseum Way property. The northern portion of the waste is dominated by zinc, lead, copper, and cadmium and has an acidic pH. As described in Section 5.1, this waste material is characterized by a clay-like composition and strong colors. The southern waste area is dominated by barium and has a basic pH. As described in Section 5.1, this waste material is a silty clay to clayey silt and black in color. The waste in the central portion of the site is more variable than that to the north or south. The lithology and appearance of the waste in the central portion of the site ranges from clay-like material to glassy fragments and from blue black to

streaked brown, white, and orange. The maximum metals concentrations for the central area indicate that the waste in this area is generally similar to the waste in the northern area with zinc, lead, and copper dominating. The pH of the waste in the central area ranges from somewhat acidic to somewhat basic.

Comparison of the above characterization of the waste areas with the description of wastes produced by the lithopone manufacturing process (Sections 3.4 and 6.1) strongly indicates that the waste material observed in the southern waste area corresponds to the black ash sludge from the baryte plant which is known to have been discharged to the 5200 Coliseum Way property. The observed waste in the southern portion of the 5051 Coliseum Way property has high barium concentrations and basic pH and is black in color; these are the expected characteristics of black ash sludge. In addition, the aerial photographs indicate that stormwater and/or tailings pond overflow washed material from the 5200 Coliseum Way property, where the black ash sludge was disposed, to this portion of the 5051 Coliseum Way property.

Comparison of the waste material in the northern waste area with wastes produced by the litho-pone manufacturing process indicates this waste likely corresponds to the filter mud wastes from the zinc sulfate plant. The observed waste in the northern area has: high zinc, lead, copper, and cadmium; acidic pH; a clay-like texture; and strong colors. These are the expected characteris-tics of the filter muds from the zinc sulfate plant, particularly muds from the reduction step. In addition, the aerial photographs indicate pipe discharge from the vicinity of the zinc sulfate plant to this portion of the site. Furthermore, testimony indicates that the filter muds were disposed via slurry pipeline to this portion of the property.

The waste in the central portion of the site is more variable in texture than that in the northern and southern waste areas. The chemical composition, however, appears to be similar to the northern area waste. Based on the chemical similarities to the northern area, the strong colors, and generally clayey composition of some of the waste in the central area, it is likely that much

of the waste in this area is associated with the zinc sulfate plant wastes. Differences in texture may be related to the filling which occurred at the time the lithopone manufacturing facility was torn down. Other waste materials in this zone may derive from other portions of and/or activities at the lithopone manufacturing facility.

6.3 GROUNDWATER

Based on the analytical data, the primary impacts to groundwater at the 5051 Coliseum Way property are elevated concentrations of metals in groundwater; these results, their distribution, and their correlation to the waste materials are discussed further below. In addition, impacts on groundwater pH were observed. The pH of the groundwater is acidic in the vicinity of the northern waste area and basic in the vicinity of the southern waste area; elsewhere the pH of the groundwater is neutral.

The distribution of metals in groundwater which exceed MCLs in at least one sample are presented on Figures 20 through 27. The distribution indicates that concentrations of arsenic, antimony, cadmium, lead, nickel, selenium, and zinc exceed their respective MCLs in groundwater in the vicinity of the waste layer. Barium and thallium were reported above their respective MCLs in one well, MW-8, which is not in the vicinity of the waste material. Thallium was reported in well MW-8 at the detection limit (0.05 mg/l) and was not reported in the two wells closer to the waste (MW-5 and MW-7). Barium was reported at 1.2 mg/l in well MW-8, slightly above the MCL of 1 mg/l; barium was reported at 0.01 and 0.021 mg/l, respectively, in wells MW-7 and MW-5, which are closer to the waste material. These data suggest that elevated levels of metals in groundwater may be limited to areas in proximity to the waste material.

The distribution of metals in groundwater on Figures 20 through 27 also indicate that levels of cadmium, lead, nickel, selenium, and zinc are higher in the vicinity of the northern disposal area; this distribution is likely the product of the composition of the waste in this area and the low pH of both the waste and the groundwater. Concentrations of barium in groundwater are highest in

the southern disposal area, where barium levels are elevated in the waste. Arsenic concentrations in groundwater are elevated in the northern and central waste areas, which have elevated arsenic in the waste. Antimony is elevated in groundwater in the central area, where antimony is elevated in the waste. Thallium concentrations in groundwater do not exhibit a clear association with the waste; however, the highest thallium concentration was reported at B-2, where thallium was slightly elevated in the waste. These data further confirm that the concentrations of metals in groundwater are related to the presence of elevated concentrations of metals in the waste and that differences in groundwater composition correlate with the differences in composition of the waste.

Table 8 presents a comparison of the maximum reported metals concentrations in groundwater at the 5051 Coliseum Way property with the maximum concentrations reported at the 750 - 50th Avenue/5050 Coliseum Way site and 5200 Coliseum Way site. This comparison indicates that the same metals are present at elevated concentrations in groundwater at the 5051 Coliseum Way property and either at the 750 - 50th Avenue/5050 Coliseum Way site or the 5200 Coliseum Way site. The comparison also indicates that, for metals present at elevated concentrations in groundwater, the maximum concentrations are significantly higher in groundwater at the 750 - 50th Avenue/5050 Coliseum Way site, except for barium. The maximum barium concentration in groundwater occurs at the 5200 Coliseum Way site. These data confirm that the source of the metals in groundwater at the 5051 Coliseum Way property is likely to be associated with disposal from the lithopone manufacturing operations. As discussed in Section 5.2, overall groundwater flow under the 5051 Coliseum Way property is from the east (from the 5200 and 5050 Coliseum Way properties), toward the stormwater drainage channel. These data suggest that there may also be a contribution via groundwater transport to the observed metals concentrations at the 5051 Coliseum Way property from the 5200 and 5050 Coliseum Way properties.

7.0 CONCLUSIONS

Based on the data presented in this report, we conclude that:

- A former lithopone manufacturing facility formerly operated immediately upgradient of the 5051 Coliseum Way property. Review of aerial photographs and other documents indicate that wastes generated at this facility were actively and passively deposited on the 5051 Coliseum Way property.

- A waste layer is present beneath the fill on the eastern portion of the 5051 Coliseum Way property. The waste material contains elevated levels of metals, including arsenic, barium, cadmium, copper, lead, mercury, antimony, and zinc. The pH of the waste ranges from basic in the southern portion of the site to acidic in the northern disposal area.

- A pattern of variation within the waste unit has been identified. The waste in the northern portion of the site likely corresponds to filter mud wastes from the zinc sulfate plant processes at the adjacent lithopone manufacturing facility. The waste in the southern portion of the site likely corresponds to black ash sludge from the facility's baryte plant. The waste in the central portion of the site appears to include some zinc sulfate plant waste and wastes from other processes at the lithopone manufacturing facility.

- Groundwater at the site has been impacted by metals; these impacts are generally observed in groundwater in the vicinity of the waste and correlate with the chemistry of the waste material. In addition, there may be contribution via groundwater transport from the 5200 and 5050 Coliseum Way properties.

8.0 REFERENCES

Hight, Martin, Depositions dated 6, 13, and 22 September 1995, United States District Court for the Northern District of California, No. C93 2281 EFL.

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Subsurface Consultants, Inc., 1995, Limited Soil and Groundwater Contamination Investigation, 5200 Coliseum Way, Oakland, California, prepared for Mr. Wallace Slough, dated 22 March 1995.

Turner, Donald S., Depositions dated 8 and 9 January, 8 February, 18 March, and 31 May 1996, United States District Court for the Northern District of California, No. C93 2281 EFL.

GEOMATRIX

TABLE 1
WELL COMPLETION DETAILS
PG&E Oakland Yard
Oakland, California

Well Name	Date Installed	Measuring Point Elevation[1]	Well Depth	Screen Interval (feet bgs)[2]	Casing Diameter (inches)
MWA-1	5/31/95	9.27	17.5	7.5 - 17.5	4
MWA-2	5/31/95	7.79	17	7 - 17	4
MWA-3	5/31/95	10.50	15	5 - 15	4
MW-4	12/7/95	10.27	19.5	9 - 19	2
MW-5	12/7/95	9.45	19.5	9 - 19	2
MW-6	12/6/95	7.14	19.5	9 - 19	2
MW-7	12/7/95	8.78	19.5	9 - 19	2
MW-8	12/6/95	6.69	19.5	9 - 19	2

Notes:

1 Measuring point elevations surveyed by PLS Surveys, Inc., on 19 December 1995. Elevations are in feet above mean sea level based on the National Geodetic Vertical Datum of 1929.

2 bgs = below ground surface.

TABLE 2
GROUNDWATER ELEVATIONS –
19 December 1995
PG&E Oakland Yard
Oakland, California

Well Name	Measuring Point Elevation[1] (feet)	Depth to Water	Water Level Elevation	Tide[2]
MWA-1	9.27	9.70	-0.43	High
MWA-1	9.27	9.64	-0.37	Low
MWA-2	7.79	3.95	3.84	High
MWA-2	7.79	3.95	3.84	Low
MWA-3	10.50	8.23	2.27	High
MWA-3	10.50	8.22	2.28	Low
MW-4	10.27	9.95	0.32	High
MW-4	10.27	11.45	-1.18	Low
MW-5	9.45	8.51	0.94	High
MW-5	9.45	8.49	0.96	Low
MW-6	7.14	5.98	1.16	High
MW-6	7.14	5.76	1.38	Low
MW-7	8.78	17.96	-9.18	High
MW-7	8.78	17.91	-9.13	Low
MW-8	6.69	6.09	0.6	High
MW-8	6.69	6.09	0.6	Low

Notes:

1 Measuring point elevations surveyed by PLS Surveys, Inc. Elevations are in feet mean sea level based on the National Geodetic Vertical Datum of 1929.
2 Depth to water measurements collected during high (6.7 feet) and low tide (-0.7 feet) as predicted by the National Ocean Service of the National Oceanic and Atmospheric Administration.

TABLE 3
SOIL ANALYTICAL RESULTS[1]
PG&E Oakland Yard
Oakland, California

Concentrations in milligrams per kilogram (mg/kg)

TTLC[2]			500	500	10000	75	100	8000	2500	2500	20	3500	2000	1000	500	100	700	2400	5000	---	---	---
Well Name	**Sample Date**	**Sample Depth**	**Ag**	**As**	**Ba**	**Be**	**Cd**	**Co**	**Cr**	**Cu**	**Hg**	**Mo**	**Ni**	**Pb**	**Sb**	**Se**	**Tl**	**V**	**Zn**	**pH**	**Sulfur**	**Sulfate**
B-2	1/23/95	4	23	270	250	<1	11	<2	11	1600	0.88	33	9	5600	<10	<2	<10	28	1600	4.5	NA[6]	NA
B-3	1/23/95	4	30	370	1200	<1	280	25	7	3600	1.1	3	83	7300	490	3	220	8	18,000	6	NA	NA
B-4	1/23/95	11.5	6	6	1200	<1	<2	12	12	85	<0.06	<2	220	25	<10	<2	14	230	46,000	6.1	NA	NA
BA-4	6/1/95	2	<0.1	5.5	190	0.5	<0.2	17	51	22	0.09	<0.2	40	66	<1	<1	3	45	93	7.8	100	97
BA-4[4,5]	6/1/95	2	<0.4	4.55	128	0.18	0.71	4.32	14	11.3	0.119	1.9	13.8	796	<0.4	<0.2	NA	9.94	256	7.93	101	139
BA-4[4]	6/1/95	6.5	<0.41	3.09	1213	0.234	1.48	8.21	13.7	20.8	0.103	2.32	15.3	27.7	<0.41	<0.2	NA	17.4	81.9	8.09	186	193
BA-4	6/1/95	6.5	<0.1	3	300	0.5	<0.2	10	38	33	0.09	<0.2	34	30	<1	<1	3	46	110	8.2	500	220
BA-4	6/1/95	8	0.3	1.3	1900	0.1	0.7	9.6	21	580	0.09	2.5	320	27	1	<1	<1	270	400	8	780	120
BA-4[4]	6/1/95	8	0.39	1.86	15,700	0.245	3.8	11.8	17.4	244	0.0376	4.66	250	22.2	<0.39	<0.2	NA	253	555	8.39	495	70.1
BA-4[4]	6/1/95	9.5	<0.44	0.876	112	0.173	0.422	3.95	15.9	19.1	0.0357	1.37	11.4	<4.4	<0.44	<0.22	NA	14	13.1	7.59	165	36.5
BA-4	6/1/95	9.5	<0.1	2.1	370	0.2	<0.2	4.6	26	28	<0.06	0.5	17	5	<1	<1	<1	26	40	7.5	189	29
BA-4[4]	6/1/95	12	<0.38	0.287	103	0.149	0.487	3.41	16.7	24.3	0.0685	1.44	14.9	4.97	<0.38	<0.19	NA	10.7	24.3	9.39	74.3	23.3
B-5	1/23/95	11.5	11	500	950	<1	2100	6	82	3300	65	7	70	6800	26	2	<10	41	51,000	5.9	NA	NA
BA-5	6/1/95	4	0.6	10	550	0.5	5.3	33	79	350	2.5	1.7	120	540	5	<1	5	42	2200	8.1	580	320
BA-5[4,5]	6/1/95	4	<0.4	7.69	506	0.218	12.7	332	176	386	0.776	13.4	114	883	<0.4	<0.2	NA	23.5	3620	8.48	1210	254
BA-5	6/1/95	8	0.3	3.5	2900	0.3	5.1	8.5	38	120	1.3	1.5	56	350	6	<1	<1	42	1500	9	1200	51
BA-5[4]	6/1/95	8	<0.45	2.08	6990	0.237	2.37	6.24	14.8	143	0.247	4.66	142	45.1	<0.45	<0.23	NA	289	2050	9.44	546	56.2
BA-5	6/1/95	9	<0.1	2.3	1800	0.3	<0.2	4	40	64	<0.06	2.1	35	4	<1	<1	<1	42	61	8.5	5000	45
BA-5[4]	6/1/95	9	0.3	1.3	29,000	0.1	<0.2	0.4	18	250	<0.06	3.3	250	84	<1	<1	NA	290	470	11.2	310	32
BA-5[4]	6/1/95	9	<0.49	3.49	546	0.163	0.945	3.7	18.6	13.3	0.0276	4.31	23.1	5.92	<0.49	<0.24	NA	18.2	20.9	8.58	8840	176
BA-5	6/1/95	10	<0.1	3.3	460	0.3	<0.2	4.9	32	51	<0.06	0.8	21	5	<1	<1	<1	31	30	9	1900	50
BA-5[4]	6/1/95	10	<0.5	2.41	498	0.233	0.492	3.74	20.8	91.2	0.0458	2.17	14.5	6.4	<0.5	<0.25	NA	18.2	54	8.88	2860	37.1
BA-5[4]	6/1/95	13	<0.44	0.913	225	0.173	0.591	5.74	19.7	22.2	0.0666	1.91	22.5	5.59	<0.44	<0.22	NA	13.3	21.5	9.21	78	41.1
BA-5[4]	6/1/95	16	<0.32	3.51	7560	0.263	1.36	14.9	35.3	27	0.123	2.77	103	10.5	<0.32	<0.16	NA	28.2	37	9.01	172	176
B-6	1/23/95	6.5	0.2	23	100,000	0.1	4.6	<0.2	10	62	2.3	1.2	81	56	<1	<2	<1	160	780	11.2	NA	NA
B-7	1/23/95	6.5	28	930	1400	<1	42	2	6	850	0.83	7	17	24,000	850	<2	<10	31	25,000	8.2	NA	NA
B-8	1/23/95	7.5	7	220	150	<1	750	12	6	930	0.25	5	14	1400	190	<2	270	<5	23,000	6.2	NA	NA
B-9	12/5/95	2	<0.1	5.2	110	0.3	<0.2	9.6	44	22	<0.06	<0.2	53	73	2	1	<1	39	83	NA	NA	NA
B-9	12/5/95	7	0.2	7.3	180	0.5	<0.2	7.5	40	35	0.23	<0.2	57	140	1	1	2	31	110	NA	NA	NA
B-9	12/5/95	11.5	0.3	4.8	280	0.2	0.9	7.1	31	82	0.81	0.3	32	590	2	<1	<1	27	440	NA	NA	NA
B-9	12/5/95	16.5	<0.1	<0.5	91	0.4	<0.2	6.5	49	18	<0.06	<0.2	70	5	<1	<1	3	35	34	NA	NA	NA
B-9	12/5/95	19.5	<0.1	4.3	68	0.3	<0.2	10	41	13	0.08	<0.2	80	7	<1	1	<1	37	30	NA	NA	NA
B-10	12/5/95	2	<0.1	4.1	100	0.3	<0.2	18	77	110	0.12	<0.2	160	98	<1	1	<1	57	230	NA	NA	NA
B-10	12/5/95	6	<0.1	1.4	91	0.4	<0.2	8	44	21	<0.06	<0.2	51	54	<1	1	<1	42	82	NA	NA	NA
B-10	12/5/95	10	0.5	18	290	0.4	13	14	61	44	0.26	3.8	120	340	1	<1	<1	47	5900	NA	NA	NA
B-10	12/5/95	13	<0.1	3.8	72	0.2	<0.2	5.3	37	11	<0.06	0.8	22	4	<1	<1	<1	28	14	NA	NA	NA

LEVELS EXCEEDING TTLC

TABLE 3

SOIL ANALYTICAL RESULTS[1]

PG&E Oakland Yard

Oakland, California

Concentrations in milligrams per kilogram (mg/kg)

TTLC[2]			500	500	10000	75	100	8000	2500	2500	20	3500	2000	1000	500	100	700	2400	5000	---	---	---
Well Name	**Sample Date**	**Sample Depth**	**Ag**	**As**	**Ba**	**Be**	**Cd**	**Co**	**Cr**	**Cu**	**Hg**	**Mo**	**Ni**	**Pb**	**Sb**	**Se**	**Tl**	**V**	**Zn**	**pH**	**Sulfur**	**Sulfate**
B-10	12/5/95	16	<0.1	2.1	130	0.4	3.1	10	50	15	0.07	<0.2	90	4	<1	2	<1	36	21	NA	NA	NA
B-11	12/5/95	0.5	1.7	<1	1700	1.9	10	3	52	100	<0.6	<2	28	3000	<10	4	<10	13	1900	NA	NA	NA
B-11	12/5/95	5	<0.1	<0.5	39,000	<0.1	<0.2	<0.2	15	90	<0.06	1.8	260	16	<1	2	<1	230	78	NA	NA	NA
B-11	12/5/95	8	0.3	3.1	94	<0.1	0.2	29	110	150	<0.06	9.4	580	14	2	3	<1	680	780	NA	NA	NA
B-11	12/5/95	12.5	<0.1	2	35	0.2	<0.2	7.4	34	11	<0.06	0.6	34	4	<1	2	<1	28	25	NA	NA	NA
B-11	12/5/95	16	<0.1	6.4	110	0.3	<0.2	30	58	26	<0.06	0.2	140	8	<1	1	<1	120	31	NA	NA	NA
B-12	12/5/95	17	<0.1	<0.5	40	0.4	<0.2	9.8	45	16	<0.06	<0.2	59	6	<1	<1	<1	33	37	NA	NA	NA
B-12	12/5/95	20	<0.1	1.2	240	0.3	<0.2	14	53	24	<0.06	<0.2	140	6	<1	2	<1	38	35	NA	NA	NA
B-12	12/5/95	24.5	<0.1	<0.5	77	0.4	<0.2	14	67	38	<0.06	<0.2	88	6	<1	2	<1	46	46	NA	NA	NA
B-13	12/6/95	1	0.2	4	390	0.4	<0.2	12	52	46	0.31	0.4	53	110	1	<1	5	41	170	NA	NA	NA
B-13	12/6/95	13	<0.1	3.9	220	0.4	<0.2	11	43	29	0.17	<0.2	46	74	<1	<1	3	34	92	NA	NA	NA
B-13	12/6/95	18	<0.1	4.5	280	0.4	0.3	13	52	51	<0.06	<0.2	67	170	<1	<1	3	53	120	NA	NA	NA
B-13	12/6/95	22	<0.1	<0.5	44	0.4	<0.2	9.6	58	24	<0.06	<0.2	89	5	<1	<1	3	28	45	NA	NA	NA
B-14	12/6/95	2	0.2	4.9	390	0.2	0.5	12	64	74	0.33	<0.2	68	170	<1	2	<1	43	230	NA	NA	NA
B-14	12/6/95	7	<0.1	6.2	140	0.5	<0.2	8.1	33	29	<0.06	<0.2	34	20	<1	2	<1	37	60	NA	NA	NA
B-14	12/6/95	9.5	0.1	2.6	210	0.4	0.1	9.3	35	25	<0.06	<0.2	49	61	<1	<1	<1	30	87	NA	NA	NA
B-14	12/6/95	13	<0.1	<0.5	98	0.3	<0.2	5.4	44	15	<0.06	<0.2	31	6	<1	<1	<1	30	23	NA	NA	NA
B-14	12/6/95	16	<0.1	3.2	180	0.3	<0.2	11	55	27	0.06	<0.2	93	6	<1	<1	<1	39	41	NA	NA	NA
MWA-1	5/31/95	1	0.2	7.5	530	0.4	1.3	15	76	120	4.8	0.6	140	170	1	<1	5	46	330	7.9	300	16
MWA-1[4,5]	5/31/95	1.5	<0.41	39.5	416	0.253	3.31	7.09	25	59.7	0.355	2.79	44.6	380	<0.41	<0.21	NA	17.2	552	8.17	486	156
MWA-1	5/31/95	2	0.1	2.9	410	0.2	0.6	7.7	30	36	0.22	<0.2	35	130	<1	<1	<1	35	190	8.1	990	53
MWA-1[4]	5/31/95	3	<0.47	9.04	157	0.427	7.48	3.56	42	145	0.0263	6.39	23.8	1870	0.797	<0.24	NA	10.8	1190	6.45	380	126
MWA-1	5/31/95	6	1.6	6.6	210	0.5	9.4	3.9	42	140	0.12	3.6	24	3900	7	1	2	13	1900	7.3	370	83
MWA-1[4]	5/31/95	7.5	<0.42	13	199	0.449	12.2	10.6	27.5	962	4.4	7.67	35	18,600	31.5	<0.21	NA	18.5	8620	2.41	4200	1580
MWA-1	5/31/95	8	0.7	11	570	0.7	4.9	6.9	38	62	18	<0.2	32	1600	5	<1	2	29	1000	7	670	810
MWA-1	5/31/95	8.5	20	5.2	920	<1	190	30	26	3800	20	4	53	15,000	610	<1	62	14	30,000	5.7	3800	3,300
MWA-1[4]	5/31/95	8.5	4.67	125	1480	0.113	361	8.84	8.04	2790	5.99	4.97	30.4	10,500	61.5	<0.21	NA	3.36	55,800	5.06	4790	2,360
MWA-1	5/31/95	9	40	1500	120	<0.1	49	2	46	1900	57	21	38	30,000	110	2	<10	280	17,000	5.8	38,000	5,400
MWA-1	5/31/95	10	0.3	5.1	170	0.5	75	17	75	53	<0.06	0.7	170	75	<1	<1	3	42	9700	5.2	3200	2600
MWA-1[4]	5/31/95	10	<0.46	39.2	60.9	0.316	19.9	7.83	37.2	36.5	0.264	3.89	90.1	128	<0.46	<0.23	NA	19.3	7330	5.58	5340	3090
MWA-1[4]	5/31/95	11.5	<0.47	2.54	35.9	0.277	0.617	5.96	19	23.2	0.0511	2.23	19.9	14.3	<0.47	<0.24	NA	7.71	3520	5.68	2090	2070
MWA-1[4]	5/31/95	13	<0.45	3.95	58	0.312	1.07	4.89	28.7	11.8	0.0867	2.57	39.8	18.4	<0.45	<0.22	NA	16.9	428	8.07	491	3290
MWA-1[4]	5/31/95	14.5	<0.46	3.41	35.3	0.225	0.74	5.37	27.7	17.2	0.0577	1.99	46.1	11.6	<0.46	<0.23	NA	14.7	36.9	8.73	310	1060
MWA-1[4]	5/31/95	17	<0.43	2.63	22.2	0.164	0.491	4.25	22.9	9.7	0.103	1.63	31	6.79	<0.43	<0.22	NA	11.1	17.4	8.15	299	1230
MWA-2[4,5]	5/31/95	5.5	6.17	806	3060	0.305	148	3.91	11.1	1670	0.624	7.87	53.1	16,700	54.3	0.47	NA	77.3	35,900	7.39	604	650
MWA-2	5/31/95	6	21	1200	1200	<1	180	5	15	1800	3.1	8	87	29,000	830	4	<10	140	41,000	7.8	3400	860

LEVELS EXCEEDING TTLC

TABLE 3
SOIL ANALYTICAL RESULTS[1]
PG&E Oakland Yard
Oakland, California

Concentrations in milligrams per kilogram (mg/kg)

TTLC[2]			500	500	10000	75	100	8000	2500	2500	20	3500	2000	1000	500	100	700	2400	5000	---	---	---
Well Name	**Sample Date**	**Sample Depth**	**Ag**	**As**	**Ba**	**Be**	**Cd**	**Co**	**Cr**	**Cu**	**Hg**	**Mo**	**Ni**	**Pb**	**Sb**	**Se**	**Tl**	**V**	**Zn**	**pH**	**Sulfur**	**Sulfate**
MWA-2[4]	5/31/95	9.5	<0.44	<0.22	170	0.205	1.33	2.01	16.6	10	0.0746	1.88	14.6	20.1	0.587	0.242	NA	11.3	409	7.24	306	65.6
MWA-2	5/31/95	10	<0.1	5.2	150	0.3	0.2	4.2	28	54	<0.06	0.9	25	10	<1	<1	<1	27	600	6.9	880	6
MWA-2	5/31/95	11.5	0.5	4.2	1700	0.3	5.6	7.7	38	35	<0.06	<0.2	39	250	2	<1	2	36	390	8.6	430	66
MWA-2[4]	5/31/95	11.5	<0.49	0.617	1540	0.177	4.94	5.4	21.8	26.9	0.0734	2	21.3	236	0.591	<0.24	NA	15.2	563	8.57	291	94.3
MWA-2[4]	5/31/95	13.5	<0.44	<0.22	105	0.191	0.801	6.97	19.6	9.3	0.0584	2.04	39.8	15.6	<0.44	<0.22	NA	11.6	36.9	8.72	84.1	96.4
MWA-2[4]	5/31/95	14.5	<0.36	0.51	129	0.28	1.55	11.1	38.4	20.2	0.0571	2.51	67.1	20.1	<0.36	<0.18	NA	28.3	53.2	8.36	103	292
MWA-3[4,5]	5/31/95	4.5	<0.36	0.249	800	0.324	3.72	6.36	31.8	258	0.266	3.17	23.9	1620	<0.36	<0.18	NA	21.2	810	7.65	308	51.6
MWA-3	5/31/95	5	0.7	6.7	850	0.5	2.1	8.4	43	180	0.35	<0.2	30	3300	3	<1	5	36	940	7.8	410	29
MWA-3[4]	5/31/95	9.5	<0.41	0.322	98.3	0.237	8.91	9.25	21.9	36.8	0.18	3.47	23.4	207	<0.41	<0.21	NA	15.9	5030	7.23	509	349
MWA-3	5/31/95	10	0.2	12	120	0.4	5.2	14	29	63	0.32	<0.2	28	95	<1	<1	5	52	2700	7.6	380	250
MWA-3[4]	5/31/95	10.5	<0.47	147	715	0.267	35.7	27.9	23.9	<0.47	6.63	29.9	36.2	36,300	38.8	0.397	NA	35	38,100	6.28	7280	2,060
MWA-3	5/31/95	11	19	290	750	<1	33	14	24	4100	6.5	47	38	19,000	55	3	<10	46	42,000	6.2	10000	5,100
MWA-3	5/31/95	11.5	30	660	340	<1	25	8	140	2700	18	57	62	42,000	300	3	<10	69	36,000	6.1	9000	9,000
MWA-3[4]	5/31/95	11.5	<0.4	297	357	0.229	29.8	269	27.4	2960	11.9	25	18.1	12600	51.1	0.342	NA	21.8	26,800	6.01	3800	2,250
MWA-3	5/31/95	12	11	380	580	<1	55	32	81	4000	3.4	12	44	8000	99	<1	<10	47	42,000	6.1	5100	5,300
MWA-3[4]	5/31/95	12.5	<0.41	8.06	17.5	0.234	2.84	4.59	28	29.8	0.0345	4.18	33.2	18.5	<0.41	<0.2	NA	33.2	6580	5.86	8020	2990
MWA-3	5/31/95	13	0.2	13	64	0.3	5.1	6.2	30	34	<0.06	2.5	34	12	<1	<1	4	35	10,000	5.7	9800	3,000
MWA-3[4]	5/31/95	13.5	<0.36	1.41	27.7	0.216	0.466	2.6	20.2	95.4	0.0437	1.87	12.1	11.3	<0.36	<0.18	NA	12.1	3790	5.96	1100	1350
MWA-3[4]	5/31/95	15	<0.49	1.26	8.39	0.101	0.521	4.49	14.8	12.2	0.106	1.85	17.1	<4.9	<0.49	<0.24	NA	8.03	1640	6.22	239	1450
MW-4	12/7/95	1	<0.1	3.6	61	0.2	<0.2	6.4	32	13	<0.06	<0.2	27	12	<1	<1	<1	25	29	NA	NA	NA
MW-4	12/7/95	8.5	12	2.2	1900	<1	56	6	11	110	0.13	<2	140	350	<10	<1	<10	280	27,000	NA	NA	NA
MW-4	12/7/95	10.5	5	10	130	<1	3	16	11	140	2.4	<2	300	24	<10	1	<10	330	54,000	NA	NA	NA
MW-4	12/7/95	14	<0.1	0.6	860	0.2	<0.2	5.6	48	13	0.21	<0.2	59	4	<1	<1	<1	25	1800	NA	NA	NA
MW-4	12/7/95	15.5	<0.1	3.7	1000	0.3	<0.2	9.9	59	17	0.14	<0.2	110	6	<1	1	<1	37	1100	NA	NA	NA
MW-5	12/7/95	1	<0.1	3	190	0.5	<0.2	9.8	42	27	<0.06	<0.2	53	21	<1	<1	<1	31	58	NA	NA	NA
MW-5	12/7/95	10.5	0.1	3	320	0.4	3.8	8.4	30	28	<0.06	<0.2	39	68	<1	<1	<1	30	830	NA	NA	NA
MW-5	12/7/95	13.5	0.2	7.5	64	0.3	0.6	18	32	22	<0.06	6.6	48	10	<1	2	<1	43	2500	NA	NA	NA
MW-5	12/7/95	17.5	<0.1	<0.5	250	0.3	<0.2	7.6	40	18	0.19	<0.2	65	16	<1	<1	2	30	53	NA	NA	NA
MW-6	12/6/95	1	<0.1	4.2	200	0.4	<0.2	14	50	36	0.09	<0.2	79	110	2	<1	3	44	130	NA	NA	NA
MW-6	12/6/95	7.5	<1	12	780	<1	14	24	210	520	2.3	<2	420	1300	<10	2	<10	36	29,000	NA	NA	NA
MW-6	12/6/95	9.5	<0.1	6.5	25,000	<0.1	1.3	<0.2	25	410	<0.06	9.4	510	80	<1	2	<1	980	2000	NA	NA	NA
MW-6	12/6/95	13	<0.1	0.6	150	0.3	<0.2	7.2	51	19	<0.06	<0.2	58	7	<1	2	3	36	34	NA	NA	NA
MW-6	12/6/95	16	<0.1	1.4	76	0.4	<0.2	9.8	55	26	<0.06	<0.2	78	7	<1	<1	1	36	45	NA	NA	NA
MW-7	12/6/95	1	<0.1	4.9	100	0.2	<0.2	5	25	14	<0.06	<0.2	26	24	<1	<1	<1	20	42	NA	NA	NA
MW-7	12/6/95	5.5	<0.1	0.6	320	0.4	<0.2	13	44	48	0.15	<0.2	57	33	1	<1	2	51	69	NA	NA	NA
MW-7	12/6/95	10.5	0.1	12	580	0.2	1.1	15	35	39	3.8	0.4	75	130	<1	<1	<1	42	180	NA	NA	NA

TABLE 3
SOIL ANALYTICAL RESULTS[1]
PG&E Oakland Yard
Oakland, California

Concentrations in milligrams per kilogram (mg/kg)

TTLC[2]			500	500	10000	75	100	8000	2500	2500	20	3500	2000	1000	500	100	700	2400	5000	---	---	---
Well Name	**Sample Date**	**Sample Depth**	**Ag**	**As**	**Ba**	**Be**	**Cd**	**Co**	**Cr**	**Cu**	**Hg**	**Mo**	**Ni**	**Pb**	**Sb**	**Se**	**Tl**	**V**	**Zn**	**pH**	**Sulfur**	**Sulfate**
MW-7	12/6/95	13.5	<0.1	9.7	67	0.2	0.7	37	34	11	0.06	0.6	68	4	<1	<1	<1	26	17	NA	NA	NA
MW-7	12/6/95	16.5	<0.1	2.6	150	0.4	<0.2	11	41	15	0.13	<0.2	84	6	<1	<1	<1	31	28	NA	NA	NA
MW-8	12/7/95	1	<0.1	2.6	200	0.3	<0.2	9.2	39	23	0.23	<0.2	36	220	<1	<1	<1	39	98	NA	NA	NA
MW-8	12/7/95	8.5	<0.1	1.8	140	0.3	<0.2	9	32	17	0.11	<0.2	30	48	<1	<1	<1	29	56	NA	NA	NA
MW-8	12/7/95	10	<0.1	1.1	86	0.1	0.6	3.8	23	14	<0.06	<0.2	28	7	<1	1	<1	15	53	NA	NA	NA
MW-8	12/7/95	15.5	<0.1	<0.5	120	0.3	<0.2	7.2	40	30	<0.06	<0.2	55	5	<1	<1	<1	23	35	NA	NA	NA

Notes:

[1] Metals (silver (Ag), arsenic (As), barium (Ba), beryllium (Be), cadmium (Cd), cobalt (Co), chromium (Cr), copper (Cu), Mercury (Hg), molybdenum (Mo), nickel (Ni), lead (Pb), antimony (Sb), selenium (Se), thallium (Tl), vanadium (V), and zinc (Zn)), pH, and sulfate analyzed by American Environmental Network of Pleasant Hill, California. Sulfur analyses performed by Curtis & Tompkins of Berkeley, California. Soil samples collected by Miller Brooks were aditionally analyzed for PCBs; no PCBs were detected. Laboratory reports detailing the analyses performed, method detection limits for each constituent, and analytical results are included in Appendix C.

[2] TTLC = total threshold limit concentration based on California Code of Regulations Title 22.

[3] Shaded results indicate samples collected by Miller Brooks and analyzed by RJ Lee Group, Inc.

[4] Samples analyzed for Polychlorinated Biphenols (PCBs) by EPA method SW846-8270M; no PCBs were detected above the method detection limit of 0.17 to 0.22 mg/kg.

[5] NA = Not analyzed.

TABLE 4
GROUNDWATER ANALYTICAL RESULTS
METALS[1]
PG&E Oakland Yard
Oakland, California

Concentrations in micrograms per liter (mg/l)

	MCL[2]	---	0.05	1	0.004	0.005	---	0.05	1	0.002	---	0.1	0.05	0.006	0.01	0.002	---	5
Well Name	**Sample Date**	**Ag**	**As**	**Ba**	**Be**	**Cd**	**Co**	**Cr**	**Cu**	**Hg**	**Mo**	**Ni**	**Pb**	**Sb**	**Se**	**Tl**	**V**	**Zn**
B-2[3]	1/23/95	<0.005	0.22	0.69	<0.002	0.011	0.16	<0.01	0.12	<0.0002	<0.01	0.33	0.17	<0.02	<4	0.12	0.032	21
B-3[3]	1/23/95	<0.005	0.05	0.03	<0.002	0.006	0.35	<0.01	0.01	<0.0002	<0.01	1.1	<0.04	<0.02	<0.04	<0.05	<0.005	0.72
B-4[3]	1/23/95	<0.005	0.006	1.8	<0.002	0.69	0.052	<0.01	0.02	0.0004	<0.01	1	0.22	<0.02	<4	<0.05	<0.005	540
B-5[3]	1/23/95	<0.005	0.003	0.27	<0.002	0.29	0.053	<0.01	0.04	<0.0002	<0.01	0.07	0.3	<0.02	<4	<0.05	<0.005	40
B-6[3]	1/23/95	<0.005	0.17	200	<0.002	<0.005	<0.005	<0.01	<0.01	<0.0002	0.07	<0.01	<0.04	<0.02	0.006	<0.05	0.076	0.05
B-7[3]	1/23/95	<0.005	0.3	5.8	<0.002	0.022	<0.005	<0.01	0.01	<0.0002	0.02	0.03	0.12	0.02	<4	<0.05	0.012	2.6
B-8[3]	1/23/95	<0.05	0.01	<0.1	<0.02	2	0.14	<0.1	<0.1	<0.0002	<0.1	1.8	<0.4	<0.2	<4	<0.05	<0.05	770
MWA-1	6/2/95	<0.05	<0.02	0.01	<0.02	2.7	<0.05	<0.1	0.57	<0.002	<0.1	0.9	<0.4	<0.2	<0.04	<0.05	<0.05	990
MWA-1[4]	6/2/95	<0.01	<0.005	0.0444	0.00808	4.26	0.0412	<15	0.473	0.000317	0.255	0.917	<0.1	0.0015	<0.005	<0.005	<0.01	1128
MWA-1	12/12/95	<0.05	0.011	<0.1	<0.02	2.8	0.11	<0.1	1	0.0003	<0.1	1.2	0.6	<0.2	0.013	<500	<0.05	1000
MWA-2	6/2/95	<0.005	1.1	0.19	<0.002	0.012	0.012	<0.01	<0.01	<0.0002	0.07	0.21	<0.04	0.04	<4	<0.05	0.012	5.5
MWA-2[4]	6/2/95	<0.01	0.937	0.195	0.00723	0.0263	0.0147	<15	<0.01	0.000302	0.259	0.25	<0.1	0.053	<0.005	<0.005	0.0139	7.25
MWA-2	12/12/95	<0.005	1.2	0.56	<0.002	<0.005	0.009	<0.01	<0.01	<0.0002	0.06	0.19	<0.04	0.06	<4	<0.05	0.032	4.6
MWA-3	6/2/95	<0.005	0.012	0.05	<0.002	0.01	0.006	<0.01	<0.01	<0.0002	<0.01	<0.01	<0.04	<0.02	<4	<0.05	<0.005	2
MWA-3[5]	6/2/95	<0.01	0.0273	0.0779	0.00859	0.0376	0.0133	<15	<0.01	0.000291	0.234	<15	<0.1	0.0014	<0.005	<0.005	<0.01	7.85
MWA-3	12/12/95	<0.005	0.018	0.12	<0.002	0.07	0.04	<0.01	<0.01	<0.0002	<0.01	0.04	<0.04	<0.02	<4	0.05	0.007	26
MW-4	12/11/95	<0.05	0.005	<0.1	<0.02	<0.05	1.2	<0.1	<0.1	<0.0002	<0.1	3	<0.4	<0.2	<0.02	<500	<0.05	430
MW-5	12/11/95	<0.005	0.009	0.21	<0.002	<0.005	<0.005	<0.01	<0.01	<0.0002	<0.01	<0.01	<0.04	<0.02	<4	<0.05	<0.005	0.02
MW-6	12/11/95	<0.005	<0.002	0.24	<0.002	<0.005	0.009	<0.01	<0.01	<0.0002	0.03	0.03	<0.04	<0.02	<4	<0.05	0.022	0.02
MW-7	12/11/95	<0.005	<0.002	0.1	<0.002	<0.005	0.014	<0.01	0.02	<0.0002	<0.01	0.02	<0.04	<0.02	<4	<0.05	<0.005	0.04
MW-8	12/11/95	<0.005	0.004	1.2	<0.002	<0.005	<0.005	<0.01	<0.01	<0.0002	<0.01	<0.01	<0.04	<0.02	<4	0.05	0.011	0.01

Notes:

[1] Metals (silver (Ag), arsenic (As), barium (Ba), beryllium (Ba), cadmium (Cd), cobalt (Co), chromium (Cr), copper (Cu), Mercury (Hg), molybdenum (Mo), nickel (Ni), lead (Pb), antimony (Sb), selenium (Se), thallium (Tl), vanadium (V), and zinc (Zn)) analyzed by American Environmental Network of Pleasant Hill, California. Laboratory reports detailing the analyses performed, method detection limits for each constituent, and analytical results are included in Appendix C.

[2] MCL = maximum contaminant level based on Federal and California drinking water standards, 1995.

[3] Results for B-2 through B-8 are for grab groundwater samples collected from soil borings.

[4] Shaded results indicate samples collected by Miller Brooks and analyzed by RJ Lee Group, Inc.

AT OR ABOVE MCL'S

GEOMATRIX

TABLE 5

GROUNDWATER ANALYTICAL RESULTS[1] - VOCs, SVOCs, ANIONS, pH, AND ALKALINITY

PG&E Oakland Yard

Oakland, California

Concentrations in micrograms per liter (mg/l)

Well Name	Sample Date	pH	VOCs[2]	SVOCs[3]	Fluoride	Chloride	Nitrate	Phosphate	Sulfate	Alkalinity
B-2[4]	1/23/95	NA[6]	NA	NA	NA	NA	NA	NA	NA	NA
B-3[4]	1/23/95	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-4[4]	1/23/95	5.90	NA	NA	NA	NA	NA	NA	NA	NA
B-5[4]	1/23/95	6.40	NA	NA	NA	NA	NA	NA	NA	NA
B-6[4]	1/23/95	9.10	NA	NA	NA	NA	NA	NA	NA	NA
B-7[4]	1/23/95	7.50	NA	NA	NA	NA	NA	NA	NA	NA
B-8[4]	1/23/95	5.60	NA	NA	NA	NA	NA	NA	NA	NA
MWA-1	6/2/95	6.37	NA	NA	<10	660	2.5	<30	3,900	150
MWA-1[5]	6/2/95	6.77	NA	NA	NA	588	41.7	NA	360	NA
MWA-1	12/12/95	6.30	ND[7]	0.018	NA	NA	NA	NA	NA	NA
MWA-2	6/2/95	7.50	NA	NA	<5	490	<2	<30	460	1,000
MWA-2[5]	6/2/95	7.60	NA	NA	NA	343	16	NA	332	NA
MWA-2	12/12/95	7.10	ND	0.013	NA	NA	NA	NA	NA	NA
MWA-3	6/2/95	6.77	NA	NA	<5	590	<2	<30	390	430
MWA-3[5]	6/2/95	7.65	NA	NA	NA	466	4.66	NA	366	NA
MWA-3	12/12/95	6.70	ND	0.019	NA	NA	NA	NA	NA	NA
MW-4	12/11/95	6.30	ND	0.024	NA	NA	NA	NA	NA	NA
MW-5	12/11/95	7.30	ND	ND	NA	NA	NA	NA	NA	NA
MW-6	12/11/95	7.90	ND	ND	NA	NA	NA	NA	NA	NA
MW-7	12/11/95	7.10	ND	0.052	NA	NA	NA	NA	NA	NA
MW-8	12/11/95	7.30	ND	ND	NA	NA	NA	NA	NA	NA

Notes:

[1] Samples analyzed by American Environmental Network of Pleasant Hill, California. Laboratory reports detailing the analyses performed, method detection limits for each constituent, and analytical results are included in Appendix C.

[2] VOCs = Volatile Organic Compounds.

[3] SVOCs = Semi-Volatile Organic Compounds. SVOC detected is Phenol.

[4] Results for B-2 through B-8 are for grab groundwater samples collected from soil borings.

[5] Shaded results indicate samples collected by Miller Brooks and analyzed by RJ Lee Group, Inc.

[6] NA = not analyzed.

[7] ND = not detected above method detection limit

TABLE 6

MAXIMUM METALS CONCENTRATIONS IN SOIL
5051 Coliseum Way
Oakland, California

(Results in mg/kg)

Metal	5051 Coliseum Way	750 50th Avenue and 5050 Coliseum Way[1]	5200 Coliseum Way[2]
Arsenic	1500	18,000	160
Barium	100,000	92,000	40,000
Cadmium	2100	1400	200
Copper	4100	3600	6200
Mercury	65	62	2.6
Lead	42,000	24,000	2800
Antimony	850	95	17
Zinc	54,000	60,000	62,000

Notes:

[1] Maximum metals concentrations obtained from the Preliminary Remedial Alternatives Evaluation Report, dated 23 November 1994 or the Remedial Investigation Report dated 19 September 1994, both prepared by Levine-Fricke.

[2] Maximum metals concentrations obtained from the Limited Soil and Groundwater Investigation Report, dated 22 March 1995, prepared by Subsurface Consultants, Inc.

GEOMATRIX

TABLE 7

MAXIMUM METALS CONCENTRATIONS AND pH RANGE IN THREE WASTE AREAS

5051 Coliseum Way
Oakland, California

(Results in mg/kg or pH units)

	Northern Waste Area	Central Waste Area	Southern Waste Area
Arsenic	1500	1200	23
Barium	1900	1900	100,000
Cadmium	2100	180	4.6
Copper	3800	4100	410
Mercury	65	18	2.3
Lead	30,000	42,000	84
Antimony	610	850	2
Zinc	54,000	42,000	2000
pH	4.5 - 6.2	6.1 - 8.2	8.5 - 11.2

GEOMATRIX

TABLE 8

MAXIMUM REPORTED METALS CONCENTRATIONS IN GROUNDWATER

5051 Coliseum Way
Oakland, California

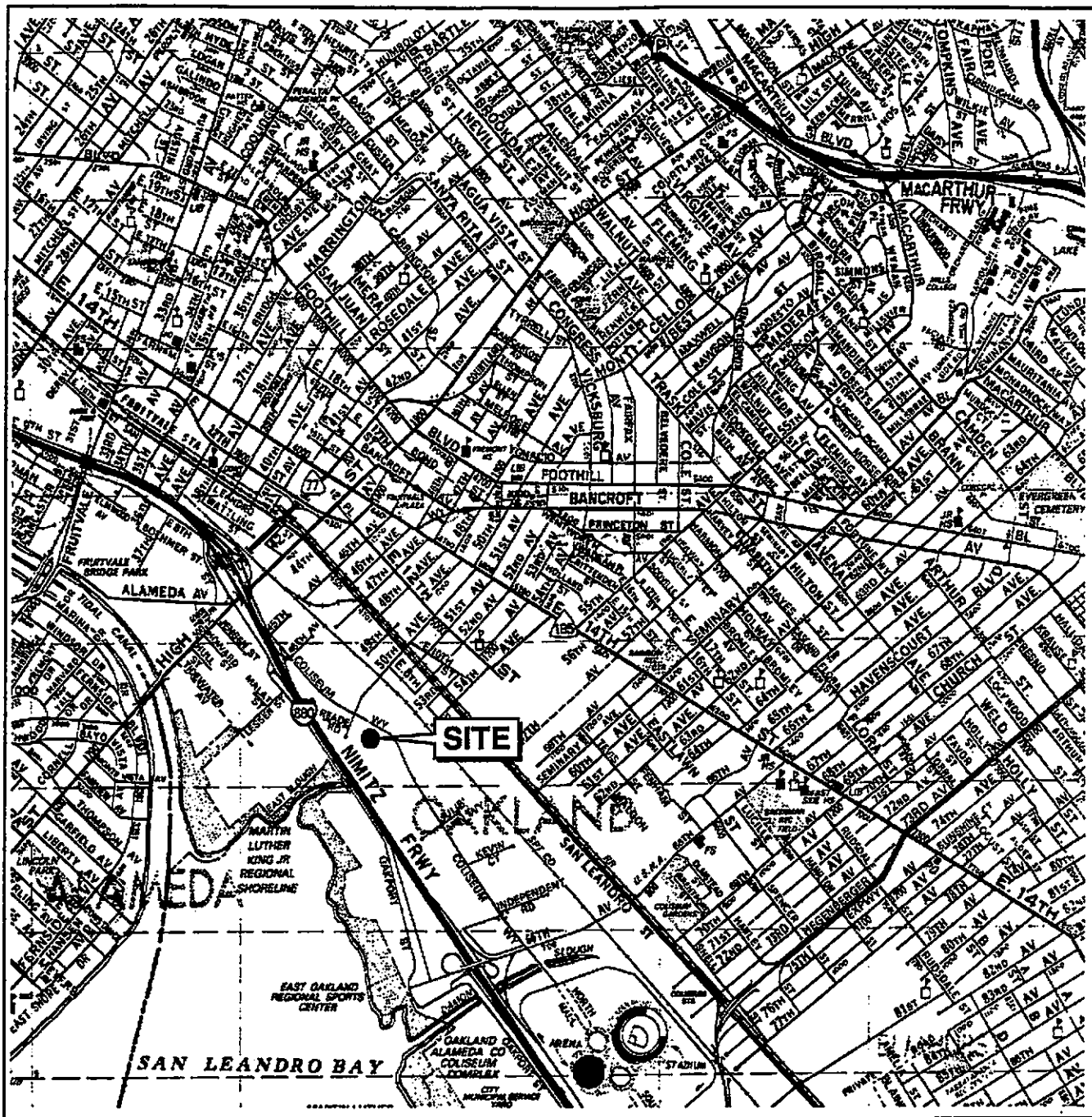
(Results in mg/l)

	5051 Coliseum Way	750 - 50th Avenue and 5050 Coliseum Way[1]	5200 Coliseum Way[2]
Arsenic	1.1	7.3	3.4
Antimony	0.06	0.03	<0.06
Barium	200	0.77	2600
Cadmium	2.8	120	0.014
Lead	0.6	6	0.004
Nickel	3	28	0.074
Selenium	0.013	0.027	<0.005
Thallium	0.12	0.9	<0.005
Zinc	1000	47,000	0.053

Notes:

1 Maximum metals concentrations obtained from the Preliminary Remedial Alternatives Evaluation Report, dated 23 November 1994 or the Remedial Investigation Report dated 19 September 1994, both prepared by Levine-Fricke.

2 Maximum metals concentrations obtained from the Limited Soil and Groundwater Investigation Report, dated 22 March 1995, prepared by Subsurface Consultants, Inc.

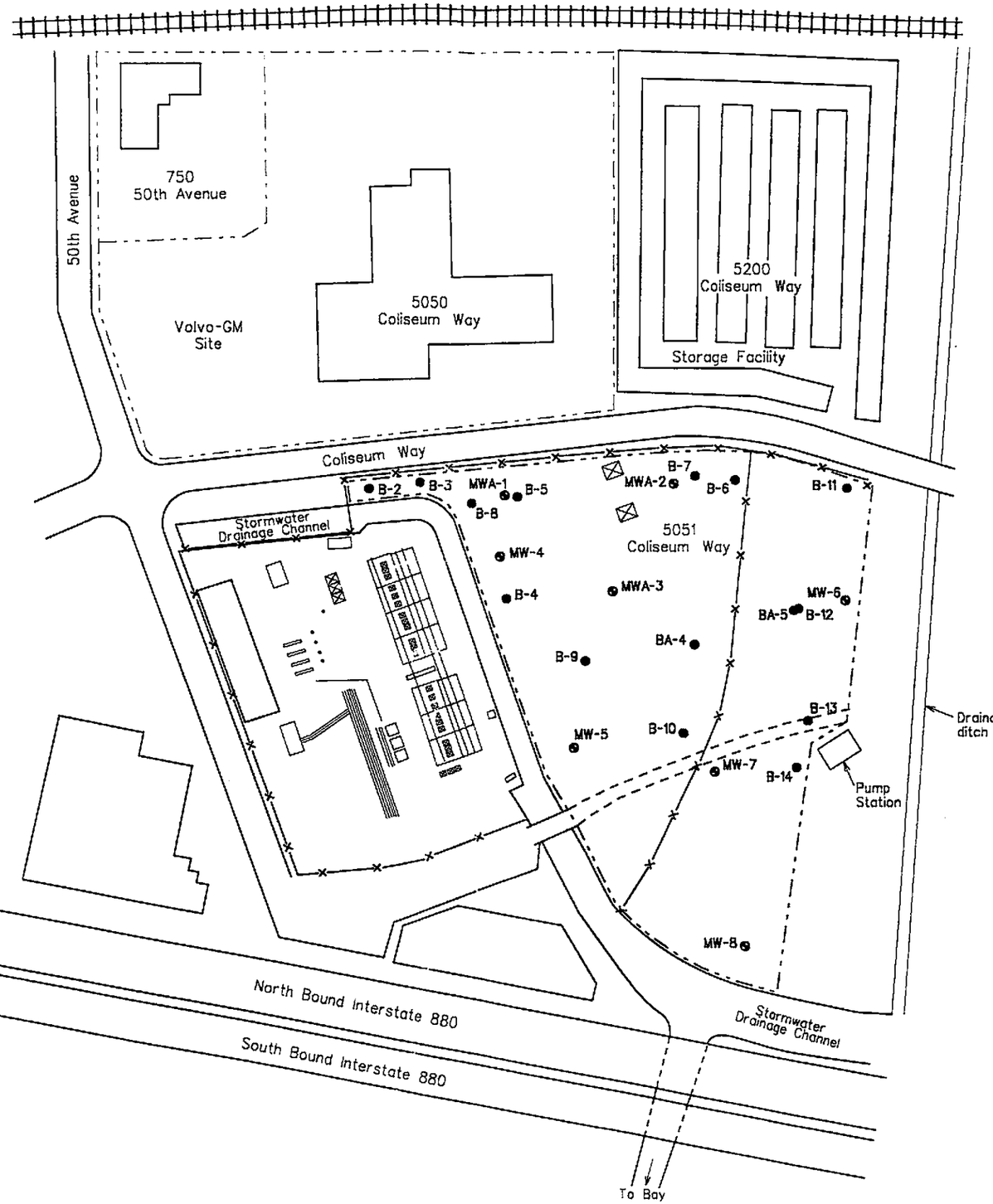


GEOMATRIX

SITE LOCATION MAP
5051 Coliseum Way
Oakland, California

Figure
1

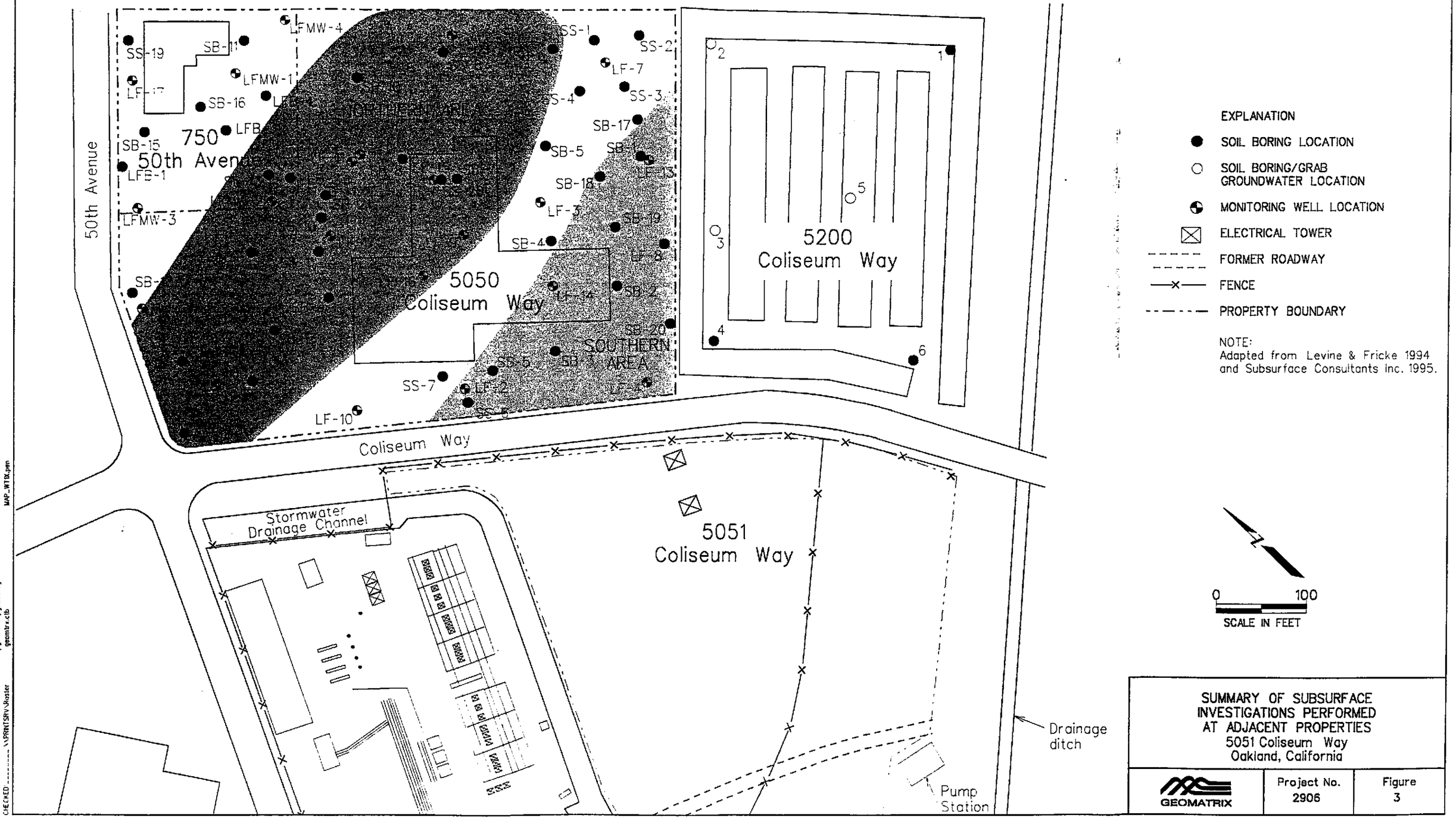
Project No.
2906H



SITE PLAN

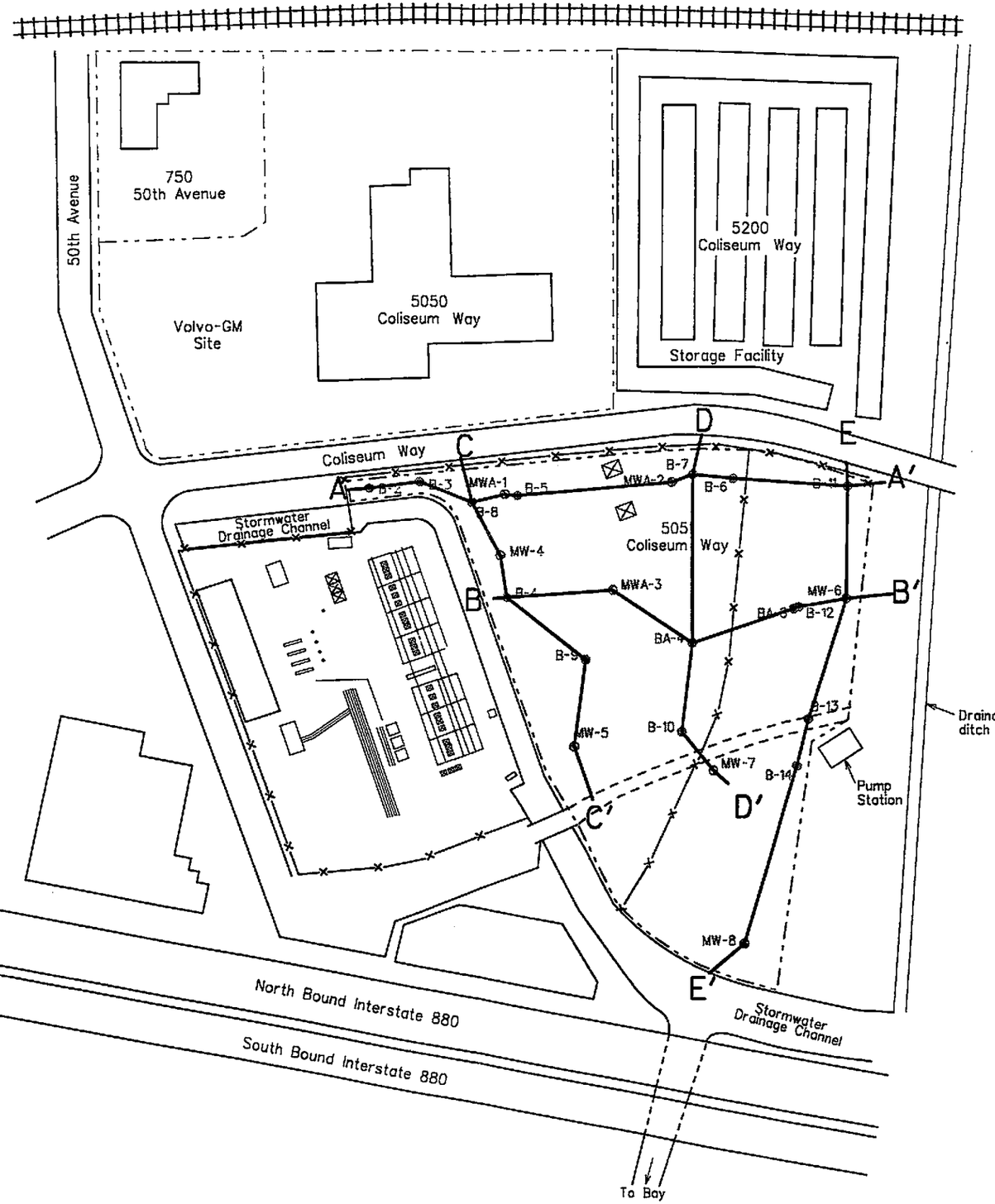
5051 Coliseum Way
Oakland, California

GEOMATRIX	Project No. 2906	Figure 2



SUMMARY OF SUBSURFACE
INVESTIGATIONS PERFORMED
AT ADJACENT PROPERTIES
5051 Coliseum Way
Oakland, California

GEOMATRIX	Project No. 2906	Figure 3



EXPLANATION

- SOIL BORING LOCATION
- MONITORING WELL LOCATION
- ELECTRICAL TOWER
- FORMER ROADWAY
- FENCE
- PROPERTY BOUNDARY
- A A' LOCATION OF GEOLOGIC CROSS SECTION

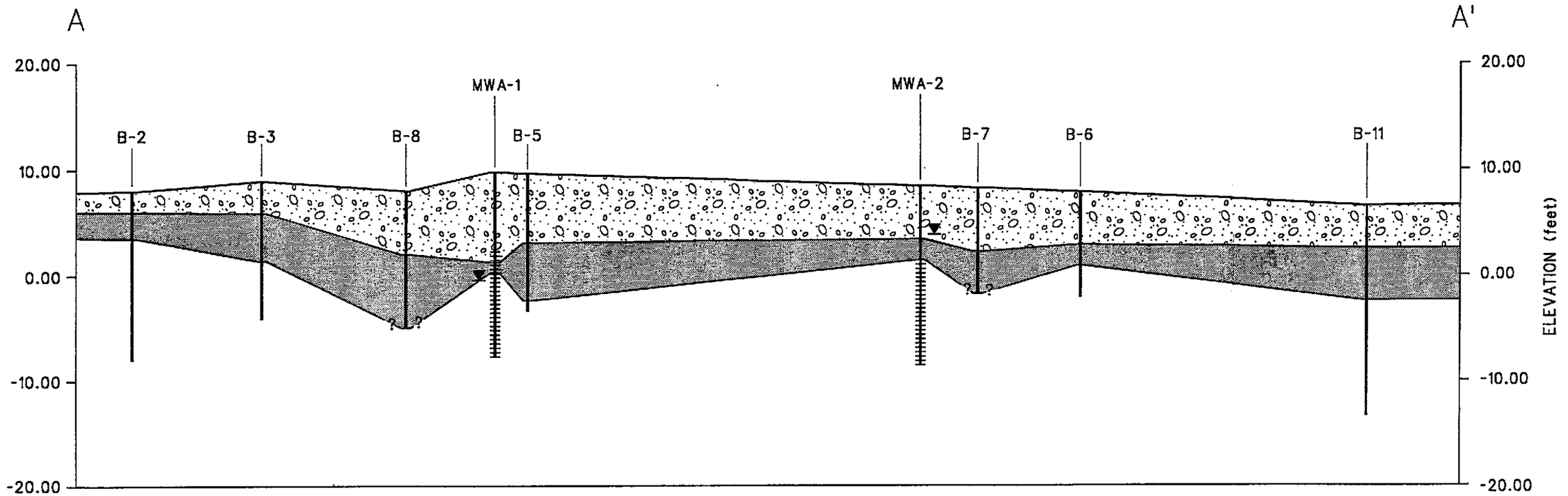
0 150

SCALE IN FEET

CROSS-SECTION LOCATIONS

5051 Coliseum Way
Oakland, California

GEOMATRIX	Project No. 2906	Figure 4



EXPLANATION

- FILL
- WASTE
- NATIVE SOIL
- BORING LOCATION AND DEPTH
- SCREENED INTERVAL
- WATER LEVEL MEASURED ON 19 DECEMBER 1996

10'
VERTICAL EXAGGERATION: 5x
50'

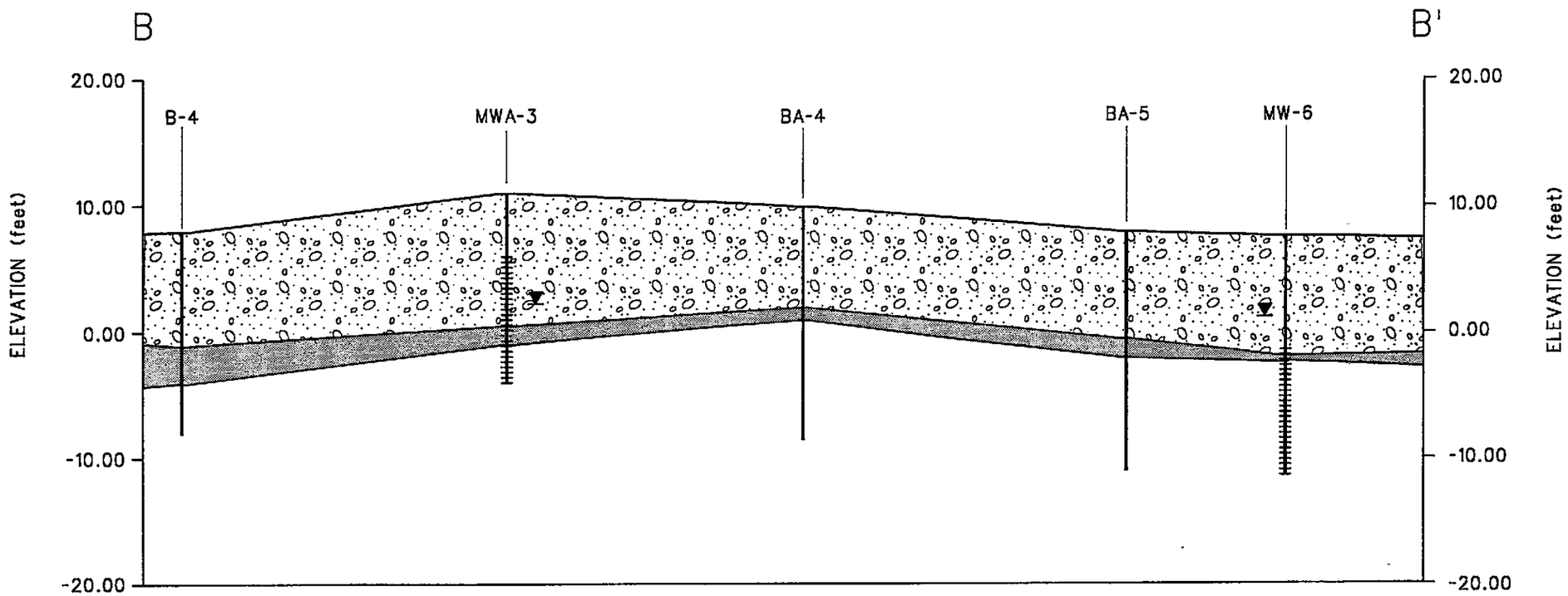
NOTES:

1. The geologic units connected between borings have been inferred and are based on interpolation between widely spaced points. For clarity, solid lines are used to represent contacts between these units, but these are not meant to imply certainty.
2. Cross-Section shown on Figure 2.
3. Elevations are in feet, msl.

CROSS-SECTION A-A'

5051 Coliseum Way
Oakland, California

GEOMATRIX	Project No. 2906	Figure 5



EXPLANATION

- FILL
- WASTE
- NATIVE SOIL
- BORING LOCATION AND DEPTH
- SCREENED INTERVAL
- WATER LEVEL MEASURED ON 19 DECEMBER 1996

10'

VERTICAL EXAGGERATION: 5x

50'

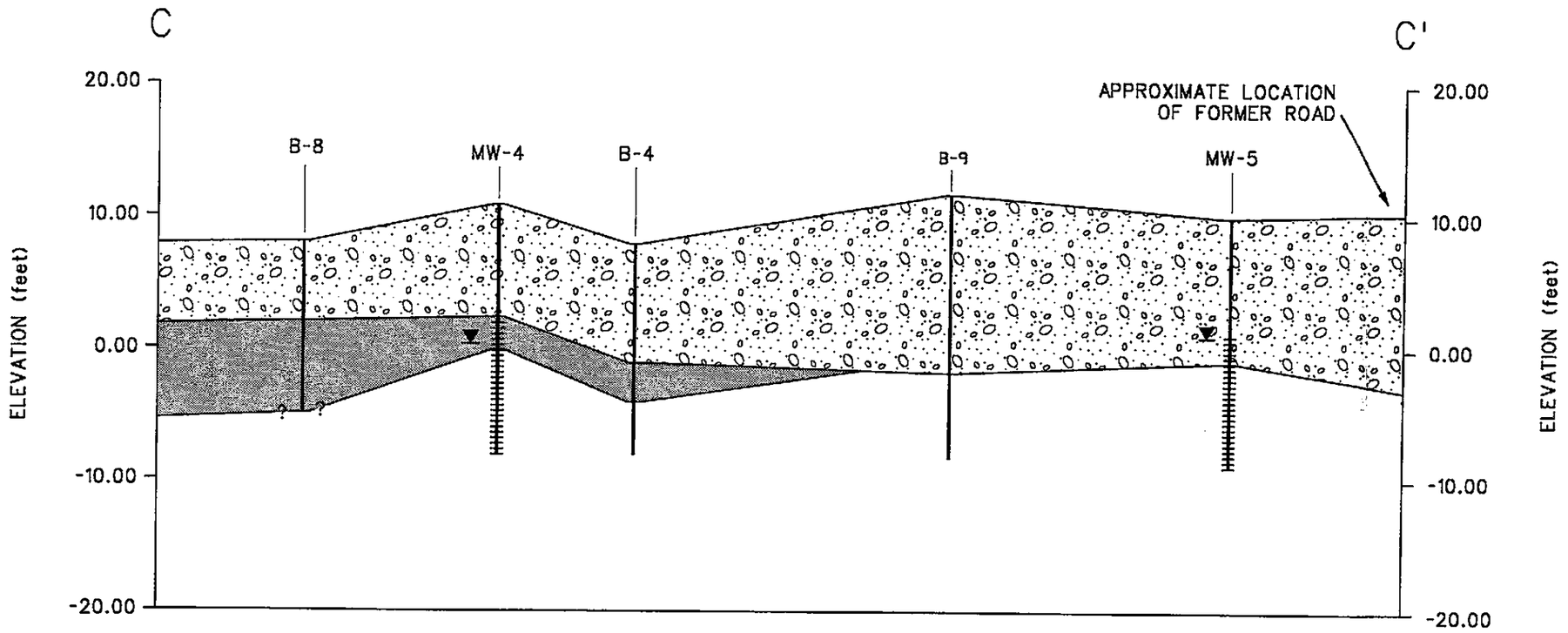
NOTES:

1. The geologic units connected between borings have been inferred and are based on interpolation between widely spaced points. For clarity, solid lines are used to represent contacts between these units, but these are not meant to imply certainty.
2. Cross-Section shown on Figure 2.
3. Elevations are in feet, msl.

CROSS-SECTION B-B'

5051 Coliseum Way
Oakland, California

GEOMATRIX	Project No. 2906	Figure 6



EXPLANATION

- FILL
- WASTE
- NATIVE SOIL
- BORING LOCATION AND DEPTH
- SCREENED INTERVAL
- WATER LEVEL MEASURED ON 19 DECEMBER 1996

10'
VERTICAL EXAGGERATION: 5x
50'

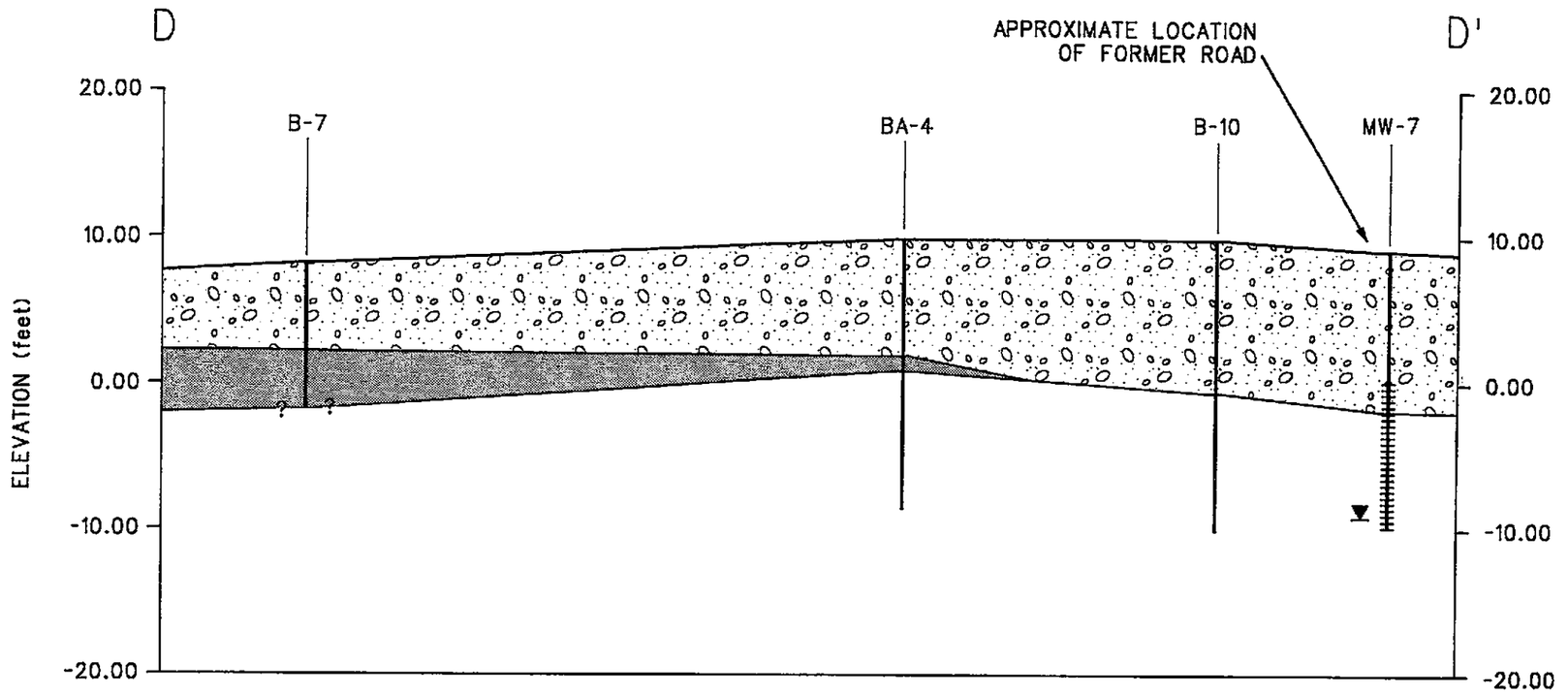
NOTES:

1. The geologic units connected between borings have been inferred and are based on interpolation between widely spaced points. For clarity, solid lines are used to represent contacts between these units, but these are not meant to imply certainty.
2. Cross-Section shown on Figure 2.
3. Elevations are in feet, msl.

CROSS-SECTION C-C'

5051 Coliseum Way
Oakland, California

GEOMATRIX	Project No. 2906	Figure 7



NOTES:

1. The geologic units connected between borings have been inferred and are based on interpolation between widely spaced points. For clarity, solid lines are used to represent contacts between these units, but these are not meant to imply certainty.

2. Cross-Section shown on Figure 2.

3. Elevations are in feet, msl.

EXPLANATION

- FILL
- WASTE
- NATIVE SOIL
- BORING LOCATION AND DEPTH
- SCREENED INTERVAL
- WATER LEVEL MEASURED ON 19 DECEMBER 1996

10'

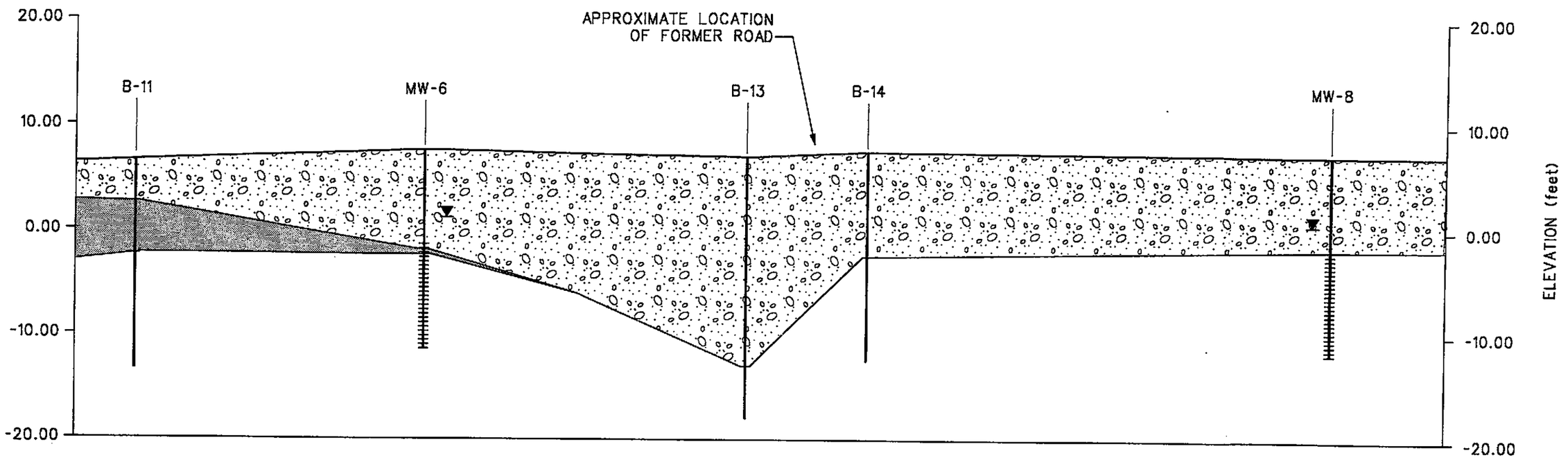
VERTICAL EXAGGERATION: 5x

50'

CROSS-SECTION D-D'

5051 Coliseum Way
Oakland, California

GEOMATRIX	Project No. 2906	Figure 8



EXPLANATION

- FILL
- WASTE
- NATIVE SOIL
- BORING LOCATION AND DEPTH
- SCREENED INTERVAL
- WATER LEVEL MEASURED ON 19 DECEMBER 1996

10'
VERTICAL EXAGGERATION: 5x
50'

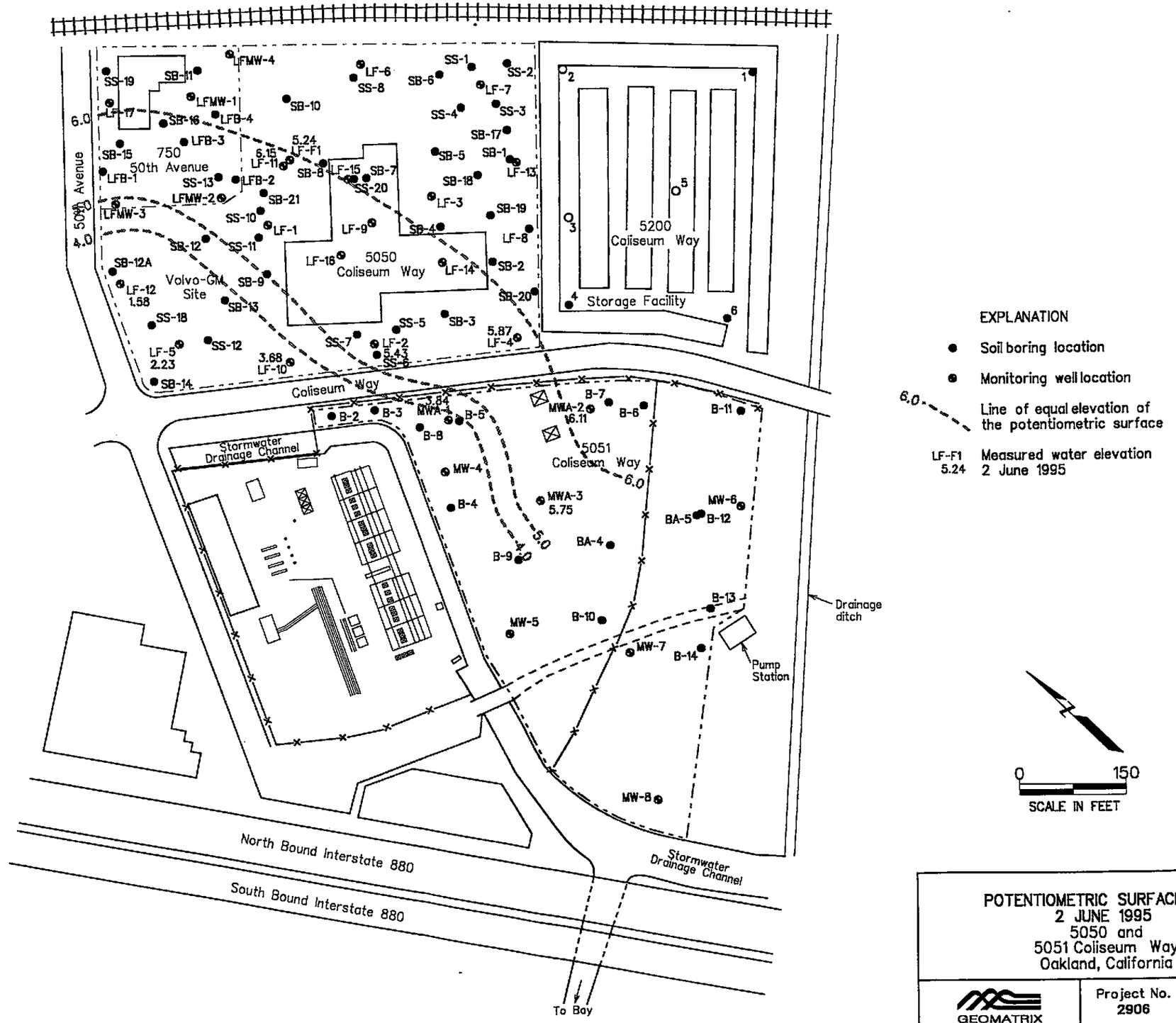
NOTES:

1. The geologic units connected between borings have been inferred and are based on interpolation between widely spaced points. For clarity, solid lines are used to represent contacts between these units, but these are not meant to imply certainty.
2. Cross-Section shown on Figure 2.
3. Elevations are in feet, msl.

CROSS-SECTION E-E'

5051 Coliseum Way
Oakland, California

GEOMATRIX	Project No. 2906	Figure 9



EXPLANATION

- Soil boring location
- Monitoring well location
- 6.0 — Line of equal elevation of the potentiometric surface
- LF-F1 5.24 — Measured water elevation 2 June 1995

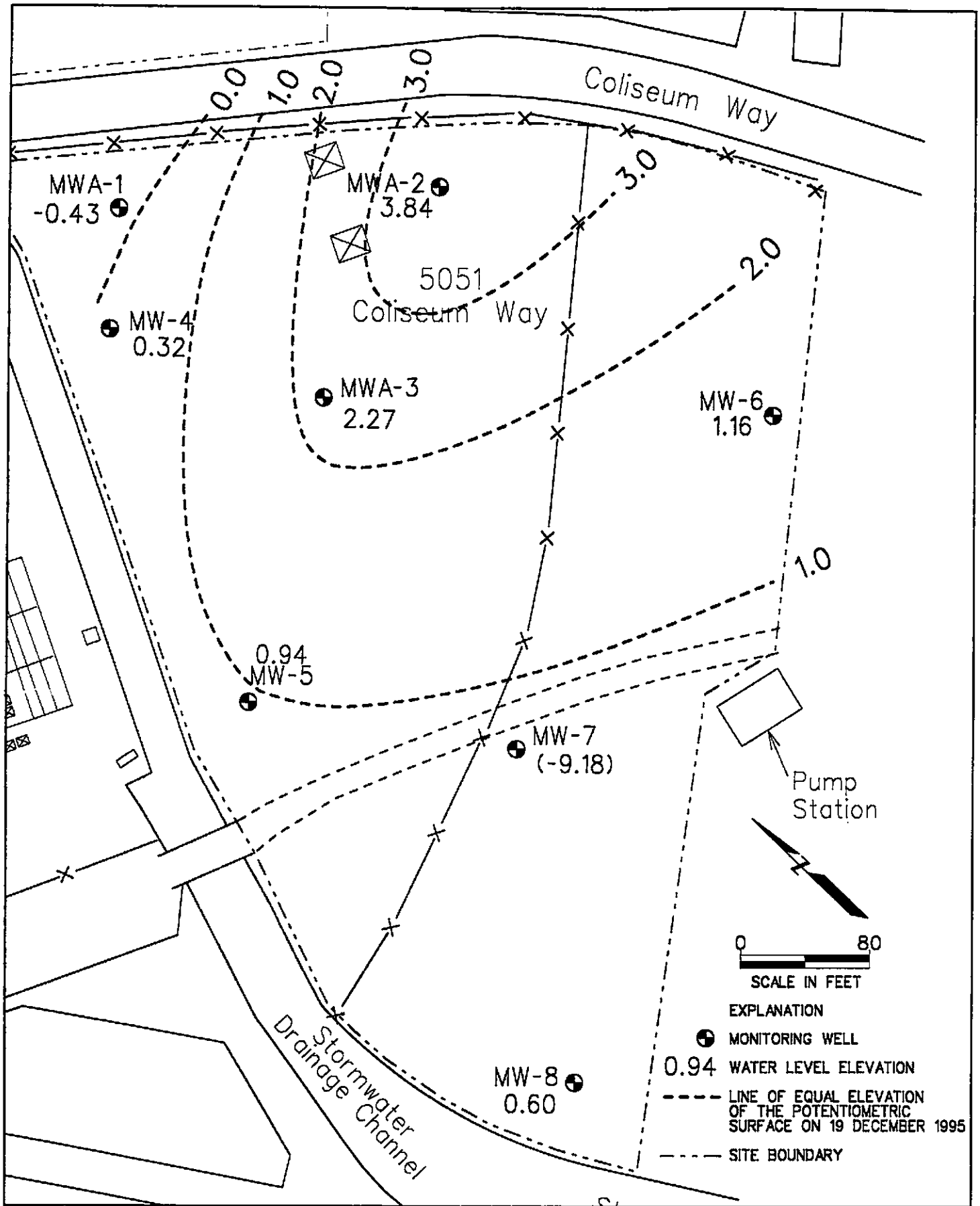
0 150

SCALE IN FEET

POTENTIOMETRIC SURFACE MAP
2 JUNE 1995
5050 and
5051 Coliseum Way
Oakland, California

GEOMATRIX	Project No. 2906	Figure 10

16-JUL-1998 07:41 mwessels
R:\2000-2900s\2906\2908\vgds06595\vgp...10.dgn
\\PRINTSRV\PAGEMARQ geomtrx.ctb
CHECKED:
MAP_pm.pen

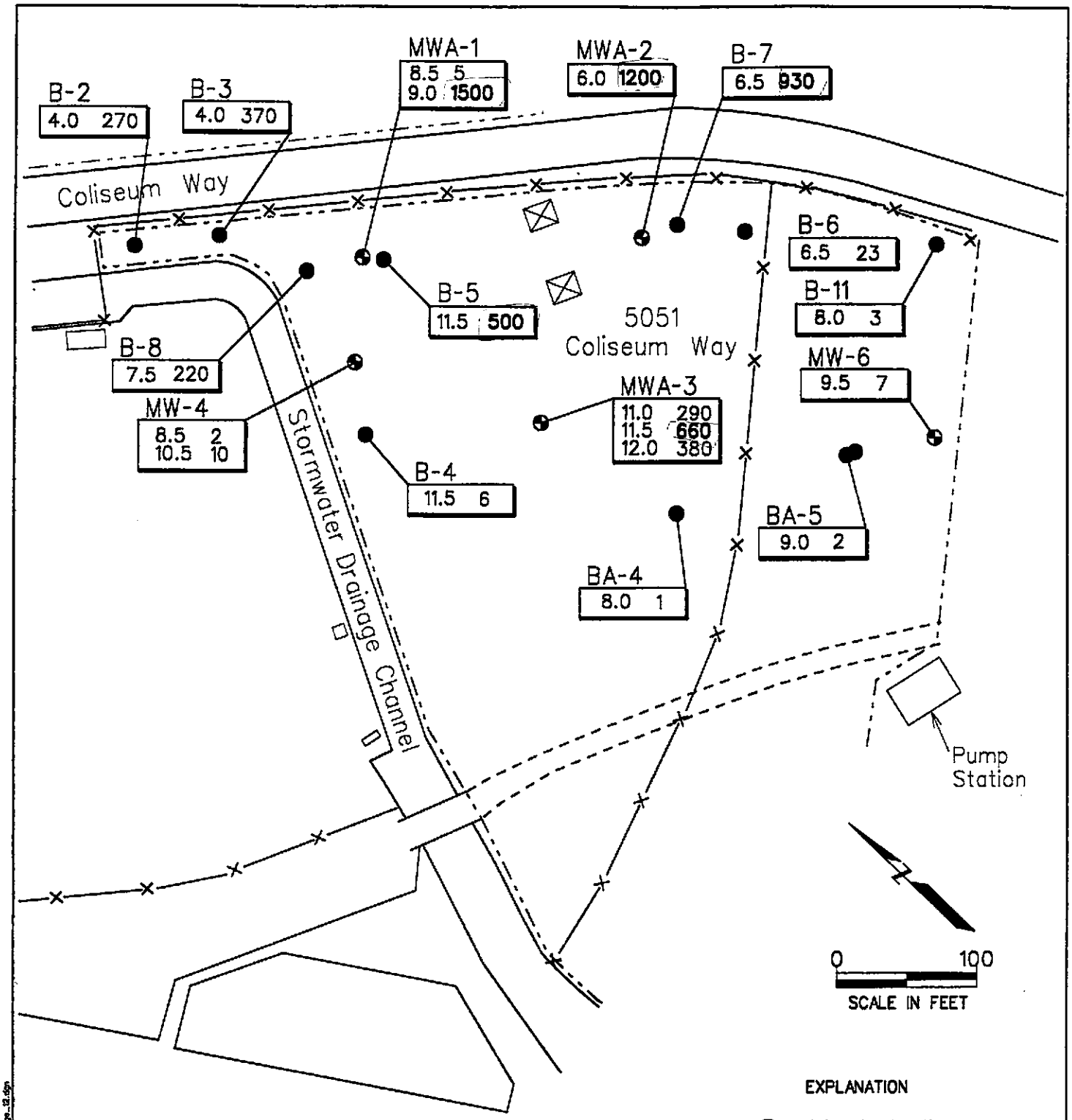


GEOMATRIX

POTENTIOMETRIC SURFACE MAP (HIGH TIDE)
19 DECEMBER 1995
5051 Coliseum Way
Oakland, California

Figure
11

Project No.
2906



Note:

1. Only monitoring wells and borings installed across the waste layer are presented.
2. Concentrations above the TTLC are bold.

EXPLANATION

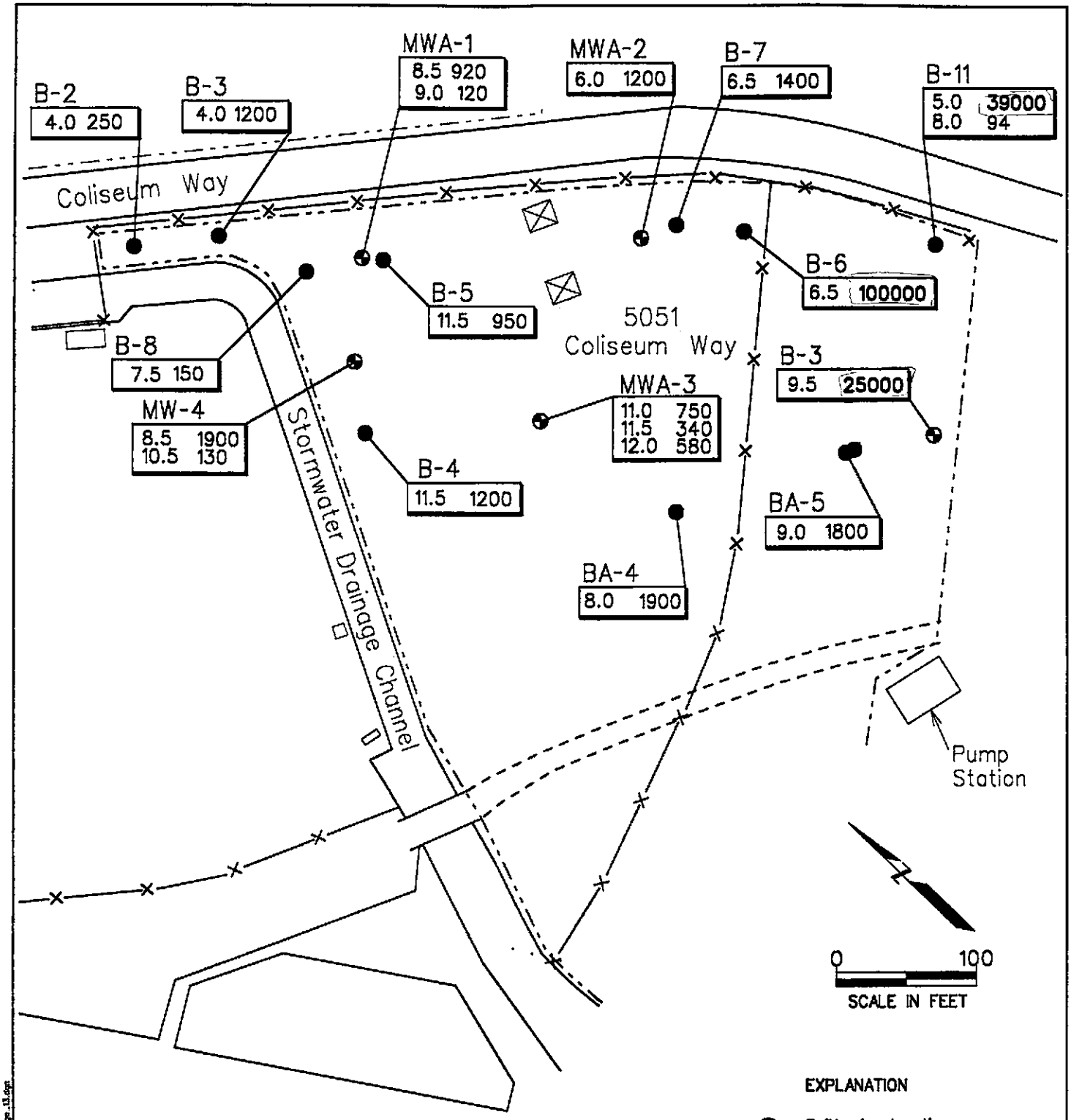
- Soil boring location
- Monitoring well location
- BA-4 ← Location
- 8.0 1 ← Arsenic concentration (mg/kg)
- Sample depth, feet bgs

GEOMATRIX

ARSENIC IN THE WASTE LAYER
5051 Coliseum Way
Oakland, California

Figure 12

Project No. 2906



Note:

1. Only monitoring wells and borings installed across the waste layer are presented.
2. Concentrations above the TTLC are bold.

EXPLANATION

- Soil boring location
- Monitoring well location
- BA-4 8.0 1900 ← Location; Arsenic concentration (mg/kg); Sample depth, feet bgs

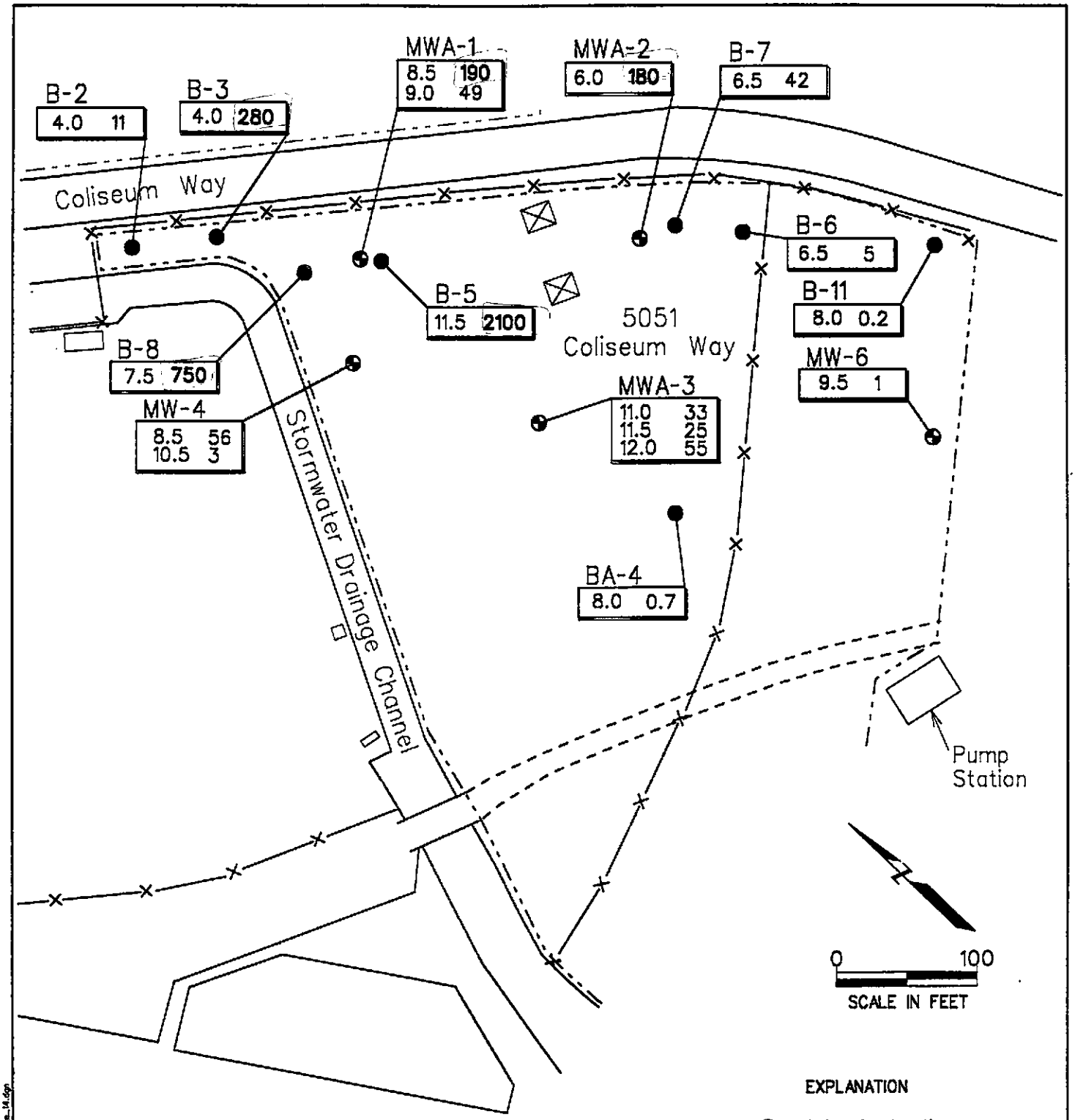
GEOMATRIX

BARIUM IN THE WASTE LAYER

5051 Coliseum Way
Oakland, California

Figure 13

Project No. 2906



Note:

1. Only monitoring wells and borings installed across the waste layer are presented.
2. Concentrations above the TTLC are bold.

EXPLANATION

- Soil boring location
- Monitoring well location
- BA-4 8.0 0.7
  - Location
  - Arsenic concentration (mg/kg)
  - Sample depth, feet bgs

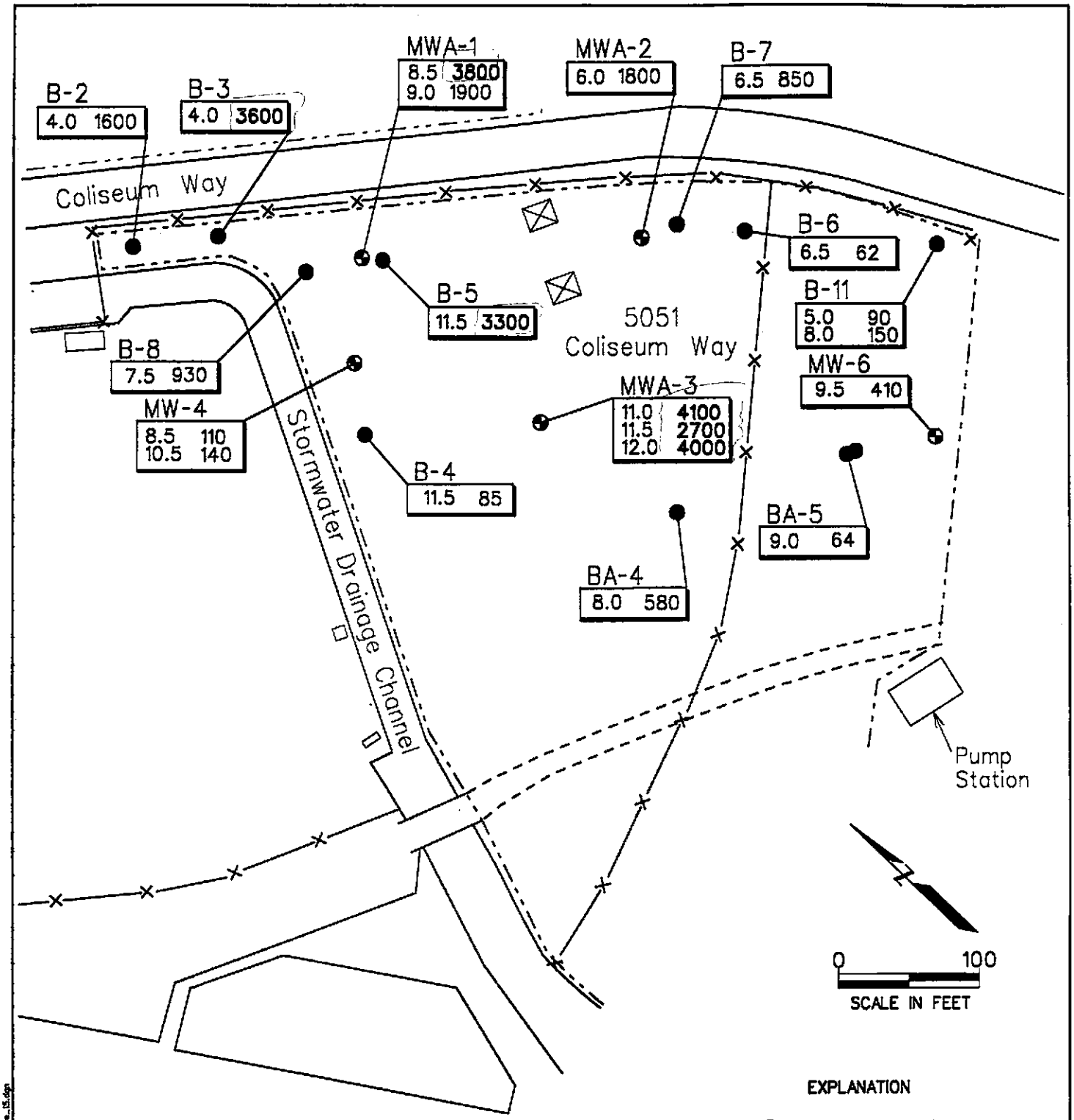
GEOMATRIX

CADMIUM IN THE WASTE LAYER

5051 Coliseum Way
Oakland, California

Figure 14

Project No. 2906



Note:

1. Only monitoring wells and borings installed across the waste layer are presented.
2. Concentrations above the TTLC are bold.

EXPLANATION

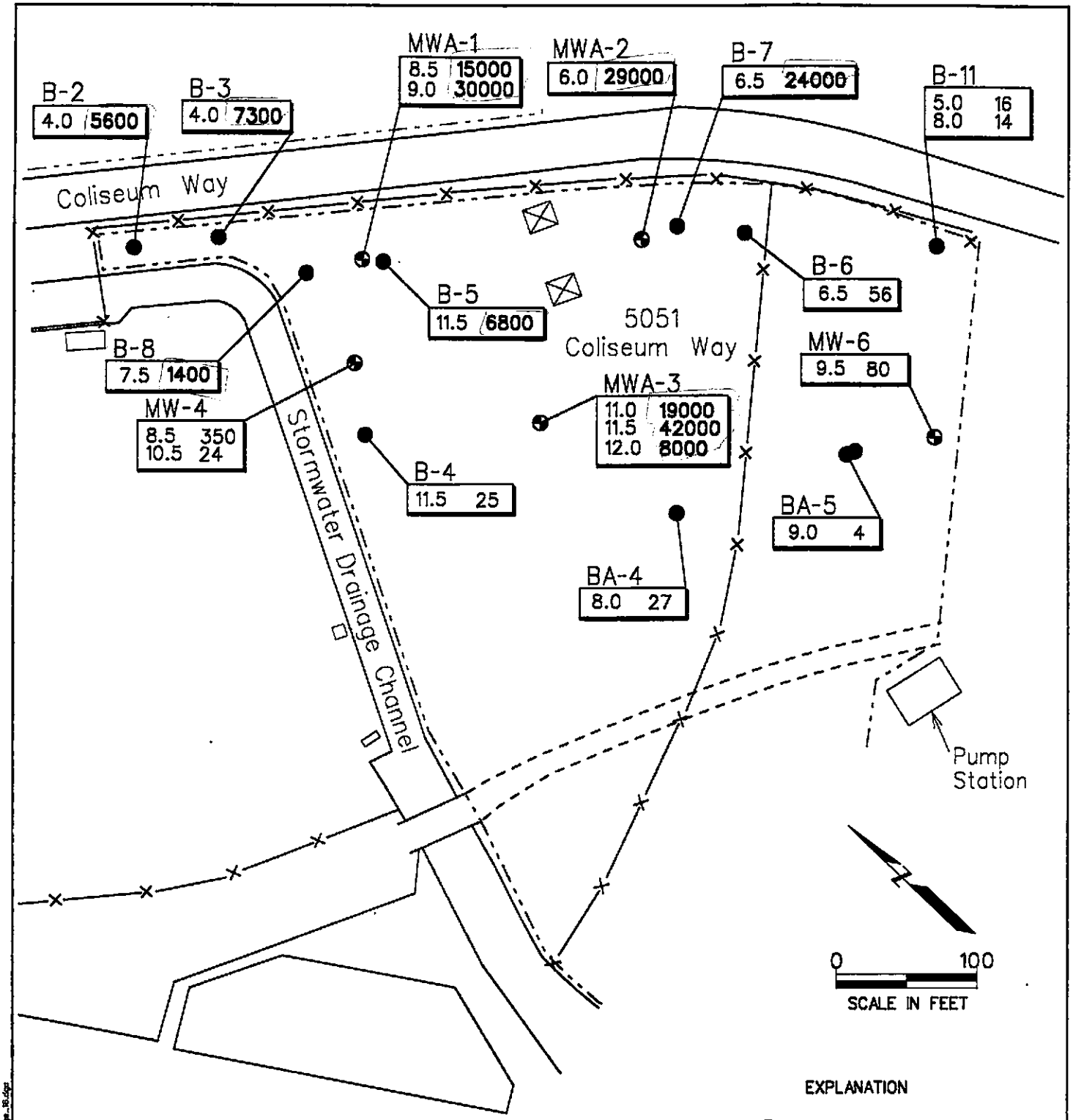
- Soil boring location
- Monitoring well location
- BA-4 ← Location
- 8.0 580 ← Arsenic concentration (mg/kg)
- Sample depth, feet bgs

GEOMATRIX

COPPER IN THE WASTE LAYER
5051 Coliseum Way
Oakland, California

Figure 15

Project No. 2906



Note:

1. Only monitoring wells and borings installed across the waste layer are presented.
2. Concentrations above the TTLC are bold.

EXPLANATION

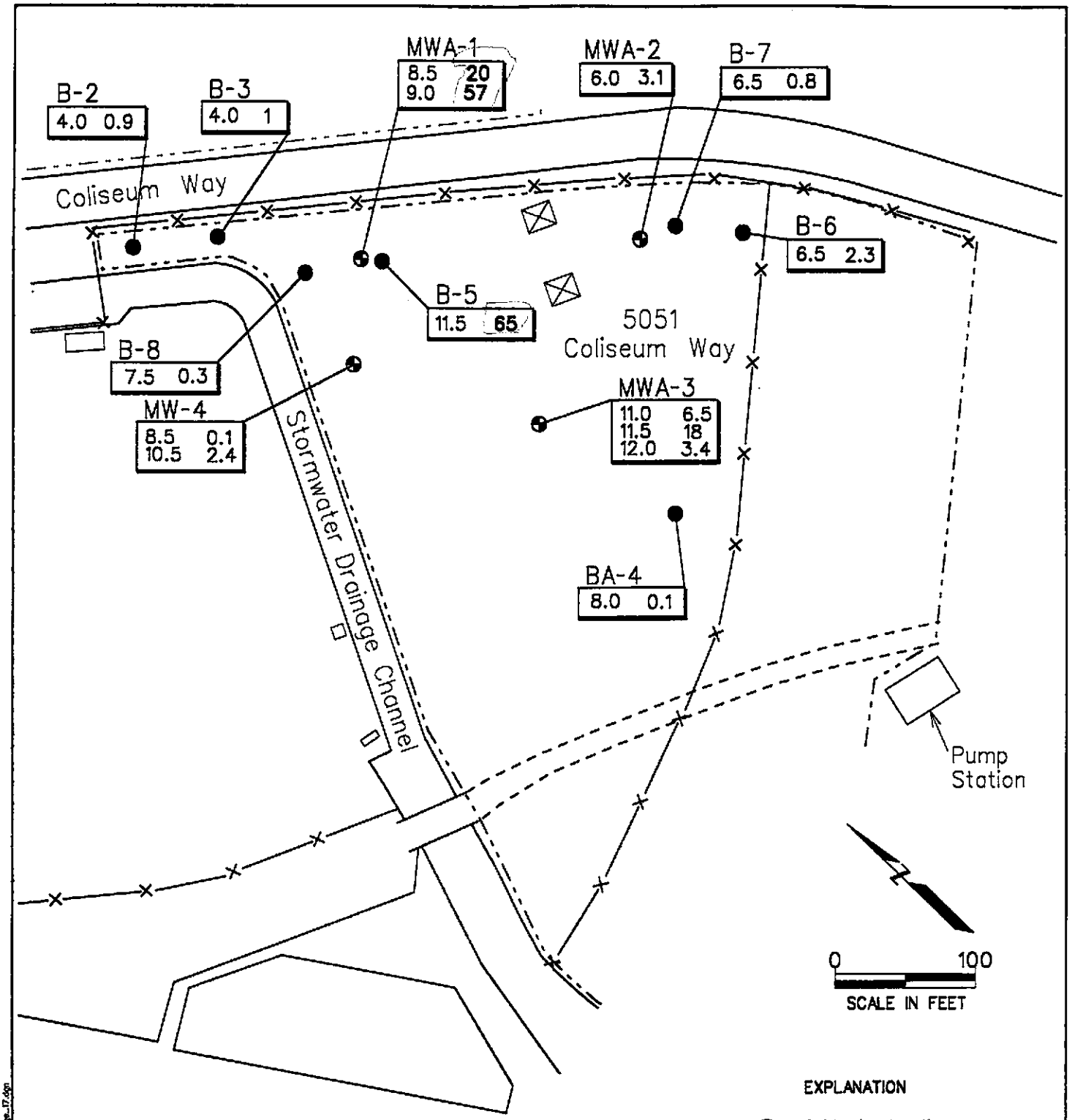
- Soil boring location
- Monitoring well location
- BA-4 ← Location
- 8.0 27 ← Arsenic concentration (mg/kg)
- Sample depth, feet bgs

GEOMATRIX

LEAD IN THE WASTE LAYER
5051 Coliseum Way
Oakland, California

Figure 16

Project No. 2906



Note:

1. Only monitoring wells and borings installed across the waste layer are presented.
2. Concentrations above the TTLC are bold.

EXPLANATION

- Soil boring location
- Monitoring well location
- BA-4 8.0 0.1 — Location; Arsenic concentration (mg/kg); Sample depth, feet bgs

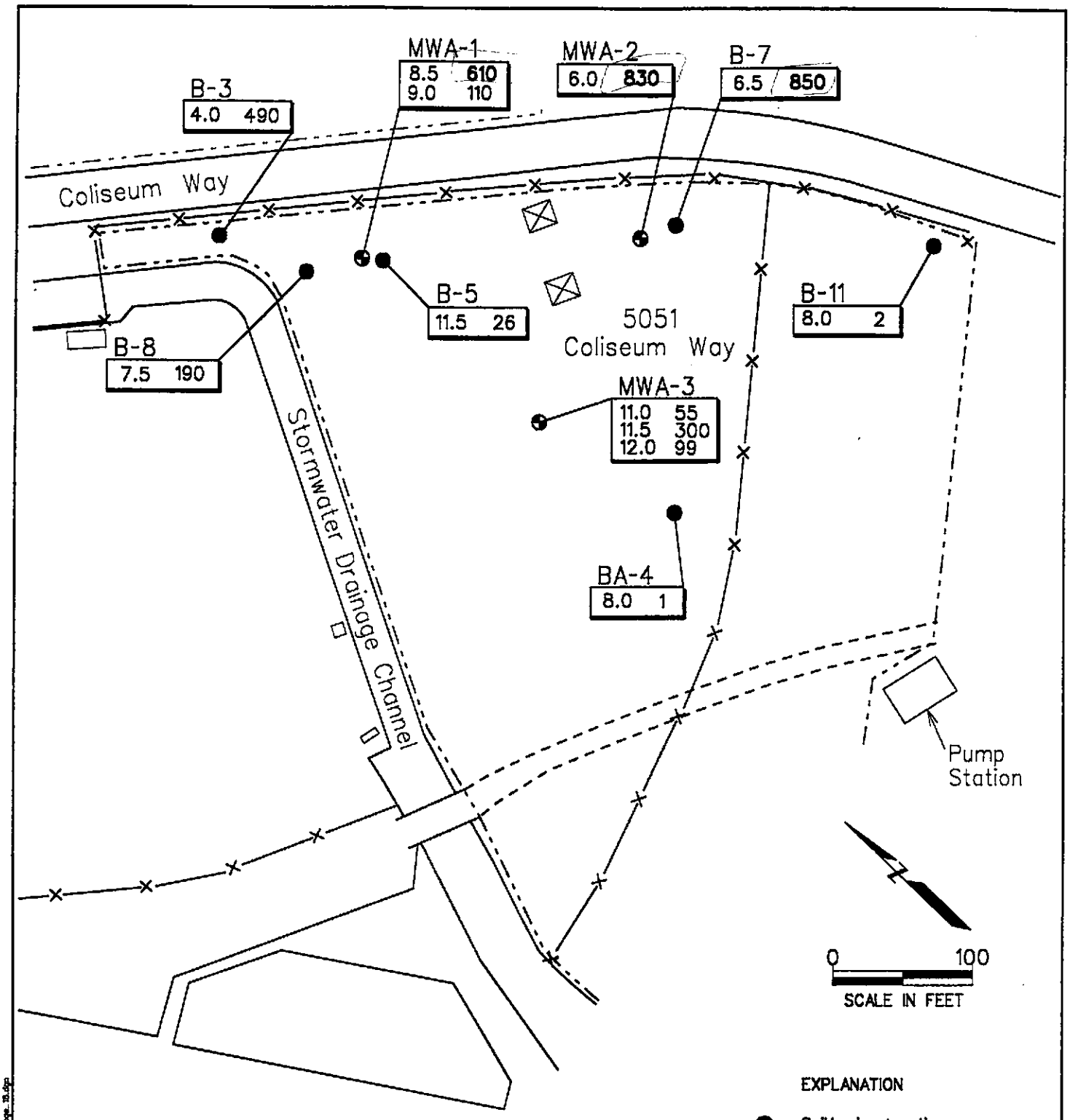
GEOMATRIX

MERCURY IN THE WASTE LAYER

5051 Coliseum Way
Oakland, California

Figure 17

Project No. 2906



Note:

1. Only monitoring wells and borings installed across the waste layer are presented.
2. Concentrations above the TTLC are bold.

EXPLANATION

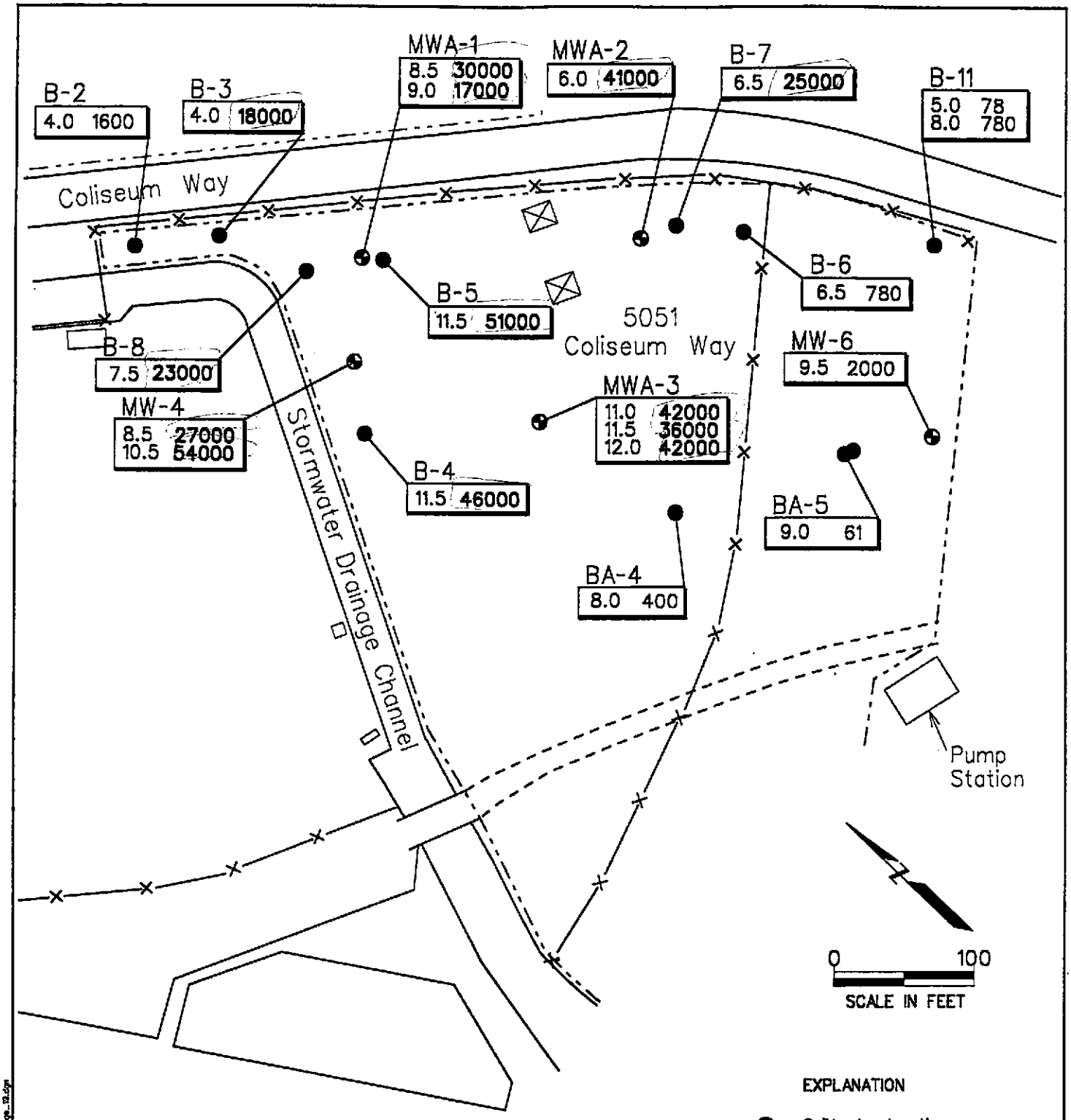
- Soil boring location
- Monitoring well location
- BA-4 ← Location
- 8.0 1 ← Arsenic concentration (mg/kg)
- Sample depth, feet bgs

GEOMATRIX

ANTIMONY IN THE WASTE LAYER
5051 Coliseum Way
Oakland, California

Figure 18

Project No. 2906



Note:

1. Only monitoring wells and borings installed across the waste layer are presented.
2. Concentrations above the TTLC are bold.

EXPLANATION

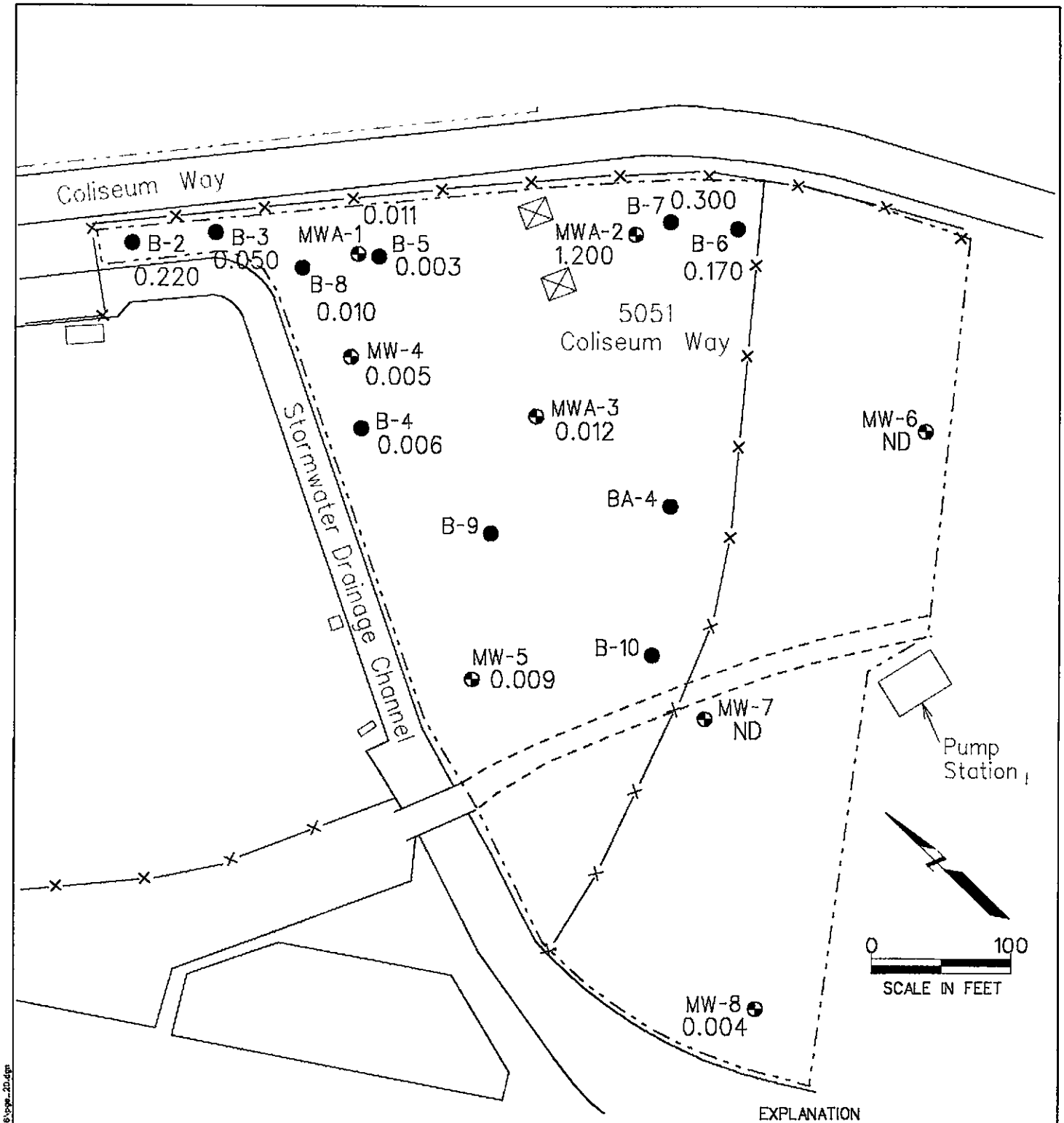
- Soil boring location
- Monitoring well location
- BA-4 ← Location
- 8.0 400 ← Arsenic concentration (mg/kg)
- Sample depth, feet bgs

GEOMATRIX

ZINC IN THE WASTE LAYER
5051 Coliseum Way
Oakland, California

Figure 19

Project No. 2906



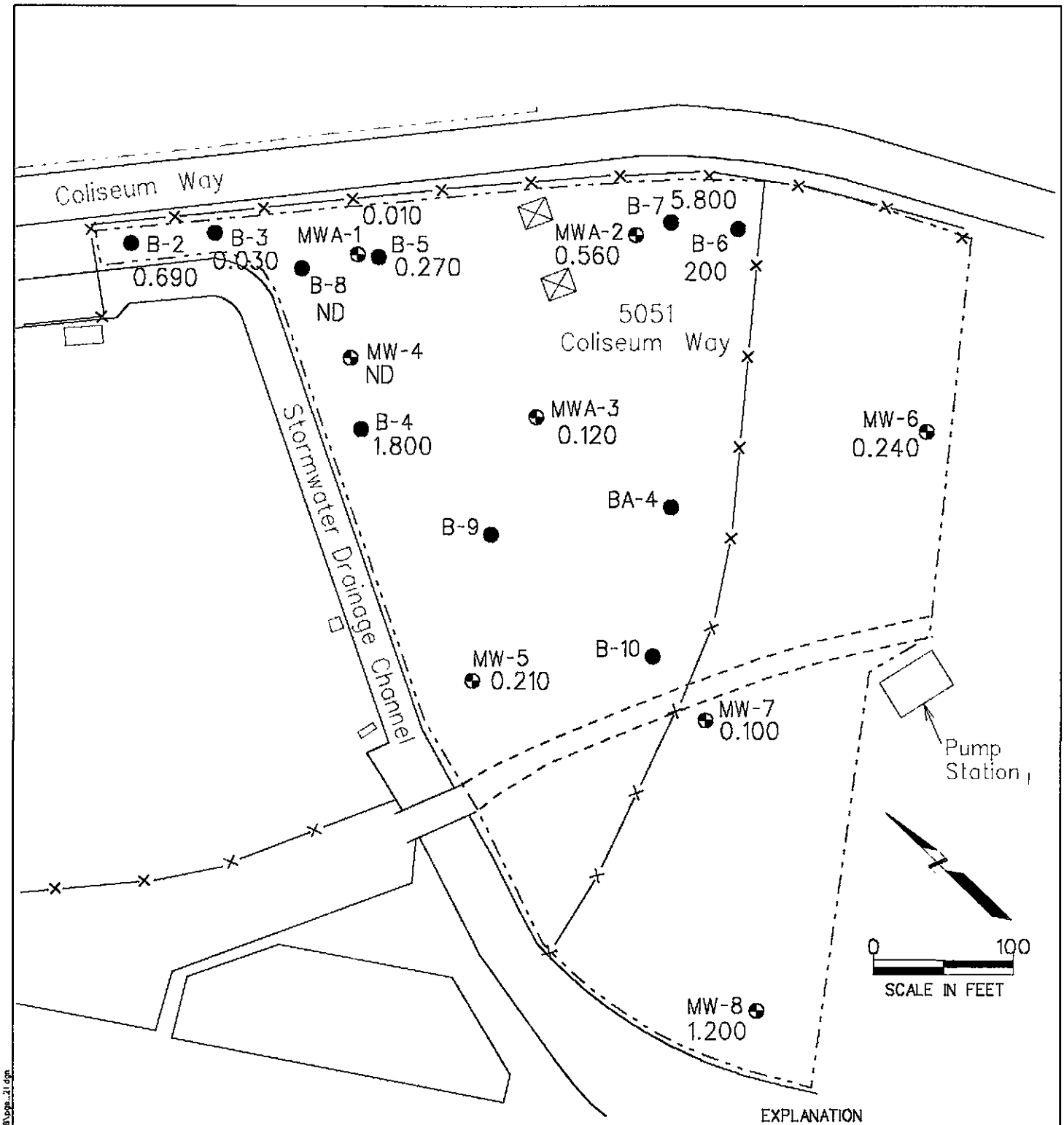
Note:
Concentrations above the MCL are red.

GEOMATRIX

ARSENIC IN GROUNDWATER
5051 Coliseum Way
Oakland, California

Figure
20

Project No.
2906



EXPLANATION

- Monitoring well location
- Grab groundwater sampling point
- 0.030 Concentration of Barium in groundwater (mg/l)
- ND Not detected

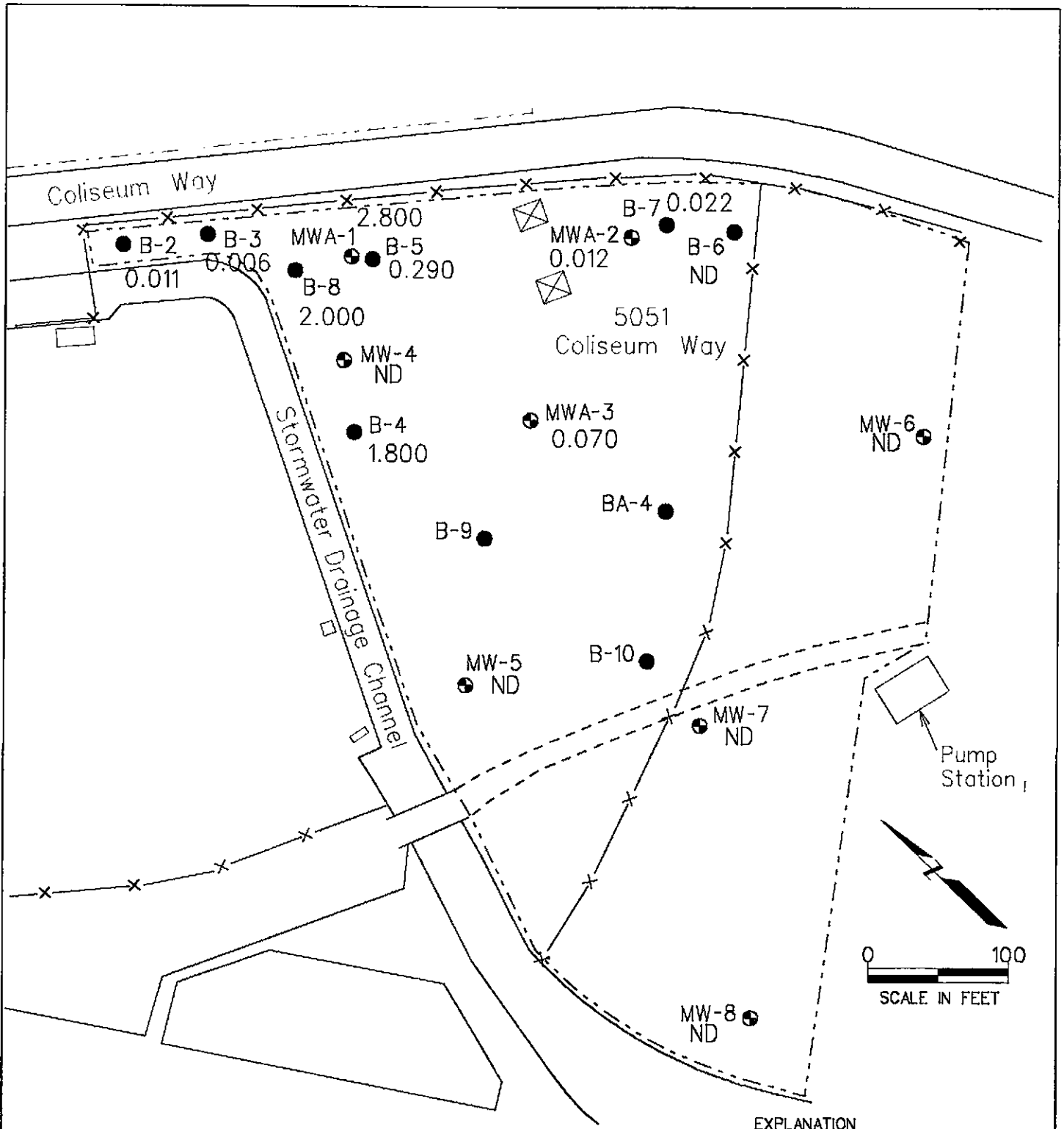
Note:
Concentrations above the MCL are red.

GEOMATRIX

BARIUM IN GROUNDWATER
5051 Coliseum Way
Oakland, California

Figure
21

Project No.
2906



EXPLANATION

- Monitoring well location
- Grab groundwater sampling point
- 0.030 Concentration of Cadmium in groundwater (mg/l)
- ND Not detected

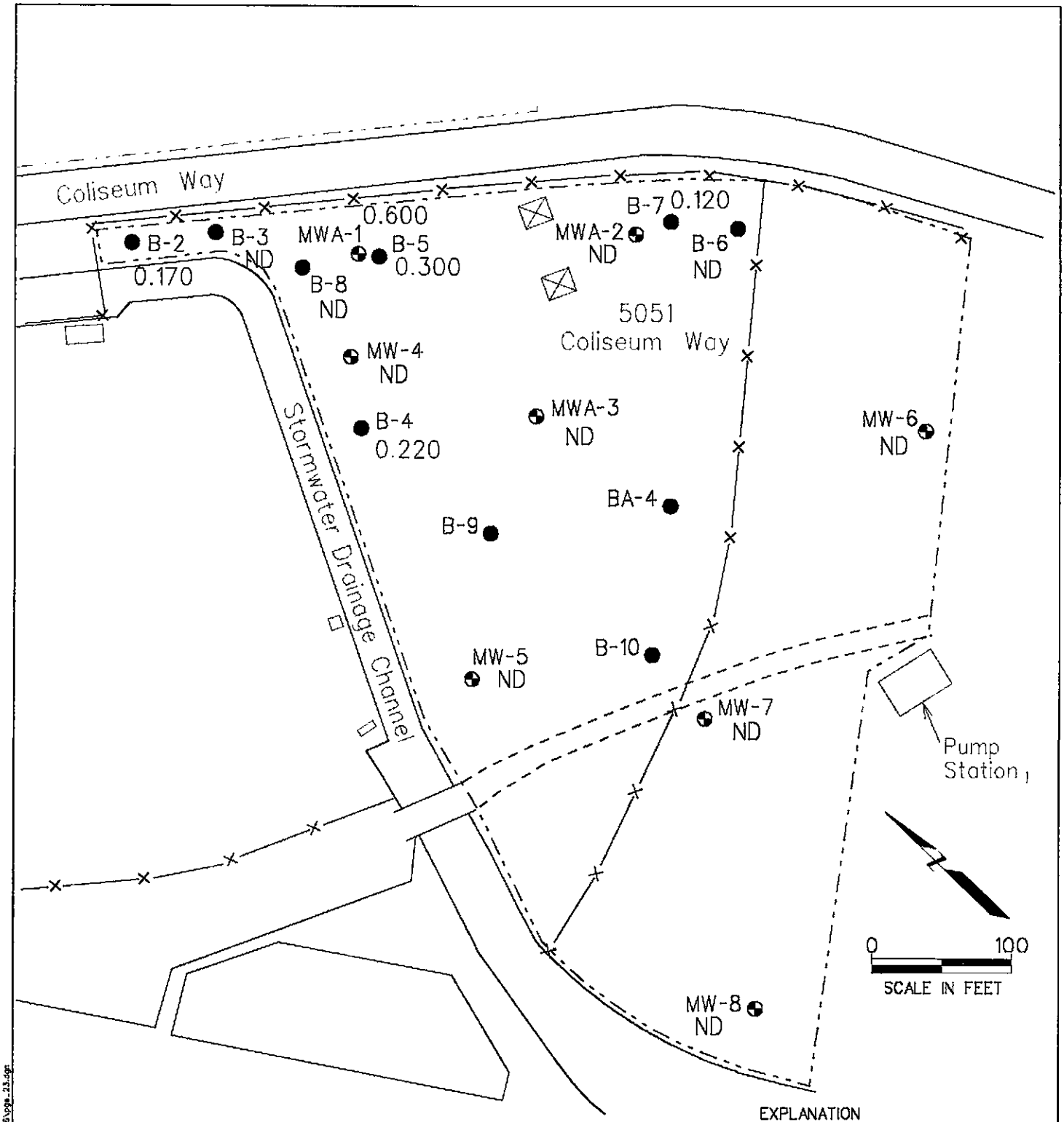
Note:
Concentrations above the MCL are red.

GEOMATRIX

CADMIUM IN GROUNDWATER
5051 Coliseum Way
Oakland, California

Figure
22

Project No.
2906



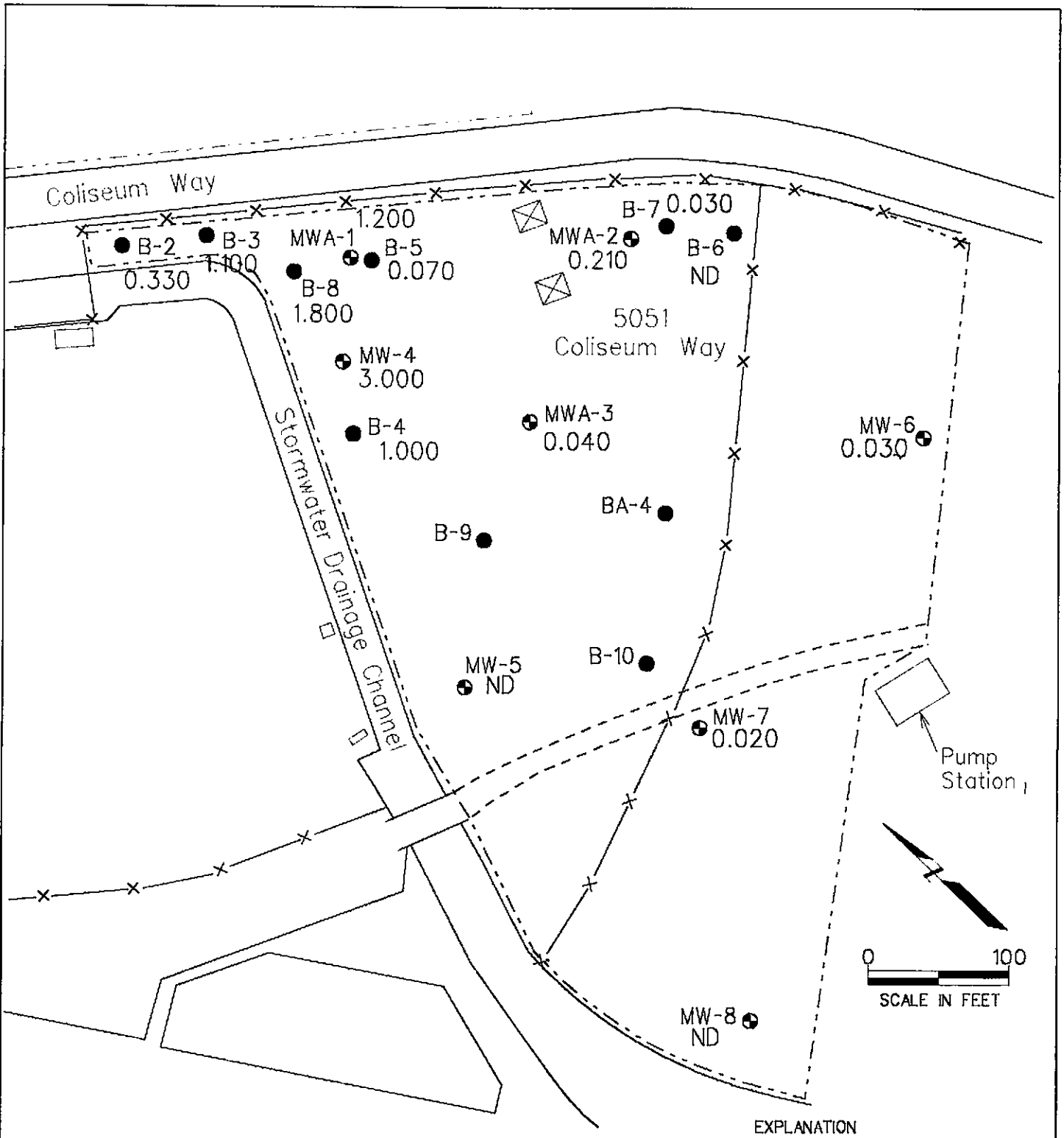
Note:
Concentrations above the MCL are red.

GEOMATRIX

LEAD IN GROUNDWATER
5051 Coliseum Way
Oakland, California

Figure
23

Project No.
2906



EXPLANATION

- Monitoring well location
- Grab groundwater sampling point
- 0.030 Concentration of Nickel in groundwater (mg/l)
- ND Not detected

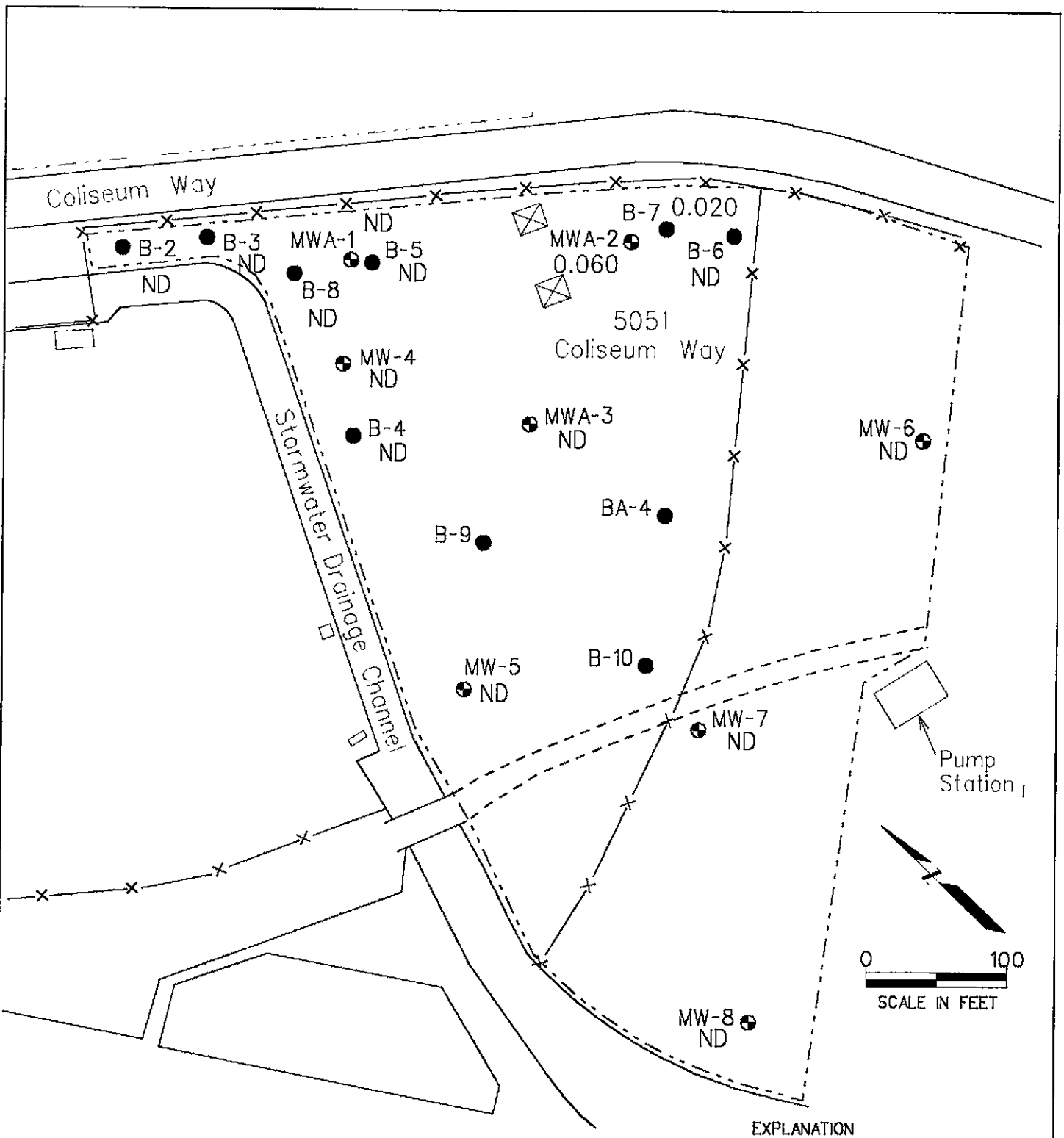
Note:
Concentrations above the MCL are red.

GEOMATRIX

NICKEL IN GROUNDWATER
5051 Coliseum Way
Oakland, California

Figure 24

Project No. 2906



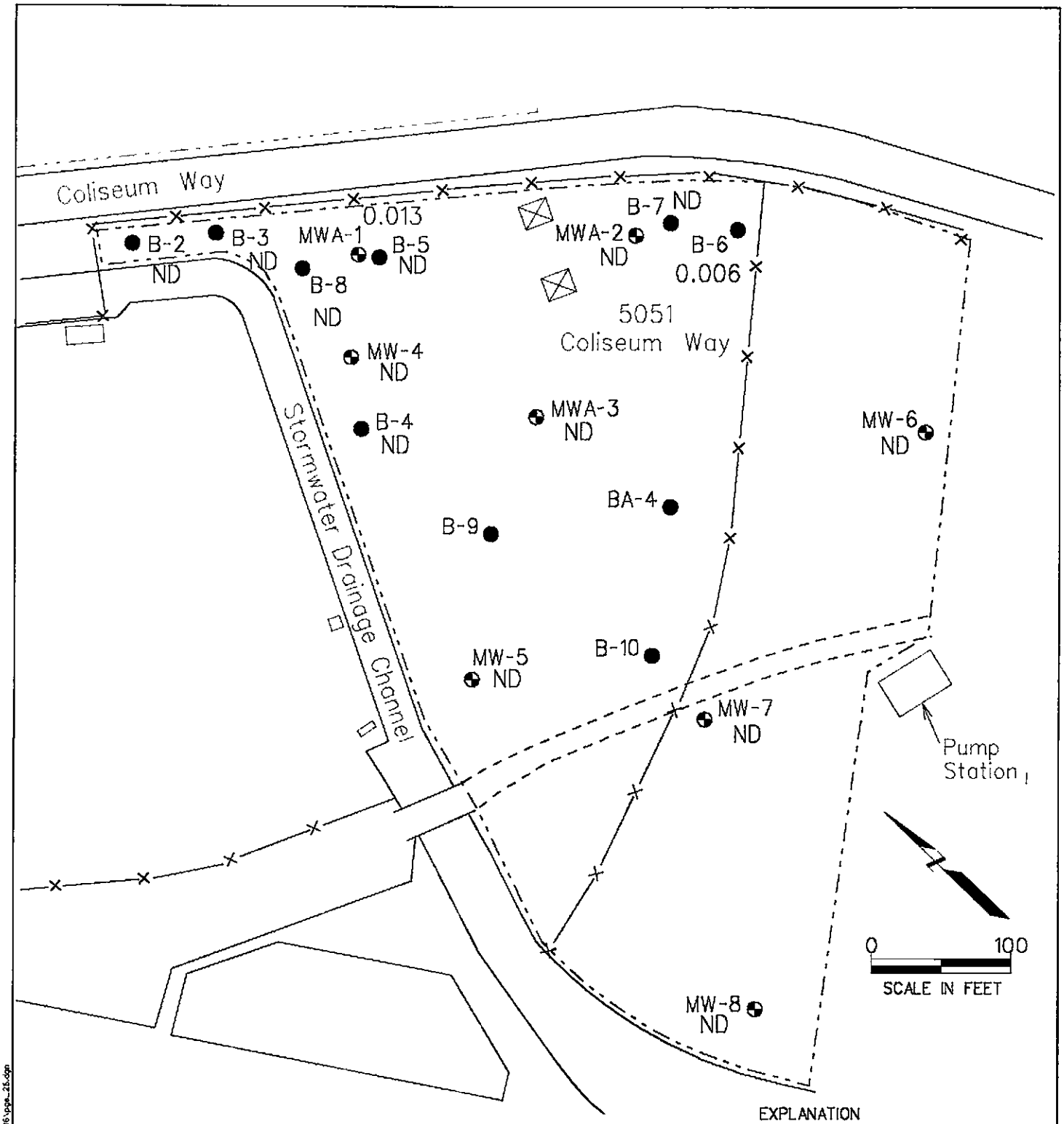
Note:
Concentrations above the MCL are red.

GEOMATRIX

ANTIMONY IN GROUNDWATER
5051 Coliseum Way
Oakland, California

Figure
25

Project No.
2906



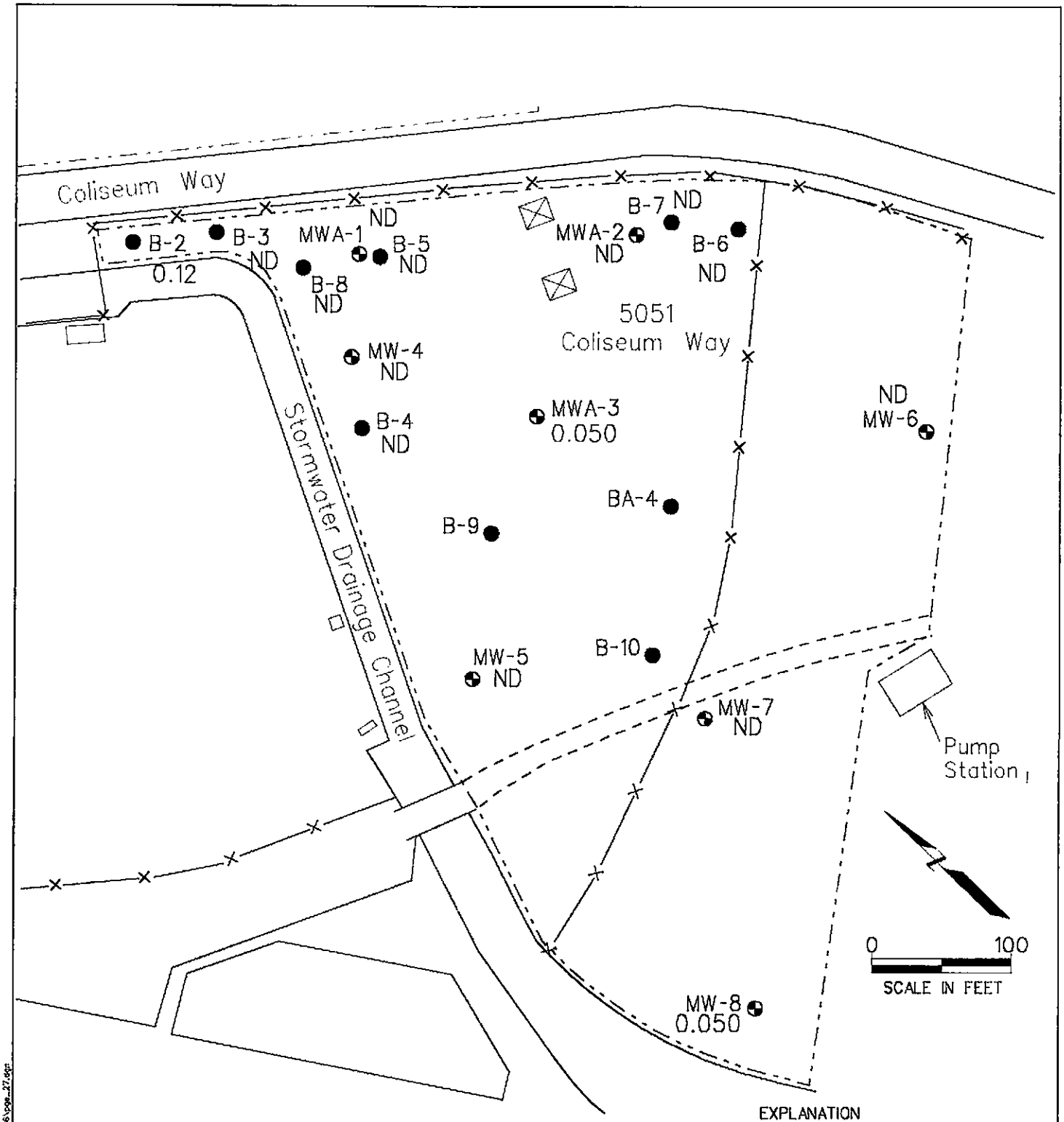
Note:
Concentrations above the MCL are red.

GEOMATRIX

SELENIUM IN GROUNDWATER
5051 Coliseum Way
Oakland, California

Figure 26

Project No. 2906



Note:
Concentrations above the MCL are red.

GEOMATRIX

THALLIUM IN GROUNDWATER
5051 Coliseum Way
Oakland, California

Figure
27

Project No.
2906

GEOMATRIX

APPENDIX A

Field Methods and Drilling Permits

APPENDIX A

FIELD METHODS AND DRILLING PERMITS

The field methods for each of the three investigations performed at the 5051 Coliseum Way property are described in this appendix. The drilling permits for the borings drilled at the site by Geomatrix are attached.

A1.0 PHASE 1 INVESTIGATION

The Phase 1 Investigation was performed under the direction of Geomatrix. Seven borings (B-2 through B-8) were advanced at the site on 23 January 1995 by Precision Sampling, Inc. (Precision), of San Rafael, California (Figure 2 of main text). To identify potential subsurface utilities, Geomatrix notified Underground Service Alert (USA); underground utility clearance was performed at each soil boring location by Cruz Brothers of Milpitas, California, prior to boring activities.

All drilling and soil sampling equipment was steam cleaned prior to use. The soil borings were advanced by hydraulically hammering a 2-inch-diameter core barrel to depths ranging from 10 to 16 feet below ground surface (bgs). One soil sample was collected from each boring by a Geomatrix field geologist from a section of the core immediately above native soil. All soil samples were collected in clean stainless steel liners and were sealed with Teflon® sheets, plastic end caps, and tape. The soil samples were submitted to American Environmental Network laboratories (AEN) under Geomatrix chain-of-custody procedures for analysis for metals by U.S. Environmental Protection Agency (EPA) Method 6010/7000 and pH by EPA Method 9045.

Following completion of the soil borings, Precision installed one-inch-diameter polyvinyl chloride (PVC) well casings and screens to the depth of each boring. After sufficient ground-

water had accumulated in the PVC casing, grab groundwater samples were collected from the borings using a clean polyethylene bailer. Following sample collection, the groundwater samples were filtered through a 0.45-micron filter and then carefully transferred to 500-milliliter polyethylene sample containers preserved with nitric acid. The samples were submitted to AEN for analysis for metals by EPA Method 6010/7000 under Geomatrix chain-of-custody procedures.

When sampling was complete, the PVC casings were removed and the boreholes were filled to grade with cement grout. Soil generated during the work was temporarily stored on site in sealed 5-gallon buckets.

A2.0 PHASE 2 INVESTIGATION

The Phase 2 Investigation was performed under the direction of Miller Brooks. Geomatrix observed the work and collected duplicate soil and groundwater samples. Five soil borings were advanced by Gregg Drilling and Testing, Inc. (Gregg), of Concord, California, on 31 May and 1 June 1995. The borings were advanced using a hollow-stem auger drill rig to depths ranging from 18 to 19 feet bgs. All drilling and soil sampling equipment was steam cleaned prior to use.

Soil samples were collected at various depths in each boring to assess the chemical quality of the fill, waste, and native soil units beneath the site. Soil sampling locations were selected by Mr. Patrick Sullivan of Forensic Management Consultants. Soil samples were collected in brass tubes and sealed with Teflon® sheets, plastic caps, and tape. Soil samples collected by Geomatrix were submitted under Geomatrix chain-of-custody procedures to AEN for analysis for metals and total sulfur by EPA Method 6010/7000, pH by EPA Method 9045, and soluble sulfate by EPA Method 300.

Groundwater monitoring wells were installed by Gregg in three of the soil borings. The groundwater monitoring wells were constructed of 4-inch-diameter, flush-threaded Schedule 40 PVC blank casing and 0.01-inch slot size PVC well screen. Annular space around the casing was filled with Lonestar #2/12 sand filter pack from the bottom of the boring to approximately 1 foot above the top of the well screen. A 1-foot-thick bentonite seal was placed above the sand filter pack. The remaining annular space was filled to the surface with cement-bentonite grout. The wells were completed with locking waterproof well caps and traffic-rated Christy boxes.

The monitoring wells were developed by Gregg using a combination of surging and bailing techniques. The wells were alternatively surged with a 4-inch mechanical surge block and purged with a stainless steel bailer to clean, consolidate, and improve the filtering ability of the filter sand pack. Well development was considered complete when the water was visibly clear or when clarity ceased to improve and water quality parameters stabilized.

Groundwater samples from the monitoring wells were collected on 2 June 1995. A mechanical stainless steel bailer operated by Gregg was used to purge water from the monitoring wells. Water-quality measurements of temperature, pH, and conductivity were measured during purging operations. When water-quality parameters stabilized, a groundwater sample was collected using a new polyethylene bailer. Following collection, the groundwater samples collected for submittal for metals analyses were filtered through 0.2-micron filters into 1-liter plastic sample bottles. Groundwater samples collected for anions and alkalinity analyses were poured from the disposable bailer into 500-milliliter plastic sample containers.

The groundwater samples collected by Geomatrix were submitted to AEN under Geomatrix chain-of-custody procedures for analysis for anions (fluoride, chloride, nitrate, phosphate, and sulfate) by EPA Method 300, for alkalinity by EPA Method 310.1, and for metals by EPA Method 6010/7000.

Borings that were not completed as monitoring wells were filled to grade with cement grout. Soil and water generated during the site investigation work was temporarily stored on site in 55-gallon drums.

A3.0 PHASE 3 INVESTIGATION

The Phase 3 Investigation was performed under the direction of Geomatrix. Five monitoring wells and six soil borings were advanced from 5 to 7 December 1995 (Figure 2). Prior to sampling activities, Underground Service Alert (USA) was notified, and an underground utility clearance was performed by Cruz Brothers. All drilling and sampling equipment was steam cleaned prior to use.

Soil borings B-9 through B-12 were advanced by Precision on 5 December 1995. Borings B-13 and B-14 and MW-4 through MW-8 were advanced by Gregg on 6 and 7 December 1995 using a hollow-stem auger drill rig. The borings ranged in depth from 18 to 25 feet bgs. Soil samples were collected at various depths in each boring to assess the chemical quality of the fill, waste, and native soil units beneath the site. Soil samples were collected in brass tubes and sealed with Teflon® sheets, plastic end caps, and tape. The samples were submitted to AEN for metals analysis by EPA Method 6010/7000 under Geomatrix chain-of-custody procedures.

Soil borings not converted to monitoring wells were filled to grade with cement grout. Soil generated during the site investigation work was temporarily stored on site in 55-gallon drums.

Geomatrix installed groundwater monitoring wells in five of the soil borings and collected groundwater samples from the new and existing monitoring wells.

The groundwater monitoring wells were constructed of 2-inch-diameter Schedule 40 PVC blank casing and 0.02-inch slot size PVC well screen. The annular space around the casing was filled with a #2/16 sand filter pack from the bottom of the boring to approximately 1 foot above the top of the well screen. A 1-foot-thick bentonite seal was placed above the filter pack, and the remaining annular space was filled to the surface with cement grout. The wells were completed with locking waterproof well caps and traffic-rated christy boxes.

Geomatrix developed the monitoring wells on the 11 and 12 December 1995. The wells were alternatively surged and pumped to clean, consolidate, and improve the filtering ability of the filter sand pack. Well development was considered complete when the water was visibly clear or when clarity ceased to improve and water quality parameters stabilized.

Groundwater samples were collected from wells MW-4 through MW-8 immediately following development. Monitoring wells MWA-1, MWA-2, and MWA-3 were purged prior to sampling according to Geomatrix sampling protocols. Following monitoring well purging, groundwater samples were collected from each well using a new polyethylene bailer. Groundwater samples collected for volatile organic compounds (VOCs) and semivolatile organic compounds (SVOCs) analyses were poured directly into appropriate sample containers; samples submitted for metals analyses were first filtered through a 0.45-micron filter and then carefully transferred to 500-milliliter polyethylene sample containers preserved with nitric acid. The samples were submitted to AEN under Geomatrix chain-of-custody procedures for analysis for VOCs by EPA Method 8240, SVOCs by EPA Method 8270 and for metals by EPA Method 6010/7000.

Development and purge water generated during the site investigation work was temporarily stored on site in labeled 55-gallon drums.

ZONE 7 WATER AGENCY

5997 PARKSIDE DRIVE PLEASANTON, CALIFORNIA 94588 VOICE (510) 484-2600
FAX (510) 462-3914

DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

LOCATION OF PROJECT PG&E Yard
4930 Coliseum Way
Oakland, California

CLIENT
Name PG&E
Address P.O. Box 7640 Voice 415-973-1116
City San Francisco, CA Zip 94120

APPLICANT
Name Geomatrix Consultants, Inc.
Fax 415-454-1365
Address 100 Pine St., 10th Floor Voice 415-454-9400
City San Francisco, CA Zip 94111

TYPE OF PROJECT

Well Construction		Geotechnical Investigation	
Cathodic Protection	___	General	___
Water Supply	___	Contamination	___
Monitoring	X	Well Destruction	___

PROPOSED WATER SUPPLY WELL USE

Domestic	___	Industrial	___	Other	___
Municipal	___	Irrigation	___		

DRILLING METHOD:

Mud Rotary	___	Air Rotary	___	Auger	___
Cable	___	Other	X - hydraulic hammer		

DRILLER'S LICENSE NO. 636387

WELL PROJECTS — WELL POINTS

Drill Hole Diameter	2	in.	Maximum Depth	7	ft.
Casing Diameter	1.5	in.	Number	3	
Surface Seal Depth	___	ft.			

GEOTECHNICAL PROJECTS

Number of Borings	___		Maximum Depth	___	ft.
Hole Diameter	___	in.			

ESTIMATED STARTING DATE 1/11/94
ESTIMATED COMPLETION DATE 1/11/94

I hereby agree to comply with all requirements of this permit and Alameda County Ordinance No. 73-68.

FOR OFFICE USE

PERMIT NUMBER 95005
LOCATION NUMBER ___

PERMIT CONDITIONS

Circled Permit Requirements Apply

A. GENERAL
(1.) A permit application should be submitted so as to arrive at the Zone 7 office five days prior to proposed starting date.
2. Submit to Zone 7 within 60 days after completion of permitted work the original Department of Water Resources Water Well Drillers Report or equivalent for well Projects, or drilling logs and location sketch for geotechnical projects.
(3.) Permit is void if project not begun within 90 days of approval date.

B. WATER WELLS, INCLUDING PIEZOMETERS
1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
2. Minimum seal depth is 50 feet for municipal and industrial wells or 20 feet for domestic and irrigation wells unless a lesser depth is specially approved. Minimum seal depth for monitoring wells is the maximum depth practicable or 20 feet.

(C.) GEOTECHNICAL. Backfill bore hole with compacted cuttings or heavy bentonite and upper two feet with compacted material. In areas of known or suspected contamination, tremied cement grout shall be used in place of compacted cuttings.

D. CATHODIC. Fill hole above anode zone with concrete placed by tremie.

E. WELL DESTRUCTION. See attached.

Approved Wyman Hong Date 5 Jan 95
Wyman Hong

ZONE 7 WATER AGENCY

5997 PARKSIDE DRIVE PLEASANTON, CALIFORNIA 94588 VOICE (510) 484-2600
FAX (510) 462-3914

DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

LOCATION OF PROJECT 5150 Coliseum Way
Oakland, CA

CLIENT
Name Pacific Gas & Electric Company
Address P.O. Box 7640 Voice 415-973-1116
City San Francisco, CA Zip 94120

APPLICANT
Name Geomatrix Consultants Inc., Mike Keehn
Fax 415-434-1365
Address 100 Pine St., 10th Floor Voice 415-434-9400
City San Francisco, CA Zip 94111

TYPE OF PROJECT

Construction		Geotechnical Investigation	
Cathodic Protection		General	
Water Supply		Contamination	
Monitoring	X	Well Destruction	

PROPOSED WATER SUPPLY WELL USE
Domestic ___ Industrial ___ Other ___
Municipal ___ Irrigation ___

DRILLING METHOD:
Mud Rotary ___ Air Rotary ___ Auger ___
Cable ___ Other ___

DRILLER'S LICENSE NO. 636387
Well Points

WELL PROJECTS
Drill Hole Diameter 2 in. Maximum
Casing Diameter 1.5 in. Depth 7 ft.
Surface Seal Depth ___ ft. Number 5

GEOTECHNICAL PROJECTS
Number of Borings ___ Maximum
Hole Diameter ___ in. Depth ___ ft.

ESTIMATED STARTING DATE 1/23/95
ESTIMATED COMPLETION DATE 1/24/95

I hereby agree to comply with all requirements of this permit and Alameda County Ordinance No. 73-68.

APPLICANT'S SIGNATURE

FOR OFFICE USE

PERMIT NUMBER 95029
LOCATION NUMBER

PERMIT CONDITIONS

Circled Permit Requirements Apply

A. GENERAL
(1.) A permit application should be submitted so as to arrive at the Zone 7 office five days prior to proposed starting date.
2. Submit to Zone 7 within 60 days after completion of permitted work the original Department of Water Resources Water Well Drillers Report or equivalent for well Projects, or drilling logs and location sketch for geotechnical projects.
(3.) Permit is void if project not begun within 90 days of approval date.

B. WATER WELLS, INCLUDING PIEZOMETERS
1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
2. Minimum seal depth is 50 feet for municipal and industrial wells or 20 feet for domestic and irrigation wells unless a lesser depth is specially approved. Minimum seal depth for monitoring wells is the maximum depth practicable or 20 feet.

(C.) GEOTECHNICAL. Backfill bore hole with compacted cuttings or heavy bentonite and upper two feet with compacted material. In areas of known or suspected contamination, tremied cement grout shall be used in place of compacted cuttings.

D. CATHODIC. Fill hole above anode zone with concrete placed by tremie.

E. WELL DESTRUCTION. See attached.

Approved Wyman Hong Date 27 Jan 95
Wyman Hong

ZONE 7 WATER AGENCY

5997 PARKSIDE DRIVE PLEASANTON, CALIFORNIA 94588 VOICE (510) 484-2600
FAX (510) 462-3914

DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

LOCATION OF PROJECT 5051 COLISEUM WAY
OAKLAND, CA

CLIENT
Name PACIFIC GAS & ELECTRIC Co.
Address 77 BEALE STREET Voice (415) 973-1116
City SAN FRANCISCO, CA Zip 94106
18th Floor

APPLICANT
Name STACY ANICH
GEOMATRIX CONSULTANTS Fax (415) 434-1365
Address 100 PINE ST SUITE 1000 Voice (415) 434-9400
City SAN FRANCISCO Zip 94111

TYPE OF PROJECT
Well Construction
Cathodic Protection ___
Water Supply ___
Monitoring X
Geotechnical Investigation
General ___
Contamination X
Well Destruction ___

PROPOSED WATER SUPPLY WELL USE
Domestic ___ Industrial ___ Other ___
Municipal ___ Irrigation ___

DRILLING METHOD:
Mud Rotary ___ Air Rotary ___ Auger X
Cable ___ Other ___

DRILLER'S LICENSE NO. 485165

WELL PROJECTS
Drill Hole Diameter 8 in. Maximum
Casing Diameter 2 in. Depth 20 ft.
Surface Seal Depth 0-9 ft. Number 4

GEOTECHNICAL PROJECTS
Number of Borings 5 Maximum
Hole Diameter 1 in. Depth 20 ft.

ESTIMATED STARTING DATE ~~10/25/95~~ 11/8/95
ESTIMATED COMPLETION DATE ~~10/27/95~~ 11/10/95

I hereby agree to comply with all requirements of this permit and Alameda County Ordinance No. 73-68.

APPLICANT'S SIGNATURE Stacy Anich Date 10/10/95

FOR OFFICE USE

PERMIT NUMBER 95709
LOCATION NUMBER ___

PERMIT CONDITIONS

Circled Permit Requirements Apply

(A.) GENERAL
1. A permit application should be submitted so as to arrive at the Zone 7 office five days prior to proposed starting date.
2. Submit to Zone 7 within 60 days after completion of permitted work the original Department of Water Resources Water Well Drillers Report or equivalent for well Projects, or drilling logs and location sketch for geotechnical projects.
3. Permit is void if project not begun within 90 days of approval date.

(B.) WATER WELLS, INCLUDING PIEZOMETERS
1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
2. Minimum seal depth is 50 feet for municipal and industrial wells or 20 feet for domestic and irrigation wells unless a lesser depth is specially approved. Minimum seal depth for monitoring wells is the maximum depth practicable or 20 feet.

(C.) GEOTECHNICAL. Backfill bore hole with compacted cuttings or heavy bentonite and upper two feet with compacted material. In areas of known or suspected contamination, tremied cement grout shall be used in place of compacted cuttings.

D. CATHODIC. Fill hole above anode zone with concrete placed by tremie.

E. WELL DESTRUCTION. See attached.

Approved Wyman Hong Date 24 Oct 9
Wyman Hong

91992

ZONE 7 WATER AGENCY

5997 PARKSIDE DRIVE PLEASANTON, CALIFORNIA 94588 VOICE (510) 484-2600
FAX (510) 462-3914

Please note date change

DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

FOR OFFICE USE

LOCATION OF PROJECT 5051 COLISEUM WAY OAKLAND, CA

PERMIT NUMBER 95773
LOCATION NUMBER

CLIENT
Name PACIFIC GAS & ELECTRIC Co.
Address 77 BEALE STREET Voice (415) 973-1116
City SAN FRANCISCO, CA Zip 94106
28th FLOOR

APPLICANT
Name STACY ANICH
GEOMATRIX CONSULTANTS Fax (415) 434-1365
Address 100 PINE ST SUITE 1000 Voice (415) 434-9400
SAN FRANCISCO, Zip 94111

TYPE OF PROJECT
Well Construction
Cathodic Protection
Water Supply
Monitoring X
Geotechnical Investigation
General
Contamination X
Well Destruction

PROPOSED WATER SUPPLY WELL USE
Domestic Industrial Other
Municipal Irrigation

DRILLING METHOD:
Mud Rotary Air Rotary Auger X
Cable Other

DRILLER'S LICENSE NO. 485165

WELL PROJECTS
Drill Hole Diameter 8 in. Maximum
Casing Diameter 2 in. Depth 20 ft.
Surface Seal Depth 0-9 ft. Number 4

GEOTECHNICAL PROJECTS
Number of Borings 5
Hole Diameter 1 in. Maximum
Depth 20 ft.

ESTIMATED STARTING DATE 12/5/95
ESTIMATED COMPLETION DATE 12/8/95

I hereby agree to comply with all requirements of this permit and Alameda County Ordinance No. 73-68.

APPLICANT'S SIGNATURE Stacy Anich Date 10/10/95

PERMIT CONDITIONS

Circled Permit Requirements Apply

(A.) GENERAL
1. A permit application should be submitted so as to arrive at the Zone 7 office five days prior to proposed starting date.
2. Submit to Zone 7 within 60 days after completion of permitted work the original Department of Water Resources Water Well Drillers Report or equivalent for well Projects, or drilling logs and location sketch for geotechnical projects.
3. Permit is void if project not begun within 90 days of approval date.

(B.) WATER WELLS, INCLUDING PIEZOMETERS
1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
2. Minimum seal depth is 50 feet for municipal and industrial wells or 20 feet for domestic and irrigation wells unless a lesser depth is specially approved. Minimum seal depth for monitoring wells is the maximum depth practicable or 20 feet.

(C.) GEOTECHNICAL. Backfill bore hole with compacted cuttings or heavy bentonite and upper two feet with compacted material. In areas of known or suspected contamination, tremied cement grout shall be used in place of compacted cuttings.

D. CATHODIC. Fill hole above anode zone with concrete placed by tremie.

E. WELL DESTRUCTION. See attached.

Approved Wyman Hong Date 21 Nov 95
Wyman Hong

91992

PROJECT: PG&E Oakland, California				**Log of Boring No. B-1**
BORING LOCATION: 4930 Coliseum Way			ELEVATION AND DATUM: ---	
DRILLING CONTRACTOR: Precision Sampling, Inc.			DATE STARTED: 1/23/95	DATE FINISHED: 1/23/95
DRILLING METHOD: Direct push			TOTAL DEPTH: 13 feet bgs	MEASURING POINT: ---
DRILLING EQUIPMENT: S-2			DEPTH TO WATER / FIRST: 9 feet	COMPL.: --- / 24 HRS.: ---
SAMPLING METHOD: 3-ft. continuous core with 6-in. stainless steel liners			LOGGED BY: M. R. Keim	
HAMMER WEIGHT: NA	DROP: NA		RESPONSIBLE PROFESSIONAL: S. Goodin	REG. NO. 3743

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/Foot	OVM Reading	DESCRIPTION (NAME (USCS Symbol): color, moist, % by wt., plast., density, structure, cementation, react. w/HCl, geo. inter.)	REMARKS
					Surface Elevation:	
1–4					CLAYEY SAND WITH GRAVEL (SC) [FILL] Dark brown (10YR, 3/3), moist; 60% fine to coarse sand, 25% medium plasticity fines, 15% gravels, firm, locally contains concrete, brick, glass, metal, and/or asphalt	
5–6					LEAN CLAY (CL) [BAY MUD] Black (10YR, 2/1); moist, 95% fines, 5% fine sand, medium plasticity, firm	
7–9					LEAN CLAY (CL) Yellowish brown (10YR, 5/4); moist; 90% fines, 10% fine sand, medium plasticity, firm; greenish gray mottling ATD ▽	
10–12					CLAYEY SAND (SC) Yellowish brown (10YR, 5/4); wet, 60% fine to coarse sand, 25% medium plasticity fines, 15% gravels	
13					Bottom of boring at 13 feet bgs	
14						

B-1 (11/92)

2906.002

Geomatrix Consultants	Project No. 2906	Figure ---

PROJECT: PG&E
Oakland, California

Log of Boring No. B-2

BORING LOCATION: 5051 Coliseum Way

ELEVATION AND DATUM: ---

DRILLING CONTRACTOR: Precision Sampling, Inc.

DATE STARTED: 1/23/95

DATE FINISHED: 1/23/95

DRILLING METHOD: Direct push

TOTAL DEPTH: 16 feet bgs

MEASURING POINT: ---

DRILLING EQUIPMENT: S-2

DEPTH TO WATER: FIRST 4.0 feet; COMPL. ---; 24 HRS. ---

SAMPLING METHOD: 3-ft. continuous core with 6-in. stainless steel liners

LOGGED BY: M. R. Keim

HAMMER WEIGHT: NA

DROP: NA

RESPONSIBLE PROFESSIONAL: S. Goodin

REG. NO. 3743

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/Foot	OVM Reading	DESCRIPTION NAME (USCS Symbol): color, moist, % by wt., plast., density, structure, cementation, react. w/HCl, geo. inter. Surface Elevation:	REMARKS
1					SANDY LEAN CLAY WITH GRAVEL (CL) [FILL] Brown (10YR, 4/3), moist, 50% fines, 35% fine to coarse sand, 15% fine gravels; medium plasticity, firm, locally contains concrete, brick, glass, metal, and/or asphalt	
2						
3					LEAN CLAY (CL) [WASTE] White (10YR 8/1), moist, 95% fines, 5% fine sand, low plasticity, soft	
4	B-2				ATD ▽	
5					LEAN CLAY (CL) [BAY MUD] Black (10YR, 2/1); wet, 95% fines, 5% fine sand; medium plasticity, soft; rootlets and fibers present	
6						
7						
8						
9						
10					CLAYEY SAND (SC) Light olive brown (2.5Y, 5/4); wet, 75% fine to coarse sand, 25% medium plasticity fines	
11						
12					Increase in sand to 90%	
13					LEAN CLAY WITH SAND (CL) Light olive brown (2.5Y, 5/4); moist, 80% fines, 20% fine to medium sand; medium plasticity, soft	
14						

B-1 (11/92)

2906.003

Geomatrix Consultants | Project No. 2906 | Figure ---

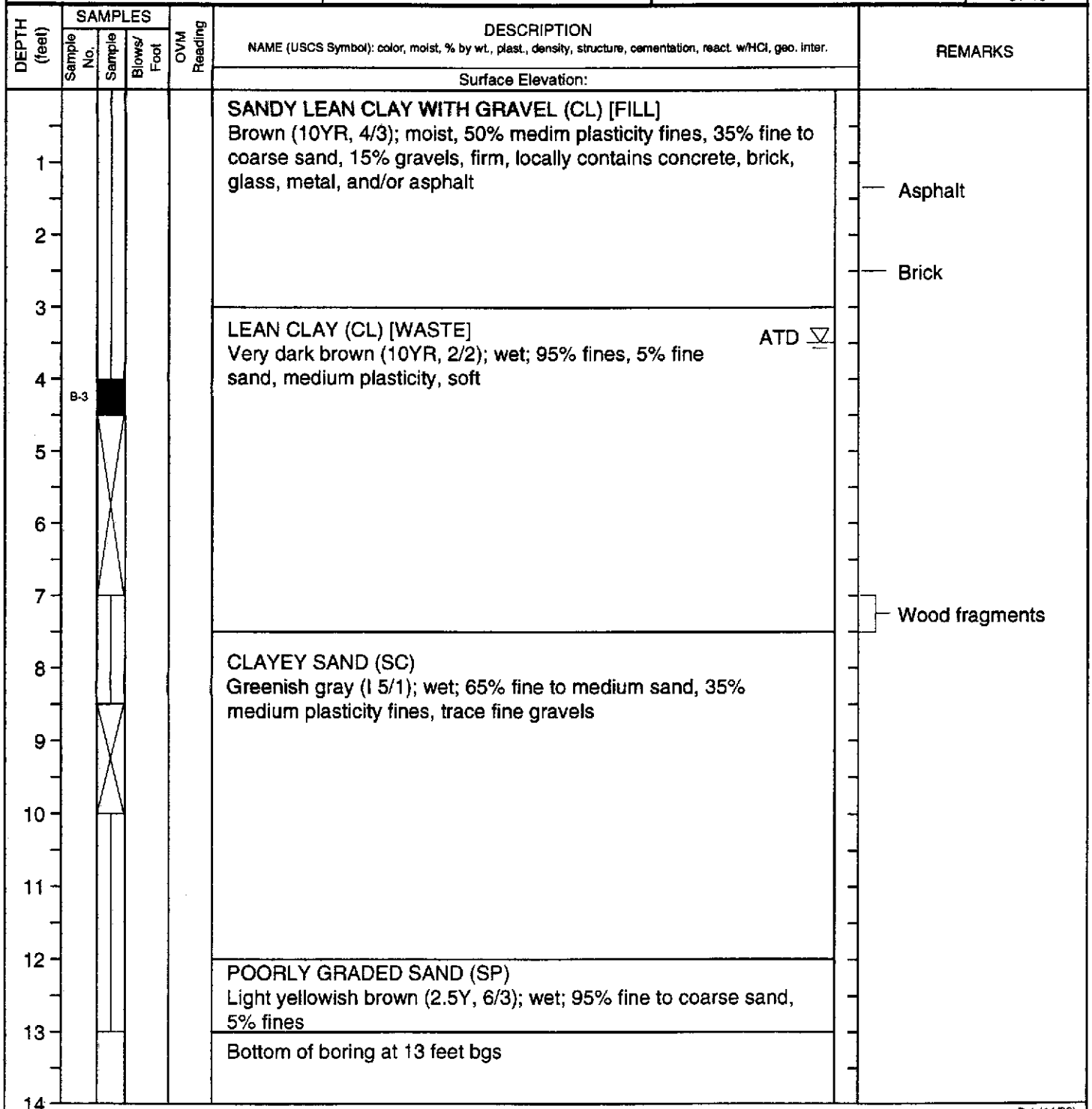
PROJECT: PG&E
Oakland, California

Log of Boring No. B-2 (cont.)

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/Foot	OVM Reading	DESCRIPTION NAME (USCS Symbol): color, moist, % by wt., plast., density, structure, cementation, react. w/HCl, geo. inter.	REMARKS
15					LEAN CLAY WITH SAND (CL) (continued)	
16					Bottom of boring at 16 feet bgs	
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						
31						

B-2 (11/92)

PROJECT: PG&E Oakland, California	**Log of Boring No. B-3**
BORING LOCATION: 5051 Coliseum Way	ELEVATION AND DATUM: ---
DRILLING CONTRACTOR: Precision Sampling, Inc.	DATE STARTED: 1/23/95 / DATE FINISHED: 1/23/95
DRILLING METHOD: Direct push	TOTAL DEPTH: 13 feet bgs / MEASURING POINT: ---
DRILLING EQUIPMENT: S-2	DEPTH TO WATER / FIRST: 3.5 feet / COMPL.: --- / 24 HRS.: ---
SAMPLING METHOD: 3-ft. continuous core with 6-in. stainless steel liners	LOGGED BY: M. R. Keim
HAMMER WEIGHT: NA / DROP: NA	RESPONSIBLE PROFESSIONAL: S. Goodin / REG. NO.: 3743



PROJECT: PG&E Oakland, California	**Log of Boring No. B-4**
BORING LOCATION: 5051 Coliseum Way	ELEVATION AND DATUM: ---
DRILLING CONTRACTOR: Precision Sampling, Inc.	DATE STARTED: 1/23/95 / DATE FINISHED: 1/23/95
DRILLING METHOD: Direct push	TOTAL DEPTH: 16 feet bgs / MEASURING POINT: ---
DRILLING EQUIPMENT: S-2	DEPTH TO WATER / FIRST: 9 feet / COMPL.: --- / 24 HRS.: ---
SAMPLING METHOD: 3-ft. continuous core with 6-in. stainless steel liners	LOGGED BY: M. R. Keim
HAMMER WEIGHT: NA / DROP: NA	RESPONSIBLE PROFESSIONAL: S. Goodin / REG. NO. 3743

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/Foot	OVM Reading	DESCRIPTION NAME (USCS Symbol): color, moist, % by wt., plast., density, structure, cementation, react. w/HCl, geo. inter.	REMARKS
					Surface Elevation:	
1					CLAYEY SAND WITH GRAVEL (SC) [FILL] Dark brown (10YR, 3/3), moist, 60% fine to coarse sand, 25% medium plasticity fines, 15% fine gravels, locally contains concrete, brick, glass, metal, and/or asphalt	
2						
3						
4						
5						
6						
7						
8						
9					ATD ▽	
10					LEAN CLAY (CL) [WASTE] Black (10YR, 2/1); wet, 95% fines, 5% fine sand; medium plasticity; soft	
11					White, clayey material	
12	B-4				LEAN CLAY WITH SAND (CL) [BAY MUD] Greenish gray (I 5/1); wet; 60% fines, 40% fine to medium sand, trace fine gravels; medium plasticity, soft	
13						
14						

2906.006

B-1 (11/92)

PROJECT: PG&E
Oakland, California

Log of Boring No. B-4 (cont.)

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/Foot	OVM Reading	DESCRIPTION NAME (USCS Symbol): color, moist, % by wt., plast., density, structure, cementation, react. w/HCl, geo. inter.	REMARKS
15					LEAN CLAY WITH SAND (CL) (continued)	
16					Bottom of boring at 16 feet bgs	
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						
31						

PROJECT: PG&E Oakland, California	**Log of Boring No. BA-4**
BORING LOCATION: 5051 Coliseum Way	ELEVATION AND DATUM: --
DRILLING CONTRACTOR: Gregg Drilling and Testing, Inc.	DATE STARTED: 6/1/95 / DATE FINISHED: 6/1/95
DRILLING METHOD: 6" Hollow Stem Auger	TOTAL DEPTH: 18.5 feet / MEASURING POINT: --
DRILLING EQUIPMENT: Mobile 61	DEPTH TO WATER: FIRST 7 feet / COMPL. -- / 24 HRS. --
SAMPLING METHOD: 5 ft. continuous core	LOGGED BY: M.R. Keim
HAMMER WEIGHT: -- / DROP: --	RESPONSIBLE PROFESSIONAL: S. Goodin / REG. NO. 3743

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/Foot	OVM Reading	DESCRIPTION NAME (USCS Symbol): color, moist, % by wt., plast., density, structure, cementation, react. w/HCl, geo. Inter. Surface Elevation:	REMARKS
1					CLAYEY SAND with GRAVEL (SC) [FILL] Dark brown (10YR 3/3), moist, 60% fine to coarse sand, 25% medium plasticity fines, 15% fine gravels, locally contains concrete, brick, glass, metal, and/or asphalt	
2	4-2					
3						
4						
5						
6						
7	4-7				ATD ▽	
8	4-8				LEAN CLAY(CL) [WASTE] Black (N.2.5), wet, 100% fines, low plasticity, soft	
9					LEAN CLAY (CL) [BAY MUD] Black (7.5YR 2.5/1), wet, 95% fines, 5% fine sand, low plasticity, soft	← Plant material
10	4-10					
11						
12	4-12				SANDY LEAN CLAY with GRAVEL (CL) Grayish green (5G 4/2), wet, 50% fines, 30% fine to coarse sand, 20% fine to medium gravels, medium plasticity, firm	
13						
14						

PROJECT: PG&E
Oakland, California

Log of Boring No. BA-4 (cont.)

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/Foot	OVM Reading	DESCRIPTION NAME (USCS Symbol): color, moist, % by wt., plast., density, structure, cementation, react. w/HCl, geo. inter.	REMARKS
15					SANDY LEAN CLAY with GRAVEL (CL) (continued)	
16						
17					CLAYEY SAND (SC) **Yellowish brown (10YR 5/6), wet, 75% fine to medium sand, 25% medium plasticity fines, firm**	
18						
19					Bottom of boring at 18.5 feet.	
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						
31						

PROJECT: PG&E
Oakland, California

Log of Boring No. BA-5 (cont.)

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/Foot	OVM Reading	DESCRIPTION NAME (USCS Symbol): color, moist, % by wt., plast., density, structure, cementation, react. w/HCl, geo. inter.	REMARKS
15					LEAN CLAY (CL) (continued)	
16	5-16				CLAYEY SAND with GRAVEL (SC) Yellowish brown (10YR 5/6), wet, 60% fine to coarse sand, 20% medium plasticity fines, 20% gravels	
17					LEAN CLAY (CL) Light olive brown (2.5Y 5/3), moist, 90% fines, 10% fine sand, low plasticity, firm	
18						
19					Bottom of boring at 19 feet.	
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						
31						

B-2 (11/92)

PROJECT: PG&E Oakland, California				**Log of Boring No. B-5**
BORING LOCATION: 5051 Coliseum Way			ELEVATION AND DATUM: ---	
DRILLING CONTRACTOR: Precision Sampling, Inc.			DATE STARTED: 1/23/95	DATE FINISHED: 1/23/95
DRILLING METHOD: Direct push			TOTAL DEPTH: 13 feet bgs	MEASURING POINT: ---
DRILLING EQUIPMENT: S-2			DEPTH TO WATER / FIRST: 4 feet	COMPL.: --- / 24 HRS.: ---
SAMPLING METHOD: 3-ft. continuous core with 6-in. stainless steel liners			LOGGED BY: M. R. Keim	
HAMMER WEIGHT: NA	DROP: NA		RESPONSIBLE PROFESSIONAL: S. Goodin	REG. NO. 3743

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/Foot	OVM Reading	DESCRIPTION (NAME (USCS Symbol): color, moist, % by wt., plast., density, structure, cementation, react. w/HCl, geo. inter.)	REMARKS
					Surface Elevation:	
1–4					CLAYEY SAND WITH GRAVEL (SC) [FILL] Dark brown (10YR, 3/3); moist; 60% fine to coarse sand, 15% fine gravels, 25% medium plasticity fines, locally contains concrete, brick, glass, metal, and/or asphalt ATD ▽	
5–11					LEAN CLAY (CL) [WASTE] Black (10YR, 2/1); wet, 95% fines, 5% fine sand; medium plasticity, soft	
11–12	B-5					
12–13					LEAN CLAY WITH SAND (CL) Greenish gray (I 5/1); wet; 60% fines, 40% fine to medium sand; trace fine gravels; medium plasticity	
13–14					Bottom of boring at 13 feet bgs	

B-1 (11/92)

2906.008

Geomatrix Consultants	Project No. 2906	Figure ---

PROJECT: PG&E Oakland, California	**Log of Boring No. B-6**
BORING LOCATION: 5051 Coliseum Way	ELEVATION AND DATUM: ---
DRILLING CONTRACTOR: Precision Sampling, Inc.	DATE STARTED: 1/23/95 / DATE FINISHED: 1/23/95
DRILLING METHOD: Direct push	TOTAL DEPTH: 10 feet bgs / MEASURING POINT: ---
DRILLING EQUIPMENT: S-2	DEPTH TO WATER: FIRST 4.5 feet / COMPL. --- / 24 HRS. ---
SAMPLING METHOD: 3-ft. continuous core with 6-in. stainless steel liners	LOGGED BY: M. R. Keim
HAMMER WEIGHT: NA / DROP: NA	RESPONSIBLE PROFESSIONAL: S. Goodin / REG. NO. 3743

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/Foot	OVM Reading	DESCRIPTION NAME (USCS Symbol): color, moist, % by wt., plast., density, structure, cementation, react. w/HCl, geo. inter. Surface Elevation:	REMARKS
1–4					CLAYEY SAND WITH GRAVEL (SC) [FILL] Dark brown (10YR, 3/3); moist; 60% fine to coarse sand, 25% medium plasticity fines, 15% fine gravels, locally contains concrete, brick, glass, metal, and/or asphalt ATD ▽	
5–6					CLAYEY SAND with GRAVEL (SC) [WASTE] Black (10YR 2/1), wet, 60% fine to coarse sand, 25% medium plasticity fines, 15% fine gravels	
6–7	B-6					
7–10					LEAN CLAY (CL) [BAY MUD] Black (10YR 2/1); wet; 95% fines, 5% organic fibers; medium plasticity; soft	
10					Bottom of boring at 10 feet bgs.	
11–14						

PROJECT: PG&E
Oakland, California

Log of Boring No. B-7

BORING LOCATION: 5051 Coliseum Way

ELEVATION AND DATUM: ---

DRILLING CONTRACTOR: Precision Sampling, Inc.

DATE STARTED: 1/23/95 | DATE FINISHED: 1/23/95

DRILLING METHOD: Direct push

TOTAL DEPTH: 10 feet bgs | MEASURING POINT: ---

DRILLING EQUIPMENT: S-2

DEPTH TO WATER: FIRST 5 feet | COMPL. --- | 24 HRS. ---

SAMPLING METHOD: 3-ft. continuous core with 6-in. stainless steel liners

LOGGED BY: M. R. Keim

HAMMER WEIGHT: NA | DROP: NA

RESPONSIBLE PROFESSIONAL: S. Goodin | REG. NO. 3743

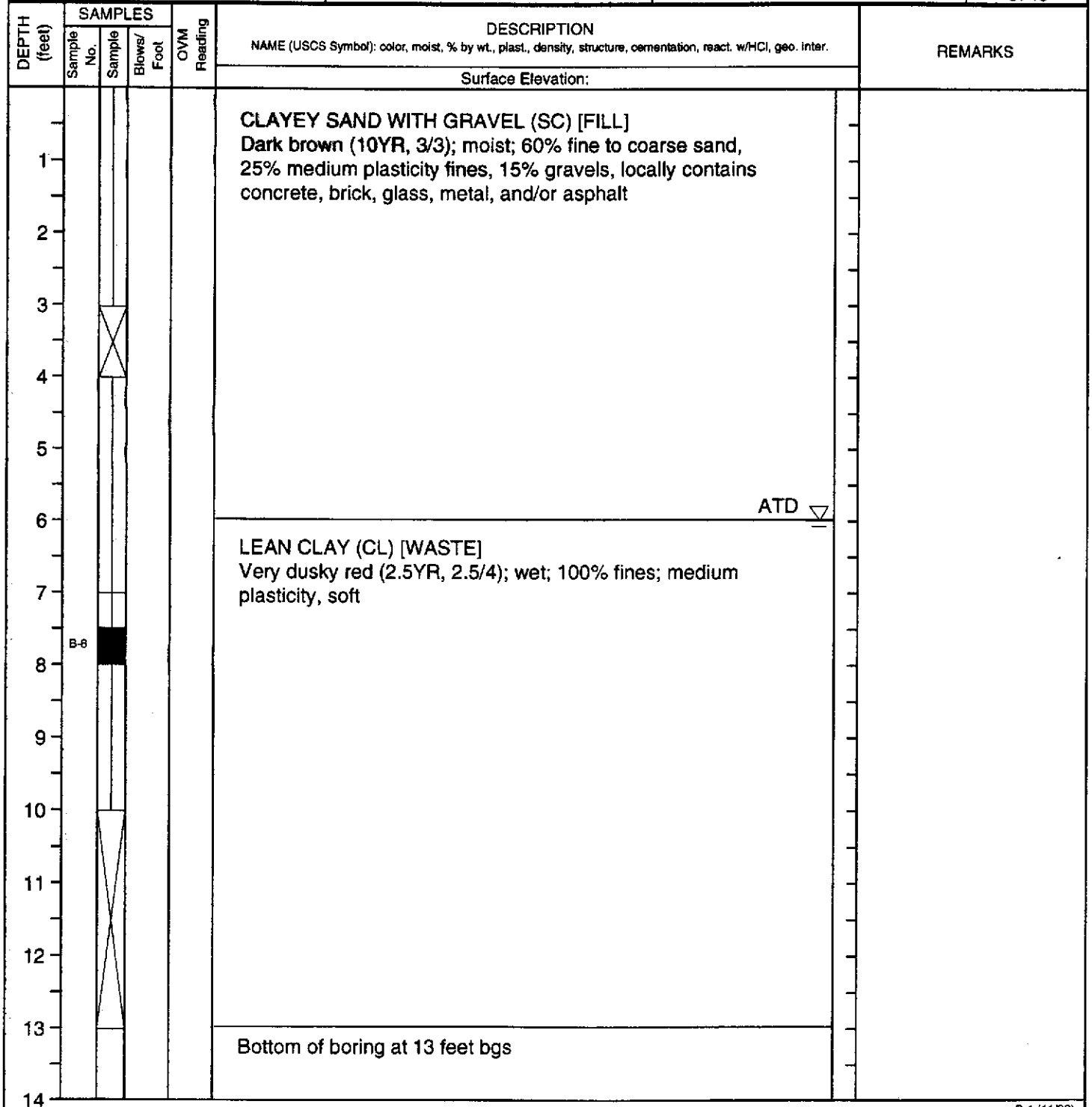
DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/Foot	OVM Reading	DESCRIPTION NAME (USCS Symbol): color, moist, % by wt., plast., density, structure, cementation, react. w/HCl, geo. inter. Surface Elevation:	REMARKS
1					CLAYEY SAND WITH GRAVEL (SC) [FILL] Dark brown (10YR, 3/3); moist; 60% fine to coarse sand, 25% medium plasticity fines, 15% fine gravels, locally contains concrete, brick, glass, metal, and/or asphalt	
2						
3						
4						
5					ATD ▽	
6						
7	B-7				Black, glassy material [WASTE]	
8						
9						
10					Bottom of boring at 10 feet bgs	
11						
12						
13						
14						

2906.010

B-1 (11/92)

Geomatrix Consultants | Project No. 2906 | Figure ---

PROJECT: PG&E Oakland, California	**Log of Boring No. B-8**
BORING LOCATION: 5051 Coliseum Way	ELEVATION AND DATUM: ---
DRILLING CONTRACTOR: Precision Sampling, Inc.	DATE STARTED: 1/23/95 / DATE FINISHED: 1/23/95
DRILLING METHOD: Direct push	TOTAL DEPTH: 13 feet bgs / MEASURING POINT: ---
DRILLING EQUIPMENT: S-2	DEPTH TO WATER / FIRST: 6 feet / COMPL.: --- / 24 HRS.: ---
SAMPLING METHOD: 3-ft. continuous core with 6-in. stainless steel liners	LOGGED BY: M. R. Keim
HAMMER WEIGHT: NA / DROP: NA	RESPONSIBLE PROFESSIONAL: S. Goodin / REG. NO.: 3743



PROJECT: PG&E Oakland, California	**Log of Boring No. B-9**
BORING LOCATION: 5051 Coliseum Way	ELEVATION AND DATUM: 11.7 feet MSL
DRILLING CONTRACTOR: Precision Sampling, Inc.	DATE STARTED: 12/5/95 / DATE FINISHED: 12/5/95
DRILLING METHOD: Direct push	TOTAL DEPTH: 20 feet / MEASURING POINT: --
DRILLING EQUIPMENT: XD-3	DEPTH TO WATER / FIRST: -- / COMPL.: -- / 24 HRS.: --
SAMPLING METHOD: 3-foot core barrel	LOGGED BY: M.R. Keim
HAMMER WEIGHT: --- / DROP: ---	RESPONSIBLE PROFESSIONAL: S. Goodin / REG. NO. 3743

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/Foot	OVM Reading	DESCRIPTION NAME (USCS Symbol): color, moist, % by wt., plast., density, structure, cementation, react. w/HCl, geo. inter. Surface Elevation:	REMARKS
1					CLAYEY SAND with GRAVEL (SC) [FILL] Dark brown (10YR 3/3), moist, 60% fine to coarse sand, 25% medium plasticity fines, 15% gravels, locally contains concrete, brick, glass, metal, and/or asphalt	
2	B9-2					
3						
4						
5						
6						
7	B9-7					
8						
9						
10					Color change to black (7.5YR N2/0)	
11						
12	B9-11.5					
13					LEAN CLAY (CL) [BAY MUD] Very dark gray (5Y 3/1), moist, 95% fines, 5% fine sand, low plasticity, firm	
14						

B-1 (11/92)

PROJECT: PG&E
Oakland, California

Log of Boring No. B-9 (cont.)

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/Foot	OVM Reading	DESCRIPTION NAME (USCS Symbol): color, moist, % by wt., plast., density, structure, cementation, react. w/HCl, geo. inter.	REMARKS
15					LEAN CLAY (CL) (continued)	
16						
17	B9-16.5					
18					LEAN CLAY with SAND (CL) Greenish gray (5GY 5/1), moist, 90% fines, 10% fine to coarse sand, medium plasticity, firm	
19	B9-19.5					
20					Bottom of boring at 20 feet.	
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						
31						

PROJECT: PG&E Oakland, California	**Log of Boring No. B-10**
BORING LOCATION: 5051 Coliseum Way	ELEVATION AND DATUM: 9.9 feet MSL
DRILLING CONTRACTOR: Precision Sampling, Inc.	DATE STARTED: 12/5/95 / DATE FINISHED: 12/5/95
DRILLING METHOD: Direct push	TOTAL DEPTH: 20 feet / MEASURING POINT: --
DRILLING EQUIPMENT: XD-3	DEPTH TO WATER: FIRST 13 feet / COMPL. -- / 24 HRS. --
SAMPLING METHOD: 3-foot core barrel	LOGGED BY: M.R. Keim
HAMMER WEIGHT: --- / DROP: ---	RESPONSIBLE PROFESSIONAL: S. Goodin / REG. NO. 3743

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/Foot	OVM Reading	DESCRIPTION NAME (USCS Symbol): color, moist, % by wt., plast., density, structure, cementation, react. w/HCl, geo. inter. Surface Elevation:	REMARKS
1					CLAYEY SAND with GRAVEL (SC) [FILL] Dark brown (10YR 3/3), moist, 60% fine to coarse sand, 25% medium plasticity fines, 15% fine gravel, locally contains concrete, brick, glass, metal, and/or asphalt	
2	B10-2					
3						
4						
5						
6	B10-6					
7						
8						
9						
10	B10-10					
11					FAT CLAY (CH) [BAY MUD] Very dark gray (5Y 3/1), moist, 95% fines, 5% fine sand, high plasticity, soft	
12						
13	B10-13				ATD SILT with SAND (ML) Black (7.5YR N2/0), wet, 75% fines, 25% fine to medium sand, low plasticity, soft	
14						

B-1 (11/92)

PROJECT: PG&E
Oakland, California

Log of Boring No. B-10 (cont.)

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/ Foot	OVM Reading	DESCRIPTION NAME (USCS Symbol): color, moist, % by wt., plast., density, structure, cementation, react. w/HCl, geo. inter.	REMARKS
15					SILT with SAND (ML) (continued)	
16	B10-16				LEAN CLAY with SAND (SC) Grayish green (5G 5/2), moist, 75% fines, 25% fine to medium sand, low plasticity, firm	
17						
18						
19					CLAYEY SAND (SC) Yellowish brown (10YR 5/6), moist, 75% medium sand, 25% low plasticity fines	
20					Bottom of boring at 20 feet.	
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						
31						

PROJECT: PG&E Oakland, California				**Log of Boring No. B-11**
BORING LOCATION: 5051 Coliseum Way			ELEVATION AND DATUM: 6.6 feet MSL	
DRILLING CONTRACTOR: Precision Sampling, Inc.			DATE STARTED: 12/5/95	DATE FINISHED: 12/5/95
DRILLING METHOD: Direct push			TOTAL DEPTH: 20 feet	MEASURING POINT: --
DRILLING EQUIPMENT: XD-3			DEPTH TO WATER / FIRST: 4 feet	COMPL.: -- / 24 HRS.: --
SAMPLING METHOD: 3-foot core barrel			LOGGED BY: M.R. Keim	
HAMMER WEIGHT: ---	DROP: ---		RESPONSIBLE PROFESSIONAL: S. Goodin	REG. NO. 3743

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/Foot	OVM Reading	DESCRIPTION NAME (USCS Symbol): color, moist, % by wt., plast., density, structure, cementation, react. w/HCl, geo. inter. Surface Elevation:	REMARKS
0					Asphalt and base rock	
1	B-11-2				CLAYEY SAND with GRAVEL (SC) [FILL] Dark brown (10YR 3/3), moist, 60% fine to coarse sand, 25% medium plasticity fines, 15% fine gravel, locally contains concrete, brick, glass, metal, and/or asphalt	
2						
3						
4					ATD ▽	
5	B-11-5				SILT (ML) [WASTE] Black (7.5YR N2/0), wet, 100% fines, low plasticity, soft 50% medium sand	
6					50% medium sand	
7					Plant fibers, waste mix	
8	B-11-8					
9					FAT CLAY (CH) [BAY MUD] Very dark gray (5Y 3/1), moist, 100% fines, trace fine sand, firm, medium plasticity	
10						
11						
12						
13	B-11-12.5					
14						

PROJECT: PG&E
Oakland, California

Log of Boring No. B-11 (cont.)

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/Foot	OVM Reading	DESCRIPTION NAME (USCS Symbol): color, moist, % by wt., plast., density, structure, cementation, react. w/HCl, geo. inter.	REMARKS
15					SILT (ML) Very dark olive gray (5Y 3/2), moist, 90% fines, 10% fine sand, low plasticity, soft	
16	B11-15-5				15% clay gravels	
17					FAT CLAY (CH) Yellowish brown (10YR 5/4), moist, 95% fines, 5% fine sand, high plasticity, firm	
18						
19						
20					Bottom of boring at 20 feet.	
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						
31						

PROJECT: PG&E Oakland, California	**Log of Boring No. B-12**
BORING LOCATION: 5051 Coliseum Way	ELEVATION AND DATUM: 7.8 feet MSL
DRILLING CONTRACTOR: Precision Sampling, Inc.	DATE STARTED: 12/5/95 / DATE FINISHED: 12/5/95
DRILLING METHOD: Direct push	TOTAL DEPTH: 25 feet / MEASURING POINT: --
DRILLING EQUIPMENT: XD-3	DEPTH TO WATER: FIRST 10 feet / COMPL. -- / 24 HRS. --
SAMPLING METHOD: 3-foot core barrel	LOGGED BY: M.R. Keim
HAMMER WEIGHT: --- / DROP: ---	RESPONSIBLE PROFESSIONAL: S. Goodin / REG. NO. 3743

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/Foot	OVM Reading	DESCRIPTION NAME (USCS Symbol): color, moist, % by wt., plast., density, structure, cementation, react. w/HCl, geo. inter. Surface Elevation:	REMARKS
0					Asphalt, base rock	
1					CLAYEY SAND with GRAVEL (SC) [FILL] Dark brown (10YR, 3/3), moist, 60% fine to coarse sand, 25% medium plasticity fines, 15% fine gravel, locally contains concrete, brick, glass, metal, and/or asphalt	
2						
3						
4						
5						
6						
7						
8						
9						
10	B12-12				ATD ▽ LEAN CLAY (CL) [WASTE] Black (7.5YR N 2/0), wet, 100% fines, low plasticity, soft	
11						
12						
13					LEAN CLAY (CL) [BAY MUD] Grayish green (5G 4/2), moist, 90% fines, 10% fine to medium sand, medium plasticity, firm	
14						

B-1 (11/92)

PROJECT: PG&E
Oakland, California

Log of Boring No. B-12 (cont.)

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/Foot	OVM Reading	DESCRIPTION NAME (USCS Symbol): color, moist, % by wt., plast., density, structure, cementation, react. w/HCl, geo. inter.	REMARKS
15					LEAN CLAY (CL) (continued)	
16					CLAYEY SAND (SC) Yellowish brown (10YR 5/6), wet, 80% fine to coarse sand, 20% medium plasticity fines, trace fine gravel	
17	B12-17				LEAN CLAY (CL) Light olive brown (2.5Y 5/3), moist, 95% fines, 5% fine sand, medium plasticity, firm	
18						
19						
20	B12-20					
21						
22						
23						
24						
25	B12-25				Bottom of boring at 25 feet.	
26						
27						
28						
29						
30						
31						

B-2 (11/92)

PROJECT: PG&E Oakland, California	**Log of Boring No. B-13**
BORING LOCATION: 5051 Coliseum Way	ELEVATION AND DATUM: 7.0 feet MSL
DRILLING CONTRACTOR: Gregg Drilling and Testing, Inc.	DATE STARTED: 12/6/95 / DATE FINISHED: 12/6/95
DRILLING METHOD: 8-inch Hollow Stem Auger	TOTAL DEPTH: 25 feet / MEASURING POINT: --
DRILLING EQUIPMENT: Marl M-11	DEPTH TO WATER / FIRST: -- / COMPL.: -- / 24 HRS.: --
SAMPLING METHOD: 5-foot continuous core	LOGGED BY: M.R. Keim
HAMMER WEIGHT: 140 pounds / DROP: 30 inches	RESPONSIBLE PROFESSIONAL: S. Goodin / REG. NO. 3743

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/Foot	OVM Reading	DESCRIPTION NAME (USCS Symbol): color, moist, % by wt., plast., density, structure, cementation, react. w/HCl, geo. inter. Surface Elevation:	REMARKS
1	B-13-2				**CLAYEY SAND with GRAVEL (SC) [FILL]** Dark brown (10YR 3/3), moist, 60% fine to coarse sand, 25% medium plasticity fines, 15% fine gravel, locally contains concrete, brick, glass, metal, and/or asphalt	
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13	B13-13					
14						

B-1 (11/92)

PROJECT: PG&E
Oakland, California

Log of Boring No. B-13 (cont.)

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/Foot	OVM Reading	DESCRIPTION NAME (USCS Symbol): color, moist, % by wt., plast., density, structure, cementation, react. w/HCl, geo. Inter.	REMARKS
15					CLAYEY SAND with GRAVEL (SC) (continued)	
16						
17						
18	B13-19.5					
19						
20					FAT CLAY (CH) [BAY MUD] Light olive brown (2.5Y 5/4), moist, 100% fines, high plasticity, firm	
21						
22	B13-22					
23						
24						
25					Bottom of boring at 25 feet.	
26						
27						
28						
29						
30						
31						

PROJECT: PG&E Oakland, California	**Log of Boring No. B-14**
BORING LOCATION: 5051 Coliseum Way	ELEVATION AND DATUM: 7.5 feet MSL
DRILLING CONTRACTOR: Gregg Drilling and Testing, Inc.	DATE STARTED: 12/6/95 / DATE FINISHED: 12/6/95
DRILLING METHOD: 8-inch Hollow Stem Auger	TOTAL DEPTH: 20 feet / MEASURING POINT: --
DRILLING EQUIPMENT: Marl M-11	DEPTH TO WATER: FIRST 11.5 feet / COMPL. -- / 24 HRS. --
SAMPLING METHOD: 5-foot continuous core	LOGGED BY: M.R. Keim
HAMMER WEIGHT: 140 pounds / DROP: 30 inches	RESPONSIBLE PROFESSIONAL: S. Goodin / REG. NO. 3743

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/Foot	OVM Reading	DESCRIPTION NAME (USCS Symbol): color, moist, % by wt., plast., density, structure, cementation, react. w/HCl, geo. inter. Surface Elevation:	REMARKS
1					CLAYEY SAND with GRAVEL (SC) [FILL] Dark brown (10YR 3/3), moist, 60% fine to coarse sand, 25% medium plasticity fines, 15% gravels, locally contains concrete, brick, glass, metal, and/or asphalt	
2	B-14-2					
3						
4						
5						
6						
7	B-14-7				Color change to olive yellow (2.5Y 6/8)	
8						
9						
10	B-14-10				LEAN CLAY with SAND (CL) [BAY MUD] Yellowish brown (10YR 5/8), moist, 80% fines, 20% fine to medium sand, trace cemented nodules, medium plasticity,firm	
11					ATD ▽ LEAN CLAY (CL) Black (7.5YR 2/0), wet, 90% fines, 10% fine sand, trace coarse sand, trace organic matter, medium plasticity, soft	
12						
13	B-14-13				LEAN CLAY (CL) Dark greenish gray (5GY 5/1), moist, 95% fines, 5% fine sand, medium plasticity, firm	
14						

B-1 (11/92)

PROJECT: PG&E
Oakland, California

Log of Boring No. B-14 (cont.)

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/Foot	OVM Reading	DESCRIPTION NAME (USCS Symbol): color, moist, % by wt., plast., density, structure, cementation, react. w/HCl, geo. inter.	REMARKS
15	B14-16				LEAN CLAY (CL) (continued)	
16						
17						
18						
19					10% fine gravels Color mottled with light olive brown (2.5Y 5/6)	
20					Bottom of boring at 20 feet.	
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						
31						

PROJECT: PG&E Oakland, California	**Log of Well No. MWA-1**
BORING LOCATION: 5051 Coliseum Way	ELEVATION AND DATUM: 9.79 feet MSL
DRILLING CONTRACTOR: Gregg Drilling and Testing, Inc.	DATE STARTED: 5/31/95 / DATE FINISHED: 5/31/95
DRILLING METHOD: Hollow Stem Auger	TOTAL DEPTH: 17.5 feet / SCREEN INTERVAL: 7.5-17.5 feet
DRILLING EQUIPMENT: Mobile 61	DEPTH TO WATER ATD: 8.5 feet / CASING: 4 inch PVC
SAMPLING METHOD: 5 ft. continuous core	LOGGED BY: M.R. Keim
HAMMER WEIGHT: -- / DROP: --	RESPONSIBLE PROFESSIONAL: S. Goodin / REG. NO. 3743

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/Foot	OVM Reading	DESCRIPTION NAME (USCS Symbol): color, moist, % by wt., plast., density, structure, cementation, react. w/HCl, geo. inter.	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
					Surface Elevation:	
1	1-1				**CLAYEY SAND with GRAVEL (SC) [FILL]** Dark brown (10YR 3/3), moist, 60% fine to coarse sand, 25% medium plasticity fines, 15% gravels, locally contains concrete, brick, glass, metal, and/or asphalt	Traffic rated Christy Box (G-5)
2	1-2					2" waterproof well cap
3						
4						
5						Cement grout
6						Bentonite
7	1-7					2" SCH 40 PVC blank casing
8	1-8				ATD ▽	
	1-8.5				LEAN CLAY (CL) [WASTE] Very dusky red (2.5YR 2.5/4), wet, 100% fines, medium plasticity, soft	
9	1-9					
10	1-10				LEAN CLAY (CL) [BAY MUD] Greenish black (5G 2.5/1), wet, 90% fines, medium plasticity, 10% fine sand	Sand filter pack
11						
12	1-12					0.01 Slot SCH 40 PVC
13	1-13					8" diameter borehole
14						

W-1 (11/92)

PROJECT: PG&E
Oakland, California

Log of Well No. MWA-1 (cont.)

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/Foot	OVM Reading	DESCRIPTION NAME (USCS Symbol): color, moist, % by wt., plast., density, structure, cementation, react. w/HCl, geo. inter.	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
15	1-14.5				LEAN CLAY (CL) (continued) SANDY LEAN CLAY (CL) Olive brown (2.5Y 4/4), wet, 70% fines, 30% fine to medium sand, medium plasticity, firm	
16						
17	1-17				Increase in sand	
18					Bottom of boring at 18.5 feet.	
19						
20						
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27						
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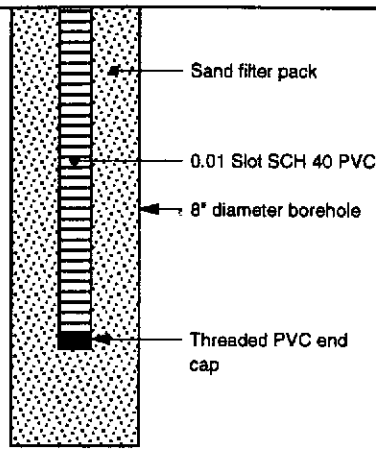
29						
30						
31						



W-2 (11/92)

PROJECT: PG&E Oakland, California	**Log of Well No. MWA-2**
BORING LOCATION: 5051 Coliseum Way	ELEVATION AND DATUM: 842 feet MSL
DRILLING CONTRACTOR: Gregg Drilling and Testing, Inc.	DATE STARTED: 5/31/95 / DATE FINISHED: 5/31/95
DRILLING METHOD: 6" and 10" Hollow Stem Auger	TOTAL DEPTH: 17 feet / SCREEN INTERVAL: 7-17 feet
DRILLING EQUIPMENT: Mobile 61	DEPTH TO WATER ATD: 5.5 feet / CASING: 4 inch PVC
SAMPLING METHOD: 5 ft. continuous core	LOGGED BY: M.R. Keim
HAMMER WEIGHT: -- / DROP: --	RESPONSIBLE PROFESSIONAL: S. Goodin / REG. NO. 3743

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/Foot	OVM Reading	DESCRIPTION NAME (USCS Symbol): color, moist, % by wt., plast., density, structure, cementation, react. w/HCl, geo. inter. Surface Elevation:
1					CLAYEY SAND with GRAVEL (SC) [FILL] Very dark gray (10YR 3/1), moist, 60% fine to coarse sand, 25% medium plasticity fines, 15% fine gravels, locally contains concrete, brick, glass, metal, and/or asphalt
2					
3					
4					
5					
6	2-6				CLAYEY SAND with GRAVEL (SC) [WASTE] Bluish black (10B 2.5/1), wet, 50% fine to coarse sand, 35% medium plasticity fines, 15% gravels, soft ATD ▽
7					
8					LEAN CLAY (CL) [BAY MUD] Black (N 2.5), wet, 95% fines, 5% fine sand, medium plasticity, soft
9					
10	2-10				
11					
12	2-11.5				LEAN CLAY with SAND (CL) Dark greenish gray (5G 4/1), 75% fines, 25% fine to coarse sand, trace gravels
13					LEAN CLAY (CL) Light olive brown (2.5Y 5/3), moist, 95% fines, medium plasticity, 5% fine sand
14	2-14				

WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS

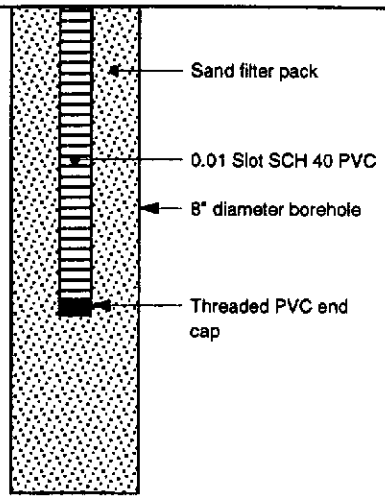
- Traffic rated Christy Box (G-5)
- 2" waterproof well cap
- Cement grout
- Bentonite
- 2" SCH 40 PVC well casing
- Sand filter pack
- 0.01 Slot SCH 40 PVC
- 8" diameter borehole

W-1 (11/92)

PROJECT: PG&E
Oakland, California

Log of Well No. MWA-2 (cont.)

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/Foot	OVM Reading	DESCRIPTION: NAME (USCS Symbol): color, moist, % by wt., plast., density, structure, cementation, react. w/HCl, geo. Inter.	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
15	2-15				LEAN CLAY (CL) (continued) Increase to 60% fine to coarse sand	
19					Bottom of boring at 19 feet.	



W-2 (11/92)

PROJECT: PG&E Oakland, California	**Log of Well No. MWA-3**
BORING LOCATION: 5051 Coliseum Way	ELEVATION AND DATUM: 10.99 feet MSL
DRILLING CONTRACTOR: Gregg Drilling and Testing, Inc.	DATE STARTED: 5/31/95 / DATE FINISHED: 5/31/95
DRILLING METHOD: 6" and 10" Hollow Stem Auger	TOTAL DEPTH: 15 feet / SCREEN INTERVAL: 5-15 feet
DRILLING EQUIPMENT: Mobile 61	DEPTH TO WATER ATD: 4 feet / CASING: 4 inch PVC
SAMPLING METHOD: 5 ft. continuous core	LOGGED BY: M.R. Keim
HAMMER WEIGHT: -- / DROP: --	RESPONSIBLE PROFESSIONAL: S. Goodin / REG. NO. 3743

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/Foot	OVM Reading	DESCRIPTION (NAME (USCS Symbol): color, moist, % by wt., plast., density, structure, cementation, react. w/HCl, geo. inter.)	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
					Surface Elevation:	
1					CLAYEY SAND with GRAVEL (SC) [FILL] Dark brown (10YR 3/3), moist, 60% fine to coarse sand, 25% medium plasticity fines, 15% fine gravels, locally contains concrete, brick, glass, metal, and/or asphalt	Traffic rated Christy Box (G-5)
2						2" waterproof well cap
3						Cement grout
4					ATD ▽	Bentonite
5	3-5					2" SCH 40 PVC well casing
6						
7						
8						
9						
10	3-10					Sand filter pack
11	3-11 3-11.5				LEAN CLAY (CL) [WASTE] Gray, brown, white, orange, wet, 100% fines, low plasticity, soft	
12	3-12					0.01 Slot SCH 40 PVC
13	3-13				LEAN CLAY (CL) [BAY MUD] Black (N 2.5), wet, 95% fines, 5% fine sand, medium plasticity, firm	8" diameter borehole
14	3-14					

W-1 (11/92)

PROJECT: PG&E
Oakland, California

Log of Well No. MWA-3 (cont.)

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/Foot	OVM Reading	DESCRIPTION NAME (USCS Symbol): color, moist, % by wt., plast., density, structure, cementation, react. w/HCl, geo. inter.	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
15	3-15				LEAN CLAY (CL) (continued)	
16					LEAN CLAY (CL) Dark greenish gray (5G 4/1), moist, 90% fines, 10% fine sand, medium plasticity, firm	
17						
18					SANDY LEAN CLAY (CL) Light olive brown (2.5Y 5/4), moist, 70% fines, 30% fine to medium sand, trace fine gravels, medium plasticity, firm	
19					Bottom of boring at 19 feet.	
20						
21						
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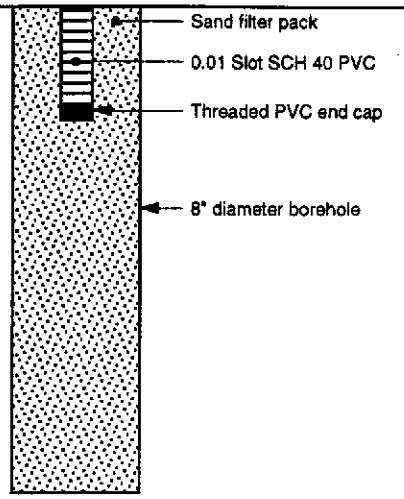
31						



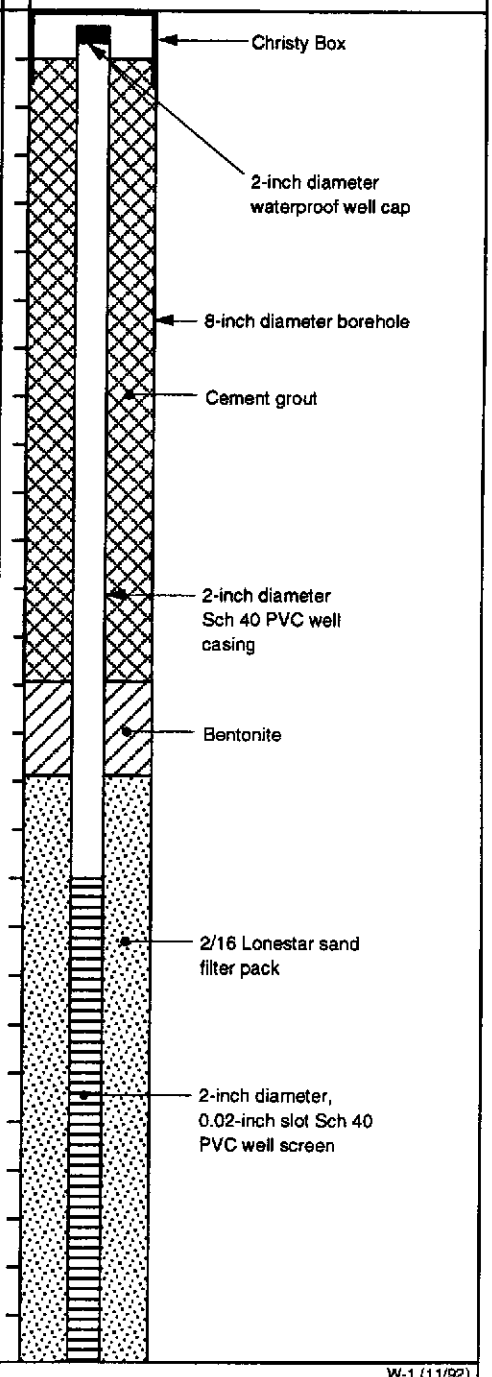
W-2 (11/92)

PROJECT: PG&E
Oakland, California

Log of Well No. MW-4

BORING LOCATION: 5051 Coliseum Way	ELEVATION AND DATUM: 10.88 feet MSL	
DRILLING CONTRACTOR: Gregg Drilling and Testing, Inc.	DATE STARTED: 12/7/95	DATE FINISHED: 12/7/95
DRILLING METHOD: 8-inch diameter hollow stem auger	TOTAL DEPTH: 20 feet	SCREEN INTERVAL: 9-19 feet
DRILLING EQUIPMENT: Marl M-11	DEPTH TO WATER ATD: 8.5 feet	CASING: 0.5-9 feet
SAMPLING METHOD: 5-foot continuous core	LOGGED BY: M.R. Keim	
HAMMER WEIGHT: --- DROP: ---	RESPONSIBLE PROFESSIONAL: S. Goodin	REG. NO. 3743

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/ Foot	OVM Reading	DESCRIPTION NAME (USCS Symbol): color, moist, % by wt., plast., density, structure, cementation, react. w/HCl, geo. inter.
					Surface Elevation:
0					CLAYEY SAND with GRAVEL (SC) [FILL] Dark brown (10YR 3/3), moist, 60% fine to coarse sand, 25% medium plasticity fines, 15% gravels, locally contains concrete, brick, glass, metal, and/or asphalt
1	MW4-3.5				
2					
3					
4					
5					
6					
7					
8					ATD ▽
9	MW4-8.5				LEAN CLAY (CL) [WASTE] White (10YR 8/1), wet, 95% fines, 5% fine sand, low plasticity, soft
10	MW4-10.5				Color change to light gray (10YR 7/2)
11					FAT CLAY (CH) [BAY MUD] Very dark gray (5Y 3/1), moist, 95% fines, 5% fine sand, high plasticity, soft
12					
13					LEAN CLAY with SAND (CL) Black (7.5YR N2/0), wet, 85% fines, 15% fine to coarse sand, medium plasticity, soft
14					



2906.039	Geomatrix Consultants	Project No. 2906	Figure ---

PROJECT: PG&E
Oakland, California

Log of Well No. MW-4 (cont.)

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/ Foot	OVM Reading	DESCRIPTION NAME (USCS Symbol): color, moist, % by wt., plast., density, structure, cementation, react. w/HCl, geo. inter.	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
15	MW4-14				LEAN CLAY with SAND (CL) Greenish gray (5G 5/2), moist, 70% fines, 25% fine to coarse sand, 5% fine gravel, medium plasticity, firm	8-inch diameter borehole
16	MW4-17					2-inch diameter Sch 40 PVC well casing
17						2/16 Lonestar sand filter pack
18					CLAYEY SAND (SC) Yellowish brown (10YR 5/6), moist, 75% fine to coarse sand, 25% low plasticity fines, trace gravels	2-inch diameter, 0.02-inch slot Sch 40 PVC well screen
19						
20					Bottom of boring at 20 feet.	6-inch threaded end cap
21						
22						
23						
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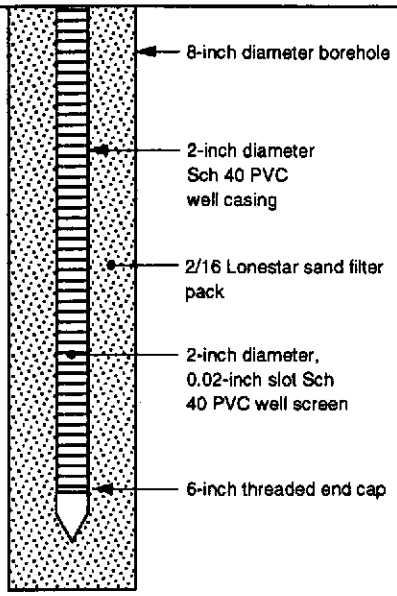
30						
31						



W-2 (11/92)

PROJECT: PG&E Oakland, California	**Log of Well No. MW-5**
BORING LOCATION: 5051 Coliseum Way	ELEVATION AND DATUM: 10.06 feet MSL
DRILLING CONTRACTOR: Gregg Drilling and Testing, Inc.	DATE STARTED: 12/7/95 / DATE FINISHED: 12/7/95
DRILLING METHOD: 8-inch hollow stem auger	TOTAL DEPTH: 20 feet / SCREEN INTERVAL: 9-19 feet
DRILLING EQUIPMENT: Marl M-11	DEPTH TO WATER ATD: 9 feet / CASING: 0.5-9 feet
SAMPLING METHOD: 5-foot continuous core	LOGGED BY: M.R. Keim
HAMMER WEIGHT: --- / DROP: ---	RESPONSIBLE PROFESSIONAL: S. Goodin / REG. NO. 3743

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/ Foot	OVM Reading	DESCRIPTION NAME (USCS Symbol): color, moist, % by wt., plast., density, structure, cementation, react. w/HCl, geo. inter.	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
					Surface Elevation:	
1	MW5-2				CLAYEY SAND with GRAVEL (SC) [FILL] Dark brown (10YR 3/3), moist, 60% fine to coarse sand, 25% medium plasticity fines, 15% gravels, locally contains concrete, brick, glass, metal, and/or asphalt	Christy Box
2						2-inch diameter waterproof well cap
3						8-inch diameter borehole
4						Cement grout
5						
6						2-inch diameter Sch 40 PVC well casing
7						
8						Bentonite
9					ATD ▽	
10						2/16 Lonestar sand filter pack
11	MW5-11				FAT CLAY (CH) [BAY MUD] Very dark gray (5Y 3/1), moist, 95% fines, 5% fine sand, high plasticity, soft	2-inch diameter, 0.02-inch slot Sch 40 PVC well screen
12						
13	MW5-14.5				LEAN CLAY with SAND (CL) Black (7.5YR N2/0), wet, 75% fines, 25% fine to medium sand, medium plasticity, soft	
14						

W-1 (11/92)

PROJECT: PG&E
Oakland, California

Log of Well No. MW-5 (cont.)

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/Foot	OVM Reading	DESCRIPTION NAME (USCS Symbol): color, moist, % by wt., plast., density, structure, cementation, react. w/HCl, geo. inter.	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
15					LEAN CLAY with SAND (CL) (continued)	8-inch diameter borehole
16					LEAN CLAY with SAND (CL) Grayish green (5G 5/2), moist, 75% fines, 25% fine to medium sand, medium plasticity, firm	2-inch diameter Sch 40 PVC well casing
17						2/16 Lonestar sand filter pack
18	MW5-17.5					2-inch diameter, 0.02-inch slot Sch 40 PVC well screen
19						6-inch threaded end cap
20					CLAYEY SAND (SC) Yellowish brown (10YR 5/6), wet, 75% fine to coarse sand, 25% medium plasticity fines Bottom of boring at 20 feet.	
21						
22						
23						
24						
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26						
27						
28						
29						
30						
31						

W-2 (11/92)

PROJECT: PG&E Oakland, California	**Log of Well No. MW-6**
BORING LOCATION: 5051 Coliseum Way	ELEVATION AND DATUM: 7.57 feet MSL
DRILLING CONTRACTOR: Gregg Drilling and Testing, Inc.	DATE STARTED: 12/6/95 / DATE FINISHED: 12/6/95
DRILLING METHOD: 8-inch hollow stem auger	TOTAL DEPTH: 20 feet / SCREEN INTERVAL: 9-19 feet
DRILLING EQUIPMENT: Mari M-11	DEPTH TO WATER ATD: 9 feet / CASING: 0.5-9 feet
SAMPLING METHOD: 5-foot continuous core	LOGGED BY: M.R. Keim
HAMMER WEIGHT: --- / DROP: ---	RESPONSIBLE PROFESSIONAL: S. Goodin / REG. NO. 3743

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/Foot	OVM Reading	DESCRIPTION NAME (USCS Symbol): color, moist, % by wt., plast., density, structure, cementation, react. w/HCl, geo. inter.	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
					Surface Elevation:	
0					Asphalt and base rock	Christy Box
1	MW6-2				CLAYEY SAND with GRAVEL (SC) [FILL] Dark brown (10YR 3/3), moist, 60% fine to coarse sand, 25% medium plasticity fines, 15% gravels, locally contains concrete, brick, glass, metal, and/or asphalt	2-inch diameter waterproof well cap
2						
3						8-inch diameter borehole
4						Grout
5						
6						2-inch diameter Sch 40 PVC well casing
7						
8	MW6-8					Bentonite
9					ATD ▽	
10	MW6-9.5				SILT (ML) [WASTE] Black (7.5YR N2/0), wet, 100% fines, low plasticity, soft	2/16 Lonestar sand filter pack
11					LEAN CLAY (CL) [BAY MUD] Black (2.5Y 2.5/1), wet, 95% fines, 5% fine sand, low plasticity, soft	2-inch diameter, 0.02-inch slot Sch 40 PVC well screen
12						
13	MW6-13				LEAN CLAY (CL) Grayish green (5G 5/2), moist, 95% fines, 5% fine sand, trace coarse sand, low plasticity, firm	
14						

W-1 (11/92)

PROJECT: PG&E
Oakland, California

Log of Well No. MW-6 (cont.)

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/ Foot	OVM Reading	DESCRIPTION	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
15					LEAN CLAY (CL) (continued) Increase to 50% fine to coarse sand, fine gravel	8-inch diameter borehole
16	MW6-16				LEAY CLAY (CL) Yellowish brown (10YR 5/6), moist, 95% fines, 5% fine sand low plasticity, firm	2-inch diameter Sch 40 PVC well casing
17						2/16 Lonestar sand filter pack
18					WELL-GRADED SAND with CLAY (SW-SC) Yellowish brown (10YR 5/6), wet, 90% fine to medium sand, 10% medium plasticity fines	2-inch diameter, 0.02-inch slot Sch 40 PVC well screen
19						6-inch threaded end cap
20					LEAN CLAY (CL) Light olive brown (2.5Y 5/4), moist, 90% fines, 10% fine to medium sand, trace coarse sand, medium plasticity, firm	
21					Bottom of boring at 20 feet.	
22						
23						
24						
25						
26						
27						
28						
29						
30						
31						

W-2 (11/92)

PROJECT: PG&E
Oakland, California

Log of Well No. MW-7

BORING LOCATION: 5051 Coliseum Way	ELEVATION AND DATUM: 9.16 feet MSL	
DRILLING CONTRACTOR: Gregg Drilling and Testing, Inc.	DATE STARTED: 12/6/95	DATE FINISHED: 12/6/95
DRILLING METHOD: 8-inch hollow stem auger	TOTAL DEPTH: 20 feet	SCREEN INTERVAL: 9-19 feet
DRILLING EQUIPMENT: Marl M-11	DEPTH TO WATER ATD: 13 feet	CASING: 0.5-9 feet
SAMPLING METHOD: 5-foot continuous core	LOGGED BY: M.R. Keim	
HAMMER WEIGHT: --- DROP: ---	RESPONSIBLE PROFESSIONAL: S. Goodin	REG. NO. 3743

DEPTH (feet) | SAMPLES: Sample No., Sample, Blows/Foot | OVM Reading | DESCRIPTION: NAME (USCS Symbol): color, moist, % by wt., plast., density, structure, cementation, react. w/HCl, geo. inter. | WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS

Surface Elevation:

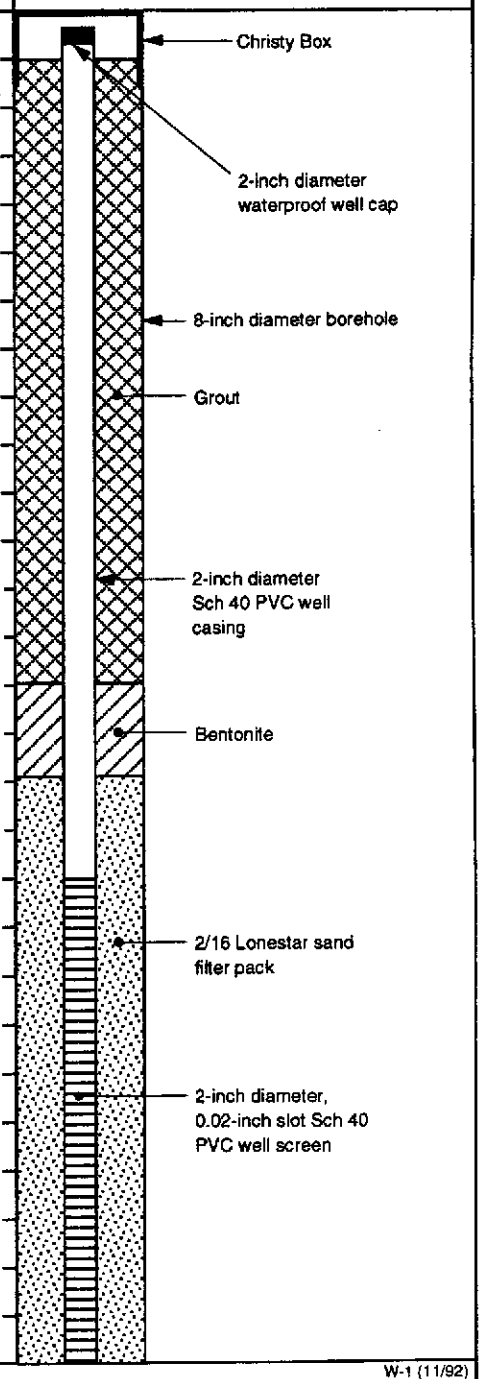
MW7-2
MW7-7
MW7-10.5
MW7-13.5

CLAYEY SAND with GRAVEL (SC) [FILL]
Dark brown (10YR 3/3), moist, 60% fine to coarse sand, 25% medium plasticity fines, 15% gravels, locally contains concrete, brick, glass, metal, and/or asphalt

LEAN CLAY (CL) [BAY MUD]
Dark gray (5Y 4/1), moist, 90% fines, 10% organic matter, low plasticity, firm

ATD

LEAN CLAY (CL)
Black (7.5YR 2/0), wet, 90% fines, 10% fine sand, trace coarse sand, low plasticity, soft



W-1 (11/92)

PROJECT: PG&E
Oakland, California

Log of Well No. MW-7 (cont.)

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/Foot	OVM Reading	DESCRIPTION NAME (USCS Symbol): color, moist, % by wt., plast., density, structure, cementation, react. w/HCl, geo. inter.	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
15	MW7-16.5				LEAN CLAY with SAND (CL) Greenish gray (5G 5/1), moist, 75% fines, 25% fine to coarse sand, medium plasticity, firm	8-inch diameter borehole
16						2-inch diameter Sch 40 PVC well casing
17					POORLY-GRADED SAND (SP) Greenish gray (5GY 5/1), moist, 90% fine to medium sand, 10% medium plasticity fines	2/16 Lonestar sand filter pack
18					Increase to 20% clay, 20% fine gravels	2-inch diameter, 0.02-inch slot Sch 40 PVC well screen
19					LEAN CLAY (CL) Light olive brown (2.5Y 5/4), moist, 95% fines, 5% fine sand, medium plasticity, firm	6-inch threaded PVC end cap
20					Bottom of boring at 20 feet.	
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						
31						

W-2 (11/92)

PROJECT: PG&E Oakland, California	**Log of Well No. MW-8**
BORING LOCATION: 5051 Coliseum Way	ELEVATION AND DATUM: 7.24 feet MSL
DRILLING CONTRACTOR: Gregg Drilling and Testing, Inc.	DATE STARTED: 12/6/95 / DATE FINISHED: 12/6/95
DRILLING METHOD: 8-inch hollow stem auger	TOTAL DEPTH: 20 feet / SCREEN INTERVAL: 9-19 feet
DRILLING EQUIPMENT: Marl M-11	DEPTH TO WATER ATD: 9 feet / CASING: 0.5-9 feet
SAMPLING METHOD: 5-foot continuous core	LOGGED BY: M.R. Keim
HAMMER WEIGHT: --- / DROP: ---	RESPONSIBLE PROFESSIONAL: S. Goodin / REG. NO. 3743

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/Foot	OVM Reading	DESCRIPTION (NAME (USCS Symbol): color, moist, % by wt., plast., density, structure, cementation, react. w/HCl, geo. inter.)	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
					Surface Elevation:	
1	MW8-3				CLAYEY SAND with GRAVEL (SC) [FILL] Dark brown (10YR 3/3), moist, 60% fine to coarse sand, 25% medium plasticity fines, 15% gravels, locally contains concrete, brick, glass, metal, and/or asphalt	Christy Box 2-inch diameter waterproof well cap 8-inch diameter borehole Grout 2-inch diameter Sch 40 PVC well casing Bentonite
2						
3						
4						
5						
6						
7						
8	MW8-8.5					
9					ATD ▽	
10	MW8-12.5				POORLY-GRADED SAND (SP) Dark greenish gray (5GY 4/1), wet, 95% fine to medium sand, 5% medium plasticity fines	2/16 Lonestar sand filter pack 2-inch diameter, 0.02-inch slot Sch 40 PVC well screen
11						
12					LEAN CLAY (CL) Dark greenish gray (5G 4/1), 90% fines, 10% fine sand, trace coarse sand, medium plasticity, firm	
13						
14						

W-1 (11/92)

PROJECT: PG&E
Oakland, California

Log of Well No. MW-8 (cont.)

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/ Foot	OVM Reading	DESCRIPTION: NAME (USCS Symbol): color, moist, % by wt., plast., density, structure, cementation, react. w/HCl, geo. inter.	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
15	MW8-15.5				LEAN CLAY (CL) (continued)	8-inch diameter borehole
16					Color change to light olive brown (2.5Y 5/4)	2-inch diameter Sch 40 PVC well casing
17						2/16 Lonestar sand filter pack
18						2-inch diameter, 0.02-inch slot Sch 40 PVC well screen
19						6-inch threaded end cap
20					Bottom of boring at 20 feet.	
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						
31						

PROJECT: PG&E Oakland, California				**Boring Log Explanation Sheet**
BORING LOCATION:				ELEVATION AND DATUM:
DRILLING CONTRACTOR:				DATE STARTED: / DATE FINISHED:
DRILLING METHOD:				TOTAL DEPTH: / MEASURING POINT:
DRILLING EQUIPMENT:				DEPTH TO WATER / FIRST / COMPL. / 24 HRS.
SAMPLING METHOD:				LOGGED BY:
HAMMER WEIGHT:	DROP:			RESPONSIBLE PROFESSIONAL: / REG. NO.

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/Foot	OVM Reading	DESCRIPTION NAME (USCS Symbol): color, moist, % by wt., plast., density, structure, cementation, react. w/HCl, geo. inter. Surface Elevation:	REMARKS

1.375-inch inside diameter, 2-inch outside diameter standard penetration test sampler

Interval with no recovery

Sample collected for chemical analysis and sample identification

Groundwater level measured at time of drilling ATD ▽

B-1-Expl (11/92)

2906.001

Geomatrix Consultants	Project No. 2906	Figure ---

GEOMATRIX

APPENDIX C

Laboratory Reports and Chain-of-Custody Records

American Environmental Network

Certificate of Analysis

DOHS Certification: 1172 AIHA Accreditation: 11134

GEOMATRIX CONSULTANTS
100 PINE ST., SUITE 1000
SAN FRANCISCO, CA 94111

ATTN: MIKE KEIM
CLIENT PROJ. ID: 2906

C.O.C. NUMBER: 5678,5679,5680

REPORT DATE: 12/21/95

DATE(S) SAMPLED: 12/05/95-12/06/95

DATE RECEIVED: 12/06/95

AEN WORK ORDER: 9512067

PROJECT SUMMARY:

On December 6, 1995, this laboratory received 33 soil sample(s).

Client requested 32 sample(s) be analyzed for inorganic parameters; one sample was placed on hold. Results of analysis are summarized on the following page(s). Please see quality control report for a summary of QC data pertaining to this project.

Samples will be stored for 30 days after completion of analysis, then disposed of in accordance with State and Federal regulations. Samples may be archived by prior arrangement.

If you have any questions, please contact Client Services at (510) 930-9090.

Larry Klein
Laboratory Director

GEOMATRIX CONSULTANTS

SAMPLE ID: B11-2
AEN LAB NO: 9512067-01
AEN WORK ORDER: 9512067
CLIENT PROJ. ID: 2906

DATE SAMPLED: 12/05/95
DATE RECEIVED: 12/06/95
REPORT DATE: 12/21/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Digestion, Metals by GFAA	EPA 3050	-		Prep Date	12/11/95
#Digestion, Metals AA/ICP	EPA 3050	-		Prep Date	12/11/95
CCR 17 Metals					
Ag Silver	EPA 6010	1.7 *	0.1	mg/kg	12/13/95
As Arsenic	EPA 7060	ND	1	mg/kg	12/15/95
Ba Barium	EPA 6010	1,700 *	1	mg/kg	12/13/95
Be Beryllium	EPA 6010	1.9 *	0.1	mg/kg	12/13/95
Cd Cadmium	EPA 6010	10 *	2	mg/kg	12/13/95
Co Cobalt	EPA 6010	3.0 *	0.2	mg/kg	12/13/95
Cr Chromium	EPA 6010	52 *	0.5	mg/kg	12/13/95
Cu Copper	EPA 6010	100 *	0.5	mg/kg	12/13/95
Hg Mercury	EPA 7471	ND	0.6	mg/kg	12/14/95
Mo Molybdenum	EPA 6010	ND	2	mg/kg	12/14/95
Ni Nickel	EPA 6010	28 *	10	mg/kg	12/14/95
Pb Lead	EPA 6010	3,000 *	10	mg/kg	12/14/95
Sb Antimony	EPA 6010	ND	10	mg/kg	12/14/95
Se Selenium	EPA 7740	4 *	1	mg/kg	12/15/95
Tl Thallium	EPA 6010	ND	10	mg/kg	12/14/95
V Vanadium	EPA 6010	13 *	5	mg/kg	12/14/95
Zn Zinc	EPA 6010	1,900 *	10	mg/kg	12/14/95

Reporting limits elevated for metals by EPA 6010 due to matrix interference.

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: B11-5
AEN LAB NO: 9512067-02
AEN WORK ORDER: 9512067
CLIENT PROJ. ID: 2906

DATE SAMPLED: 12/05/95
DATE RECEIVED: 12/06/95
REPORT DATE: 12/21/95

ANALYTE		METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Digestion, Metals by GFAA		EPA 3050	-		Prep Date	12/11/95
#Digestion, Metals AA/ICP		EPA 3050	-		Prep Date	12/11/95
CCR 17 Metals						
Ag	Silver	EPA 6010	ND	0.1	mg/kg	12/13/95
As	Arsenic	EPA 7060	ND	0.5	mg/kg	12/15/95
Ba	Barium	EPA 6010	39,000 *	1	mg/kg	12/19/95
Be	Beryllium	EPA 6010	ND	0.1	mg/kg	12/13/95
Cd	Cadmium	EPA 6010	ND	0.2	mg/kg	12/13/95
Co	Cobalt	EPA 6010	ND	0.2	mg/kg	12/13/95
Cr	Chromium	EPA 6010	15 *	0.5	mg/kg	12/13/95
Cu	Copper	EPA 6010	90 *	0.5	mg/kg	12/13/95
Hg	Mercury	EPA 7471	ND	0.06	mg/kg	12/14/95
Mo	Molybdenum	EPA 6010	1.8 *	0.2	mg/kg	12/13/95
Ni	Nickel	EPA 6010	260 *	1	mg/kg	12/13/95
Pb	Lead	EPA 6010	16 *	1	mg/kg	12/13/95
Sb	Antimony	EPA 6010	ND	1	mg/kg	12/13/95
Se	Selenium	EPA 7740	2 *	1	mg/kg	12/15/95
Tl	Thallium	EPA 6010	ND	1	mg/kg	12/13/95
V	Vanadium	EPA 6010	230 *	0.5	mg/kg	12/13/95
Zn	Zinc	EPA 6010	78 *	1	mg/kg	12/13/95

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: B11-8
AEN LAB NO: 9512067-03
AEN WORK ORDER: 9512067
CLIENT PROJ. ID: 2906

DATE SAMPLED: 12/05/95
DATE RECEIVED: 12/06/95
REPORT DATE: 12/21/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Digestion, Metals by GFAA	EPA 3050	-		Prep Date	12/11/95
#Digestion, Metals AA/ICP	EPA 3050	-		Prep Date	12/11/95
CCR 17 Metals					
Ag Silver	EPA 6010	0.3 *	0.1	mg/kg	12/13/95
As Arsenic	EPA 7060	3.1 *	0.5	mg/kg	12/15/95
Ba Barium	EPA 6010	94 *	1	mg/kg	12/13/95
Be Beryllium	EPA 6010	ND	0.1	mg/kg	12/13/95
Cd Cadmium	EPA 6010	0.2 *	0.2	mg/kg	12/13/95
Co Cobalt	EPA 6010	29 *	0.2	mg/kg	12/13/95
Cr Chromium	EPA 6010	110 *	0.5	mg/kg	12/13/95
Cu Copper	EPA 6010	150 *	0.5	mg/kg	12/13/95
Hg Mercury	EPA 7471	ND	0.06	mg/kg	12/14/95
Mo Molybdenum	EPA 6010	9.4 *	0.2	mg/kg	12/13/95
Ni Nickel	EPA 6010	580 *	1	mg/kg	12/13/95
Pb Lead	EPA 6010	14 *	1	mg/kg	12/13/95
Sb Antimony	EPA 6010	2 *	1	mg/kg	12/13/95
Se Selenium	EPA 7740	3 *	1	mg/kg	12/15/95
Tl Thallium	EPA 6010	ND	1	mg/kg	12/13/95
V Vanadium	EPA 6010	680 *	0.5	mg/kg	12/13/95
Zn Zinc	EPA 6010	780 *	1	mg/kg	12/13/95

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: B11-12.5
AEN LAB NO: 9512067-04
AEN WORK ORDER: 9512067
CLIENT PROJ. ID: 2906

DATE SAMPLED: 12/05/95
DATE RECEIVED: 12/06/95
REPORT DATE: 12/21/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Digestion, Metals by GFAA	EPA 3050	-		Prep Date	12/11/95
#Digestion, Metals AA/ICP	EPA 3050	-		Prep Date	12/11/95
CCR 17 Metals					
Ag Silver	EPA 6010	ND	0.1	mg/kg	12/13/95
As Arsenic	EPA 7060	2.0 *	0.5	mg/kg	12/15/95
Ba Barium	EPA 6010	35 *	1	mg/kg	12/13/95
Be Beryllium	EPA 6010	0.2 *	0.1	mg/kg	12/13/95
Cd Cadmium	EPA 6010	ND	0.2	mg/kg	12/13/95
Co Cobalt	EPA 6010	7.4 *	0.2	mg/kg	12/13/95
Cr Chromium	EPA 6010	34 *	0.5	mg/kg	12/13/95
Cu Copper	EPA 6010	11 *	0.5	mg/kg	12/13/95
Hg Mercury	EPA 7471	ND	0.06	mg/kg	12/14/95
Mo Molybdenum	EPA 6010	0.6 *	0.2	mg/kg	12/13/95
Ni Nickel	EPA 6010	34 *	1	mg/kg	12/13/95
Pb Lead	EPA 6010	4 *	1	mg/kg	12/13/95
Sb Antimony	EPA 6010	ND	1	mg/kg	12/13/95
Se Selenium	EPA 7740	2 *	1	mg/kg	12/15/95
Tl Thallium	EPA 6010	ND	1	mg/kg	12/13/95
V Vanadium	EPA 6010	28 *	0.5	mg/kg	12/13/95
Zn Zinc	EPA 6010	25 *	1	mg/kg	12/13/95

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: B11-15.5
AEN LAB NO: 9512067-05
AEN WORK ORDER: 9512067
CLIENT PROJ. ID: 2906

DATE SAMPLED: 12/05/95
DATE RECEIVED: 12/06/95
REPORT DATE: 12/21/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Digestion, Metals by GFAA	EPA 3050	-		Prep Date	12/11/95
#Digestion, Metals AA/ICP	EPA 3050	-		Prep Date	12/11/95
CCR 17 Metals					
Ag Silver	EPA 6010	ND	0.1	mg/kg	12/13/95
As Arsenic	EPA 7060	6.4 *	0.5	mg/kg	12/15/95
Ba Barium	EPA 6010	110 *	1	mg/kg	12/13/95
Be Beryllium	EPA 6010	0.3 *	0.1	mg/kg	12/13/95
Cd Cadmium	EPA 6010	ND	0.2	mg/kg	12/13/95
Co Cobalt	EPA 6010	30 *	0.2	mg/kg	12/13/95
Cr Chromium	EPA 6010	58 *	0.5	mg/kg	12/13/95
Cu Copper	EPA 6010	26 *	0.5	mg/kg	12/13/95
Hg Mercury	EPA 7471	ND	0.06	mg/kg	12/14/95
Mo Molybdenum	EPA 6010	0.2 *	0.2	mg/kg	12/13/95
Ni Nickel	EPA 6010	140 *	1	mg/kg	12/13/95
Pb Lead	EPA 6010	8 *	1	mg/kg	12/13/95
Sb Antimony	EPA 6010	ND	1	mg/kg	12/13/95
Se Selenium	EPA 7740	1 *	1	mg/kg	12/15/95
Tl Thallium	EPA 6010	ND	1	mg/kg	12/13/95
V Vanadium	EPA 6010	120 *	0.5	mg/kg	12/13/95
Zn Zinc	EPA 6010	31 *	1	mg/kg	12/13/95

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: B12-17
AEN LAB NO: 9512067-07
AEN WORK ORDER: 9512067
CLIENT PROJ. ID: 2906

DATE SAMPLED: 12/05/95
DATE RECEIVED: 12/06/95
REPORT DATE: 12/21/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Digestion, Metals by GFAA	EPA 3050	-		Prep Date	12/11/95
#Digestion, Metals AA/ICP	EPA 3050	-		Prep Date	12/11/95
CCR 17 Metals					
Ag Silver	EPA 6010	ND	0.1	mg/kg	12/13/95
As Arsenic	EPA 7060	ND	0.5	mg/kg	12/15/95
Ba Barium	EPA 6010	40 *	1	mg/kg	12/13/95
Be Beryllium	EPA 6010	0.4 *	0.1	mg/kg	12/13/95
Cd Cadmium	EPA 6010	ND	0.2	mg/kg	12/13/95
Co Cobalt	EPA 6010	9.8 *	0.2	mg/kg	12/13/95
Cr Chromium	EPA 6010	45 *	0.5	mg/kg	12/13/95
Cu Copper	EPA 6010	16 *	0.5	mg/kg	12/13/95
Hg Mercury	EPA 7471	ND	0.06	mg/kg	12/14/95
Mo Molybdenum	EPA 6010	ND	0.2	mg/kg	12/13/95
Ni Nickel	EPA 6010	59 *	1	mg/kg	12/13/95
Pb Lead	EPA 6010	6 *	1	mg/kg	12/13/95
Sb Antimony	EPA 6010	ND	1	mg/kg	12/13/95
Se Selenium	EPA 7740	ND	1	mg/kg	12/15/95
Tl Thallium	EPA 6010	ND	1	mg/kg	12/13/95
V Vanadium	EPA 6010	33 *	0.5	mg/kg	12/13/95
Zn Zinc	EPA 6010	37 *	1	mg/kg	12/13/95

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: B12-20
AEN LAB NO: 9512067-08
AEN WORK ORDER: 9512067
CLIENT PROJ. ID: 2906

DATE SAMPLED: 12/05/95
DATE RECEIVED: 12/06/95
REPORT DATE: 12/21/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Digestion, Metals by GFAA	EPA 3050	-		Prep Date	12/11/95
#Digestion, Metals AA/ICP	EPA 3050	-		Prep Date	12/11/95
CCR 17 Metals					
Ag Silver	EPA 6010	ND	0.1	mg/kg	12/13/95
As Arsenic	EPA 7060	1.2 *	0.5	mg/kg	12/15/95
Ba Barium	EPA 6010	240 *	1	mg/kg	12/13/95
Be Beryllium	EPA 6010	0.3 *	0.1	mg/kg	12/13/95
Cd Cadmium	EPA 6010	ND	0.2	mg/kg	12/13/95
Co Cobalt	EPA 6010	14 *	0.2	mg/kg	12/13/95
Cr Chromium	EPA 6010	53 *	0.5	mg/kg	12/13/95
Cu Copper	EPA 6010	24 *	0.5	mg/kg	12/13/95
Hg Mercury	EPA 7471	ND	0.06	mg/kg	12/14/95
Mo Molybdenum	EPA 6010	ND	0.2	mg/kg	12/13/95
Ni Nickel	EPA 6010	140 *	1	mg/kg	12/13/95
Pb Lead	EPA 6010	6 *	1	mg/kg	12/13/95
Sb Antimony	EPA 6010	ND	1	mg/kg	12/13/95
Se Selenium	EPA 7740	2 *	1	mg/kg	12/15/95
Tl Thallium	EPA 6010	ND	1	mg/kg	12/13/95
V Vanadium	EPA 6010	38 *	0.5	mg/kg	12/13/95
Zn Zinc	EPA 6010	35 *	1	mg/kg	12/13/95

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: B12-25
AEN LAB NO: 9512067-09
AEN WORK ORDER: 9512067
CLIENT PROJ. ID: 2906

DATE SAMPLED: 12/05/95
DATE RECEIVED: 12/06/95
REPORT DATE: 12/21/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Digestion, Metals by GFAA	EPA 3050	-		Prep Date	12/11/95
#Digestion, Metals AA/ICP	EPA 3050	-		Prep Date	12/11/95
CCR 17 Metals					
Ag Silver	EPA 6010	ND	0.1	mg/kg	12/13/95
As Arsenic	EPA 7060	ND	0.5	mg/kg	12/15/95
Ba Barium	EPA 6010	77 *	1	mg/kg	12/13/95
Be Beryllium	EPA 6010	0.4 *	0.1	mg/kg	12/13/95
Cd Cadmium	EPA 6010	ND	0.2	mg/kg	12/13/95
Co Cobalt	EPA 6010	14 *	0.2	mg/kg	12/13/95
Cr Chromium	EPA 6010	67 *	0.5	mg/kg	12/13/95
Cu Copper	EPA 6010	38 *	0.5	mg/kg	12/13/95
Hg Mercury	EPA 7471	ND	0.06	mg/kg	12/14/95
Mo Molybdenum	EPA 6010	ND	0.2	mg/kg	12/13/95
Ni Nickel	EPA 6010	88 *	1	mg/kg	12/13/95
Pb Lead	EPA 6010	6 *	1	mg/kg	12/13/95
Sb Antimony	EPA 6010	ND	1	mg/kg	12/13/95
Se Selenium	EPA 7740	2 *	1	mg/kg	12/15/95
Tl Thallium	EPA 6010	ND	1	mg/kg	12/13/95
V Vanadium	EPA 6010	46 *	0.5	mg/kg	12/13/95
Zn Zinc	EPA 6010	46 *	1	mg/kg	12/13/95

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: B10-2
AEN LAB NO: 9512067-10
AEN WORK ORDER: 9512067
CLIENT PROJ. ID: 2906

DATE SAMPLED: 12/05/95
DATE RECEIVED: 12/06/95
REPORT DATE: 12/21/95

ANALYTE		METHOD/ CAS#	RESULT		REPORTING LIMIT	UNITS	DATE ANALYZED
#Digestion, Metals by GFAA		EPA 3050	-			Prep Date	12/11/95
#Digestion, Metals AA/ICP		EPA 3050	-			Prep Date	12/11/95
CCR 17 Metals							
Ag	Silver	EPA 6010	ND		0.1	mg/kg	12/13/95
As	Arsenic	EPA 7060	4.1	*	0.5	mg/kg	12/15/95
Ba	Barium	EPA 6010	100	*	1	mg/kg	12/13/95
Be	Beryllium	EPA 6010	0.3	*	0.1	mg/kg	12/13/95
Cd	Cadmium	EPA 6010	ND		0.2	mg/kg	12/13/95
Co	Cobalt	EPA 6010	18	*	0.2	mg/kg	12/13/95
Cr	Chromium	EPA 6010	77	*	0.5	mg/kg	12/13/95
Cu	Copper	EPA 6010	110	*	0.5	mg/kg	12/13/95
Hg	Mercury	EPA 7471	0.12	*	0.06	mg/kg	12/14/95
Mo	Molybdenum	EPA 6010	ND		0.2	mg/kg	12/13/95
Ni	Nickel	EPA 6010	160	*	1	mg/kg	12/13/95
Pb	Lead	EPA 6010	98	*	1	mg/kg	12/13/95
Sb	Antimony	EPA 6010	ND		1	mg/kg	12/13/95
Se	Selenium	EPA 7740	1	*	1	mg/kg	12/15/95
Tl	Thallium	EPA 6010	ND		1	mg/kg	12/14/95
V	Vanadium	EPA 6010	57	*	0.5	mg/kg	12/13/95
Zn	Zinc	EPA 6010	230	*	1	mg/kg	12/13/95

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: B10-6
AEN LAB NO: 9512067-11
AEN WORK ORDER: 9512067
CLIENT PROJ. ID: 2906

DATE SAMPLED: 12/05/95
DATE RECEIVED: 12/06/95
REPORT DATE: 12/21/95

ANALYTE	METHOD/ CAS#	RESULT		REPORTING LIMIT	UNITS	DATE ANALYZED
#Digestion, Metals by GFAA	EPA 3050	-			Prep Date	12/11/95
#Digestion, Metals AA/ICP	EPA 3050	-			Prep Date	12/11/95
CCR 17 Metals						
Ag Silver	EPA 6010	ND		0.1	mg/kg	12/13/95
As Arsenic	EPA 7060	1.4	*	0.5	mg/kg	12/15/95
Ba Barium	EPA 6010	91	*	1	mg/kg	12/13/95
Be Beryllium	EPA 6010	0.4	*	0.1	mg/kg	12/13/95
Cd Cadmium	EPA 6010	ND		0.2	mg/kg	12/13/95
Co Cobalt	EPA 6010	8.0	*	0.2	mg/kg	12/13/95
Cr Chromium	EPA 6010	44	*	0.5	mg/kg	12/13/95
Cu Copper	EPA 6010	21	*	0.5	mg/kg	12/13/95
Hg Mercury	EPA 7471	ND		0.06	mg/kg	12/14/95
Mo Molybdenum	EPA 6010	ND		0.2	mg/kg	12/13/95
Ni Nickel	EPA 6010	51	*	1	mg/kg	12/13/95
Pb Lead	EPA 6010	54	*	1	mg/kg	12/13/95
Sb Antimony	EPA 6010	ND		1	mg/kg	12/13/95
Se Selenium	EPA 7740	1	*	1	mg/kg	12/15/95
Tl Thallium	EPA 6010	ND		1	mg/kg	12/13/95
V Vanadium	EPA 6010	42	*	0.5	mg/kg	12/13/95
Zn Zinc	EPA 6010	82	*	1	mg/kg	12/13/95

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: B10-10
AEN LAB NO: 9512067-12
AEN WORK ORDER: 9512067
CLIENT PROJ. ID: 2906

DATE SAMPLED: 12/05/95
DATE RECEIVED: 12/06/95
REPORT DATE: 12/21/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Digestion, Metals by GFAA	EPA 3050	-		Prep Date	12/11/95
#Digestion, Metals AA/ICP	EPA 3050	-		Prep Date	12/11/95
CCR 17 Metals					
Ag Silver	EPA 6010	0.5 *	0.1	mg/kg	12/13/95
As Arsenic	EPA 7060	18 *	0.5	mg/kg	12/15/95
Ba Barium	EPA 6010	290 *	1	mg/kg	12/13/95
Be Beryllium	EPA 6010	0.4 *	0.1	mg/kg	12/13/95
Cd Cadmium	EPA 6010	13 *	0.2	mg/kg	12/13/95
Co Cobalt	EPA 6010	14 *	0.2	mg/kg	12/13/95
Cr Chromium	EPA 6010	61 *	0.5	mg/kg	12/13/95
Cu Copper	EPA 6010	44 *	0.5	mg/kg	12/13/95
Hg Mercury	EPA 7471	0.26 *	0.06	mg/kg	12/14/95
Mo Molybdenum	EPA 6010	3.8 *	0.2	mg/kg	12/13/95
Ni Nickel	EPA 6010	120 *	1	mg/kg	12/13/95
Pb Lead	EPA 6010	340 *	1	mg/kg	12/13/95
Sb Antimony	EPA 6010	1 *	1	mg/kg	12/13/95
Se Selenium	EPA 7740	ND	1	mg/kg	12/15/95
Tl Thallium	EPA 6010	ND	1	mg/kg	12/13/95
V Vanadium	EPA 6010	47 *	0.5	mg/kg	12/13/95
Zn Zinc	EPA 6010	5,900 *	1	mg/kg	12/15/95

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: B10-13
AEN LAB NO: 9512067-13
AEN WORK ORDER: 9512067
CLIENT PROJ. ID: 2906

DATE SAMPLED: 12/05/95
DATE RECEIVED: 12/06/95
REPORT DATE: 12/21/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Digestion, Metals by GFAA	EPA 3050	-		Prep Date	12/11/95
#Digestion, Metals AA/ICP	EPA 3050	-		Prep Date	12/11/95
CCR 17 Metals					
Ag Silver	EPA 6010	ND	0.1	mg/kg	12/13/95
As Arsenic	EPA 7060	3.8 *	0.5	mg/kg	12/15/95
Ba Barium	EPA 6010	72 *	1	mg/kg	12/13/95
Be Beryllium	EPA 6010	0.2 *	0.1	mg/kg	12/13/95
Cd Cadmium	EPA 6010	ND	0.2	mg/kg	12/13/95
Co Cobalt	EPA 6010	5.3 *	0.2	mg/kg	12/13/95
Cr Chromium	EPA 6010	37 *	0.5	mg/kg	12/13/95
Cu Copper	EPA 6010	11 *	0.5	mg/kg	12/13/95
Hg Mercury	EPA 7471	ND	0.06	mg/kg	12/14/95
Mo Molybdenum	EPA 6010	0.8 *	0.2	mg/kg	12/13/95
Ni Nickel	EPA 6010	22 *	1	mg/kg	12/13/95
Pb Lead	EPA 6010	4 *	1	mg/kg	12/13/95
Sb Antimony	EPA 6010	ND	1	mg/kg	12/13/95
Se Selenium	EPA 7740	ND	1	mg/kg	12/15/95
Tl Thallium	EPA 6010	ND	1	mg/kg	12/13/95
V Vanadium	EPA 6010	28 *	0.5	mg/kg	12/13/95
Zn Zinc	EPA 6010	14 *	1	mg/kg	12/13/95

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: B10-16
AEN LAB NO: 9512067-14
AEN WORK ORDER: 9512067
CLIENT PROJ. ID: 2906

DATE SAMPLED: 12/05/95
DATE RECEIVED: 12/06/95
REPORT DATE: 12/21/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Digestion, Metals by GFAA	EPA 3050	-		Prep Date	12/11/95
#Digestion, Metals AA/ICP	EPA 3050	-		Prep Date	12/11/95
CCR 17 Metals					
Ag Silver	EPA 6010	ND	0.1	mg/kg	12/13/95
As Arsenic	EPA 7060	2.1 *	0.5	mg/kg	12/15/95
Ba Barium	EPA 6010	130 *	1	mg/kg	12/13/95
Be Beryllium	EPA 6010	0.4 *	0.1	mg/kg	12/13/95
Cd Cadmium	EPA 6010	3.1 *	0.2	mg/kg	12/13/95
Co Cobalt	EPA 6010	10 *	0.2	mg/kg	12/13/95
Cr Chromium	EPA 6010	50 *	0.5	mg/kg	12/13/95
Cu Copper	EPA 6010	15 *	0.5	mg/kg	12/13/95
Hg Mercury	EPA 7471	0.07 *	0.06	mg/kg	12/14/95
Mo Molybdenum	EPA 6010	ND	0.2	mg/kg	12/13/95
Ni Nickel	EPA 6010	90 *	1	mg/kg	12/13/95
Pb Lead	EPA 6010	4 *	1	mg/kg	12/13/95
Sb Antimony	EPA 6010	ND	1	mg/kg	12/13/95
Se Selenium	EPA 7740	2 *	1	mg/kg	12/15/95
Tl Thallium	EPA 6010	ND	1	mg/kg	12/13/95
V Vanadium	EPA 6010	36 *	0.5	mg/kg	12/13/95
Zn Zinc	EPA 6010	21 *	1	mg/kg	12/13/95

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: B9-2
AEN LAB NO: 9512067-15
AEN WORK ORDER: 9512067
CLIENT PROJ. ID: 2906

DATE SAMPLED: 12/05/95
DATE RECEIVED: 12/06/95
REPORT DATE: 12/21/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Digestion, Metals by GFAA	EPA 3050	-		Prep Date	12/11/95
#Digestion, Metals AA/ICP	EPA 3050	-		Prep Date	12/11/95
CCR 17 Metals					
Ag Silver	EPA 6010	ND	0.1	mg/kg	12/13/95
As Arsenic	EPA 7060	5.2 *	0.5	mg/kg	12/15/95
Ba Barium	EPA 6010	110 *	1	mg/kg	12/13/95
Be Beryllium	EPA 6010	0.3 *	0.1	mg/kg	12/13/95
Cd Cadmium	EPA 6010	ND	0.2	mg/kg	12/13/95
Co Cobalt	EPA 6010	9.6 *	0.2	mg/kg	12/13/95
Cr Chromium	EPA 6010	44 *	0.5	mg/kg	12/13/95
Cu Copper	EPA 6010	22 *	0.5	mg/kg	12/13/95
Hg Mercury	EPA 7471	ND	0.06	mg/kg	12/14/95
Mo Molybdenum	EPA 6010	ND	0.2	mg/kg	12/13/95
Ni Nickel	EPA 6010	53 *	1	mg/kg	12/13/95
Pb Lead	EPA 6010	73 *	1	mg/kg	12/13/95
Sb Antimony	EPA 6010	2 *	1	mg/kg	12/13/95
Se Selenium	EPA 7740	1 *	1	mg/kg	12/15/95
Tl Thallium	EPA 6010	ND	1	mg/kg	12/13/95
V Vanadium	EPA 6010	39 *	0.5	mg/kg	12/13/95
Zn Zinc	EPA 6010	83 *	1	mg/kg	12/13/95

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: B9-7
AEN LAB NO: 9512067-16
AEN WORK ORDER: 9512067
CLIENT PROJ. ID: 2906

DATE SAMPLED: 12/05/95
DATE RECEIVED: 12/06/95
REPORT DATE: 12/21/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Digestion, Metals by GFAA	EPA 3050	-		Prep Date	12/11/95
#Digestion, Metals AA/ICP	EPA 3050	-		Prep Date	12/11/95
CCR 17 Metals					
Ag Silver	EPA 6010	0.2 *	0.1	mg/kg	12/13/95
As Arsenic	EPA 7060	7.3 *	0.5	mg/kg	12/15/95
Ba Barium	EPA 6010	180 *	1	mg/kg	12/13/95
Be Beryllium	EPA 6010	0.5 *	0.1	mg/kg	12/13/95
Cd Cadmium	EPA 6010	ND	0.2	mg/kg	12/13/95
Co Cobalt	EPA 6010	7.5 *	0.2	mg/kg	12/13/95
Cr Chromium	EPA 6010	40 *	0.5	mg/kg	12/13/95
Cu Copper	EPA 6010	35 *	0.5	mg/kg	12/13/95
Hg Mercury	EPA 7471	0.23 *	0.06	mg/kg	12/14/95
Mo Molybdenum	EPA 6010	ND	0.2	mg/kg	12/13/95
Ni Nickel	EPA 6010	57 *	1	mg/kg	12/13/95
Pb Lead	EPA 6010	140 *	1	mg/kg	12/13/95
Sb Antimony	EPA 6010	1 *	1	mg/kg	12/13/95
Se Selenium	EPA 7740	1 *	1	mg/kg	12/15/95
Tl Thallium	EPA 6010	2 *	1	mg/kg	12/13/95
V Vanadium	EPA 6010	31 *	0.5	mg/kg	12/13/95
Zn Zinc	EPA 6010	110 *	1	mg/kg	12/13/95

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: B9-11.5
AEN LAB NO: 9512067-17
AEN WORK ORDER: 9512067
CLIENT PROJ. ID: 2906

DATE SAMPLED: 12/05/95
DATE RECEIVED: 12/06/95
REPORT DATE: 12/21/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Digestion, Metals by GFAA	EPA 3050	-		Prep Date	12/11/95
#Digestion, Metals AA/ICP	EPA 3050	-		Prep Date	12/11/95
CCR 17 Metals					
Ag Silver	EPA 6010	0.3 *	0.1	mg/kg	12/13/95
As Arsenic	EPA 7060	4.8 *	0.5	mg/kg	12/15/95
Ba Barium	EPA 6010	280 *	1	mg/kg	12/13/95
Be Beryllium	EPA 6010	0.2 *	0.1	mg/kg	12/13/95
Cd Cadmium	EPA 6010	0.9 *	0.2	mg/kg	12/13/95
Co Cobalt	EPA 6010	7.1 *	0.2	mg/kg	12/13/95
Cr Chromium	EPA 6010	31 *	0.5	mg/kg	12/13/95
Cu Copper	EPA 6010	82 *	0.5	mg/kg	12/13/95
Hg Mercury	EPA 7471	0.81 *	0.06	mg/kg	12/14/95
Mo Molybdenum	EPA 6010	0.3 *	0.2	mg/kg	12/13/95
Ni Nickel	EPA 6010	32 *	1	mg/kg	12/13/95
Pb Lead	EPA 6010	590 *	1	mg/kg	12/13/95
Sb Antimony	EPA 6010	2 *	1	mg/kg	12/13/95
Se Selenium	EPA 7740	ND	1	mg/kg	12/15/95
Tl Thallium	EPA 6010	ND	1	mg/kg	12/13/95
V Vanadium	EPA 6010	27 *	0.5	mg/kg	12/13/95
Zn Zinc	EPA 6010	440 *	1	mg/kg	12/13/95

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: B9-16.5
AEN LAB NO: 9512067-18
AEN WORK ORDER: 9512067
CLIENT PROJ. ID: 2906

DATE SAMPLED: 12/05/95
DATE RECEIVED: 12/06/95
REPORT DATE: 12/21/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Digestion, Metals by GFAA	EPA 3050	-		Prep Date	12/12/95
#Digestion, Metals AA/ICP	EPA 3050	-		Prep Date	12/12/95
CCR 17 Metals					
Ag Silver	EPA 6010	ND	0.1	mg/kg	12/13/95
As Arsenic	EPA 7060	ND	0.5	mg/kg	12/15/95
Ba Barium	EPA 6010	91 *	1	mg/kg	12/13/95
Be Beryllium	EPA 6010	0.4 *	0.1	mg/kg	12/13/95
Cd Cadmium	EPA 6010	ND	0.2	mg/kg	12/13/95
Co Cobalt	EPA 6010	6.5 *	0.2	mg/kg	12/13/95
Cr Chromium	EPA 6010	49 *	0.5	mg/kg	12/13/95
Cu Copper	EPA 6010	18 *	0.5	mg/kg	12/13/95
Hg Mercury	EPA 7471	ND	0.06	mg/kg	12/14/95
Mo Molybdenum	EPA 6010	ND	0.2	mg/kg	12/13/95
Ni Nickel	EPA 6010	70 *	1	mg/kg	12/13/95
Pb Lead	EPA 6010	5 *	1	mg/kg	12/13/95
Sb Antimony	EPA 6010	ND	1	mg/kg	12/13/95
Se Selenium	EPA 7740	ND	1	mg/kg	12/15/95
Tl Thallium	EPA 6010	3 *	1	mg/kg	12/13/95
V Vanadium	EPA 6010	35 *	0.5	mg/kg	12/13/95
Zn Zinc	EPA 6010	34 *	1	mg/kg	12/13/95

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: MW6-2
AEN LAB NO: 9512067-19
AEN WORK ORDER: 9512067
CLIENT PROJ. ID: 2906

DATE SAMPLED: 12/06/95
DATE RECEIVED: 12/06/95
REPORT DATE: 12/21/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Digestion, Metals by GFAA	EPA 3050	-		Prep Date	12/12/95
#Digestion, Metals AA/ICP	EPA 3050	-		Prep Date	12/12/95
CCR 17 Metals					
Ag Silver	EPA 6010	ND	0.1	mg/kg	12/13/95
As Arsenic	EPA 7060	4.2 *	0.5	mg/kg	12/15/95
Ba Barium	EPA 6010	200 *	1	mg/kg	12/13/95
Be Beryllium	EPA 6010	0.4 *	0.1	mg/kg	12/13/95
Cd Cadmium	EPA 6010	ND	0.2	mg/kg	12/13/95
Co Cobalt	EPA 6010	14 *	0.2	mg/kg	12/13/95
Cr Chromium	EPA 6010	50 *	0.5	mg/kg	12/13/95
Cu Copper	EPA 6010	36 *	0.5	mg/kg	12/13/95
Hg Mercury	EPA 7471	0.09 *	0.06	mg/kg	12/14/95
Mo Molybdenum	EPA 6010	ND	0.2	mg/kg	12/13/95
Ni Nickel	EPA 6010	79 *	1	mg/kg	12/13/95
Pb Lead	EPA 6010	110 *	1	mg/kg	12/13/95
Sb Antimony	EPA 6010	2 *	1	mg/kg	12/13/95
Se Selenium	EPA 7740	ND	1	mg/kg	12/15/95
Tl Thallium	EPA 6010	3 *	1	mg/kg	12/13/95
V Vanadium	EPA 6010	44 *	0.5	mg/kg	12/13/95
Zn Zinc	EPA 6010	130 *	1	mg/kg	12/13/95

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: MW6-8
AEN LAB NO: 9512067-20
AEN WORK ORDER: 9512067
CLIENT PROJ. ID: 2906

DATE SAMPLED: 12/06/95
DATE RECEIVED: 12/06/95
REPORT DATE: 12/21/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Digestion, Metals by GFAA	EPA 3050	-		Prep Date	12/12/95
#Digestion, Metals AA/ICP	EPA 3050	-		Prep Date	12/12/95
CCR 17 Metals					
Ag Silver	EPA 6010	ND	1	mg/kg	12/14/95
As Arsenic	EPA 7060	12 *	0.5	mg/kg	12/15/95
Ba Barium	EPA 6010	780 *	1	mg/kg	12/13/95
Be Beryllium	EPA 6010	ND	1	mg/kg	12/14/95
Cd Cadmium	EPA 6010	14 *	2	mg/kg	12/14/95
Co Cobalt	EPA 6010	24 *	2	mg/kg	12/14/95
Cr Chromium	EPA 6010	210 *	5	mg/kg	12/14/95
Cu Copper	EPA 6010	520 *	5	mg/kg	12/14/95
Hg Mercury	EPA 7471	2.3 *	0.06	mg/kg	12/14/95
Mo Molybdenum	EPA 6010	ND	2	mg/kg	12/14/95
Ni Nickel	EPA 6010	420 *	10	mg/kg	12/14/95
Pb Lead	EPA 6010	1,300 *	10	mg/kg	12/14/95
Sb Antimony	EPA 6010	ND	10	mg/kg	12/14/95
Se Selenium	EPA 7740	2 *	1	mg/kg	12/15/95
Tl Thallium	EPA 6010	ND	10	mg/kg	12/14/95
V Vanadium	EPA 6010	36 *	5	mg/kg	12/14/95
Zn Zinc	EPA 6010	29,000 *	10	mg/kg	12/14/95

Reporting limits elevated for metals by EPA 6010 due to matrix interference.

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: MW6-9.5
AEN LAB NO: 9512067-21
AEN WORK ORDER: 9512067
CLIENT PROJ. ID: 2906

DATE SAMPLED: 12/06/95
DATE RECEIVED: 12/06/95
REPORT DATE: 12/21/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Digestion, Metals by GFAA	EPA 3050	-		Prep Date	12/12/95
#Digestion, Metals AA/ICP	EPA 3050	-		Prep Date	12/12/95
CCR 17 Metals					
Ag Silver	EPA 6010	ND	0.1	mg/kg	12/13/95
As Arsenic	EPA 7060	6.5 *	0.5	mg/kg	12/15/95
Ba Barium	EPA 6010	25,000 *	1	mg/kg	12/15/95
Be Beryllium	EPA 6010	ND	0.1	mg/kg	12/13/95
Cd Cadmium	EPA 6010	1.3 *	0.2	mg/kg	12/13/95
Co Cobalt	EPA 6010	ND	0.2	mg/kg	12/13/95
Cr Chromium	EPA 6010	25 *	0.5	mg/kg	12/13/95
Cu Copper	EPA 6010	410 *	0.5	mg/kg	12/13/95
Hg Mercury	EPA 7471	ND	0.06	mg/kg	12/14/95
Mo Molybdenum	EPA 6010	9.4 *	0.2	mg/kg	12/13/95
Ni Nickel	EPA 6010	510 *	1	mg/kg	12/13/95
Pb Lead	EPA 6010	80 *	1	mg/kg	12/14/95
Sb Antimony	EPA 6010	ND	1	mg/kg	12/13/95
Se Selenium	EPA 7740	2 *	1	mg/kg	12/15/95
Tl Thallium	EPA 6010	ND	1	mg/kg	12/13/95
V Vanadium	EPA 6010	980 *	0.5	mg/kg	12/13/95
Zn Zinc	EPA 6010	2,000 *	1	mg/kg	12/13/95

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: MW6-13
AEN LAB NO: 9512067-22
AEN WORK ORDER: 9512067
CLIENT PROJ. ID: 2906

DATE SAMPLED: 12/06/95
DATE RECEIVED: 12/06/95
REPORT DATE: 12/21/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Digestion, Metals by GFAA	EPA 3050	-		Prep Date	12/12/95
#Digestion, Metals AA/ICP	EPA 3050	-		Prep Date	12/12/95
CCR 17 Metals					
Ag Silver	EPA 6010	ND	0.1	mg/kg	12/13/95
As Arsenic	EPA 7060	0.6 *	0.5	mg/kg	12/15/95
Ba Barium	EPA 6010	150 *	1	mg/kg	12/13/95
Be Beryllium	EPA 6010	0.3 *	0.1	mg/kg	12/13/95
Cd Cadmium	EPA 6010	ND	0.2	mg/kg	12/13/95
Co Cobalt	EPA 6010	7.2 *	0.2	mg/kg	12/13/95
Cr Chromium	EPA 6010	51 *	0.5	mg/kg	12/13/95
Cu Copper	EPA 6010	19 *	0.5	mg/kg	12/13/95
Hg Mercury	EPA 7471	ND	0.06	mg/kg	12/14/95
Mo Molybdenum	EPA 6010	ND	0.2	mg/kg	12/13/95
Ni Nickel	EPA 6010	58 *	1	mg/kg	12/13/95
Pb Lead	EPA 6010	7 *	1	mg/kg	12/13/95
Sb Antimony	EPA 6010	ND	1	mg/kg	12/13/95
Se Selenium	EPA 7740	2 *	1	mg/kg	12/15/95
Tl Thallium	EPA 6010	3 *	1	mg/kg	12/13/95
V Vanadium	EPA 6010	36 *	0.5	mg/kg	12/13/95
Zn Zinc	EPA 6010	34 *	1	mg/kg	12/13/95

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: B9-19.5
AEN LAB NO: 9512067-23
AEN WORK ORDER: 9512067
CLIENT PROJ. ID: 2906

DATE SAMPLED: 12/05/95
DATE RECEIVED: 12/06/95
REPORT DATE: 12/21/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Digestion, Metals by GFAA	EPA 3050	-		Prep Date	12/12/95
#Digestion, Metals AA/ICP	EPA 3050	-		Prep Date	12/12/95
CCR 17 Metals					
Ag Silver	EPA 6010	ND	0.1	mg/kg	12/13/95
As Arsenic	EPA 7060	4.3 *	0.5	mg/kg	12/15/95
Ba Barium	EPA 6010	68 *	1	mg/kg	12/13/95
Be Beryllium	EPA 6010	0.3 *	0.1	mg/kg	12/13/95
Cd Cadmium	EPA 6010	ND	0.2	mg/kg	12/13/95
Co Cobalt	EPA 6010	10 *	0.2	mg/kg	12/13/95
Cr Chromium	EPA 6010	41 *	0.5	mg/kg	12/13/95
Cu Copper	EPA 6010	13 *	0.5	mg/kg	12/13/95
Hg Mercury	EPA 7471	0.08 *	0.06	mg/kg	12/14/95
Mo Molybdenum	EPA 6010	ND	0.2	mg/kg	12/13/95
Ni Nickel	EPA 6010	80 *	1	mg/kg	12/13/95
Pb Lead	EPA 6010	7 *	1	mg/kg	12/13/95
Sb Antimony	EPA 6010	ND	1	mg/kg	12/13/95
Se Selenium	EPA 7740	1 *	1	mg/kg	12/15/95
Tl Thallium	EPA 6010	ND	1	mg/kg	12/13/95
V Vanadium	EPA 6010	37 *	0.5	mg/kg	12/13/95
Zn Zinc	EPA 6010	30 *	1	mg/kg	12/13/95

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: MW6-16
AEN LAB NO: 9512067-24
AEN WORK ORDER: 9512067
CLIENT PROJ. ID: 2906

DATE SAMPLED: 12/06/95
DATE RECEIVED: 12/06/95
REPORT DATE: 12/21/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Digestion, Metals by GFAA	EPA 3050	-		Prep Date	12/12/95
#Digestion, Metals AA/ICP	EPA 3050	-		Prep Date	12/12/95
CCR 17 Metals					
Ag Silver	EPA 6010	ND	0.1	mg/kg	12/13/95
As Arsenic	EPA 7060	1.4 *	0.5	mg/kg	12/15/95
Ba Barium	EPA 6010	76 *	1	mg/kg	12/13/95
Be Beryllium	EPA 6010	0.4 *	0.1	mg/kg	12/13/95
Cd Cadmium	EPA 6010	ND	0.2	mg/kg	12/13/95
Co Cobalt	EPA 6010	9.8 *	0.2	mg/kg	12/13/95
Cr Chromium	EPA 6010	55 *	0.5	mg/kg	12/13/95
Cu Copper	EPA 6010	26 *	0.5	mg/kg	12/13/95
Hg Mercury	EPA 7471	ND	0.06	mg/kg	12/14/95
Mo Molybdenum	EPA 6010	ND	0.2	mg/kg	12/13/95
Ni Nickel	EPA 6010	78 *	1	mg/kg	12/13/95
Pb Lead	EPA 6010	7 *	1	mg/kg	12/13/95
Sb Antimony	EPA 6010	ND	1	mg/kg	12/13/95
Se Selenium	EPA 7740	ND	1	mg/kg	12/15/95
Tl Thallium	EPA 6010	1 *	1	mg/kg	12/13/95
V Vanadium	EPA 6010	36 *	0.5	mg/kg	12/13/95
Zn Zinc	EPA 6010	45 *	1	mg/kg	12/13/95

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: MW7-2
AEN LAB NO: 9512067-25
AEN WORK ORDER: 9512067
CLIENT PROJ. ID: 2906

DATE SAMPLED: 12/06/95
DATE RECEIVED: 12/06/95
REPORT DATE: 12/21/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Digestion, Metals by GFAA	EPA 3050	-		Prep Date	12/12/95
#Digestion, Metals AA/ICP	EPA 3050	-		Prep Date	12/12/95
CCR 17 Metals					
Ag Silver	EPA 6010	ND	0.1	mg/kg	12/13/95
As Arsenic	EPA 7060	4.9 *	0.5	mg/kg	12/15/95
Ba Barium	EPA 6010	100 *	1	mg/kg	12/13/95
Be Beryllium	EPA 6010	0.2 *	0.1	mg/kg	12/13/95
Cd Cadmium	EPA 6010	ND	0.2	mg/kg	12/13/95
Co Cobalt	EPA 6010	5.0 *	0.2	mg/kg	12/13/95
Cr Chromium	EPA 6010	25 *	0.5	mg/kg	12/13/95
Cu Copper	EPA 6010	14 *	0.5	mg/kg	12/13/95
Hg Mercury	EPA 7471	ND	0.06	mg/kg	12/14/95
Mo Molybdenum	EPA 6010	ND	0.2	mg/kg	12/13/95
Ni Nickel	EPA 6010	26 *	1	mg/kg	12/13/95
Pb Lead	EPA 6010	24 *	1	mg/kg	12/13/95
Sb Antimony	EPA 6010	ND	1	mg/kg	12/13/95
Se Selenium	EPA 7740	ND	1	mg/kg	12/15/95
Tl Thallium	EPA 6010	ND	1	mg/kg	12/13/95
V Vanadium	EPA 6010	20 *	0.5	mg/kg	12/13/95
Zn Zinc	EPA 6010	42 *	1	mg/kg	12/13/95

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: MW7-7
AEN LAB NO: 9512067-26
AEN WORK ORDER: 9512067
CLIENT PROJ. ID: 2906

DATE SAMPLED: 12/06/95
DATE RECEIVED: 12/06/95
REPORT DATE: 12/21/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Digestion, Metals by GFAA	EPA 3050	-		Prep Date	12/12/95
#Digestion, Metals AA/ICP	EPA 3050	-		Prep Date	12/12/95
CCR 17 Metals					
Ag Silver	EPA 6010	ND	0.1	mg/kg	12/13/95
As Arsenic	EPA 7060	0.6 *	0.5	mg/kg	12/15/95
Ba Barium	EPA 6010	320 *	1	mg/kg	12/13/95
Be Beryllium	EPA 6010	0.4 *	0.1	mg/kg	12/13/95
Cd Cadmium	EPA 6010	ND	0.2	mg/kg	12/13/95
Co Cobalt	EPA 6010	13 *	0.2	mg/kg	12/13/95
Cr Chromium	EPA 6010	44 *	0.5	mg/kg	12/13/95
Cu Copper	EPA 6010	48 *	0.5	mg/kg	12/13/95
Hg Mercury	EPA 7471	0.15 *	0.06	mg/kg	12/14/95
Mo Molybdenum	EPA 6010	ND	0.2	mg/kg	12/13/95
Ni Nickel	EPA 6010	57 *	1	mg/kg	12/13/95
Pb Lead	EPA 6010	33 *	1	mg/kg	12/13/95
Sb Antimony	EPA 6010	1 *	1	mg/kg	12/13/95
Se Selenium	EPA 7740	ND	1	mg/kg	12/15/95
Tl Thallium	EPA 6010	3 *	1	mg/kg	12/13/95
V Vanadium	EPA 6010	51 *	0.5	mg/kg	12/13/95
Zn Zinc	EPA 6010	69 *	1	mg/kg	12/13/95

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: MW7-10.5
AEN LAB NO: 9512067-27
AEN WORK ORDER: 9512067
CLIENT PROJ. ID: 2906

DATE SAMPLED: 12/06/95
DATE RECEIVED: 12/06/95
REPORT DATE: 12/21/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Digestion, Metals by GFAA	EPA 3050	-		Prep Date	12/12/95
#Digestion, Metals AA/ICP	EPA 3050	-		Prep Date	12/12/95
CCR 17 Metals					
Ag Silver	EPA 6010	0.1 *	0.1	mg/kg	12/14/95
As Arsenic	EPA 7060	12 *	0.5	mg/kg	12/15/95
Ba Barium	EPA 6010	580 *	1	mg/kg	12/14/95
Be Beryllium	EPA 6010	0.2 *	0.1	mg/kg	12/14/95
Cd Cadmium	EPA 6010	1.1 *	0.2	mg/kg	12/14/95
Co Cobalt	EPA 6010	15 *	0.2	mg/kg	12/14/95
Cr Chromium	EPA 6010	35 *	0.5	mg/kg	12/14/95
Cu Copper	EPA 6010	39 *	0.5	mg/kg	12/14/95
Hg Mercury	EPA 7471	3.8 *	0.06	mg/kg	12/15/95
Mo Molybdenum	EPA 6010	0.4 *	0.2	mg/kg	12/14/95
Ni Nickel	EPA 6010	75 *	1	mg/kg	12/14/95
Pb Lead	EPA 6010	130 *	1	mg/kg	12/14/95
Sb Antimony	EPA 6010	ND	1	mg/kg	12/14/95
Se Selenium	EPA 7740	ND	1	mg/kg	12/15/95
Tl Thallium	EPA 6010	ND	1	mg/kg	12/14/95
V Vanadium	EPA 6010	42 *	0.5	mg/kg	12/14/95
Zn Zinc	EPA 6010	180 *	1	mg/kg	12/14/95

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: MW7-13.5
AEN LAB NO: 9512067-28
AEN WORK ORDER: 9512067
CLIENT PROJ. ID: 2906

DATE SAMPLED: 12/06/95
DATE RECEIVED: 12/06/95
REPORT DATE: 12/21/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Digestion, Metals by GFAA	EPA 3050	-		Prep Date	12/12/95
#Digestion, Metals AA/ICP	EPA 3050	-		Prep Date	12/12/95
CCR 17 Metals					
Ag Silver	EPA 6010	ND	0.1	mg/kg	12/14/95
As Arsenic	EPA 7060	9.7 *	0.5	mg/kg	12/15/95
Ba Barium	EPA 6010	67 *	1	mg/kg	12/14/95
Be Beryllium	EPA 6010	0.2 *	0.1	mg/kg	12/14/95
Cd Cadmium	EPA 6010	0.7 *	0.2	mg/kg	12/14/95
Co Cobalt	EPA 6010	37 *	0.2	mg/kg	12/14/95
Cr Chromium	EPA 6010	34 *	0.5	mg/kg	12/14/95
Cu Copper	EPA 6010	11 *	0.5	mg/kg	12/14/95
Hg Mercury	EPA 7471	0.06 *	0.06	mg/kg	12/14/95
Mo Molybdenum	EPA 6010	0.6 *	0.2	mg/kg	12/14/95
Ni Nickel	EPA 6010	68 *	1	mg/kg	12/14/95
Pb Lead	EPA 6010	4 *	1	mg/kg	12/14/95
Sb Antimony	EPA 6010	ND	1	mg/kg	12/14/95
Se Selenium	EPA 7740	ND	1	mg/kg	12/15/95
Tl Thallium	EPA 6010	ND	1	mg/kg	12/14/95
V Vanadium	EPA 6010	26 *	0.5	mg/kg	12/14/95
Zn Zinc	EPA 6010	17 *	1	mg/kg	12/14/95

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: MW7-16.5
AEN LAB NO: 9512067-29
AEN WORK ORDER: 9512067
CLIENT PROJ. ID: 2906

DATE SAMPLED: 12/06/95
DATE RECEIVED: 12/06/95
REPORT DATE: 12/21/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Digestion, Metals by GFAA	EPA 3050	-		Prep Date	12/12/95
#Digestion, Metals AA/ICP	EPA 3050	-		Prep Date	12/12/95
CCR 17 Metals					
Ag Silver	EPA 6010	ND	0.1	mg/kg	12/14/95
As Arsenic	EPA 7060	2.6 *	0.5	mg/kg	12/15/95
Ba Barium	EPA 6010	150 *	1	mg/kg	12/14/95
Be Beryllium	EPA 6010	0.4 *	0.1	mg/kg	12/14/95
Cd Cadmium	EPA 6010	ND	0.2	mg/kg	12/14/95
Co Cobalt	EPA 6010	11 *	0.2	mg/kg	12/14/95
Cr Chromium	EPA 6010	41 *	0.5	mg/kg	12/14/95
Cu Copper	EPA 6010	15 *	0.5	mg/kg	12/14/95
Hg Mercury	EPA 7471	0.13 *	0.06	mg/kg	12/14/95
Mo Molybdenum	EPA 6010	ND	0.2	mg/kg	12/14/95
Ni Nickel	EPA 6010	84 *	1	mg/kg	12/14/95
Pb Lead	EPA 6010	6 *	1	mg/kg	12/14/95
Sb Antimony	EPA 6010	ND	1	mg/kg	12/14/95
Se Selenium	EPA 7740	ND	1	mg/kg	12/15/95
Tl Thallium	EPA 6010	ND	1	mg/kg	12/14/95
V Vanadium	EPA 6010	31 *	0.5	mg/kg	12/14/95
Zn Zinc	EPA 6010	28 *	1	mg/kg	12/14/95

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: B13-2
AEN LAB NO: 9512067-30
AEN WORK ORDER: 9512067
CLIENT PROJ. ID: 2906

DATE SAMPLED: 12/06/95
DATE RECEIVED: 12/06/95
REPORT DATE: 12/21/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Digestion, Metals by GFAA	EPA 3050	-		Prep Date	12/12/95
#Digestion, Metals AA/ICP	EPA 3050	-		Prep Date	12/12/95
CCR 17 Metals					
Ag Silver	EPA 6010	0.2 *	0.1	mg/kg	12/14/95
As Arsenic	EPA 7060	4.0 *	0.5	mg/kg	12/15/95
Ba Barium	EPA 6010	390 *	1	mg/kg	12/14/95
Be Beryllium	EPA 6010	0.4 *	0.1	mg/kg	12/14/95
Cd Cadmium	EPA 6010	ND	0.2	mg/kg	12/14/95
Co Cobalt	EPA 6010	12 *	0.2	mg/kg	12/14/95
Cr Chromium	EPA 6010	52 *	0.5	mg/kg	12/14/95
Cu Copper	EPA 6010	46 *	0.5	mg/kg	12/14/95
Hg Mercury	EPA 7471	0.31 *	0.06	mg/kg	12/14/95
Mo Molybdenum	EPA 6010	0.4 *	0.2	mg/kg	12/14/95
Ni Nickel	EPA 6010	53 *	1	mg/kg	12/14/95
Pb Lead	EPA 6010	110 *	1	mg/kg	12/14/95
Sb Antimony	EPA 6010	1 *	1	mg/kg	12/14/95
Se Selenium	EPA 7740	ND	1	mg/kg	12/15/95
Tl Thallium	EPA 6010	5 *	1	mg/kg	12/14/95
V Vanadium	EPA 6010	41 *	0.5	mg/kg	12/14/95
Zn Zinc	EPA 6010	170 *	1	mg/kg	12/14/95

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: B13-13
AEN LAB NO: 9512067-31
AEN WORK ORDER: 9512067
CLIENT PROJ. ID: 2906

DATE SAMPLED: 12/06/95
DATE RECEIVED: 12/06/95
REPORT DATE: 12/21/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Digestion, Metals by GFAA	EPA 3050	-		Prep Date	12/12/95
#Digestion, Metals AA/ICP	EPA 3050	-		Prep Date	12/12/95
CCR 17 Metals					
Ag Silver	EPA 6010	ND	0.1	mg/kg	12/14/95
As Arsenic	EPA 7060	3.9 *	0.5	mg/kg	12/15/95
Ba Barium	EPA 6010	220 *	1	mg/kg	12/14/95
Be Beryllium	EPA 6010	0.4 *	0.1	mg/kg	12/14/95
Cd Cadmium	EPA 6010	ND	0.2	mg/kg	12/14/95
Co Cobalt	EPA 6010	11 *	0.2	mg/kg	12/14/95
Cr Chromium	EPA 6010	43 *	0.5	mg/kg	12/14/95
Cu Copper	EPA 6010	29 *	0.5	mg/kg	12/14/95
Hg Mercury	EPA 7471	0.17 *	0.06	mg/kg	12/14/95
Mo Molybdenum	EPA 6010	ND	0.2	mg/kg	12/14/95
Ni Nickel	EPA 6010	46 *	1	mg/kg	12/14/95
Pb Lead	EPA 6010	74 *	1	mg/kg	12/14/95
Sb Antimony	EPA 6010	ND	1	mg/kg	12/14/95
Se Selenium	EPA 7740	ND	1	mg/kg	12/15/95
Tl Thallium	EPA 6010	3 *	1	mg/kg	12/14/95
V Vanadium	EPA 6010	34 *	0.5	mg/kg	12/14/95
Zn Zinc	EPA 6010	92 *	1	mg/kg	12/14/95

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: B13-19.5
AEN LAB NO: 9512067-32
AEN WORK ORDER: 9512067
CLIENT PROJ. ID: 2906

DATE SAMPLED: 12/06/95
DATE RECEIVED: 12/06/95
REPORT DATE: 12/21/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Digestion, Metals by GFAA	EPA 3050	-		Prep Date	12/12/95
#Digestion, Metals AA/ICP	EPA 3050	-		Prep Date	12/12/95
CCR 17 Metals					
Ag Silver	EPA 6010	ND	0.1	mg/kg	12/14/95
As Arsenic	EPA 7060	4.5 *	0.5	mg/kg	12/15/95
Ba Barium	EPA 6010	280 *	1	mg/kg	12/14/95
Be Beryllium	EPA 6010	0.4 *	0.1	mg/kg	12/14/95
Cd Cadmium	EPA 6010	0.3 *	0.2	mg/kg	12/14/95
Co Cobalt	EPA 6010	13 *	0.2	mg/kg	12/14/95
Cr Chromium	EPA 6010	52 *	0.5	mg/kg	12/14/95
Cu Copper	EPA 6010	51 *	0.5	mg/kg	12/14/95
Hg Mercury	EPA 7471	ND	0.06	mg/kg	12/14/95
Mo Molybdenum	EPA 6010	ND	0.2	mg/kg	12/14/95
Ni Nickel	EPA 6010	67 *	1	mg/kg	12/14/95
Pb Lead	EPA 6010	170 *	1	mg/kg	12/14/95
Sb Antimony	EPA 6010	ND	1	mg/kg	12/14/95
Se Selenium	EPA 7740	ND	1	mg/kg	12/15/95
Tl Thallium	EPA 6010	3 *	1	mg/kg	12/14/95
V Vanadium	EPA 6010	53 *	0.5	mg/kg	12/14/95
Zn Zinc	EPA 6010	120 *	1	mg/kg	12/14/95

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: B13-22
AEN LAB NO: 9512067-33
AEN WORK ORDER: 9512067
CLIENT PROJ. ID: 2906

DATE SAMPLED: 12/06/95
DATE RECEIVED: 12/06/95
REPORT DATE: 12/21/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Digestion, Metals by GFAA	EPA 3050	-		Prep Date	12/12/95
#Digestion, Metals AA/ICP	EPA 3050	-		Prep Date	12/12/95
CCR 17 Metals					
Ag Silver	EPA 6010	ND	0.1	mg/kg	12/14/95
As Arsenic	EPA 7060	ND	0.5	mg/kg	12/15/95
Ba Barium	EPA 6010	44 *	1	mg/kg	12/14/95
Be Beryllium	EPA 6010	0.4 *	0.1	mg/kg	12/14/95
Cd Cadmium	EPA 6010	ND	0.2	mg/kg	12/14/95
Co Cobalt	EPA 6010	9.6 *	0.2	mg/kg	12/14/95
Cr Chromium	EPA 6010	58 *	0.5	mg/kg	12/14/95
Cu Copper	EPA 6010	24 *	0.5	mg/kg	12/14/95
Hg Mercury	EPA 7471	ND	0.06	mg/kg	12/14/95
Mo Molybdenum	EPA 6010	ND	0.2	mg/kg	12/14/95
Ni Nickel	EPA 6010	89 *	1	mg/kg	12/14/95
Pb Lead	EPA 6010	5 *	1	mg/kg	12/14/95
Sb Antimony	EPA 6010	ND	1	mg/kg	12/14/95
Se Selenium	EPA 7740	ND	1	mg/kg	12/15/95
Tl Thallium	EPA 6010	3 *	1	mg/kg	12/14/95
V Vanadium	EPA 6010	28 *	0.5	mg/kg	12/14/95
Zn Zinc	EPA 6010	45 *	1	mg/kg	12/14/95

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

AEN (CALIFORNIA)
QUALITY CONTROL REPORT

AEN JOB NUMBER: 9512067

CLIENT PROJECT ID: 2906

Quality Control and Project Summary

Recovery and RPD for barium matrix spike for samples MW7-7 and MW7-16.5, as well as chromium matrix spike for sample MW7-16.5, were outside laboratory limits. These appear to be matrix effects as method spike results were within established laboratory limits.

All other laboratory quality control parameters were found to be within established limits.

Definitions

Laboratory Control Sample (LCS)/Method Spike(s): Control samples of known composition. LCS and Method Spike data are used to validate batch analytical results.

Matrix Spike(s): Aliquot of a sample (aqueous or solid) with added quantities of specific compounds and subjected to the entire analytical procedure. Matrix spike and matrix spike duplicate QC data are advisory.

Method Blank: An analytical control consisting of all reagents, internal standards, and surrogate standards carried through the entire analytical process. Used to monitor laboratory background and reagent contamination.

Not Detected (ND): Not detected at or above the reporting limit.

Relative Percent Difference (RPD): An indication of method precision based on duplicate analysis.

Reporting Limit (RL): The lowest concentration routinely determined during laboratory operations. The RL is generally 1 to 10 times the Method Detection Limit (MDL). Reporting limits are matrix, method, and analyte dependent and take into account any dilutions performed as part of the analysis.

Surrogates: Organic compounds which are similar to analytes of interest in chemical behavior, but are not found in environmental samples. Surrogates are added to all blanks, calibration and check standards, samples, and spiked samples. Surrogate recovery is monitored as an indication of acceptable sample preparation and instrumental performance.

D: Surrogates diluted out.

!: Indicates result outside of established laboratory QC limits.

ANALYSIS: Arsenic

MATRIX: Soil/Bulk

METHOD BLANK SAMPLES

SAMPLE TYPE: Blank-Method/Media blank
INSTRUMENT: TJA 4000, GFAA
UNITS: mg/kg
METHOD:
LAB ID: GFS_BLNK_B
PREPARED:
ANALYZED: 12/15/95
INSTR RUN: 4000\951215134000/1/
BATCH ID: GFS121195-B
DILUTION: 1.000000

ANALYTE	RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
Arsenic in soil EPA 7060	ND		0.5						

SAMPLE TYPE: Blank-Method/Media blank
INSTRUMENT: TJA 4000, GFAA
UNITS: mg/kg
METHOD:
LAB ID: GFS_BLNK_D
PREPARED:
ANALYZED: 12/15/95
INSTR RUN: 4000\951215170300/1/
BATCH ID: GFS121295-D
DILUTION: 1.000000

ANALYTE	RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
Arsenic in soil EPA 7060	ND		0.5						

SAMPLE TYPE: Blank-Method/Media blank
INSTRUMENT: TJA 4000, GFAA
UNITS: mg/kg
METHOD:
LAB ID: GFS_BLNK_G
PREPARED:
ANALYZED: 12/15/95
INSTR RUN: 4000\951215183600/1/
BATCH ID: GFS121295-G
DILUTION: 1.000000

ANALYTE	RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
Arsenic in soil EPA 7060	ND		0.5						

METHOD SPIKE SAMPLES

SAMPLE TYPE: Spike-Method/Media blank
INSTRUMENT: TJA 4000, GFAA
UNITS: mg/kg
METHOD:
LAB ID: GFS_MS_B
PREPARED:
ANALYZED: 12/15/95
INSTR RUN: 4000\951215134000/2/1
BATCH ID: GFS121195-B
DILUTION: 1.000000

ANALYTE	RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
Arsenic in soil EPA 7060	9.36	ND	0.5	10.0	93.6	67	136		

SAMPLE TYPE: Spike-Method/Media blank
INSTRUMENT: TJA 4000, GFAA
UNITS: mg/kg
METHOD:
LAB ID: GFS_MD_B
PREPARED:
ANALYZED: 12/15/95
INSTR RUN: 4000\951215134000/3/1
BATCH ID: GFS121195-B
DILUTION: 1.000000

ANALYTE	RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
Arsenic in soil EPA 7060	9.97	ND	0.5	10.0	99.7	67	136		

SAMPLE TYPE: Spike-Method/Media blank
INSTRUMENT: TJA 4000, GFAA
UNITS: mg/kg
METHOD:
LAB ID: GFS_MS_D
PREPARED:
ANALYZED: 12/15/95
INSTR RUN: 4000\951215170300/2/1
BATCH ID: GFS121295-D
DILUTION: 1.000000

ANALYTE	RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
Arsenic in soil EPA 7060	11.0	ND	0.5	10.0	110	67	136		

SAMPLE TYPE: Spike-Method/Media blank
INSTRUMENT: TJA 4000, GFAA
UNITS: mg/kg
METHOD:
LAB ID: GFS_MD_D
PREPARED:
ANALYZED: 12/15/95
INSTR RUN: 4000\951215170300/3/1
BATCH ID: GFS121295-D
DILUTION: 1.000000

ANALYTE	RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
Arsenic in soil EPA 7060	10.2	ND	0.5	10.0	102	67	136		

ANALYSIS: Arsenic

MATRIX: Soil/Bulk

METHOD SPIKE SAMPLES

SAMPLE TYPE: Spike-Method/Media blank
INSTRUMENT: TJA 4000, GFAA
UNITS: mg/kg
METHOD:

LAB ID: GFS_MS_G
PREPARED:
ANALYZED: 12/15/95

INSTR RUN: 4000\951215183600/2/1
BATCH ID: GFS121295-G
DILUTION: 1.000000

ANALYTE	RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%
Arsenic in soil EPA 7060	9.51	ND	0.5	10.0	95.1	67	136		

SAMPLE TYPE: Spike-Method/Media blank
INSTRUMENT: TJA 4000, GFAA
UNITS: mg/kg
METHOD:

LAB ID: GFS_MD_G
PREPARED:
ANALYZED: 12/15/95

INSTR RUN: 4000\951215183600/3/1
BATCH ID: GFS121295-G
DILUTION: 1.000000

ANALYTE	RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%
Arsenic in soil EPA 7060	9.51	ND	0.5	10.0	95.1	67	136		

METHOD SPIKE DUPLICATES

SAMPLE TYPE: Method Spike Sample Duplicate
INSTRUMENT: TJA 4000, GFAA
UNITS: mg/kg
METHOD:

LAB ID: GFS_MR_B
PREPARED:
ANALYZED: 12/15/95

INSTR RUN: 4000\951215134000/4/2
BATCH ID: GFS121195-B
DILUTION: 1.000000

ANALYTE	RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%
Arsenic in soil EPA 7060	9.97	9.36	0.5					6.31	15

SAMPLE TYPE: Method Spike Sample Duplicate
INSTRUMENT: TJA 4000, GFAA
UNITS: mg/kg
METHOD:

LAB ID: GFS_MR_D
PREPARED:
ANALYZED: 12/15/95

INSTR RUN: 4000\951215170300/4/2
BATCH ID: GFS121295-D
DILUTION: 1.000000

ANALYTE	RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
Arsenic in soil EPA 7060	10.2	11.0	0.5					7.55	15

SAMPLE TYPE: Method Spike Sample Duplicate
INSTRUMENT: TJA 4000, GFAA
UNITS: mg/kg
METHOD:

LAB ID: GFS_MR_G
PREPARED:
ANALYZED: 12/15/95

INSTR RUN: 4000\951215183600/4/2
BATCH ID: GFS121295-G
DILUTION: 1.000000

ANALYTE	RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
Arsenic in soil EPA 7060	9.51	9.51	0.5					0	15

MATRIX SPIKE SAMPLES

SAMPLE TYPE: Spike-Sample/Matrix
INSTRUMENT: TJA 4000, GFAA
UNITS: mg/kg
METHOD:

LAB ID: MS12067-07A
PREPARED:
ANALYZED: 12/15/95

INSTR RUN: 4000\951215134000/6/5
BATCH ID: GFS121195-B
DILUTION: 1.000000

ANALYTE	RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%
Arsenic in soil EPA 7060	8.12	ND	0.5	10.0	81.2	12	168		

SAMPLE TYPE: Spike-Sample/Matrix
INSTRUMENT: TJA 4000, GFAA
UNITS: mg/kg
METHOD:

LAB ID: MD12067-07A
PREPARED:
ANALYZED: 12/15/95

INSTR RUN: 4000\951215134000/7/5
BATCH ID: GFS121195-B
DILUTION: 1.000000

ANALYTE	RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%
Arsenic in soil EPA 7060	8.19	ND	0.5	10.0	81.9	12	168		

ANALYSIS: Arsenic

MATRIX: Soil/Bulk

MATRIX SPIKE SAMPLES

SAMPLE TYPE: Spike-Sample/Matrix
INSTRUMENT: TJA 4000, GFAA
UNITS: mg/kg
METHOD:
LAB ID: MS12067-10A
PREPARED:
ANALYZED: 12/15/95
INSTR RUN: 4000\951215134000/10/9
BATCH ID: GFS121195-B
DILUTION: 1.000000

ANALYTE	RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
Arsenic in soil EPA 7060	14.3	4.13	0.5	10.0	102	12	168		

SAMPLE TYPE: Spike-Sample/Matrix
INSTRUMENT: TJA 4000, GFAA
UNITS: mg/kg
METHOD:
LAB ID: MD12067-10A
PREPARED:
ANALYZED: 12/15/95
INSTR RUN: 4000\951215134000/11/9
BATCH ID: GFS121195-B
DILUTION: 1.000000

ANALYTE	RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
Arsenic in soil EPA 7060	13.5	4.13	0.5	10.0	93.7	12	168		

SAMPLE TYPE: Spike-Sample/Matrix
INSTRUMENT: TJA 4000, GFAA
UNITS: mg/kg
METHOD:
LAB ID: MS12067-20A
PREPARED:
ANALYZED: 12/15/95
INSTR RUN: 4000\951215170300/6/5
BATCH ID: GFS121295-D
DILUTION: 1.000000

ANALYTE	RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
Arsenic in soil EPA 7060	17.5	12	0.5	10.0	55	12	168		

SAMPLE TYPE: Spike-Sample/Matrix
INSTRUMENT: TJA 4000, GFAA
UNITS: mg/kg
METHOD:
LAB ID: MD12067-20A
PREPARED:
ANALYZED: 12/15/95
INSTR RUN: 4000\951215170300/7/5
BATCH ID: GFS121295-D
DILUTION: 1.000000

ANALYTE	RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
Arsenic in soil EPA 7060	19.2	12	0.5	10.0	72	12	168		

SAMPLE TYPE: Spike-Sample/Matrix
INSTRUMENT: TJA 4000, GFAA
UNITS: mg/kg
METHOD:
LAB ID: MS12067-29A
PREPARED:
ANALYZED: 12/15/95
INSTR RUN: 4000\951215183600/6/5
BATCH ID: GFS121295-G
DILUTION: 1.000000

ANALYTE	RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
Arsenic in soil EPA 7060	10.3	2.6	0.5	10.0	77	12	168		

SAMPLE TYPE: Spike-Sample/Matrix
INSTRUMENT: TJA 4000, GFAA
UNITS: mg/kg
METHOD:
LAB ID: MD12067-29A
PREPARED:
ANALYZED: 12/15/95
INSTR RUN: 4000\951215183600/7/5
BATCH ID: GFS121295-G
DILUTION: 1.000000

ANALYTE	RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
Arsenic in soil EPA 7060	12.0	2.6	0.5	10.0	94	12	168		

MATRIX SPIKE DUPLICATES

SAMPLE TYPE: Spiked Sample Duplicate
INSTRUMENT: TJA 4000, GFAA
UNITS: mg/kg
METHOD:
LAB ID: MR12067-07A
PREPARED:
ANALYZED: 12/15/95
INSTR RUN: 4000\951215134000/8/6
BATCH ID: GFS121195-B
DILUTION: 1.000000

ANALYTE	RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
Arsenic in soil EPA 7060	8.19	8.12	0.5					0.858	18

ANALYSIS: Arsenic

MATRIX: Soil/Bulk

MATRIX SPIKE DUPLICATES

SAMPLE TYPE: Spiked Sample Duplicate
INSTRUMENT: TJA 4000, GFAA
UNITS: mg/kg
METHOD:

LAB ID: MR12067-10A
PREPARED:
ANALYZED: 12/15/95

INSTR RUN: 4000\951215134000/12/1
BATCH ID: GFS121195-B
DILUTION: 1.000000

ANALYTE	RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%
Arsenic in soil EPA 7060	13.5	14.3	0.5					5.76	18

SAMPLE TYPE: Spiked Sample Duplicate
INSTRUMENT: TJA 4000, GFAA
UNITS: mg/kg
METHOD:

LAB ID: MR12067-20A
PREPARED:
ANALYZED: 12/15/95

INSTR RUN: 4000\951215170300/8/6
BATCH ID: GFS121295-D
DILUTION: 1.000000

ANALYTE	RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%
Arsenic in soil EPA 7060	19.2	17.5	0.5					9.26	18

SAMPLE TYPE: Spiked Sample Duplicate
INSTRUMENT: TJA 4000, GFAA
UNITS: mg/kg
METHOD:

LAB ID: MR12067-29A
PREPARED:
ANALYZED: 12/15/95

INSTR RUN: 4000\951215183600/8/6
BATCH ID: GFS121295-G
DILUTION: 1.000000

ANALYTE	RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%
Arsenic in soil EPA 7060	12.0	10.3	0.5					15.2	18

ANALYSIS: Mercury

MATRIX: Soil/Bulk

METHOD BLANK SAMPLES

SAMPLE TYPE: Blank-Method/Media blank
INSTRUMENT: Coleman Hg Analyzer 50D
UNITS: mg/kg
METHOD:

LAB ID: HGS_BLNK
PREPARED:
ANALYZED: 12/14/95

INSTR RUN: HG\951214180000/1/
BATCH ID: HGS121495
DILUTION: 1.000000

ANALYTE	RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
Mercury in soil EPA 7471	ND		0.06						

METHOD SPIKE SAMPLES

SAMPLE TYPE: Spike-Method/Media blank
INSTRUMENT: Coleman Hg Analyzer 50D
UNITS: mg/kg
METHOD:

LAB ID: HGS_MS
PREPARED:
ANALYZED: 12/14/95

INSTR RUN: HG\951214180000/2/1
BATCH ID: HGS121495
DILUTION: 1.000000

ANALYTE	RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
Mercury in soil EPA 7471	0.388	ND	0.06	0.400	97.0	79	118		

SAMPLE TYPE: Spike-Method/Media blank
INSTRUMENT: Coleman Hg Analyzer 50D
UNITS: mg/kg
METHOD:

LAB ID: HGS_MD
PREPARED:
ANALYZED: 12/14/95

INSTR RUN: HG\951214180000/3/1
BATCH ID: HGS121495
DILUTION: 1.000000

ANALYTE	RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
Mercury in soil EPA 7471	0.400	ND	0.06	0.400	100	79	118		

METHOD SPIKE DUPLICATES

SAMPLE TYPE: Method Spike Sample Duplicate
INSTRUMENT: Coleman Hg Analyzer 50D
UNITS: mg/kg
METHOD:

LAB ID: HGS_MR
PREPARED:
ANALYZED: 12/14/95

INSTR RUN: HG\951214180000/4/2
BATCH ID: HGS121495
DILUTION: 1.000000

ANALYTE	RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
Mercury in soil EPA 7471	0.400	0.388	0.06					3.05	15

MATRIX SPIKE SAMPLES

SAMPLE TYPE: Spike-Sample/Matrix
INSTRUMENT: Coleman Hg Analyzer 50D
UNITS: mg/kg
METHOD:

LAB ID: MS12067-01A
PREPARED:
ANALYZED: 12/14/95

INSTR RUN: HG\951214180000/6/5
BATCH ID: HGS121495
DILUTION: 1.000000

ANALYTE	RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
Mercury in soil EPA 7471	0.393	ND	0.06	0.400	98.3	44	153		

SAMPLE TYPE: Spike-Sample/Matrix
INSTRUMENT: Coleman Hg Analyzer 50D
UNITS: mg/kg
METHOD:

LAB ID: MD12067-01A
PREPARED:
ANALYZED: 12/14/95

INSTR RUN: HG\951214180000/7/5
BATCH ID: HGS121495
DILUTION: 1.000000

ANALYTE	RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
Mercury in soil EPA 7471	0.360	ND	0.06	0.400	90.0	44	153		

ANALYSIS: Mercury

MATRIX: Soil/Bulk

MATRIX SPIKE SAMPLES

SAMPLE TYPE: Spike-Sample/Matrix
INSTRUMENT: Coleman Hg Analyzer 50D
UNITS: mg/kg
METHOD:

LAB ID: MS12067-10A
PREPARED:
ANALYZED: 12/14/95

INSTR RUN: HG\951214180000/10/9
BATCH ID: HGS121495
DILUTION: 1.000000

ANALYTE	RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%
Mercury in soil EPA 7471	0.560	0.122	0.06	0.400	110	44	153		

SAMPLE TYPE: Spike-Sample/Matrix
INSTRUMENT: Coleman Hg Analyzer 50D
UNITS: mg/kg
METHOD:

LAB ID: MD12067-10A
PREPARED:
ANALYZED: 12/14/95

INSTR RUN: HG\951214180000/11/9Y
BATCH ID: HGS121495
DILUTION: 1.000000

ANALYTE	RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%
Mercury in soil EPA 7471	0.554	0.122	0.06	0.400	108	44	153		

MATRIX SPIKE DUPLICATES

SAMPLE TYPE: Spiked Sample Duplicate
INSTRUMENT: Coleman Hg Analyzer 50D
UNITS: mg/kg
METHOD:

LAB ID: MR12067-01A
PREPARED:
ANALYZED: 12/14/95

INSTR RUN: HG\951214180000/8/6
BATCH ID: HGS121495
DILUTION: 1.000000

ANALYTE	RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%
Mercury in soil EPA 7471	0.360	0.393	0.06					8.76	15

SAMPLE TYPE: Spiked Sample Duplicate
INSTRUMENT: Coleman Hg Analyzer 50D
UNITS: mg/kg
METHOD:

LAB ID: MR12067-10A
PREPARED:
ANALYZED: 12/14/95

INSTR RUN: HG\951214180000/12/10
BATCH ID: HGS121495
DILUTION: 1.000000

ANALYTE	RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%
Mercury in soil EPA 7471	0.554	0.560	0.06					1.08	15

ANALYSIS: Metals Scan by ICP

MATRIX: Soil/Bulk

METHOD BLANK SAMPLES

SAMPLE TYPE: Blank-Method/Media blank
INSTRUMENT: TJA Enviro 36
UNITS: mg/kg
METHOD:

LAB ID: IFS_BLNK_C
PREPARED:
ANALYZED: 12/13/95

INSTR RUN: ICP\951213235800/1/
BATCH ID: IFS121295-C
DILUTION: 1.000000

ANALYTE		RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
Ag	Silver	ND		0.1						
Ba	Barium	ND		1						
Be	Beryllium	ND		0.1						
Cd	Cadmium	ND		0.2						
Co	Cobalt	ND		0.2						
Cr	Chromium	ND		0.5						
Cu	Copper	ND		0.5						
Mo	Molybdenum	ND		0.2						
Ni	Nickel	ND		1						
Pb	Lead	ND		1						
Sb	Antimony	ND		1						
Tl	Thallium	ND		1						
V	Vanadium	ND		0.5						
Zn	Zinc	ND		1						

SAMPLE TYPE: Blank-Method/Media blank
INSTRUMENT: TJA Enviro 36
UNITS: mg/kg
METHOD:

LAB ID: IFS_BLNK_A
PREPARED:
ANALYZED: 12/13/95

INSTR RUN: ICP\951213235900/1/
BATCH ID: IFS121195-A
DILUTION: 1.0

ANALYTE		RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
Ag	Silver	ND		0.1						
Ba	Barium	ND		1						
Be	Beryllium	ND		0.1						
Cd	Cadmium	ND		0.2						
Co	Cobalt	ND		0.2						
Cr	Chromium	ND		0.5						
Cu	Copper	ND		0.5						
Mo	Molybdenum	ND		0.2						
Ni	Nickel	ND		1						
Pb	Lead	ND		1						
Sb	Antimony	ND		1						
Tl	Thallium	ND		1						
V	Vanadium	ND		0.5						
Zn	Zinc	ND		1						

SAMPLE TYPE: Blank-Method/Media blank
INSTRUMENT: TJA Enviro 36
UNITS: mg/kg
METHOD:

LAB ID: IFS_BLNK_F
PREPARED:
ANALYZED: 12/14/95

INSTR RUN: ICP\951214200100/1/
BATCH ID: IFS121295-F
DILUTION: 1.000000

ANALYTE		RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
Ag	Silver	ND		0.1						
Ba	Barium	ND		1						
Be	Beryllium	ND		0.1						
Cd	Cadmium	ND		0.2						
Co	Cobalt	ND		0.2						
Cr	Chromium	ND		0.5						
Cu	Copper	ND		0.5						
Mo	Molybdenum	ND		0.2						
Ni	Nickel	ND		1						
Pb	Lead	ND		1						
Sb	Antimony	ND		1						
Tl	Thallium	ND		1						
V	Vanadium	ND		0.5						
Zn	Zinc	ND		1						

ANALYSIS: Metals Scan by ICP

MATRIX: Soil/Bulk

METHOD SPIKE SAMPLES

SAMPLE TYPE: Spike-Method/Media blank
INSTRUMENT: TJA Enviro 36
UNITS: mg/kg
METHOD:

LAB ID: IFS_MS_C
PREPARED:
ANALYZED: 12/13/95

INSTR RUN: ICP\951213235800/2/1
BATCH ID: IFS121295-C
DILUTION: 1.000000

ANALYTE		RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	HIGH	RPD (%)	RPD LIMIT (%)
Ag	Silver	5.74	ND	0.1	10.0	57.4	24	106		
Ba	Barium	99.9	ND	1	100	99.9	83	112		
Be	Beryllium	4.75	ND	0.1	5.00	95.0	77	113		
Cd	Cadmium	9.95	ND	0.2	10.0	99.5	83	109		
Co	Cobalt	52.1	ND	0.2	50.0	104	87	117		
Cr	Chromium	50.2	ND	0.5	50.0	100	85	110		
Cu	Copper	54.4	ND	0.5	50.0	109	85	112		
Mo	Molybdenum	50.1	ND	0.2	50.0	100	83	118		
Ni	Nickel	53.6	ND	1	50.0	107	83	115		
Pb	Lead	49.3	ND	1	50.0	98.6	80	116		
Sb	Antimony	47.1	ND	1	50.0	94.2	78	113		
Tl	Thallium	102	ND	1	100	102	78	115		
V	Vanadium	51.7	ND	0.5	50.0	103	87	115		
Zn	Zinc	49.6	ND	1	50.0	99.2	81	109		

SAMPLE TYPE: Spike-Method/Media blank
INSTRUMENT: TJA Enviro 36
UNITS: mg/kg
METHOD:

LAB ID: IFS_MD_C
PREPARED:
ANALYZED: 12/13/95

INSTR RUN: ICP\951213235800/3/1
BATCH ID: IFS121295-C
DILUTION: 1.000000

ANALYTE		RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	HIGH	RPD (%)	RPD LIMIT (%)
Ag	Silver	5.80	ND	0.1	10.0	58.0	24	106		
Ba	Barium	102	ND	1	100	102	83	112		
Be	Beryllium	4.84	ND	0.1	5.00	96.8	77	113		
Cd	Cadmium	10.0	ND	0.2	10.0	100	83	109		
Co	Cobalt	52.9	ND	0.2	50.0	106	87	117		
Cr	Chromium	52.4	ND	0.5	50.0	105	85	110		
Cu	Copper	51.7	ND	0.5	50.0	103	85	112		
Mo	Molybdenum	50.8	ND	0.2	50.0	102	83	118		
Ni	Nickel	52.8	ND	1	50.0	106	83	115		
Pb	Lead	49.6	ND	1	50.0	99.2	80	116		
Sb	Antimony	47.6	ND	1	50.0	95.2	78	113		
Tl	Thallium	103	ND	1	100	103	78	115		
V	Vanadium	52.3	ND	0.5	50.0	105	87	115		
Zn	Zinc	52.3	ND	1	50.0	105	81	109		

SAMPLE TYPE: Spike-Method/Media blank
INSTRUMENT: TJA Enviro 36
UNITS: mg/kg
METHOD:

LAB ID: IFS_MS_A
PREPARED:
ANALYZED: 12/13/95

INSTR RUN: ICP\951213235900/2/1
BATCH ID: IFS121195-A
DILUTION: 1.0

ANALYTE		RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	HIGH	RPD (%)	RPD LIMIT (%)
Ag	Silver	5.35	ND	0.1	10	54	24	106		
Ba	Barium	105	ND	1	100	105	83	112		
Be	Beryllium	4.95	ND	0.1	5.0	99	77	113		
Cd	Cadmium	10.2	ND	0.2	10	100	83	109		
Co	Cobalt	54.4	ND	0.2	50	110	87	117		
Cr	Chromium	52.7	ND	0.5	50	110	85	110		
Cu	Copper	52.6	ND	0.5	50	110	85	112		
Mo	Molybdenum	52.1	ND	0.2	50	100	83	118		
Ni	Nickel	53.5	ND	1	50	110	83	115		
Pb	Lead	51.2	ND	1	50	100	80	116		
Sb	Antimony	49.1	ND	1	50	98	78	113		
Tl	Thallium	104	ND	1	100	104	78	115		
V	Vanadium	53.6	ND	0.5	50	110	87	115		
Zn	Zinc	50.4	ND	1	50	100	81	109		

SAMPLE TYPE: Spike-Method/Media blank
INSTRUMENT: TJA Enviro 36
UNITS: mg/kg
METHOD:

LAB ID: IFS_MD_A
PREPARED:
ANALYZED: 12/13/95

INSTR RUN: ICP\951213235900/3/1
BATCH ID: IFS121195-A
DILUTION: 1.0

ANALYTE		RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	HIGH	RPD (%)	RPD LIMIT (%)
Ag	Silver	5.32	ND	0.1	10	53	24	106		

ANALYSIS: Metals Scan by ICP

MATRIX: Soil/Bulk

METHOD SPIKE SAMPLES

SAMPLE TYPE: Spike-Method/Media blank
INSTRUMENT: TJA Enviro 36
UNITS: mg/kg
METHOD:

LAB ID: IFS_MD_A
PREPARED:
ANALYZED: 12/13/95

INSTR RUN: ICP\951213235900/3/1
BATCH ID: IFS121195-A
DILUTION: 1.0

ANALYTE		RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
Ba	Barium	103	ND	1	100	103	83	112		
Be	Beryllium	4.87	ND	0.1	5.0	97	77	113		
Cd	Cadmium	10.1	ND	0.2	10	100	83	109		
Co	Cobalt	53.6	ND	0.2	50	110	87	117		
Cr	Chromium	51.6	ND	0.5	50	100	85	110		
Cu	Copper	51.7	ND	0.5	50	100	85	112		
Mo	Molybdenum	51.2	ND	0.2	50	100	83	118		
Ni	Nickel	52.6	ND	1	50	110	83	115		
Pb	Lead	50.3	ND	1	50	100	80	116		
Sb	Antimony	48.1	ND	1	50	96	78	113		
Tl	Thallium	103	ND	1	100	103	78	115		
V	Vanadium	52.8	ND	0.5	50	110	87	115		
Zn	Zinc	49.8	ND	1	50	100	81	109		

SAMPLE TYPE: Spike-Method/Media blank
INSTRUMENT: TJA Enviro 36
UNITS: mg/kg
METHOD:

LAB ID: IFS_MS_F
PREPARED:
ANALYZED: 12/14/95

INSTR RUN: ICP\951214200100/2/1
BATCH ID: IFS121295-F
DILUTION: 1.000000

ANALYTE		RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
Ag	Silver	6.80	ND	0.1	10.0	68.0	24	106		
Ba	Barium	98.4	ND	1	100	98.4	83	112		
Be	Beryllium	4.79	ND	0.1	5.00	95.8	77	113		
Cd	Cadmium	9.80	ND	0.2	10.0	98.0	83	109		
Co	Cobalt	52.0	ND	0.2	50.0	104	87	117		
Cr	Chromium	52.3	ND	0.5	50.0	105	85	110		
Cu	Copper	52.1	ND	0.5	50.0	104	85	112		
Mo	Molybdenum	48.6	ND	0.2	50.0	97.2	83	118		
Ni	Nickel	52.1	ND	1	50.0	104	83	115		
Pb	Lead	46.9	ND	1	50.0	93.8	80	116		
Sb	Antimony	46.8	ND	1	50.0	93.6	78	113		
Tl	Thallium	91.7	ND	1	100	91.7	78	115		
V	Vanadium	51.5	ND	0.5	50.0	103	87	115		
Zn	Zinc	49.8	ND	1	50.0	99.6	81	109		

SAMPLE TYPE: Spike-Method/Media blank
INSTRUMENT: TJA Enviro 36
UNITS: mg/kg
METHOD:

LAB ID: IFS_MD_F
PREPARED:
ANALYZED: 12/14/95

INSTR RUN: ICP\951214200100/3/1
BATCH ID: IFS121295-F
DILUTION: 1.000000

ANALYTE		RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
Ag	Silver	6.78	ND	0.1	10.0	67.8	24	106		
Ba	Barium	97.4	ND	1	100	97.4	83	112		
Be	Beryllium	4.74	ND	0.1	5.00	94.8	77	113		
Cd	Cadmium	9.90	ND	0.2	10.0	99.0	83	109		
Co	Cobalt	51.5	ND	0.2	50.0	103	87	117		
Cr	Chromium	51.8	ND	0.5	50.0	104	85	110		
Cu	Copper	51.7	ND	0.5	50.0	103	85	112		
Mo	Molybdenum	48.3	ND	0.2	50.0	96.6	83	118		
Ni	Nickel	51.6	ND	1	50.0	103	83	115		
Pb	Lead	46.8	ND	1	50.0	93.6	80	116		
Sb	Antimony	46.3	ND	1	50.0	92.6	78	113		
Tl	Thallium	90.6	ND	1	100	90.6	78	115		
V	Vanadium	50.9	ND	0.5	50.0	102	87	115		
Zn	Zinc	49.7	ND	1	50.0	99.4	81	109		

ANALYSIS: Metals Scan by ICP

MATRIX: Soil/Bulk

METHOD SPIKE DUPLICATES

SAMPLE TYPE: Method Spike Sample Duplicate
INSTRUMENT: TJA Enviro 36
UNITS: mg/kg
METHOD:

LAB ID: IFS_MR_C
PREPARED:
ANALYZED: 12/13/95

INSTR RUN: ICP\951213235800/4/2
BATCH ID: IFS121295-C
DILUTION: 1.000000

ANALYTE		RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
Ag	Silver	5.80	5.74	0.1					1.04	10
Ba	Barium	102	99.9	1					2.08	10
Be	Beryllium	4.84	4.75	0.1					1.88	10
Cd	Cadmium	10.0	9.95	0.2					0.501	10
Co	Cobalt	52.9	52.1	0.2					1.52	10
Cr	Chromium	52.4	50.2	0.5					4.29	10
Cu	Copper	51.7	54.4	0.5					5.09	10
Mo	Molybdenum	50.8	50.1	0.2					1.39	10
Ni	Nickel	52.8	53.6	1					1.50	10
Pb	Lead	49.6	49.3	1					0.607	10
Sb	Antimony	47.6	47.1	1					1.06	10
Tl	Thallium	103	102	1					0.976	10
V	Vanadium	52.3	51.7	0.5					1.15	10
Zn	Zinc	52.3	49.6	1					5.30	10

SAMPLE TYPE: Method Spike Sample Duplicate
INSTRUMENT: TJA Enviro 36
UNITS: mg/kg
METHOD:

LAB ID: IFS_MR_A
PREPARED:
ANALYZED: 12/13/95

INSTR RUN: ICP\951213235900/4/2
BATCH ID: IFS121195-A
DILUTION: 1.0

ANALYTE		RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
Ag	Silver	5.32	5.35	0.1					0.562	10
Ba	Barium	103	105	1					1.92	10
Be	Beryllium	4.87	4.95	0.1					1.63	10
Cd	Cadmium	10.1	10.2	0.2					0.985	10
Co	Cobalt	53.6	54.4	0.2					1.48	10
Cr	Chromium	51.6	52.7	0.5					2.11	10
Cu	Copper	51.7	52.6	0.5					1.73	10
Mo	Molybdenum	51.2	52.1	0.2					1.74	10
Ni	Nickel	52.6	53.5	1					1.70	10
Pb	Lead	50.3	51.2	1					1.77	10
Sb	Antimony	48.1	49.1	1					2.06	10
Tl	Thallium	103	104	1					0.966	10
V	Vanadium	52.8	53.6	0.5					1.50	10
Zn	Zinc	49.8	50.4	1					1.20	10

SAMPLE TYPE: Method Spike Sample Duplicate
INSTRUMENT: TJA Enviro 36
UNITS: mg/kg
METHOD:

LAB ID: IFS_MR_F
PREPARED:
ANALYZED: 12/14/95

INSTR RUN: ICP\951214200100/4/2
BATCH ID: IFS121295-F
DILUTION: 1.000000

ANALYTE		RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
Ag	Silver	6.78	6.80	0.1					0.295	10
Ba	Barium	97.4	98.4	1					1.02	10
Be	Beryllium	4.74	4.79	0.1					1.05	10
Cd	Cadmium	9.90	9.80	0.2					1.02	10
Co	Cobalt	51.5	52.0	0.2					0.966	10
Cr	Chromium	51.8	52.3	0.5					0.961	10
Cu	Copper	51.7	52.1	0.5					0.771	10
Mo	Molybdenum	48.3	48.6	0.2					0.619	10
Ni	Nickel	51.6	52.1	1					0.964	10
Pb	Lead	46.8	46.9	1					0.213	10
Sb	Antimony	46.3	46.8	1					1.07	10
Tl	Thallium	90.6	91.7	1					1.21	10
V	Vanadium	50.9	51.5	0.5					1.17	10
Zn	Zinc	49.7	49.8	1					0.201	10

ANALYSIS: Metals Scan by ICP

MATRIX: Soil/Bulk

MATRIX SPIKE SAMPLES

SAMPLE TYPE: Spike-Sample/Matrix
INSTRUMENT: TJA Enviro 36
UNITS: mg/kg
METHOD:

LAB ID: MS12067-26A
PREPARED:
ANALYZED: 12/13/95

INSTR RUN: ICP\951213235800/6/5
BATCH ID: IFS121295-C
DILUTION: 1.000000

ANALYTE		RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
Ag	Silver	5.34	ND	0.1	10.0	53.4	2	118		
Ba	Barium	609	317	1	100	292 !	45	139		
Be	Beryllium	5.23	0.402	0.1	5.00	96.6	67	113		
Cd	Cadmium	9.21	ND	0.2	10.0	92.1	57	112		
Co	Cobalt	58.7	12.6	0.2	50.0	92.2	63	115		
Cr	Chromium	97.2	43.5	0.5	50.0	107	49	125		
Cu	Copper	89.6	47.7	0.5	50.0	83.8	52	134		
Mo	Molybdenum	36.5	ND	0.2	50.0	73.0	37	120		
Ni	Nickel	104	57.3	1	50.0	93.4	51	122		
Pb	Lead	84.7	32.7	1	50.0	104	24	153		
Sb	Antimony	8.22	1.07	1	50.0	14.3	0	109		
Tl	Thallium	101	3.03	1	100	98.0	48	115		
V	Vanadium	110	51.4	0.5	50.0	117	57	132		
Zn	Zinc	111	69.3	1	50.0	83.4	31	134		

SAMPLE TYPE: Spike-Sample/Matrix
INSTRUMENT: TJA Enviro 36
UNITS: mg/kg
METHOD:

LAB ID: MD12067-26A
PREPARED:
ANALYZED: 12/13/95

INSTR RUN: ICP\951213235800/7/5
BATCH ID: IFS121295-C
DILUTION: 1.000000

ANALYTE		RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
Ag	Silver	5.30	ND	0.1	10.0	53.0	2	118		
Ba	Barium	328	317	1	100	11.0 !	45	139		
Be	Beryllium	5.21	0.402	0.1	5.00	96.2	67	113		
Cd	Cadmium	9.05	ND	0.2	10.0	90.5	57	112		
Co	Cobalt	59.7	12.6	0.2	50.0	94.2	63	115		
Cr	Chromium	93.1	43.5	0.5	50.0	99.2	49	125		
Cu	Copper	92.1	47.7	0.5	50.0	88.8	52	134		
Mo	Molybdenum	36.1	ND	0.2	50.0	72.2	37	120		
Ni	Nickel	105	57.3	1	50.0	95.4	51	122		
Pb	Lead	76.4	32.7	1	50.0	87.4	24	153		
Sb	Antimony	8.28	1.07	1	50.0	14.4	0	109		
Tl	Thallium	99.1	3.03	1	100	96.1	48	115		
V	Vanadium	108	51.4	0.5	50.0	113	57	132		
Zn	Zinc	121	69.3	1	50.0	103	31	134		

SAMPLE TYPE: Spike-Sample/Matrix
INSTRUMENT: TJA Enviro 36
UNITS: mg/kg
METHOD:

LAB ID: MS12067-07A
PREPARED:
ANALYZED: 12/13/95

INSTR RUN: ICP\951213235900/6/5
BATCH ID: IFS121195-A
DILUTION: 1.0

ANALYTE		RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
Ag	Silver	4.52	ND	0.1	10	45	2	118		
Ba	Barium	126	40.3	1	100	85.7	45	139		
Be	Beryllium	4.75	0.365	0.1	5.0	88	67	113		
Cd	Cadmium	8.64	ND	0.2	10	86	57	112		
Co	Cobalt	59.2	9.79	0.2	50	99	63	115		
Cr	Chromium	89.6	44.5	0.5	50	90	49	125		
Cu	Copper	62.9	16.4	0.5	50	93	52	134		
Mo	Molybdenum	39.3	ND	0.2	50	79	37	120		
Ni	Nickel	112	59.2	1	50	110	51	122		
Pb	Lead	48.3	6.28	1	50	84	24	153		
Sb	Antimony	28.1	ND	1	50	56	0	109		
Tl	Thallium	84.5	ND	1	100	84.5	48	115		
V	Vanadium	83.0	33.3	0.5	50	99	57	132		
Zn	Zinc	80.7	37.2	1	50	87	31	134		

SAMPLE TYPE: Spike-Sample/Matrix
INSTRUMENT: TJA Enviro 36
UNITS: mg/kg
METHOD:

LAB ID: MD12067-07A
PREPARED:
ANALYZED: 12/13/95

INSTR RUN: ICP\951213235900/7/5
BATCH ID: IFS121195-A
DILUTION: 1.0

ANALYTE		RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
Ag	Silver	4.87	ND	0.1	10	49	2	118		

ANALYSIS: Metals Scan by ICP

MATRIX: Soil/Bulk

MATRIX SPIKE SAMPLES

SAMPLE TYPE: Spike-Sample/Matrix
INSTRUMENT: TJA Enviro 36
UNITS: mg/kg
METHOD:

LAB ID: MD12067-07A
PREPARED:
ANALYZED: 12/13/95

INSTR RUN: ICP\951213235900/7/5
BATCH ID: IFS121195-A
DILUTION: 1.0

ANALYTE		RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	HIGH	RPD (%)	RPD LIMIT (%
Ba	Barium	121	40.3	1	100	80.7	45	139		
Be	Beryllium	5.02	0.365	0.1	5.0	93	67	113		
Cd	Cadmium	9.17	ND	0.2	10	92	57	112		
Co	Cobalt	52.8	9.79	0.2	50	86	63	115		
Cr	Chromium	95.9	44.5	0.5	50	100	49	125		
Cu	Copper	64.7	16.4	0.5	50	97	52	134		
Mo	Molybdenum	41.8	ND	0.2	50	84	37	120		
Ni	Nickel	104	59.2	1	50	90	51	122		
Pb	Lead	49.3	6.28	1	50	86	24	153		
Sb	Antimony	28.5	ND	1	50	57	0	109		
Tl	Thallium	87.8	ND	1	100	87.8	48	115		
V	Vanadium	85.9	33.3	0.5	50	110	57	132		
Zn	Zinc	83.3	37.2	1	50	92	31	134		

SAMPLE TYPE: Spike-Sample/Matrix
INSTRUMENT: TJA Enviro 36
UNITS: mg/kg
METHOD:

LAB ID: MS12067-10A
PREPARED:
ANALYZED: 12/13/95

INSTR RUN: ICP\951213235900/10/9
BATCH ID: IFS121195-A
DILUTION: 1.0

ANALYTE		RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	HIGH	RPD (%)	RPD LIMIT (%)
Ag	Silver	5.05	ND	0.1	10	51	2	118		
Ba	Barium	209	104	1	100	105	45	139		
Be	Beryllium	5.03	0.282	0.1	5.0	95	67	113		
Cd	Cadmium	9.51	ND	0.2	10	95	57	112		
Co	Cobalt	64.6	18.4	0.2	50	92	63	115		
Cr	Chromium	116	76.7	0.5	50	79	49	125		
Cu	Copper	149	110	0.5	50	78	52	134		
Mo	Molybdenum	44.3	ND	0.2	50	89	37	120		
Ni	Nickel	204	159	1	50	90	51	122		
Pb	Lead	151	98.5	1	50	110	24	153		
Sb	Antimony	15.4	ND	1	50	31	0	109		
Tl	Thallium	96.4	5.40	1	100	91.0	48	115		
V	Vanadium	106	57.2	0.5	50	98	57	132		
Zn	Zinc	265	230	1	50	70	31	134		

SAMPLE TYPE: Spike-Sample/Matrix
INSTRUMENT: TJA Enviro 36
UNITS: mg/kg
METHOD:

LAB ID: MD12067-10A
PREPARED:
ANALYZED: 12/13/95

INSTR RUN: ICP\951213235900/11/9
BATCH ID: IFS121195-A
DILUTION: 1.0

ANALYTE		RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	HIGH	RPD (%)	RPD LIMIT (%
Ag	Silver	4.96	ND	0.1	10	50	2	118		
Ba	Barium	216	104	1	100	112	45	139		
Be	Beryllium	5.01	0.282	0.1	5.0	95	67	113		
Cd	Cadmium	9.30	ND	0.2	10	93	57	112		
Co	Cobalt	64.7	18.4	0.2	50	93	63	115		
Cr	Chromium	123	76.7	0.5	50	93	49	125		
Cu	Copper	167	110	0.5	50	110	52	134		
Mo	Molybdenum	43.5	ND	0.2	50	87	37	120		
Ni	Nickel	192	159	1	50	66	51	122		
Pb	Lead	140	98.5	1	50	83	24	153		
Sb	Antimony	15.3	ND	1	50	31	0	109		
Tl	Thallium	99.5	5.40	1	100	94.1	48	115		
V	Vanadium	114	57.2	0.5	50	110	57	132		
Zn	Zinc	268	230	1	50	76	31	134		

SAMPLE TYPE: Spike-Sample/Matrix
INSTRUMENT: TJA Enviro 36
UNITS: mg/kg
METHOD:

LAB ID: MS12067-29A
PREPARED:
ANALYZED: 12/14/95

INSTR RUN: ICP\951214200100/10/9
BATCH ID: IFS121295-F
DILUTION: 1.000000

ANALYTE		RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	HIGH	RPD (%)	RPD LIMIT (%
Ag	Silver	6.42	ND	0.1	10.0	64.2	2	118		
Ba	Barium	289	148	1	100	141 !	45	139		

ANALYSIS: Metals Scan by ICP

MATRIX: Soil/Bulk

MATRIX SPIKE SAMPLES

SAMPLE TYPE: Spike-Sample/Matrix
INSTRUMENT: TJA Enviro 36
UNITS: mg/kg
METHOD:

LAB ID: MS12067-29A
PREPARED:
ANALYZED: 12/14/95

INSTR RUN: ICP\951214200100/10/9
BATCH ID: IFS121295-F
DILUTION: 1.000000

ANALYTE		RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
Be	Beryllium	5.52	0.396	0.1	5.00	102	67	113		
Cd	Cadmium	9.18	ND	0.2	10.0	91.8	57	112		
Co	Cobalt	60.2	10.6	0.2	50.0	99.2	63	115		
Cr	Chromium	129	40.5	0.5	50.0	177 !	49	125		
Cu	Copper	67.8	15.1	0.5	50.0	105	52	134		
Mo	Molybdenum	44.4	ND	0.2	50.0	88.8	37	120		
Ni	Nickel	128	84.2	1	50.0	87.6	51	122		
Pb	Lead	54.4	5.86	1	50.0	97.1	24	153		
Sb	Antimony	26.6	ND	1	50.0	53.2	0	109		
Tl	Thallium	97.6	ND	1	100	97.6	48	115		
V	Vanadium	93.9	31.3	0.5	50.0	125	57	132		
Zn	Zinc	76.1	26.8	1	50.0	98.6	31	134		

SAMPLE TYPE: Spike-Sample/Matrix
INSTRUMENT: TJA Enviro 36
UNITS: mg/kg
METHOD:

LAB ID: MD12067-29A
PREPARED:
ANALYZED: 12/14/95

INSTR RUN: ICP\951214200100/11/9
BATCH ID: IFS121295-F
DILUTION: 1.000000

ANALYTE		RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
Ag	Silver	6.48	ND	0.1	10.0	64.8	2	118		
Ba	Barium	250	148	1	100	102	45	139		
Be	Beryllium	5.34	0.396	0.1	5.00	98.9	67	113		
Cd	Cadmium	9.51	ND	0.2	10.0	95.1	57	112		
Co	Cobalt	60.1	10.6	0.2	50.0	99.0	63	115		
Cr	Chromium	90.4	40.5	0.5	50.0	99.8	49	125		
Cu	Copper	64.2	15.1	0.5	50.0	98.2	52	134		
Mo	Molybdenum	43.9	ND	0.2	50.0	87.8	37	120		
Ni	Nickel	127	84.2	1	50.0	85.6	51	122		
Pb	Lead	52.9	5.86	1	50.0	94.1	24	153		
Sb	Antimony	25.4	ND	1	50.0	50.8	0	109		
Tl	Thallium	96.7	ND	1	100	96.7	48	115		
V	Vanadium	85.9	31.3	0.5	50.0	109	57	132		
Zn	Zinc	74.8	26.8	1	50.0	96.0	31	134		

MATRIX SPIKE DUPLICATES

SAMPLE TYPE: Spiked Sample Duplicate
INSTRUMENT: TJA Enviro 36
UNITS: mg/kg
METHOD:

LAB ID: MR12067-26A
PREPARED:
ANALYZED: 12/13/95

INSTR RUN: ICP\951213235800/8/6
BATCH ID: IFS121295-C
DILUTION: 1.000000

ANALYTE		RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
Ag	Silver	5.30	5.34	0.1					0.752	25
Ba	Barium	328	609	1					60.0 !	25
Be	Beryllium	5.21	5.23	0.1					0.383	25
Cd	Cadmium	9.05	9.21	0.2					1.75	25
Co	Cobalt	59.7	58.7	0.2					1.69	25
Cr	Chromium	93.1	97.2	0.5					4.31	25
Cu	Copper	92.1	89.6	0.5					2.75	25
Mo	Molybdenum	36.1	36.5	0.2					1.10	25
Ni	Nickel	105	104	1					0.957	25
Pb	Lead	76.4	84.7	1					10.3	25
Sb	Antimony	8.28	8.22	1					0.727	30
Tl	Thallium	99.1	101	1					1.90	25
V	Vanadium	108	110	0.5					1.83	25
Zn	Zinc	121	111	1					8.62	25

ANALYSIS: Metals Scan by ICP

MATRIX: Soil/Bulk

MATRIX SPIKE DUPLICATES

SAMPLE TYPE: Spiked Sample Duplicate
INSTRUMENT: TJA Enviro 36
UNITS: mg/kg
METHOD:

LAB ID: MR12067-07A
PREPARED:
ANALYZED: 12/13/95

INSTR RUN: ICP\951213235900/8/6
BATCH ID: IFS121195-A
DILUTION: 1.0

ANALYTE		RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
Ag	Silver	4.87	4.52	0.1					7.45	25
Ba	Barium	121	126	1					4.05	25
Be	Beryllium	5.02	4.75	0.1					5.53	25
Cd	Cadmium	9.17	8.64	0.2					5.95	25
Co	Cobalt	52.8	59.2	0.2					11.4	25
Cr	Chromium	95.9	89.6	0.5					6.79	25
Cu	Copper	64.7	62.9	0.5					2.82	25
Mo	Molybdenum	41.8	39.3	0.2					6.17	25
Ni	Nickel	104	112	1					7.41	25
Pb	Lead	49.3	48.3	1					2.05	25
Sb	Antimony	28.5	28.1	1					1.41	30
Tl	Thallium	87.8	84.5	1					3.83	25
V	Vanadium	85.9	83.0	0.5					3.43	25
Zn	Zinc	83.3	80.7	1					3.17	25

SAMPLE TYPE: Spiked Sample Duplicate
INSTRUMENT: TJA Enviro 36
UNITS: mg/kg
METHOD:

LAB ID: MR12067-10A
PREPARED:
ANALYZED: 12/13/95

INSTR RUN: ICP\951213235900/12/10
BATCH ID: IFS121195-A
DILUTION: 1.0

ANALYTE		RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
Ag	Silver	4.96	5.05	0.1					1.80	25
Ba	Barium	216	209	1					3.29	25
Be	Beryllium	5.01	5.03	0.1					0.398	25
Cd	Cadmium	9.30	9.51	0.2					2.23	25
Co	Cobalt	64.7	64.6	0.2					0.155	25
Cr	Chromium	123	116	0.5					5.86	25
Cu	Copper	167	149	0.5					11.4	25
Mo	Molybdenum	43.5	44.3	0.2					1.82	25
Ni	Nickel	192	204	1					6.06	25
Pb	Lead	140	151	1					7.56	25
Sb	Antimony	15.3	15.4	1					0.651	30
Tl	Thallium	99.5	96.4	1					3.16	25
V	Vanadium	114	106	0.5					7.27	25
Zn	Zinc	268	265	1					1.13	25

SAMPLE TYPE: Spiked Sample Duplicate
INSTRUMENT: TJA Enviro 36
UNITS: mg/kg
METHOD:

LAB ID: MR12067-29A
PREPARED:
ANALYZED: 12/14/95

INSTR RUN: ICP\951214200100/12/10
BATCH ID: IFS121295-F
DILUTION: 1.000000

ANALYTE		RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
Ag	Silver	6.48	6.42	0.1					0.930	25
Ba	Barium	250	289	1					14.5	25
Be	Beryllium	5.34	5.52	0.1					3.31	25
Cd	Cadmium	9.51	9.18	0.2					3.53	25
Co	Cobalt	60.1	60.2	0.2					0.166	25
Cr	Chromium	90.4	129	0.5					35.2 !	25
Cu	Copper	64.2	67.8	0.5					5.45	25
Mo	Molybdenum	43.9	44.4	0.2					1.13	25
Ni	Nickel	127	128	1					0.784	25
Pb	Lead	52.9	54.4	1					2.80	25
Sb	Antimony	25.4	26.6	1					4.62	30
Tl	Thallium	96.7	97.6	1					0.926	25
V	Vanadium	85.9	93.9	0.5					8.90	25
Zn	Zinc	74.8	76.1	1					1.72	25

ANALYSIS: Selenium

MATRIX: Soil/Bulk

METHOD BLANK SAMPLES

SAMPLE TYPE: Blank-Method/Media blank
INSTRUMENT: TJA 4000, GFAA
UNITS: mg/kg
METHOD:
LAB ID: GFS_BLNK_B
PREPARED:
ANALYZED: 12/15/95
INSTR RUN: 4000\951215134100/1/
BATCH ID: GFS121195-B
DILUTION: 1.000000

ANALYTE	RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
Selenium in soil EPA 7740	ND		1						

SAMPLE TYPE: Blank-Method/Media blank
INSTRUMENT: TJA 4000, GFAA
UNITS: mg/kg
METHOD:
LAB ID: GFS_BLNK_D
PREPARED:
ANALYZED: 12/15/95
INSTR RUN: 4000\951215170400/1/
BATCH ID: GFS121295-D
DILUTION: 1.000000

ANALYTE	RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
Selenium in soil EPA 7740	ND		1						

SAMPLE TYPE: Blank-Method/Media blank
INSTRUMENT: TJA 4000, GFAA
UNITS: mg/kg
METHOD:
LAB ID: GFS_BLNK_G
PREPARED:
ANALYZED: 12/15/95
INSTR RUN: 4000\951215183700/1/
BATCH ID: GFS121295-G
DILUTION: 1.000000

ANALYTE	RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
Selenium in soil EPA 7740	ND		1						

METHOD SPIKE SAMPLES

SAMPLE TYPE: Spike-Method/Media blank
INSTRUMENT: TJA 4000, GFAA
UNITS: mg/kg
METHOD:
LAB ID: GFS_MS_B
PREPARED:
ANALYZED: 12/15/95
INSTR RUN: 4000\951215134100/2/1
BATCH ID: GFS121195-B
DILUTION: 1.000000

ANALYTE	RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
Selenium in soil EPA 7740	18.1	ND	1	20.0	90.5	71	115		

SAMPLE TYPE: Spike-Method/Media blank
INSTRUMENT: TJA 4000, GFAA
UNITS: mg/kg
METHOD:
LAB ID: GFS_MD_B
PREPARED:
ANALYZED: 12/15/95
INSTR RUN: 4000\951215134100/3/1
BATCH ID: GFS121195-B
DILUTION: 1.000000

ANALYTE	RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
Selenium in soil EPA 7740	19.4	ND	1	20.0	97.0	71	115		

SAMPLE TYPE: Spike-Method/Media blank
INSTRUMENT: TJA 4000, GFAA
UNITS: mg/kg
METHOD:
LAB ID: GFS_MS_D
PREPARED:
ANALYZED: 12/15/95
INSTR RUN: 4000\951215170400/2/1
BATCH ID: GFS121295-D
DILUTION: 1.000000

ANALYTE	RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
Selenium in soil EPA 7740	18.8	ND	1	20.0	94.0	71	115		

SAMPLE TYPE: Spike-Method/Media blank
INSTRUMENT: TJA 4000, GFAA
UNITS: mg/kg
METHOD:
LAB ID: GFS_MD_D
PREPARED:
ANALYZED: 12/15/95
INSTR RUN: 4000\951215170400/3/1
BATCH ID: GFS121295-D
DILUTION: 1.000000

ANALYTE	RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
Selenium in soil EPA 7740	18.4	ND	1	20.0	92.0	71	115		

ANALYSIS: Selenium

MATRIX: Soil/Bulk

METHOD SPIKE SAMPLES

SAMPLE TYPE: Spike-Method/Media blank | LAB ID: GFS_MS_G | INSTR RUN: 4000\951215183700/2/1
INSTRUMENT: TJA 4000, GFAA | PREPARED: | BATCH ID: GFS121295-G
UNITS: mg/kg | ANALYZED: 12/15/95 | DILUTION: 1.000000
METHOD:

ANALYTE	RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%
Selenium in soil EPA 7740	17.1	ND	1	20.0	85.5	71	115		

SAMPLE TYPE: Spike-Method/Media blank | LAB ID: GFS_MD_G | INSTR RUN: 4000\951215183700/3/1
INSTRUMENT: TJA 4000, GFAA | PREPARED: | BATCH ID: GFS121295-G
UNITS: mg/kg | ANALYZED: 12/15/95 | DILUTION: 1.000000
METHOD:

ANALYTE	RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%
Selenium in soil EPA 7740	18.1	ND	1	20.0	90.5	71	115		

METHOD SPIKE DUPLICATES

SAMPLE TYPE: Method Spike Sample Duplicate | LAB ID: GFS_MR_B | INSTR RUN: 4000\951215134100/4/2
INSTRUMENT: TJA 4000, GFAA | PREPARED: | BATCH ID: GFS121195-B
UNITS: mg/kg | ANALYZED: 12/15/95 | DILUTION: 1.000000
METHOD:

ANALYTE	RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%
Selenium in soil EPA 7740	19.4	18.1	1					6.93	11

SAMPLE TYPE: Method Spike Sample Duplicate | LAB ID: GFS_MR_D | INSTR RUN: 4000\951215170400/4/2
INSTRUMENT: TJA 4000, GFAA | PREPARED: | BATCH ID: GFS121295-D
UNITS: mg/kg | ANALYZED: 12/15/95 | DILUTION: 1.000000
METHOD:

ANALYTE	RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
Selenium in soil EPA 7740	18.4	18.8	1					2.15	11

SAMPLE TYPE: Method Spike Sample Duplicate | LAB ID: GFS_MR_G | INSTR RUN: 4000\951215183700/4/2
INSTRUMENT: TJA 4000, GFAA | PREPARED: | BATCH ID: GFS121295-G
UNITS: mg/kg | ANALYZED: 12/15/95 | DILUTION: 1.000000
METHOD:

ANALYTE	RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
Selenium in soil EPA 7740	18.1	17.1	1					5.68	11

MATRIX SPIKE SAMPLES

SAMPLE TYPE: Spike-Sample/Matrix | LAB ID: MS12067-07A | INSTR RUN: 4000\951215134100/6/5
INSTRUMENT: TJA 4000, GFAA | PREPARED: | BATCH ID: GFS121195-B
UNITS: mg/kg | ANALYZED: 12/15/95 | DILUTION: 1.000000
METHOD:

ANALYTE	RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%
Selenium in soil EPA 7740	16.7	ND	1	20.0	83.5	1	156		

SAMPLE TYPE: Spike-Sample/Matrix | LAB ID: MD12067-07A | INSTR RUN: 4000\951215134100/7/5
INSTRUMENT: TJA 4000, GFAA | PREPARED: | BATCH ID: GFS121195-B
UNITS: mg/kg | ANALYZED: 12/15/95 | DILUTION: 1.000000
METHOD:

ANALYTE	RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%
Selenium in soil EPA 7740	16.2	ND	1	20.0	81.0	1	156		

ANALYSIS: Selenium

MATRIX: Soil/Bulk

MATRIX SPIKE SAMPLES

SAMPLE TYPE: Spike-Sample/Matrix
INSTRUMENT: TJA 4000, GFAA
UNITS: mg/kg
METHOD:
LAB ID: MS12067-10A
PREPARED:
ANALYZED: 12/15/95
INSTR RUN: 4000\951215134100/10/9
BATCH ID: GFS121195-B
DILUTION: 1.000000

ANALYTE	RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
Selenium in soil EPA 7740	17.6	1	1	20.0	90	1	156		

SAMPLE TYPE: Spike-Sample/Matrix
INSTRUMENT: TJA 4000, GFAA
UNITS: mg/kg
METHOD:
LAB ID: MD12067-10A
PREPARED:
ANALYZED: 12/15/95
INSTR RUN: 4000\951215134100/11/9
BATCH ID: GFS121195-B
DILUTION: 1.000000

ANALYTE	RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
Selenium in soil EPA 7740	18.6	1	1	20.0	90	1	156		

SAMPLE TYPE: Spike-Sample/Matrix
INSTRUMENT: TJA 4000, GFAA
UNITS: mg/kg
METHOD:
LAB ID: MS12067-20A
PREPARED:
ANALYZED: 12/15/95
INSTR RUN: 4000\951215170400/6/5
BATCH ID: GFS121295-D
DILUTION: 1.000000

ANALYTE	RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
Selenium in soil EPA 7740	18.2	2	1	20.0	80	1	156		

SAMPLE TYPE: Spike-Sample/Matrix
INSTRUMENT: TJA 4000, GFAA
UNITS: mg/kg
METHOD:
LAB ID: MD12067-20A
PREPARED:
ANALYZED: 12/15/95
INSTR RUN: 4000\951215170400/7/5
BATCH ID: GFS121295-D
DILUTION: 1.000000

ANALYTE	RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
Selenium in soil EPA 7740	18.1	2	1	20.0	80	1	156		

SAMPLE TYPE: Spike-Sample/Matrix
INSTRUMENT: TJA 4000, GFAA
UNITS: mg/kg
METHOD:
LAB ID: MS12067-29A
PREPARED:
ANALYZED: 12/15/95
INSTR RUN: 4000\951215183700/6/5
BATCH ID: GFS121295-G
DILUTION: 1.000000

ANALYTE	RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
Selenium in soil EPA 7740	14.9	ND	1	20.0	74.5	1	156		

SAMPLE TYPE: Spike-Sample/Matrix
INSTRUMENT: TJA 4000, GFAA
UNITS: mg/kg
METHOD:
LAB ID: MD12067-29A
PREPARED:
ANALYZED: 12/15/95
INSTR RUN: 4000\951215183700/7/5
BATCH ID: GFS121295-G
DILUTION: 1.000000

ANALYTE	RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
Selenium in soil EPA 7740	16.4	ND	1	20.0	82.0	1	156		

MATRIX SPIKE DUPLICATES

SAMPLE TYPE: Spiked Sample Duplicate
INSTRUMENT: TJA 4000, GFAA
UNITS: mg/kg
METHOD:
LAB ID: MR12067-07A
PREPARED:
ANALYZED: 12/15/95
INSTR RUN: 4000\951215134100/8/6
BATCH ID: GFS121195-B
DILUTION: 1.000000

ANALYTE	RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
Selenium in soil EPA 7740	16.2	16.7	1					3.04	21

ANALYSIS: Selenium

MATRIX: Soil/Bulk

MATRIX SPIKE DUPLICATES

SAMPLE TYPE: Spiked Sample Duplicate
INSTRUMENT: TJA 4000, GFAA
UNITS: mg/kg
METHOD:

LAB ID: MR12067-10A
PREPARED:
ANALYZED: 12/15/95

INSTR RUN: 4000\951215134100/12/1
BATCH ID: GFS121195-B
DILUTION: 1.000000

ANALYTE	RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%
Selenium in soil EPA 7740	18.6	17.6	1					5.52	21

SAMPLE TYPE: Spiked Sample Duplicate
INSTRUMENT: TJA 4000, GFAA
UNITS: mg/kg
METHOD:

LAB ID: MR12067-20A
PREPARED:
ANALYZED: 12/15/95

INSTR RUN: 4000\951215170400/8/6
BATCH ID: GFS121295-D
DILUTION: 1.000000

ANALYTE	RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%
Selenium in soil EPA 7740	18.1	18.2	1					0.551	21

SAMPLE TYPE: Spiked Sample Duplicate
INSTRUMENT: TJA 4000, GFAA
UNITS: mg/kg
METHOD:

LAB ID: MR12067-29A
PREPARED:
ANALYZED: 12/15/95

INSTR RUN: 4000\951215183700/8/6
BATCH ID: GFS121295-G
DILUTION: 1.000000

ANALYTE	RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%
Selenium in soil EPA 7740	16.4	14.9	1					9.58	21

End of Quality Control Report

R 7,5 E

9512067

Chain-of-Custody Record

5678

Date: 12/6/95

Project No.: 2706

Samplers (Signatures):

Date	Time	Sample Number	EPA Method 8010	EPA Method 8020	EPA Method 8240	EPA Method 8270	TPH as gasoline	TPH as diesel	TPH as BTEX	cam 17 metals			-HOLD-								Cooled	Soil (S) or water (W)	Acidified	Number of containers
12/5	845	B11-2 01A								X											Y	S	N	1
12/5	850	B11-5 02A								X														1
12/5	855	B11-8 03A								X														1
12/5	900	B11-12.5 04A								X														1
12/5	905	B11-15.5 05A								X														1
12/5	1000	B12-12 06A								X			X											1
12/5	1020	B12-17 07A								X														1
12/5	1040	B12-20 08A								X														1
12/5	1045	B12-25 09A								X														1
12/5	1250	B10-2 10A								X														1
12/5	1330	B10-6 11A								X														1
12/5	1340	B10-10 12A								X														1

ANALYSES

REMARKS

Additional comments

- Save all samples -

- Hold

Turnaround time: STANDARD

Results to: MIKE KEIM

Total No. of containers: 12

Relinquished by: Mike Keim	Date: 12/6/95	Relinquished by: Michael Schuller	Date: 12-6-95	Relinquished by:	Date:	Method of shipment: LAB Courier	
Signature: MIKE KEIM		Signature:		Signature:		Laboratory comments and Log No.:	
Printed name: GEOMATRIX		Printed name:		Printed name:			
Company:		Company:		Company:			
Received by:	Time: 1600	Received by: Lori L Pruitt	Time: 16:55	Received by:	Time:		
Signature: Michael Schuller		Signature: Lori L Pruitt		Signature:			
Printed name: Michael McMillan		Printed name: AEN		Printed name:			
Company: AEN		Company:		Company:			

Geomatrix Consultants
100 Pine St. 10th Floor
San Francisco, CA 94111
(415) 434-9400

Chain-of-Custody Record

No. 5679

Date: 12/6/95

Page 2 of 3

Project No.: 2906

Samplers (Signatures):

Date	Time	Sample Number	EPA Method 8010	EPA Method 8020	EPA Method 8240	EPA Method 8270	TPH as gasoline	TPH as diesel	TPH as BTEX	CAM 17 METALS	Cooled	Soil (S) or water (W)	Acidified	Number of containers
12/5	1350	B10-13 13A								X	Y	S	N	1
12/5	1355	B10-16 14A								X				1
12/5	1930	B9-2 15A								X				1
12/5	1450	B9-7 16A								X				1
12/5	1530	B9-11.5 17A								X				1
12/5	1540	B9-16.5 18A								X				1
12/6	0820	MW6-2 19A								X				1
12/6	0830	MW6-8 20A								X				1
12/6	0840	MW6-9.5 21A								X				1
12/6	0850	MW6-13 22A								X				1
12/5	1550	B9-19 23A								X				1
12/6	0900	MW6-16 24A								X				1

ANALYSES

REMARKS

Additional comments

Save all samples

Turnaround time: STANDARD

Results to: MIKE KEIM

Total No. of containers: 24

Relinquished by:	Date:	Relinquished by:	Date:	Relinquished by:	Date:	Method of shipment: LAB COURIER	
Signature: MIKE KEIM	12/6/95	Signature:	12-6-95	Signature:		Laboratory comments and Log No.:	
Printed name:		Printed name:		Printed name:			
Company: GEOMATRIX		Company:		Company:			
Received by:	Time:	Received by: Lori Pruitt	Time:	Received by:	Time:		
Signature:	1600	Signature: Lori Pruitt	14:35	Signature:			
Printed name: Michael McMillan		Printed name: MTN		Printed name:			
Company: MEN		Company:		Company:			

Geomatrix Consultants
100 Pine St. 10th Floor
San Francisco, CA 94111
(415) 434-9400

9512067

Chain-of-Custody Record

No. 5680 | Date: 12/6/95 | Page 3 of 3

Project No.: 2906

Samplers (Signatures):

Date	Time	Sample Number	EPA Method 8010	EPA Method 8020	EPA Method 8240	EPA Method 8270	TPH as gasoline	TPH as diesel	TPH as BTEX	CAM 17 METALS	Cooled	Soil (S) or water (W)	Acidified	Number of containers
12/6	1050	MW 7-2 25A								X	Y	S	N	1
12/6	1055	MW 7-7 26A								X				1
12/6	1105	MW 7-10.5 27A								X				1
12/6	1110	MW 7-13.5 28A								X				1
12/6	1115	MW 7-16.5 29A								X				1
12/6	1405	B13-2 30A								X				1
12/6	1420	B13-13 31A								X				1
12/6	1445	B13-17.5 32A								X				1
12/6	1455	B13-22 33A								X				1

ANALYSES

REMARKS

Additional comments

Save all samples

Turnaround time: STANDARD

Results to: MIKE KEIM

Total No. of containers: 33

Relinquished by:	Date:	Relinquished by:	Date:	Relinquished by:	Date:	Method of shipment:
Signature: MIKE KEIM	12/6/95	Signature:	12-6-95	Signature:		LAB COURIER
Printed name:		Printed name:		Printed name:		Laboratory comments and Log No.:
Company: GEOMATRIX		Company:		Company:		
Received by:	Time:	Received by:	Time:	Received by:	Time:	
Signature:	1600	Signature:	14:55	Signature:		
Printed name:		Printed name: MELOY		Printed name:		
Company: AEN		Company:		Company:		

Geomatrix Consultants
100 Pine St. 10th Floor
San Francisco, CA. 94111
(415) 434-9400

American Environmental Network

Certificate of Analysis

DOHS Certification: 1172 AIHA Accreditation: 11134

GEOMATRIX CONSULTANTS
100 PINE ST., SUITE 1000
SAN FRANCISCO, CA 94111

ATTN: MIKE KEIM
CLIENT PROJ. ID: 2906

C.O.C. NUMBER: 5683,5328

REPORT DATE: 12/21/95

DATE(S) SAMPLED: 12/06/95-12/07/95

DATE RECEIVED: 12/07/95

AEN WORK ORDER: 9512086

PROJECT SUMMARY:

On December 7, 1995, this laboratory received 18 soil sample(s).

Client requested sample(s) be analyzed for inorganic parameters. Results of analysis are summarized on the following page(s). Please see quality control report for a summary of QC data pertaining to this project.

Samples will be stored for 30 days after completion of analysis, then disposed of in accordance with State and Federal regulations. Samples may be archived by prior arrangement.

If you have any questions, please contact Client Services at (510) 930-9090.

Larry Klein
Laboratory Director

GEOMATRIX CONSULTANTS

SAMPLE ID: B14-2
AEN LAB NO: 9512086-01
AEN WORK ORDER: 9512086
CLIENT PROJ. ID: 2906

DATE SAMPLED: 12/06/95
DATE RECEIVED: 12/07/95
REPORT DATE: 12/21/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Digestion, Metals by GFAA	EPA 3050	-		Prep Date	12/14/95
#Digestion, Metals AA/ICP	EPA 3050	-		Prep Date	12/14/95
CCR 17 Metals					
Ag Silver	EPA 6010	0.2 *	0.1	mg/kg	12/15/95
As Arsenic	EPA 7060	4.9 *	0.5	mg/kg	12/15/95
Ba Barium	EPA 6010	390 *	1	mg/kg	12/15/95
Be Beryllium	EPA 6010	0.2 *	0.1	mg/kg	12/15/95
Cd Cadmium	EPA 6010	0.5 *	0.2	mg/kg	12/15/95
Co Cobalt	EPA 6010	12 *	0.2	mg/kg	12/15/95
Cr Chromium	EPA 6010	64 *	0.5	mg/kg	12/15/95
Cu Copper	EPA 6010	74 *	0.5	mg/kg	12/15/95
Hg Mercury	EPA 7471	0.33 *	0.06	mg/kg	12/15/95
Mo Molybdenum	EPA 6010	ND	0.2	mg/kg	12/15/95
Ni Nickel	EPA 6010	68 *	1	mg/kg	12/15/95
Pb Lead	EPA 6010	170 *	1	mg/kg	12/15/95
Sb Antimony	EPA 6010	ND	1	mg/kg	12/15/95
Se Selenium	EPA 7740	2 *	1	mg/kg	12/15/95
Tl Thallium	EPA 6010	ND	1	mg/kg	12/15/95
V Vanadium	EPA 6010	43 *	0.5	mg/kg	12/15/95
Zn Zinc	EPA 6010	230 *	1	mg/kg	12/15/95

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: B14-7
AEN LAB NO: 9512086-02
AEN WORK ORDER: 9512086
CLIENT PROJ. ID: 2906

DATE SAMPLED: 12/06/95
DATE RECEIVED: 12/07/95
REPORT DATE: 12/21/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Digestion, Metals by GFAA	EPA 3050	-		Prep Date	12/14/95
#Digestion, Metals AA/ICP	EPA 3050	-		Prep Date	12/14/95
CCR 17 Metals					
Ag Silver	EPA 6010	ND	0.1	mg/kg	12/15/95
As Arsenic	EPA 7060	6.2 *	0.5	mg/kg	12/15/95
Ba Barium	EPA 6010	140 *	1	mg/kg	12/15/95
Be Beryllium	EPA 6010	0.5 *	0.1	mg/kg	12/15/95
Cd Cadmium	EPA 6010	ND	0.2	mg/kg	12/15/95
Co Cobalt	EPA 6010	8.1 *	0.2	mg/kg	12/15/95
Cr Chromium	EPA 6010	33 *	0.5	mg/kg	12/15/95
Cu Copper	EPA 6010	29 *	0.5	mg/kg	12/15/95
Hg Mercury	EPA 7471	ND	0.06	mg/kg	12/15/95
Mo Molybdenum	EPA 6010	ND	0.2	mg/kg	12/15/95
Ni Nickel	EPA 6010	34 *	1	mg/kg	12/15/95
Pb Lead	EPA 6010	20 *	1	mg/kg	12/15/95
Sb Antimony	EPA 6010	ND	1	mg/kg	12/15/95
Se Selenium	EPA 7740	2 *	1	mg/kg	12/15/95
Tl Thallium	EPA 6010	ND	1	mg/kg	12/15/95
V Vanadium	EPA 6010	37 *	0.5	mg/kg	12/15/95
Zn Zinc	EPA 6010	60 *	1	mg/kg	12/15/95

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: B14-10
AEN LAB NO: 9512086-03
AEN WORK ORDER: 9512086
CLIENT PROJ. ID: 2906

DATE SAMPLED: 12/06/95
DATE RECEIVED: 12/07/95
REPORT DATE: 12/21/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Digestion, Metals by GFAA	EPA 3050	-		Prep Date	12/14/95
#Digestion, Metals AA/ICP	EPA 3050	-		Prep Date	12/14/95
CCR 17 Metals					
Ag Silver	EPA 6010	0.1 *	0.1	mg/kg	12/15/95
As Arsenic	EPA 7060	2.6 *	0.5	mg/kg	12/15/95
Ba Barium	EPA 6010	210 *	1	mg/kg	12/15/95
Be Beryllium	EPA 6010	0.4 *	0.1	mg/kg	12/15/95
Cd Cadmium	EPA 6010	0.1 *	0.2	mg/kg	12/15/95
Co Cobalt	EPA 6010	9.3 *	0.2	mg/kg	12/15/95
Cr Chromium	EPA 6010	35 *	0.5	mg/kg	12/15/95
Cu Copper	EPA 6010	25 *	0.5	mg/kg	12/15/95
Hg Mercury	EPA 7471	ND	0.06	mg/kg	12/15/95
Mo Molybdenum	EPA 6010	ND	0.2	mg/kg	12/15/95
Ni Nickel	EPA 6010	49 *	1	mg/kg	12/15/95
Pb Lead	EPA 6010	61 *	1	mg/kg	12/15/95
Sb Antimony	EPA 6010	ND	1	mg/kg	12/15/95
Se Selenium	EPA 7740	ND	1	mg/kg	12/15/95
Tl Thallium	EPA 6010	ND	1	mg/kg	12/15/95
V Vanadium	EPA 6010	30 *	0.5	mg/kg	12/15/95
Zn Zinc	EPA 6010	87 *	1	mg/kg	12/15/95

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: B14-13
AEN LAB NO: 9512086-04
AEN WORK ORDER: 9512086
CLIENT PROJ. ID: 2906

DATE SAMPLED: 12/06/95
DATE RECEIVED: 12/07/95
REPORT DATE: 12/21/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Digestion, Metals by GFAA	EPA 3050	-		Prep Date	12/14/95
#Digestion, Metals AA/ICP	EPA 3050	-		Prep Date	12/14/95
CCR 17 Metals					
Ag Silver	EPA 6010	ND	0.1	mg/kg	12/15/95
As Arsenic	EPA 7060	ND	0.5	mg/kg	12/15/95
Ba Barium	EPA 6010	98 *	1	mg/kg	12/15/95
Be Beryllium	EPA 6010	0.3 *	0.1	mg/kg	12/15/95
Cd Cadmium	EPA 6010	ND	0.2	mg/kg	12/15/95
Co Cobalt	EPA 6010	5.4 *	0.2	mg/kg	12/15/95
Cr Chromium	EPA 6010	44 *	0.5	mg/kg	12/15/95
Cu Copper	EPA 6010	15 *	0.5	mg/kg	12/15/95
Hg Mercury	EPA 7471	ND	0.06	mg/kg	12/15/95
Mo Molybdenum	EPA 6010	ND	0.2	mg/kg	12/15/95
Ni Nickel	EPA 6010	31 *	1	mg/kg	12/15/95
Pb Lead	EPA 6010	6 *	1	mg/kg	12/15/95
Sb Antimony	EPA 6010	ND	1	mg/kg	12/15/95
Se Selenium	EPA 7740	ND	1	mg/kg	12/15/95
Tl Thallium	EPA 6010	ND	1	mg/kg	12/15/95
V Vanadium	EPA 6010	30 *	0.5	mg/kg	12/15/95
Zn Zinc	EPA 6010	23 *	1	mg/kg	12/15/95

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: B14-16
AEN LAB NO: 9512086-05
AEN WORK ORDER: 9512086
CLIENT PROJ. ID: 2906

DATE SAMPLED: 12/06/95
DATE RECEIVED: 12/07/95
REPORT DATE: 12/21/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Digestion, Metals by GFAA	EPA 3050	-		Prep Date	12/14/95
#Digestion, Metals AA/ICP	EPA 3050	-		Prep Date	12/14/95
CCR 17 Metals					
Ag Silver	EPA 6010	ND	0.1	mg/kg	12/15/95
As Arsenic	EPA 7060	3.2 *	0.5	mg/kg	12/15/95
Ba Barium	EPA 6010	180 *	1	mg/kg	12/15/95
Be Beryllium	EPA 6010	0.3 *	0.1	mg/kg	12/15/95
Cd Cadmium	EPA 6010	ND	0.2	mg/kg	12/15/95
Co Cobalt	EPA 6010	11 *	0.2	mg/kg	12/15/95
Cr Chromium	EPA 6010	55 *	0.5	mg/kg	12/15/95
Cu Copper	EPA 6010	27 *	0.5	mg/kg	12/15/95
Hg Mercury	EPA 7471	0.06 *	0.06	mg/kg	12/15/95
Mo Molybdenum	EPA 6010	ND	0.2	mg/kg	12/15/95
Ni Nickel	EPA 6010	93 *	1	mg/kg	12/15/95
Pb Lead	EPA 6010	6 *	1	mg/kg	12/15/95
Sb Antimony	EPA 6010	ND	1	mg/kg	12/15/95
Se Selenium	EPA 7740	ND	1	mg/kg	12/15/95
Tl Thallium	EPA 6010	ND	1	mg/kg	12/15/95
V Vanadium	EPA 6010	39 *	0.5	mg/kg	12/15/95
Zn Zinc	EPA 6010	41 *	1	mg/kg	12/15/95

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: MW8-3
AEN LAB NO: 9512086-06
AEN WORK ORDER: 9512086
CLIENT PROJ. ID: 2906

DATE SAMPLED: 12/07/95
DATE RECEIVED: 12/07/95
REPORT DATE: 12/21/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Digestion, Metals by GFAA	EPA 3050	-		Prep Date	12/14/95
#Digestion, Metals AA/ICP	EPA 3050	-		Prep Date	12/14/95
CCR 17 Metals					
Ag Silver	EPA 6010	ND	0.1	mg/kg	12/15/95
As Arsenic	EPA 7060	2.6 *	0.5	mg/kg	12/15/95
Ba Barium	EPA 6010	200 *	1	mg/kg	12/15/95
Be Beryllium	EPA 6010	0.3 *	0.1	mg/kg	12/15/95
Cd Cadmium	EPA 6010	ND	0.2	mg/kg	12/15/95
Co Cobalt	EPA 6010	9.2 *	0.2	mg/kg	12/15/95
Cr Chromium	EPA 6010	39 *	0.5	mg/kg	12/15/95
Cu Copper	EPA 6010	23 *	0.5	mg/kg	12/15/95
Hg Mercury	EPA 7471	0.23 *	0.06	mg/kg	12/15/95
Mo Molybdenum	EPA 6010	ND	0.2	mg/kg	12/15/95
Ni Nickel	EPA 6010	36 *	1	mg/kg	12/15/95
Pb Lead	EPA 6010	220 *	1	mg/kg	12/15/95
Sb Antimony	EPA 6010	ND	1	mg/kg	12/15/95
Se Selenium	EPA 7740	ND	1	mg/kg	12/15/95
Tl Thallium	EPA 6010	ND	1	mg/kg	12/15/95
V Vanadium	EPA 6010	39 *	0.5	mg/kg	12/15/95
Zn Zinc	EPA 6010	98 *	1	mg/kg	12/15/95

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: MW8-8.5
AEN LAB NO: 9512086-07
AEN WORK ORDER: 9512086
CLIENT PROJ. ID: 2906

DATE SAMPLED: 12/07/95
DATE RECEIVED: 12/07/95
REPORT DATE: 12/21/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Digestion, Metals by GFAA	EPA 3050	-		Prep Date	12/14/95
#Digestion, Metals AA/ICP	EPA 3050	-		Prep Date	12/14/95
CCR 17 Metals					
Ag Silver	EPA 6010	ND	0.1	mg/kg	12/15/95
As Arsenic	EPA 7060	1.8 *	0.5	mg/kg	12/15/95
Ba Barium	EPA 6010	140 *	1	mg/kg	12/15/95
Be Beryllium	EPA 6010	0.3 *	0.1	mg/kg	12/15/95
Cd Cadmium	EPA 6010	ND	0.2	mg/kg	12/15/95
Co Cobalt	EPA 6010	9.0 *	0.2	mg/kg	12/15/95
Cr Chromium	EPA 6010	32 *	0.5	mg/kg	12/15/95
Cu Copper	EPA 6010	17 *	0.5	mg/kg	12/15/95
Hg Mercury	EPA 7471	0.11 *	0.06	mg/kg	12/15/95
Mo Molybdenum	EPA 6010	ND	0.2	mg/kg	12/15/95
Ni Nickel	EPA 6010	30 *	1	mg/kg	12/15/95
Pb Lead	EPA 6010	48 *	1	mg/kg	12/15/95
Sb Antimony	EPA 6010	ND	1	mg/kg	12/15/95
Se Selenium	EPA 7740	ND	1	mg/kg	12/15/95
Tl Thallium	EPA 6010	ND	1	mg/kg	12/15/95
V Vanadium	EPA 6010	29 *	0.5	mg/kg	12/15/95
Zn Zinc	EPA 6010	56 *	1	mg/kg	12/15/95

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: MW8-12.5
AEN LAB NO: 9512086-08
AEN WORK ORDER: 9512086
CLIENT PROJ. ID: 2906

DATE SAMPLED: 12/07/95
DATE RECEIVED: 12/07/95
REPORT DATE: 12/21/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Digestion, Metals by GFAA	EPA 3050	-		Prep Date	12/14/95
#Digestion, Metals AA/ICP	EPA 3050	-		Prep Date	12/14/95
CCR 17 Metals					
Ag Silver	EPA 6010	ND	0.1	mg/kg	12/15/95
As Arsenic	EPA 7060	1.1 *	0.5	mg/kg	12/15/95
Ba Barium	EPA 6010	86 *	1	mg/kg	12/15/95
Be Beryllium	EPA 6010	0.1 *	0.1	mg/kg	12/15/95
Cd Cadmium	EPA 6010	0.6 *	0.2	mg/kg	12/15/95
Co Cobalt	EPA 6010	3.8 *	0.2	mg/kg	12/15/95
Cr Chromium	EPA 6010	23 *	0.5	mg/kg	12/15/95
Cu Copper	EPA 6010	14 *	0.5	mg/kg	12/15/95
Hg Mercury	EPA 7471	ND	0.06	mg/kg	12/15/95
Mo Molybdenum	EPA 6010	ND	0.2	mg/kg	12/15/95
Ni Nickel	EPA 6010	28 *	1	mg/kg	12/15/95
Pb Lead	EPA 6010	7 *	1	mg/kg	12/15/95
Sb Antimony	EPA 6010	ND	1	mg/kg	12/15/95
Se Selenium	EPA 7740	1 *	1	mg/kg	12/15/95
Tl Thallium	EPA 6010	ND	1	mg/kg	12/15/95
V Vanadium	EPA 6010	15 *	0.5	mg/kg	12/15/95
Zn Zinc	EPA 6010	53 *	1	mg/kg	12/15/95

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: MW8-15.5
AEN LAB NO: 9512086-09
AEN WORK ORDER: 9512086
CLIENT PROJ. ID: 2906

DATE SAMPLED: 12/07/95
DATE RECEIVED: 12/07/95
REPORT DATE: 12/21/95

ANALYTE	METHOD/ CAS#	RESULT		REPORTING LIMIT	UNITS	DATE ANALYZED
#Digestion, Metals by GFAA	EPA 3050	-			Prep Date	12/14/95
#Digestion, Metals AA/ICP	EPA 3050	-			Prep Date	12/14/95
CCR 17 Metals						
Ag Silver	EPA 6010	ND		0.1	mg/kg	12/15/95
As Arsenic	EPA 7060	ND		0.5	mg/kg	12/15/95
Ba Barium	EPA 6010	120	*	1	mg/kg	12/15/95
Be Beryllium	EPA 6010	0.3	*	0.1	mg/kg	12/15/95
Cd Cadmium	EPA 6010	ND		0.2	mg/kg	12/15/95
Co Cobalt	EPA 6010	7.2	*	0.2	mg/kg	12/15/95
Cr Chromium	EPA 6010	40	*	0.5	mg/kg	12/15/95
Cu Copper	EPA 6010	30	*	0.5	mg/kg	12/15/95
Hg Mercury	EPA 7471	ND		0.06	mg/kg	12/15/95
Mo Molybdenum	EPA 6010	ND		0.2	mg/kg	12/15/95
Ni Nickel	EPA 6010	55	*	1	mg/kg	12/15/95
Pb Lead	EPA 6010	5	*	1	mg/kg	12/15/95
Sb Antimony	EPA 6010	ND		1	mg/kg	12/15/95
Se Selenium	EPA 7740	ND		1	mg/kg	12/15/95
Tl Thallium	EPA 6010	ND		1	mg/kg	12/15/95
V Vanadium	EPA 6010	23	*	0.5	mg/kg	12/15/95
Zn Zinc	EPA 6010	35	*	1	mg/kg	12/15/95

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: MW5-2
AEN LAB NO: 9512086-10
AEN WORK ORDER: 9512086
CLIENT PROJ. ID: 2906

DATE SAMPLED: 12/07/95
DATE RECEIVED: 12/07/95
REPORT DATE: 12/21/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Digestion, Metals by GFAA	EPA 3050	-		Prep Date	12/14/95
#Digestion, Metals AA/ICP	EPA 3050	-		Prep Date	12/14/95
CCR 17 Metals					
Ag Silver	EPA 6010	ND	0.1	mg/kg	12/15/95
As Arsenic	EPA 7060	3.0 *	0.5	mg/kg	12/15/95
Ba Barium	EPA 6010	190 *	1	mg/kg	12/15/95
Be Beryllium	EPA 6010	0.5 *	0.1	mg/kg	12/15/95
Cd Cadmium	EPA 6010	ND	0.2	mg/kg	12/15/95
Co Cobalt	EPA 6010	9.8 *	0.2	mg/kg	12/15/95
Cr Chromium	EPA 6010	42 *	0.5	mg/kg	12/15/95
Cu Copper	EPA 6010	27 *	0.5	mg/kg	12/15/95
Hg Mercury	EPA 7471	ND	0.06	mg/kg	12/15/95
Mo Molybdenum	EPA 6010	ND	0.2	mg/kg	12/15/95
Ni Nickel	EPA 6010	53 *	1	mg/kg	12/15/95
Pb Lead	EPA 6010	21 *	1	mg/kg	12/15/95
Sb Antimony	EPA 6010	ND	1	mg/kg	12/15/95
Se Selenium	EPA 7740	ND	1	mg/kg	12/15/95
Tl Thallium	EPA 6010	ND	1	mg/kg	12/15/95
V Vanadium	EPA 6010	31 *	0.5	mg/kg	12/15/95
Zn Zinc	EPA 6010	58 *	1	mg/kg	12/15/95

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: MW5-11.5
AEN LAB NO: 9512086-11
AEN WORK ORDER: 9512086
CLIENT PROJ. ID: 2906

DATE SAMPLED: 12/07/95
DATE RECEIVED: 12/07/95
REPORT DATE: 12/21/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Digestion, Metals by GFAA	EPA 3050	-		Prep Date	12/14/95
#Digestion, Metals AA/ICP	EPA 3050	-		Prep Date	12/14/95
CCR 17 Metals					
Ag Silver	EPA 6010	0.1 *	0.1	mg/kg	12/15/95
As Arsenic	EPA 7060	3.0 *	0.5	mg/kg	12/15/95
Ba Barium	EPA 6010	320 *	1	mg/kg	12/15/95
Be Beryllium	EPA 6010	0.4 *	0.1	mg/kg	12/15/95
Cd Cadmium	EPA 6010	3.8 *	0.2	mg/kg	12/15/95
Co Cobalt	EPA 6010	8.4 *	0.2	mg/kg	12/15/95
Cr Chromium	EPA 6010	30 *	0.5	mg/kg	12/15/95
Cu Copper	EPA 6010	28 *	0.5	mg/kg	12/15/95
Hg Mercury	EPA 7471	ND	0.06	mg/kg	12/15/95
Mo Molybdenum	EPA 6010	ND	0.2	mg/kg	12/15/95
Ni Nickel	EPA 6010	39 *	1	mg/kg	12/15/95
Pb Lead	EPA 6010	68 *	1	mg/kg	12/15/95
Sb Antimony	EPA 6010	ND	1	mg/kg	12/15/95
Se Selenium	EPA 7740	ND	1	mg/kg	12/15/95
Tl Thallium	EPA 6010	ND	1	mg/kg	12/15/95
V Vanadium	EPA 6010	30 *	0.5	mg/kg	12/15/95
Zn Zinc	EPA 6010	830 *	1	mg/kg	12/15/95

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: MW5-14.5
AEN LAB NO: 9512086-12
AEN WORK ORDER: 9512086
CLIENT PROJ. ID: 2906

DATE SAMPLED: 12/07/95
DATE RECEIVED: 12/07/95
REPORT DATE: 12/21/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Digestion, Metals by GFAA	EPA 3050	-		Prep Date	12/14/95
#Digestion, Metals AA/ICP	EPA 3050	-		Prep Date	12/14/95
CCR 17 Metals					
Ag Silver	EPA 6010	0.2 *	0.1	mg/kg	12/15/95
As Arsenic	EPA 7060	7.5 *	0.5	mg/kg	12/15/95
Ba Barium	EPA 6010	64 *	1	mg/kg	12/15/95
Be Beryllium	EPA 6010	0.3 *	0.1	mg/kg	12/15/95
Cd Cadmium	EPA 6010	0.6 *	0.2	mg/kg	12/15/95
Co Cobalt	EPA 6010	18 *	0.2	mg/kg	12/15/95
Cr Chromium	EPA 6010	32 *	0.5	mg/kg	12/15/95
Cu Copper	EPA 6010	22 *	0.5	mg/kg	12/15/95
Hg Mercury	EPA 7471	ND	0.06	mg/kg	12/15/95
Mo Molybdenum	EPA 6010	6.6 *	0.2	mg/kg	12/15/95
Ni Nickel	EPA 6010	48 *	1	mg/kg	12/15/95
Pb Lead	EPA 6010	10 *	1	mg/kg	12/15/95
Sb Antimony	EPA 6010	ND	1	mg/kg	12/15/95
Se Selenium	EPA 7740	2 *	1	mg/kg	12/15/95
Tl Thallium	EPA 6010	ND	1	mg/kg	12/15/95
V Vanadium	EPA 6010	43 *	0.5	mg/kg	12/15/95
Zn Zinc	EPA 6010	2,500 *	1	mg/kg	12/15/95

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

FOMATRIX CONSULTANTS

SAMPLE ID: MW5-17.5
AEN LAB NO: 9512086-13
AEN WORK ORDER: 9512086
CLIENT PROJ. ID: 2906

DATE SAMPLED: 12/07/95
DATE RECEIVED: 12/07/95
REPORT DATE: 12/21/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Digestion, Metals by GFAA	EPA 3050	-		Prep Date	12/14/95
#Digestion, Metals AA/ICP	EPA 3050	-		Prep Date	12/14/95
CCR 17 Metals					
Ag Silver	EPA 6010	ND	0.1	mg/kg	12/15/95
As Arsenic	EPA 7060	ND	0.5	mg/kg	12/15/95
Ba Barium	EPA 6010	250 *	1	mg/kg	12/15/95
Be Beryllium	EPA 6010	0.3 *	0.1	mg/kg	12/15/95
Cd Cadmium	EPA 6010	ND	0.2	mg/kg	12/15/95
Co Cobalt	EPA 6010	7.6 *	0.2	mg/kg	12/15/95
Cr Chromium	EPA 6010	40 *	0.5	mg/kg	12/15/95
Cu Copper	EPA 6010	18 *	0.5	mg/kg	12/15/95
Hg Mercury	EPA 7471	0.19 *	0.06	mg/kg	12/15/95
Mo Molybdenum	EPA 6010	ND	0.2	mg/kg	12/15/95
Ni Nickel	EPA 6010	65 *	1	mg/kg	12/15/95
Pb Lead	EPA 6010	16 *	1	mg/kg	12/15/95
Sb Antimony	EPA 6010	ND	1	mg/kg	12/15/95
Se Selenium	EPA 7740	ND	1	mg/kg	12/15/95
Tl Thallium	EPA 6010	2 *	1	mg/kg	12/15/95
V Vanadium	EPA 6010	30 *	0.5	mg/kg	12/15/95
Zn Zinc	EPA 6010	53 *	1	mg/kg	12/15/95

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: MW4-3.5
AEN LAB NO: 9512086-14
AEN WORK ORDER: 9512086
CLIENT PROJ. ID: 2906

DATE SAMPLED: 12/07/95
DATE RECEIVED: 12/07/95
REPORT DATE: 12/21/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Digestion, Metals by GFAA	EPA 3050	-		Prep Date	12/14/95
#Digestion, Metals AA/ICP	EPA 3050	-		Prep Date	12/14/95
CCR 17 Metals					
Ag Silver	EPA 6010	ND	0.1	mg/kg	12/15/95
As Arsenic	EPA 7060	3.6 *	0.5	mg/kg	12/15/95
Ba Barium	EPA 6010	61 *	1	mg/kg	12/15/95
Be Beryllium	EPA 6010	0.2 *	0.1	mg/kg	12/15/95
Cd Cadmium	EPA 6010	ND	0.2	mg/kg	12/15/95
Co Cobalt	EPA 6010	6.4 *	0.2	mg/kg	12/15/95
Cr Chromium	EPA 6010	32 *	0.5	mg/kg	12/15/95
Cu Copper	EPA 6010	13 *	0.5	mg/kg	12/15/95
Hg Mercury	EPA 7471	ND	0.06	mg/kg	12/15/95
Mo Molybdenum	EPA 6010	ND	0.2	mg/kg	12/15/95
Ni Nickel	EPA 6010	27 *	1	mg/kg	12/15/95
Pb Lead	EPA 6010	12 *	1	mg/kg	12/15/95
Sb Antimony	EPA 6010	ND	1	mg/kg	12/15/95
Se Selenium	EPA 7740	ND	1	mg/kg	12/15/95
Tl Thallium	EPA 6010	ND	1	mg/kg	12/15/95
V Vanadium	EPA 6010	25 *	0.5	mg/kg	12/15/95
Zn Zinc	EPA 6010	29 *	1	mg/kg	12/15/95

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: MW4-8.5
AEN LAB NO: 9512086-15
AEN WORK ORDER: 9512086
CLIENT PROJ. ID: 2906

DATE SAMPLED: 12/07/95
DATE RECEIVED: 12/07/95
REPORT DATE: 12/21/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Digestion, Metals by GFAA	EPA 3050	-		Prep Date	12/15/95
#Digestion, Metals AA/ICP	EPA 3050	-		Prep Date	12/15/95
CCR 17 Metals					
Ag Silver	EPA 6010	12 *	1	mg/kg	12/19/95
As Arsenic	EPA 7060	2.2 *	0.5	mg/kg	12/16/95
Ba Barium	EPA 6010	1,900 *	1	mg/kg	12/18/95
Be Beryllium	EPA 6010	ND	1	mg/kg	12/19/95
Cd Cadmium	EPA 6010	56 *	2	mg/kg	12/19/95
Co Cobalt	EPA 6010	6 *	2	mg/kg	12/19/95
Cr Chromium	EPA 6010	11 *	5	mg/kg	12/19/95
Cu Copper	EPA 6010	110 *	5	mg/kg	12/19/95
Hg Mercury	EPA 7471	0.13 *	0.06	mg/kg	12/15/95
Mo Molybdenum	EPA 6010	ND	2	mg/kg	12/19/95
Ni Nickel	EPA 6010	140 *	10	mg/kg	12/19/95
Pb Lead	EPA 6010	350 *	10	mg/kg	12/19/95
Sb Antimony	EPA 6010	ND	10	mg/kg	12/19/95
Se Selenium	EPA 7740	ND	1	mg/kg	12/16/95
Tl Thallium	EPA 6010	ND	10	mg/kg	12/19/95
V Vanadium	EPA 6010	280 *	5	mg/kg	12/19/95
Zn Zinc	EPA 6010	27,000 *	10	mg/kg	12/19/95

Reporting limits elevated for metals by EPA 6010 due to matrix interference.

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: MW4-10.5
AEN LAB NO: 9512086-16
AEN WORK ORDER: 9512086
CLIENT PROJ. ID: 2906

DATE SAMPLED: 12/07/95
DATE RECEIVED: 12/07/95
REPORT DATE: 12/21/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Digestion, Metals by GFAA	EPA 3050	-		Prep Date	12/15/95
#Digestion, Metals AA/ICP	EPA 3050	-		Prep Date	12/15/95
CCR 17 Metals					
Ag Silver	EPA 6010	5 *	1	mg/kg	12/19/95
As Arsenic	EPA 7060	10 *	0.5	mg/kg	12/16/95
Ba Barium	EPA 6010	130 *	1	mg/kg	12/18/95
Be Beryllium	EPA 6010	ND	1	mg/kg	12/19/95
Cd Cadmium	EPA 6010	3 *	2	mg/kg	12/19/95
Co Cobalt	EPA 6010	16 *	2	mg/kg	12/19/95
Cr Chromium	EPA 6010	11 *	5	mg/kg	12/19/95
Cu Copper	EPA 6010	140 *	5	mg/kg	12/19/95
Hg Mercury	EPA 7471	2.4 *	0.06	mg/kg	12/15/95
Mo Molybdenum	EPA 6010	ND	2	mg/kg	12/19/95
Ni Nickel	EPA 6010	300 *	10	mg/kg	12/19/95
Pb Lead	EPA 6010	24 *	10	mg/kg	12/19/95
Sb Antimony	EPA 6010	ND	10	mg/kg	12/19/95
Se Selenium	EPA 7740	1 *	1	mg/kg	12/16/95
Tl Thallium	EPA 6010	ND	10	mg/kg	12/19/95
V Vanadium	EPA 6010	330 *	5	mg/kg	12/19/95
Zn Zinc	EPA 6010	54,000 *	10	mg/kg	12/19/95

Reporting limits elevated for metals by EPA 6010 due to matrix interference.

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: MW4-14
AEN LAB NO: 9512086-17
AEN WORK ORDER: 9512086
CLIENT PROJ. ID: 2906

DATE SAMPLED: 12/07/95
DATE RECEIVED: 12/07/95
REPORT DATE: 12/21/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Digestion, Metals by GFAA	EPA 3050	-		Prep Date	12/15/95
#Digestion, Metals AA/ICP	EPA 3050	-		Prep Date	12/15/95
CCR 17 Metals					
Ag Silver	EPA 6010	ND	0.1	mg/kg	12/18/95
As Arsenic	EPA 7060	0.6 *	0.5	mg/kg	12/16/95
Ba Barium	EPA 6010	860 *	1	mg/kg	12/18/95
Be Beryllium	EPA 6010	0.2 *	0.1	mg/kg	12/18/95
Cd Cadmium	EPA 6010	ND	0.2	mg/kg	12/18/95
Co Cobalt	EPA 6010	5.6 *	0.2	mg/kg	12/18/95
Cr Chromium	EPA 6010	48 *	0.5	mg/kg	12/18/95
Cu Copper	EPA 6010	13 *	0.5	mg/kg	12/18/95
Hg Mercury	EPA 7471	0.21 *	0.06	mg/kg	12/15/95
Mo Molybdenum	EPA 6010	ND	0.2	mg/kg	12/18/95
Ni Nickel	EPA 6010	59 *	1	mg/kg	12/18/95
Pb Lead	EPA 6010	4 *	1	mg/kg	12/18/95
Sb Antimony	EPA 6010	ND	1	mg/kg	12/18/95
Se Selenium	EPA 7740	ND	1	mg/kg	12/16/95
Tl Thallium	EPA 6010	ND	1	mg/kg	12/18/95
V Vanadium	EPA 6010	25 *	0.5	mg/kg	12/18/95
Zn Zinc	EPA 6010	1,800 *	1	mg/kg	12/18/95

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: MW4-17
AEN LAB NO: 9512086-18
AEN WORK ORDER: 9512086
CLIENT PROJ. ID: 2906

DATE SAMPLED: 12/07/95
DATE RECEIVED: 12/07/95
REPORT DATE: 12/21/95

ANALYTE		METHOD/ CAS#	RESULT		REPORTING LIMIT	UNITS	DATE ANALYZED
#Digestion, Metals by GFAA		EPA 3050	-			Prep Date	12/15/95
#Digestion, Metals AA/ICP		EPA 3050	-			Prep Date	12/15/95
CCR 17 Metals							
Ag	Silver	EPA 6010	ND		0.1	mg/kg	12/18/95
As	Arsenic	EPA 7060	3.7	*	0.5	mg/kg	12/16/95
Ba	Barium	EPA 6010	1,000	*	1	mg/kg	12/18/95
Be	Beryllium	EPA 6010	0.3	*	0.1	mg/kg	12/18/95
Cd	Cadmium	EPA 6010	ND		0.2	mg/kg	12/18/95
Co	Cobalt	EPA 6010	9.9	*	0.2	mg/kg	12/18/95
Cr	Chromium	EPA 6010	59	*	0.5	mg/kg	12/18/95
Cu	Copper	EPA 6010	17	*	0.5	mg/kg	12/18/95
Hg	Mercury	EPA 7471	0.14	*	0.06	mg/kg	12/15/95
Mo	Molybdenum	EPA 6010	ND		0.2	mg/kg	12/18/95
Ni	Nickel	EPA 6010	110	*	1	mg/kg	12/18/95
Pb	Lead	EPA 6010	6	*	1	mg/kg	12/18/95
Sb	Antimony	EPA 6010	ND		1	mg/kg	12/18/95
Se	Selenium	EPA 7740	1	*	1	mg/kg	12/16/95
Tl	Thallium	EPA 6010	ND		1	mg/kg	12/18/95
V	Vanadium	EPA 6010	37	*	0.5	mg/kg	12/18/95
Zn	Zinc	EPA 6010	1,100	*	1	mg/kg	12/18/95

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

AEN (CALIFORNIA)
QUALITY CONTROL REPORT

AEN JOB NUMBER: 9512086
CLIENT PROJECT ID: 2906

Quality Control and Project Summary

All laboratory quality control parameters were found to be within established limits.

Definitions

Laboratory Control Sample (LCS)/Method Spikes(s): Control samples of known composition. LCS and Method Spike data are used to validate batch analytical results.

Matrix Spike(s): Aliquot of a sample (aqueous or solid) with added quantities of specific compounds and subjected to the entire analytical procedure. Matrix spike and matrix spike duplicate QC data are advisory.

Method Blank: An analytical control consisting of all reagents, internal standards, and surrogate standards carried through the entire analytical process. Used to monitor laboratory background and reagent contamination.

Not Detected (ND): Not detected at or above the reporting limit.

Relative Percent Difference (RPD): An indication of method precision based on duplicate analyses.

Reporting Limit (RL): The lowest concentration routinely determined during laboratory operations. The RL is generally 1 to 10 times the Method Detection Limit (MDL). Reporting limits are matrix, method, and analyte dependent and take into account any dilutions performed as part of the analysis.

Surrogates: Organic compounds which are similar to analytes of interest in chemical behaviour, but are not found in environmental samples. Surrogates are added to all blanks, calibration and check standards, samples, and spiked samples. Surrogate recovery is monitored as an indication of acceptable sample preparation and instrument performance.

D: Surrogates diluted out.

!: Indicates result outside of established laboratory QC limits.

ANALYSIS: Arsenic

MATRIX: Soil/Bulk

METHOD BLANK SAMPLES

SAMPLE TYPE: Blank-Method/Media blank
INSTRUMENT: TJA 4000, GFAA
UNITS: mg/kg
METHOD:
LAB ID: GFS_BLNK_O
PREPARED:
ANALYZED: 12/15/95
INSTR RUN: 4000\951215201300/1/
BATCH ID: GFS121495-O
DILUTION: 1.000000

ANALYTE	RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
Arsenic in soil EPA 7060	ND		0.5						

SAMPLE TYPE: Blank-Method/Media blank
INSTRUMENT: TJA 4000, GFAA
UNITS: mg/kg
METHOD:
LAB ID: GFS_BLNK_Q
PREPARED:
ANALYZED: 12/16/95
INSTR RUN: 4000\951216112700/1/
BATCH ID: GFS121595-Q
DILUTION: 1.000000

ANALYTE	RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
Arsenic in soil EPA 7060	ND		0.5						

METHOD SPIKE SAMPLES

SAMPLE TYPE: Spike-Method/Media blank
INSTRUMENT: TJA 4000, GFAA
UNITS: mg/kg
METHOD:
LAB ID: GFS_MS_O
PREPARED:
ANALYZED: 12/15/95
INSTR RUN: 4000\951215201300/2/1
BATCH ID: GFS121495-O
DILUTION: 1.000000

ANALYTE	RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
Arsenic in soil EPA 7060	10.5	ND	0.5	10.0	105	67	136		

SAMPLE TYPE: Spike-Method/Media blank
INSTRUMENT: TJA 4000, GFAA
UNITS: mg/kg
METHOD:
LAB ID: GFS_MD_O
PREPARED:
ANALYZED: 12/15/95
INSTR RUN: 4000\951215201300/3/1
BATCH ID: GFS121495-O
DILUTION: 1.000000

ANALYTE	RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
Arsenic in soil EPA 7060	10.6	ND	0.5	10.0	106	67	136		

SAMPLE TYPE: Spike-Method/Media blank
INSTRUMENT: TJA 4000, GFAA
UNITS: mg/kg
METHOD:
LAB ID: GFS_MS_Q
PREPARED:
ANALYZED: 12/16/95
INSTR RUN: 4000\951216112700/2/1
BATCH ID: GFS121595-Q
DILUTION: 1.000000

ANALYTE	RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
Arsenic in soil EPA 7060	10.3	ND	0.5	10.0	103	67	136		

SAMPLE TYPE: Spike-Method/Media blank
INSTRUMENT: TJA 4000, GFAA
UNITS: mg/kg
METHOD:
LAB ID: GFS_MD_Q
PREPARED:
ANALYZED: 12/16/95
INSTR RUN: 4000\951216112700/3/1
BATCH ID: GFS121595-Q
DILUTION: 1.000000

ANALYTE	RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
Arsenic in soil EPA 7060	10.5	ND	0.5	10.0	105	67	136		

METHOD SPIKE DUPLICATES

SAMPLE TYPE: Method Spike Sample Duplicate
INSTRUMENT: TJA 4000, GFAA
UNITS: mg/kg
METHOD:
LAB ID: GFS_MR_O
PREPARED:
ANALYZED: 12/15/95
INSTR RUN: 4000\951215201300/4/2
BATCH ID: GFS121495-O
DILUTION: 1.000000

ANALYTE	RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
Arsenic in soil EPA 7060	10.6	10.5	0.5					0.948	15

ANALYSIS: Arsenic

MATRIX: Soil/Bulk

METHOD SPIKE DUPLICATES

SAMPLE TYPE: Method Spike Sample Duplicate
INSTRUMENT: TJA 4000, GFAA
UNITS: mg/kg
METHOD:
LAB ID: GFS_MR_Q
PREPARED:
ANALYZED: 12/16/95
INSTR RUN: 4000\951216112700/4/2
BATCH ID: GFS121595-Q
DILUTION: 1.000000

ANALYTE	RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
Arsenic in soil EPA 7060	10.5	10.3						1.92	15

MATRIX SPIKE SAMPLES

SAMPLE TYPE: Spike-Sample/Matrix
INSTRUMENT: TJA 4000, GFAA
UNITS: mg/kg
METHOD:
LAB ID: MS12086-07A
PREPARED:
ANALYZED: 12/16/95
INSTR RUN: 4000\951215201300/6/5
BATCH ID: GFS121495-O
DILUTION: 1.000000

ANALYTE	RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
Arsenic in soil EPA 7060	12.2	1.8	0.5	10.0	100	12	168		

SAMPLE TYPE: Spike-Sample/Matrix
INSTRUMENT: TJA 4000, GFAA
UNITS: mg/kg
METHOD:
LAB ID: MD12086-07A
PREPARED:
ANALYZED: 12/16/95
INSTR RUN: 4000\951215201300/7/5
BATCH ID: GFS121495-O
DILUTION: 1.000000

ANALYTE	RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
Arsenic in soil EPA 7060	10.5	1.8	0.5	10.0	87	12	168		

SAMPLE TYPE: Spike-Sample/Matrix
INSTRUMENT: TJA 4000, GFAA
UNITS: mg/kg
METHOD:
LAB ID: MS12086-17A
PREPARED:
ANALYZED: 12/16/95
INSTR RUN: 4000\951216112700/7/6
BATCH ID: GFS121595-Q
DILUTION: 1.000000

ANALYTE	RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
Arsenic in soil EPA 7060	10.7	0.627	0.5	10.0	101	12	168		

SAMPLE TYPE: Spike-Sample/Matrix
INSTRUMENT: TJA 4000, GFAA
UNITS: mg/kg
METHOD:
LAB ID: MD12086-17A
PREPARED:
ANALYZED: 12/16/95
INSTR RUN: 4000\951216112700/8/6
BATCH ID: GFS121595-Q
DILUTION: 1.000000

ANALYTE	RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
Arsenic in soil EPA 7060	10.3	0.627	0.5	10.0	96.7	12	168		

MATRIX SPIKE DUPLICATES

SAMPLE TYPE: Spiked Sample Duplicate
INSTRUMENT: TJA 4000, GFAA
UNITS: mg/kg
METHOD:
LAB ID: MR12086-07A
PREPARED:
ANALYZED: 12/16/95
INSTR RUN: 4000\951215201300/8/6
BATCH ID: GFS121495-O
DILUTION: 1.000000

ANALYTE	RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
Arsenic in soil EPA 7060	10.5	12.2	0.5					15.0	18

SAMPLE TYPE: Spiked Sample Duplicate
INSTRUMENT: TJA 4000, GFAA
UNITS: mg/kg
METHOD:
LAB ID: MR12086-17A
PREPARED:
ANALYZED: 12/16/95
INSTR RUN: 4000\951216112700/9/7
BATCH ID: GFS121595-Q
DILUTION: 1.000000

ANALYTE	RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
Arsenic in soil EPA 7060	10.3	10.7	0.5					3.81	18

ANALYSIS: Mercury

MATRIX: Soil/Bulk

METHOD BLANK SAMPLES

SAMPLE TYPE: Blank-Method/Media blank
INSTRUMENT: Coleman Hg Analyzer 50D
UNITS: mg/kg
METHOD:

LAB ID: HGS_BLNK
PREPARED:
ANALYZED: 12/15/95

INSTR RUN: HG\951215160000/1/
BATCH ID: HGS121595
DILUTION: 1.000000

ANALYTE	RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
Mercury in soil EPA 7471	ND		0.06						

METHOD SPIKE SAMPLES

SAMPLE TYPE: Spike-Method/Media blank
INSTRUMENT: Coleman Hg Analyzer 50D
UNITS: mg/kg
METHOD:

LAB ID: HGS_MS
PREPARED:
ANALYZED: 12/15/95

INSTR RUN: HG\951215160000/2/1
BATCH ID: HGS121595
DILUTION: 1.000000

ANALYTE	RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
Mercury in soil EPA 7471	0.416	ND	0.06	0.400	104	79	118		

SAMPLE TYPE: Spike-Method/Media blank
INSTRUMENT: Coleman Hg Analyzer 50D
UNITS: mg/kg
METHOD:

LAB ID: HGS_MD
PREPARED:
ANALYZED: 12/15/95

INSTR RUN: HG\951215160000/3/1
BATCH ID: HGS121595
DILUTION: 1.000000

ANALYTE	RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
Mercury in soil EPA 7471	0.423	ND	0.06	0.400	106	79	118		

METHOD SPIKE DUPLICATES

SAMPLE TYPE: Method Spike Sample Duplicate
INSTRUMENT: Coleman Hg Analyzer 50D
UNITS: mg/kg
METHOD:

LAB ID: HGS_MR
PREPARED:
ANALYZED: 12/15/95

INSTR RUN: HG\951215160000/4/2
BATCH ID: HGS121595
DILUTION: 1.000000

ANALYTE	RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
Mercury in soil EPA 7471	0.423	0.416	0.06					1.67	15

MATRIX SPIKE SAMPLES

SAMPLE TYPE: Spike-Sample/Matrix
INSTRUMENT: Coleman Hg Analyzer 50D
UNITS: mg/kg
METHOD:

LAB ID: MS12086-02A
PREPARED:
ANALYZED: 12/15/95

INSTR RUN: HG\951215160000/11/10
BATCH ID: HGS121595
DILUTION: 1.000000

ANALYTE	RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
Mercury in soil EPA 7471	0.381	ND	0.06	0.400	95.3	44	153		

SAMPLE TYPE: Spike-Sample/Matrix
INSTRUMENT: Coleman Hg Analyzer 50D
UNITS: mg/kg
METHOD:

LAB ID: MD12086-02A
PREPARED:
ANALYZED: 12/15/95

INSTR RUN: HG\951215160000/12/10
BATCH ID: HGS121595
DILUTION: 1.000000

ANALYTE	RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
Mercury in soil EPA 7471	0.410	ND	0.06	0.400	103	44	153		

ANALYSIS: Mercury

MATRIX: Soil/Bulk

MATRIX SPIKE SAMPLES

SAMPLE TYPE: Spike-Sample/Matrix
INSTRUMENT: Coleman Hg Analyzer 50D
UNITS: mg/kg
METHOD:

LAB ID: MS12086-14A
PREPARED:
ANALYZED: 12/15/95

INSTR RUN: HG\951215160000/15/14
BATCH ID: HGS121595
DILUTION: 1.000000

ANALYTE	RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%
Mercury in soil EPA 7471	0.413	ND	0.06	0.400	103	44	153		

SAMPLE TYPE: Spike-Sample/Matrix
INSTRUMENT: Coleman Hg Analyzer 50D
UNITS: mg/kg
METHOD:

LAB ID: MD12086-14A
PREPARED:
ANALYZED: 12/15/95

INSTR RUN: HG\951215160000/16/14
BATCH ID: HGS121595
DILUTION: 1.000000

ANALYTE	RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%
Mercury in soil EPA 7471	0.447	ND	0.06	0.400	112	44	153		

MATRIX SPIKE DUPLICATES

SAMPLE TYPE: Spiked Sample Duplicate
INSTRUMENT: Coleman Hg Analyzer 50D
UNITS: mg/kg
METHOD:

LAB ID: MR12086-02A
PREPARED:
ANALYZED: 12/15/95

INSTR RUN: HG\951215160000/13/11
BATCH ID: HGS121595
DILUTION: 1.000000

ANALYTE	RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
Mercury in soil EPA 7471	0.410	0.381	0.06					7.33	15

SAMPLE TYPE: Spiked Sample Duplicate
INSTRUMENT: Coleman Hg Analyzer 50D
UNITS: mg/kg
METHOD:

LAB ID: MR12086-14A
PREPARED:
ANALYZED: 12/15/95

INSTR RUN: HG\951215160000/17/15
BATCH ID: HGS121595
DILUTION: 1.000000

ANALYTE	RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
Mercury in soil EPA 7471	0.447	0.413	0.06					7.91	15

ANALYSIS: Metals Scan by ICP

MATRIX: Soil/Bulk

METHOD BLANK SAMPLES

SAMPLE TYPE: Blank-Method/Media blank | LAB ID: IFS_BLNK_N | INSTR RUN: ICP\951215141800/1/
INSTRUMENT: TJA Enviro 36 | PREPARED: | BATCH ID: IFS121495-N
UNITS: mg/kg | ANALYZED: 12/15/95 | DILUTION: 1.000000
METHOD:

ANALYTE		RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
Ag	Silver	ND		0.1						
Ba	Barium	ND		1						
Be	Beryllium	ND		0.1						
Cd	Cadmium	ND		0.2						
Co	Cobalt	ND		0.2						
Cr	Chromium	ND		0.5						
Cu	Copper	ND		0.5						
Mo	Molybdenum	ND		0.2						
Ni	Nickel	ND		1						
Pb	Lead	ND		1						
Sb	Antimony	ND		1						
Tl	Thallium	ND		1						
V	Vanadium	ND		0.5						
Zn	Zinc	ND		1						

SAMPLE TYPE: Blank-Method/Media blank | LAB ID: IFS_BLNK_P | INSTR RUN: ICP\951218134500/1/
INSTRUMENT: TJA Enviro 36 | PREPARED: | BATCH ID: IFS121595-P
UNITS: mg/kg | ANALYZED: 12/18/95 | DILUTION: 1.000000
METHOD:

ANALYTE		RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
Ag	Silver	ND		0.1						
Ba	Barium	ND		1						
Be	Beryllium	ND		0.1						
Cd	Cadmium	ND		0.2						
Co	Cobalt	ND		0.2						
Cr	Chromium	ND		0.5						
Cu	Copper	ND		0.5						
Mo	Molybdenum	ND		0.2						
Ni	Nickel	ND		1						
Pb	Lead	ND		1						
Sb	Antimony	ND		1						
Tl	Thallium	ND		1						
V	Vanadium	ND		0.5						
Zn	Zinc	ND		1						

METHOD SPIKE SAMPLES

SAMPLE TYPE: Spike-Method/Media blank | LAB ID: IFS_MS_N | INSTR RUN: ICP\951215141800/2/1
INSTRUMENT: TJA Enviro 36 | PREPARED: | BATCH ID: IFS121495-N
UNITS: mg/kg | ANALYZED: 12/15/95 | DILUTION: 1.000000
METHOD:

ANALYTE		RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
Ag	Silver	5.35	ND	0.1	10.0	53.5	24	106		
Ba	Barium	100	ND	1	100	100	83	112		
Be	Beryllium	4.62	ND	0.1	5.00	92.4	77	113		
Cd	Cadmium	9.93	ND	0.2	10.0	99.3	83	109		
Co	Cobalt	52.5	ND	0.2	50.0	105	87	117		
Cr	Chromium	49.9	ND	0.5	50.0	99.8	85	110		
Cu	Copper	51.1	ND	0.5	50.0	102	85	112		
Mo	Molybdenum	49.7	ND	0.2	50.0	99.4	83	118		
Ni	Nickel	51.4	ND	1	50.0	103	83	115		
Pb	Lead	49.5	ND	1	50.0	99.0	80	116		
Sb	Antimony	47.1	ND	1	50.0	94.2	78	113		
Tl	Thallium	104	ND	1	100	104	78	115		
V	Vanadium	51.9	ND	0.5	50.0	104	87	115		
Zn	Zinc	47.9	ND	1	50.0	95.8	81	109		

ANALYSIS: Metals Scan by

MATRIX: Soil/Bulk

METHOD SPIKE SAMPLES

SAMPLE TYPE: Spike-Method/Media blank
INSTRUMENT: TJA Enviro 36
UNITS: mg/kg
METHOD:

LAB ID: IFS_MD_N
PREPARED:
ANALYZED: 12/15/95

INSTR RUN: ICP\951215141800/3/1
BATCH ID: IFS121495-N
DILUTION: 1.000000

ANALYTE		RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	HIGH	RPD (%)	RPD LIMIT (%
Ag	Silver	5.20	ND	0.1	10.0	52.0	24	106		
Ba	Barium	97.7	ND	1	100	97.7	83	112		
Be	Beryllium	4.48	ND	0.1	5.00	89.6	77	113		
Cd	Cadmium	9.58	ND	0.2	10.0	95.8	83	109		
Co	Cobalt	51.4	ND	0.2	50.0	103	87	117		
Cr	Chromium	48.7	ND	0.5	50.0	97.4	85	110		
Cu	Copper	49.6	ND	0.5	50.0	99.2	85	112		
Mo	Molybdenum	48.6	ND	0.2	50.0	97.2	83	118		
Ni	Nickel	50.4	ND	1	50.0	101	83	115		
Pb	Lead	48.6	ND	1	50.0	97.2	80	116		
Sb	Antimony	46.2	ND	1	50.0	92.4	78	113		
Tl	Thallium	103	ND	1	100	103	78	115		
V	Vanadium	50.6	ND	0.5	50.0	101	87	115		
Zn	Zinc	46.8	ND	1	50.0	93.6	81	109		

SAMPLE TYPE: Spike-Method/Media blank
INSTRUMENT: TJA Enviro 36
UNITS: mg/kg
METHOD:

LAB ID: IFS_MS_P
PREPARED:
ANALYZED: 12/18/95

INSTR RUN: ICP\951218134500/2/1
BATCH ID: IFS121595-P
DILUTION: 1.000000

ANALYTE		RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	HIGH	RPD (%)	RPD LIMIT (%
Ag	Silver	5.54	ND	0.1	10.0	55.4	24	106		
Ba	Barium	103	ND	1	100	103	83	112		
Be	Beryllium	4.75	ND	0.1	5.00	95.0	77	113		
Cd	Cadmium	10.0	ND	0.2	10.0	100	83	109		
Co	Cobalt	54.4	ND	0.2	50.0	109	87	117		
Cr	Chromium	50.5	ND	0.5	50.0	101	85	110		
Cu	Copper	50.6	ND	0.5	50.0	101	85	112		
Mo	Molybdenum	53.9	ND	0.2	50.0	108	83	118		
Ni	Nickel	53.0	ND	1	50.0	106	83	115		
Pb	Lead	52.1	ND	1	50.0	104	80	116		
Sb	Antimony	48.9	ND	1	50.0	97.8	78	113		
Tl	Thallium	98.9	ND	1	100	98.9	78	115		
V	Vanadium	53.1	ND	0.5	50.0	106	87	115		
Zn	Zinc	47.6	ND	1	50.0	95.2	81	109		

SAMPLE TYPE: Spike-Method/Media blank
INSTRUMENT: TJA Enviro 36
UNITS: mg/kg
METHOD:

LAB ID: IFS_MD_P
PREPARED:
ANALYZED: 12/18/95

INSTR RUN: ICP\951218134500/3/1
BATCH ID: IFS121595-P
DILUTION: 1.000000

ANALYTE		RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	HIGH	RPD (%)	RPD LIMIT (%
Ag	Silver	5.60	ND	0.1	10.0	56.0	24	106		
Ba	Barium	103	ND	1	100	103	83	112		
Be	Beryllium	4.79	ND	0.1	5.00	95.8	77	113		
Cd	Cadmium	10.1	ND	0.2	10.0	101	83	109		
Co	Cobalt	55.1	ND	0.2	50.0	110	87	117		
Cr	Chromium	51.2	ND	0.5	50.0	102	85	110		
Cu	Copper	50.9	ND	0.5	50.0	102	85	112		
Mo	Molybdenum	54.6	ND	0.2	50.0	109	83	118		
Ni	Nickel	53.5	ND	1	50.0	107	83	115		
Pb	Lead	52.47	ND	1	50.0	105	80	116		
Sb	Antimony	49.5	ND	1	50.0	99.0	78	113		
Tl	Thallium	99.4	ND	1	100	99.4	78	115		
V	Vanadium	53.6	ND	0.5	50.0	107	87	115		
Zn	Zinc	48.1	ND	1	50.0	96.2	81	109		

ANALYSIS: Metals Scan by ICP

MATRIX: Soil/Bulk

METHOD SPIKE DUPLICATES

SAMPLE TYPE: Method Spike Sample Duplicate
INSTRUMENT: TJA Enviro 36
UNITS: mg/kg
METHOD:

LAB ID: IFS_MR_N
PREPARED:
ANALYZED: 12/15/95

INSTR RUN: ICP\951215141800/4/2
BATCH ID: IFS121495-N
DILUTION: 1.000000

ANALYTE		RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
Ag	Silver	5.20	5.35	0.1					2.84	10
Ba	Barium	97.7	100	1					2.33	10
Be	Beryllium	4.48	4.62	0.1					3.08	10
Cd	Cadmium	9.58	9.93	0.2					3.59	10
Co	Cobalt	51.4	52.5	0.2					2.12	10
Cr	Chromium	48.7	49.9	0.5					2.43	10
Cu	Copper	49.6	51.1	0.5					2.98	10
Mo	Molybdenum	48.6	49.7	0.2					2.24	10
Ni	Nickel	50.4	51.4	1					1.96	10
Pb	Lead	48.6	49.5	1					1.83	10
Sb	Antimony	46.2	47.1	1					1.93	10
Tl	Thallium	103	104	1					0.966	10
V	Vanadium	50.6	51.9	0.5					2.54	10
Zn	Zinc	46.8	47.9	1					2.32	10

SAMPLE TYPE: Method Spike Sample Duplicate
INSTRUMENT: TJA Enviro 36
UNITS: mg/kg
METHOD:

LAB ID: IFS_MR_P
PREPARED:
ANALYZED: 12/18/95

INSTR RUN: ICP\951218134500/4/2
BATCH ID: IFS121595-P
DILUTION: 1.000000

ANALYTE		RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
Ag	Silver	5.60	5.54	0.1					1.08	10
Ba	Barium	103	103	1					0	10
Be	Beryllium	4.79	4.75	0.1					0.839	10
Cd	Cadmium	10.1	10.0	0.2					0.995	10
Co	Cobalt	55.1	54.4	0.2					1.28	10
Cr	Chromium	51.2	50.5	0.5					1.38	10
Cu	Copper	50.9	50.6	0.5					0.591	10
Mo	Molybdenum	54.6	53.9	0.2					1.29	10
Ni	Nickel	53.5	53.0	1					0.939	10
Pb	Lead	52.7	52.1	1					1.15	10
Sb	Antimony	49.5	48.9	1					1.22	10
Tl	Thallium	99.4	98.9	1					0.504	10
V	Vanadium	53.6	53.1	0.5					0.937	10
Zn	Zinc	48.1	47.6	1					1.04	10

MATRIX SPIKE SAMPLES

SAMPLE TYPE: Spike-Sample/Matrix
INSTRUMENT: TJA Enviro 36
UNITS: mg/kg
METHOD:

LAB ID: MS12086-07A
PREPARED:
ANALYZED: 12/15/95

INSTR RUN: ICP\951215141800/6/5
BATCH ID:
DILUTION: 1.000000

ANALYTE		RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
Ag	Silver	4.79	ND	0.1	10.0	47.9	2	118		
Ba	Barium	217	136	1	100	81.0	45	139		
Be	Beryllium	4.77	0.303	0.1	5.00	89.3	67	113		
Cd	Cadmium	8.80	ND	0.2	10.0	88.0	57	112		
Co	Cobalt	54.6	9.00	0.2	50.0	91.2	63	115		
Cr	Chromium	76.8	31.7	0.5	50.0	90.2	49	125		
Cu	Copper	57.3	17.0	0.5	50.0	80.6	52	134		
Mo	Molybdenum	40.0	ND	0.2	50.0	80.0	37	120		
Ni	Nickel	73.3	29.6	1	50.0	87.4	51	122		
Pb	Lead	64.2	48.0	1	50.0	32.4	24	153		
Sb	Antimony	20.6	ND	1	50.0	41.2	0	109		
Tl	Thallium	88.9	ND	1	100	88.9	48	115		
V	Vanadium	75.0	28.7	0.5	50.0	92.6	57	132		
Zn	Zinc	81.1	55.6	1	50.0	51.0	31	134		

ANALYSIS: Metals Scan by ICP

MATRIX: Soil/Bulk

MATRIX SPIKE SAMPLES

SAMPLE TYPE: Spike-Sample/Matrix
INSTRUMENT: TJA Enviro 36
UNITS: mg/kg
METHOD:

LAB ID: MD12086-07A
PREPARED:
ANALYZED: 12/15/95

INSTR RUN: ICP\951215141800/7/5
BATCH ID:
DILUTION: 1.000000

ANALYTE		RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	HIGH	RPD (%)	RPD LIMIT (%)
Ag	Silver	5.05	ND	0.1	10.0	50.5	2	118		
Ba	Barium	248	136	1	100	112	45	139		
Be	Beryllium	5.28	0.303	0.1	5.00	99.5	67	113		
Cd	Cadmium	9.43	ND	0.2	10.0	94.3	57	112		
Co	Cobalt	60.7	9.00	0.2	50.0	103	63	115		
Cr	Chromium	87.0	31.7	0.5	50.0	111	49	125		
Cu	Copper	59.6	17.0	0.5	50.0	85.2	52	134		
Mo	Molybdenum	41.6	ND	0.2	50.0	83.2	37	120		
Ni	Nickel	78.1	29.6	1	50.0	97.0	51	122		
Pb	Lead	67.0	48.0	1	50.0	38.0	24	153		
Sb	Antimony	20.6	ND	1	50.0	41.2	0	109		
Tl	Thallium	98.7	ND	1	100	98.7	48	115		
V	Vanadium	83.5	28.7	0.5	50.0	110	57	132		
Zn	Zinc	82.4	55.6	1	50.0	53.6	31	134		

MATRIX SPIKE DUPLICATES

SAMPLE TYPE: Spiked Sample Duplicate
INSTRUMENT: TJA Enviro 36
UNITS: mg/kg
METHOD:

LAB ID: MR12086-07A
PREPARED:
ANALYZED: 12/15/95

INSTR RUN: ICP\951215141800/8/6
BATCH ID:
DILUTION: 1.000000

ANALYTE		RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	HIGH	RPD (%)	RPD LIMIT (%)
Ag	Silver	5.05	4.79	0.1					5.28	25
Ba	Barium	248	217	1					13.3	25
Be	Beryllium	5.28	4.77	0.1					10.1	25
Cd	Cadmium	9.43	8.80	0.2					6.91	25
Co	Cobalt	60.7	54.6	0.2					10.6	25
Cr	Chromium	87.0	76.8	0.5					12.5	25
Cu	Copper	59.6	57.3	0.5					3.93	25
Mo	Molybdenum	41.6	40.0	0.2					3.92	25
Ni	Nickel	78.1	73.3	1					6.34	25
Pb	Lead	67.0	64.2	1					4.27	25
Sb	Antimony	20.6	20.6	1					0	30
Tl	Thallium	98.7	88.9	1					10.4	25
V	Vanadium	83.5	75.0	0.5					10.7	25
Zn	Zinc	82.4	81.1	1					1.59	25

ANALYSIS: Selenium

MATRIX: Soil/Bulk

METHOD BLANK SAMPLES

SAMPLE TYPE: Blank-Method/Media blank | LAB ID: GFS_BLNK_O | INSTR RUN: 4000\951215201400/1/
INSTRUMENT: TJA 4000, GFAA | PREPARED: | BATCH ID: GFS121495-O
UNITS: mg/kg | ANALYZED: 12/15/95 | DILUTION: 1.000000
METHOD:

ANALYTE	RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
Selenium in soil EPA 7740	ND		1						

SAMPLE TYPE: Blank-Method/Media blank | LAB ID: GFS_BLNK_Q | INSTR RUN: 4000\951216112800/1/
INSTRUMENT: TJA 4000, GFAA | PREPARED: | BATCH ID: GFS121595-Q
UNITS: mg/kg | ANALYZED: 12/16/95 | DILUTION: 1.000000
METHOD:

ANALYTE	RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
Selenium in soil EPA 7740	ND		1						

METHOD SPIKE SAMPLES

SAMPLE TYPE: Spike-Method/Media blank | LAB ID: GFS_MS_O | INSTR RUN: 4000\951215201400/2/1
INSTRUMENT: TJA 4000, GFAA | PREPARED: | BATCH ID: GFS121495-O
UNITS: mg/kg | ANALYZED: 12/15/95 | DILUTION: 1.000000
METHOD:

ANALYTE	RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
Selenium in soil EPA 7740	17.7	ND	1	20.0	88.5	71	115		

SAMPLE TYPE: Spike-Method/Media blank | LAB ID: GFS_MD_O | INSTR RUN: 4000\951215201400/3/1
INSTRUMENT: TJA 4000, GFAA | PREPARED: | BATCH ID: GFS121495-O
UNITS: mg/kg | ANALYZED: 12/15/95 | DILUTION: 1.000000
METHOD:

ANALYTE	RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
Selenium in soil EPA 7740	19.2	ND	1	20.0	96.0	71	115		

SAMPLE TYPE: Spike-Method/Media blank | LAB ID: GFS_MS_Q | INSTR RUN: 4000\951216112800/2/1
INSTRUMENT: TJA 4000, GFAA | PREPARED: | BATCH ID: GFS121595-Q
UNITS: mg/kg | ANALYZED: 12/16/95 | DILUTION: 1.000000
METHOD:

ANALYTE	RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
Selenium in soil EPA 7740	18.7	ND	1	20.0	93.5	71	115		

SAMPLE TYPE: Spike-Method/Media blank | LAB ID: GFS_MD_Q | INSTR RUN: 4000\951216112800/3/1
INSTRUMENT: TJA 4000, GFAA | PREPARED: | BATCH ID: GFS121595-Q
UNITS: mg/kg | ANALYZED: 12/16/95 | DILUTION: 1.000000
METHOD:

ANALYTE	RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
Selenium in soil EPA 7740	18.2	ND	1	20.0	91.0	71	115		

METHOD SPIKE DUPLICATES

SAMPLE TYPE: Method Spike Sample Duplicate | LAB ID: GFS_MR_O | INSTR RUN: 4000\951215201400/4/2
INSTRUMENT: TJA 4000, GFAA | PREPARED: | BATCH ID: GFS121495-O
UNITS: mg/kg | ANALYZED: 12/15/95 | DILUTION: 1.000000
METHOD:

ANALYTE	RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
Selenium in soil EPA 7740	19.2	17.7	1					8.13	11

ANALYSIS: Selenium

MATRIX: Soil/Bulk

METHOD SPIKE DUPLICATES

SAMPLE TYPE: Method Spike Sample Duplicate
INSTRUMENT: TJA 4000, GFAA
UNITS: mg/kg
METHOD:
LAB ID: GFS_MR_Q
PREPARED:
ANALYZED: 12/16/95
INSTR RUN: 4000\951216112800/4/2
BATCH ID: GFS121595-Q
DILUTION: 1.000000

ANALYTE	RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%
Selenium in soil EPA 7740	18.2	18.7						2.71	11

MATRIX SPIKE SAMPLES

SAMPLE TYPE: Spike-Sample/Matrix
INSTRUMENT: TJA 4000, GFAA
UNITS: mg/kg
METHOD:
LAB ID: MS12086-07A
PREPARED:
ANALYZED: 12/16/95
INSTR RUN: 4000\951215201400/6/5
BATCH ID: GFS121495-O
DILUTION: 1.000000

ANALYTE	RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%
Selenium in soil EPA 7740	18.3	ND	1	20.0	91.5	1	156		

SAMPLE TYPE: Spike-Sample/Matrix
INSTRUMENT: TJA 4000, GFAA
UNITS: mg/kg
METHOD:
LAB ID: MD12086-07A
PREPARED:
ANALYZED: 12/16/95
INSTR RUN: 4000\951215201400/7/5
BATCH ID: GFS121495-O
DILUTION: 1.000000

ANALYTE	RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%
Selenium in soil EPA 7740	17.9	ND	1	20.0	89.5	1	156		

SAMPLE TYPE: Spike-Sample/Matrix
INSTRUMENT: TJA 4000, GFAA
UNITS: mg/kg
METHOD:
LAB ID: MS12086-17A
PREPARED:
ANALYZED: 12/16/95
INSTR RUN: 4000\951216112800/7/6
BATCH ID: GFS121595-Q
DILUTION: 1.000000

ANALYTE	RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%
Selenium in soil EPA 7740	16.0	ND	1	20.0	80.0	1	156		

SAMPLE TYPE: Spike-Sample/Matrix
INSTRUMENT: TJA 4000, GFAA
UNITS: mg/kg
METHOD:
LAB ID: MD12086-17A
PREPARED:
ANALYZED: 12/16/95
INSTR RUN: 4000\951216112800/8/6
BATCH ID: GFS121595-Q
DILUTION: 1.000000

ANALYTE	RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%
Selenium in soil EPA 7740	18.0	ND	1	20.0	90.0	1	156		

MATRIX SPIKE DUPLICATES

SAMPLE TYPE: Spiked Sample Duplicate
INSTRUMENT: TJA 4000, GFAA
UNITS: mg/kg
METHOD:
LAB ID: MR12086-07A
PREPARED:
ANALYZED: 12/16/95
INSTR RUN: 4000\951215201400/8/6
BATCH ID: GFS121495-O
DILUTION: 1.000000

ANALYTE	RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%
Selenium in soil EPA 7740	17.9	18.3	1					2.21	21

SAMPLE TYPE: Spiked Sample Duplicate
INSTRUMENT: TJA 4000, GFAA
UNITS: mg/kg
METHOD:
LAB ID: MR12086-17A
PREPARED:
ANALYZED: 12/16/95
INSTR RUN: 4000\951216112800/9/7
BATCH ID: GFS121595-Q
DILUTION: 1.000000

ANALYTE	RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%
Selenium in soil EPA 7740	18.0	16.0	1					11.8	21

End of Quality Control Report

R-4,5-I

9512086

Chain-of-Custody Record

№ 5683

Date: 12/7/95

Page 1 of 2

Project No.: 2906

Samplers (Signatures):

	Date	Time	Sample Number	EPA Method 8010	EPA Method 8020	EPA Method 8240	EPA Method 8270	TPH as gasoline	TPH as diesel	TPH as BTEX	17 metals	Cooled	Soil (S) or water (W)	Acidified	Number of containers
1A	12/6	1530	B14-2								X	Y	S	N	1
2A	12/6	1600	B14-7								X				1
3A	12/6	1605	B14-10								X				1
4A	12/6	1610	B14-13								X				1
5A	12/6	1615	B14-16								X				1
6A	12/7	810	MW8-3								X				1
7A	12/7	830	MW8-8.5								X				1
8A	12/7	840	MW8-12.5								X				1
9A	12/7	850	MW8-15.5								X				1
0A	12/7	1005	MW5-2								X				1
1A	12/7	1100	MW5-11.5								X				1
2A	12/7	1110	MW5-14.5								X	↓	↓	↓	1

ANALYSES

REMARKS

Additional comments

Save all samples - Do not throw away until further Notice

Turnaround time: STANDARD

Results to: MIKE KEIM

Total No. of containers: 12

Relinquished by:	Date:	Relinquished by:	Date:	Relinquished by:	Date:	Method of shipment:
Signature: MIKE KEIM	12/7/95	Signature:	12/7/95	Signature:		LABS COURIER
Printed name: GEOMATRIX		Printed name:		Printed name:		Laboratory comments and Log No.:
Company:		Company:		Company:		
Received by:	**Time:**	**Received by:**	**Time:**	**Received by:**	**Time:**	
Signature:	15:15	Signature: Ronald C. Jensen	17:45	Signature:		
Printed name: Mackoe / McMullen		Printed name: RON JENSEN		Printed name:		
Company: AEW		Company: AEN		Company:		

Geomatrix Consultants
100 Pine St. 10th Floor
San Francisco, CA 94111
(415) 434-9400

9512086

Chain-of-Custody Record

№ 5328 | Date: 12/7/95 | Page 2 of 2

Project No.: 2906

Samplers (Signatures): Mike Keim

	Date	Time	Sample Number	EPA Method 8010	EPA Method 8020	EPA Method 8240	EPA Method 8270	TPH as gasoline	TPH as diesel	TPH as BTEX		17 Metals										Cooled	Soil (S) or water (W)	Acidified	Number of containers
3A	12/7	1115	MW5-17.5									X										Y	S	N	1
4A	12/7	1255	MW4-5.5									X													1
5A	12/7	1315	MW4-8.5									X													1
6A	12/7	1320	MW4-10.5									X													1
7A	12/7	1325	MW4-14									X													1
8A	12/7	1330	MW4-17									X										↓	↓	↓	1

ANALYSES

REMARKS

Additional comments

Save all Samples

Turnaround time: STANDARD

Results to: MIKE KEIM

Total No. of containers: 18

Relinquished by:	Date:	Relinquished by:	Date:	Relinquished by:	Date:	Method of shipment:
Mike Keim	12/7/95		12/7/95			Lab Courier
Signature: Mike Keim		Signature:		Signature:		Laboratory comments and Log No.:
Printed name: Geomatrix		Printed name:		Printed name:		
Company:		Company:		Company:		
Received by:	**Time:**	**Received by:**	**Time:**	**Received by:**	**Time:**	
Signature: Michael McMullen	15:15	Signature: Ronald C. Jensen	12:45	Signature:		
Printed name: Michael McMullen		Printed name: RON JENSEN		Printed name:		
Company: AEN		Company: AEN		Company:		

Geomatrix Consultants
100 Pine St. 10th Floor
San Francisco, CA. 94111
(415) 434-9400

American Environmental Network

Certificate of Analysis

DOHS Certification: 1172 AIHA Accreditation: 11134

GEOMATRIX CONSULTANTS
100 PINE ST., SUITE 1000
SAN FRANCISCO, CA 94111

ATTN: MIKE KIEM
CLIENT PROJ. ID: 2906

C.O.C. NUMBER: 8483

REPORT DATE: 01/11/96

DATE(S) SAMPLED: 12/11/95-12/13/95

DATE RECEIVED: 12/13/95

AEN WORK ORDER: 9512161

PROJECT SUMMARY:

On December 13, 1995, this laboratory received 9 water sample(s).

Client requested 8 sample(s) be analyzed for inorganic and organic parameters; one sample was placed on hold. On December 15, 1995, client requested sample be taken off hold and analyzed for inorganic and organic parameters. Portions for EPA 8270 were subcontracted to a DOHS certified laboratory; subcontract report will follow at a later date. Results of analysis are summarized on the following page(s). Please see quality control report for a summary of QC data pertaining to this project.

Samples will be stored for 30 days after completion of analysis, then disposed of in accordance with State and Federal regulations. Samples may be archived by prior arrangement.

If you have any questions, please contact Client Services at (510) 930-9090.

Larry Klein
Laboratory Director

GEOMATRIX CONSULTANTS

SAMPLE ID: MW-1-1295
AEN LAB NO: 9512161-01
AEN WORK ORDER: 9512161
CLIENT PROJ. ID: 2906

DATE SAMPLED: 12/12/95
DATE RECEIVED: 12/13/95
REPORT DATE: 01/11/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Digestion, Metals by GFAA	EPA 3020	-		Prep Date	12/19/95
#Digestion, Metals by ICP	EPA 3010	-		Prep Date	12/19/95
Volatile Organic Compounds	EPA 8240				
Acetone	67-64-1	ND	100	ug/L	12/16/95
Benzene	71-43-2	ND	5	ug/L	12/16/95
Bromodichloromethane	75-27-4	ND	5	ug/L	12/16/95
Bromoform	75-25-2	ND	5	ug/L	12/16/95
Bromomethane	74-83-9	ND	10	ug/L	12/16/95
2-Butanone	78-93-3	ND	100	ug/L	12/16/95
Carbon Disulfide	75-15-0	ND	10	ug/L	12/16/95
Carbon Tetrachloride	56-23-5	ND	5	ug/L	12/16/95
Chlorobenzene	108-90-7	ND	5	ug/L	12/16/95
Chloroethane	75-00-3	ND	10	ug/L	12/16/95
2-Chloroethyl Vinyl Ether	110-75-8	ND	10	ug/L	12/16/95
Chloroform	67-66-3	ND	5	ug/L	12/16/95
Chloromethane	74-87-3	ND	10	ug/L	12/16/95
Dibromochloromethane	124-48-1	ND	5	ug/L	12/16/95
1,1-Dichloroethane	75-34-3	ND	5	ug/L	12/16/95
1,2-Dichloroethane	107-06-2	ND	5	ug/L	12/16/95
1,1-Dichloroethene	75-35-4	ND	5	ug/L	12/16/95
cis-1,2-Dichloroethene	156-59-2	ND	5	ug/L	12/16/95
trans-1,2-Dichloroethene	156-60-5	ND	5	ug/L	12/16/95
1,2-Dichloropropane	78-87-5	ND	5	ug/L	12/16/95
cis-1,3-Dichloropropene	10061-01-5	ND	5	ug/L	12/16/95
trans-1,3-Dichloropropene	10061-02-6	ND	5	ug/L	12/16/95
Ethylbenzene	100-41-4	ND	5	ug/L	12/16/95
2-Hexanone	591-78-6	ND	50	ug/L	12/16/95
Methylene Chloride	75-09-2	ND	20	ug/L	12/16/95
4-Methyl-2-pentanone	108-10-1	ND	50	ug/L	12/16/95
Styrene	100-42-5	ND	5	ug/L	12/16/95
1,1,2,2-Tetrachloroethane	79-34-5	ND	5	ug/L	12/16/95
Tetrachloroethene	127-18-4	ND	5	ug/L	12/16/95
Toluene	108-88-3	ND	5	ug/L	12/16/95
1,1,1-Trichloroethane	71-55-6	ND	5	ug/L	12/16/95
1,1,2-Trichloroethane	79-00-5	ND	5	ug/L	12/16/95
Trichloroethene	79-01-6	ND	5	ug/L	12/16/95
Vinyl Acetate	108-05-4	ND	50	ug/L	12/16/95
Vinyl Chloride	75-01-4	ND	10	ug/L	12/16/95
Xylenes, Total	1330-20-7	ND	10	ug/L	12/16/95

GEOMATRIX CONSULTANTS

SAMPLE ID: MW-1-1295
AEN LAB NO: 9512161-01
AEN WORK ORDER: 9512161
CLIENT PROJ. ID: 2906

DATE SAMPLED: 12/12/95
DATE RECEIVED: 12/13/95
REPORT DATE: 01/11/96

ANALYTE		METHOD/ CAS#	RESULT		REPORTING LIMIT	UNITS	DATE ANALYZED
CCR 17 Metals							
Ag	Silver	EPA 6010	ND		0.05	mg/L	12/22/95
As	Arsenic	EPA 7060	0.011	*	0.002	mg/L	12/20/95
Ba	Barium	EPA 6010	ND		0.1	mg/L	12/22/95
Be	Beryllium	EPA 6010	ND		0.02	mg/L	12/22/95
Cd	Cadmium	EPA 6010	2.8	*	0.05	mg/L	12/22/95
Co	Cobalt	EPA 6010	0.11	*	0.05	mg/L	12/22/95
Cr	Chromium	EPA 6010	ND		0.1	mg/L	12/22/95
Cu	Copper	EPA 6010	1.0	*	0.1	mg/L	12/22/95
Hg	Mercury	EPA 7470	0.0003	*	0.0002	mg/L	12/18/95
Mo	Molybdenum	EPA 6010	ND		0.1	mg/L	12/22/95
Ni	Nickel	EPA 6010	1.2	*	0.1	mg/L	12/22/95
Pb	Lead	EPA 6010	0.6	*	0.4	mg/L	12/22/95
Sb	Antimony	EPA 6010	ND		0.2	mg/L	12/22/95
Se	Selenium	EPA 7740	0.013	*	0.004	mg/L	12/20/95
Tl	Thallium	EPA 6010	ND		0.5	mg/L	12/22/95
V	Vanadium	EPA 6010	ND		0.05	mg/L	12/22/95
Zn	Zinc	EPA 6010	1,000	*	0.1	mg/L	12/22/95

Reporting limits for metals by EPA 6010 elevated due to matrix interference.

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: MW-2-1295
AEN LAB NO: 9512161-02
AEN WORK ORDER: 9512161
CLIENT PROJ. ID: 2906

DATE SAMPLED: 12/12/95
DATE RECEIVED: 12/13/95
REPORT DATE: 01/11/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Digestion, Metals by GFAA	EPA 3020	-		Prep Date	12/19/95
#Digestion, Metals by ICP	EPA 3010	-		Prep Date	12/19/95
Volatile Organic Compounds	EPA 8240				
Acetone	67-64-1	ND	100	ug/L	12/16/95
Benzene	71-43-2	ND	5	ug/L	12/16/95
Bromodichloromethane	75-27-4	ND	5	ug/L	12/16/95
Bromoform	75-25-2	ND	5	ug/L	12/16/95
Bromomethane	74-83-9	ND	10	ug/L	12/16/95
2-Butanone	78-93-3	ND	100	ug/L	12/16/95
Carbon Disulfide	75-15-0	ND	10	ug/L	12/16/95
Carbon Tetrachloride	56-23-5	ND	5	ug/L	12/16/95
Chlorobenzene	108-90-7	ND	5	ug/L	12/16/95
Chloroethane	75-00-3	ND	10	ug/L	12/16/95
2-Chloroethyl Vinyl Ether	110-75-8	ND	10	ug/L	12/16/95
Chloroform	67-66-3	ND	5	ug/L	12/16/95
Chloromethane	74-87-3	ND	10	ug/L	12/16/95
Dibromochloromethane	124-48-1	ND	5	ug/L	12/16/95
1,1-Dichloroethane	75-34-3	ND	5	ug/L	12/16/95
1,2-Dichloroethane	107-06-2	ND	5	ug/L	12/16/95
1,1-Dichloroethene	75-35-4	ND	5	ug/L	12/16/95
cis-1,2-Dichloroethene	156-59-2	ND	5	ug/L	12/16/95
trans-1,2-Dichloroethene	156-60-5	ND	5	ug/L	12/16/95
1,2-Dichloropropane	78-87-5	ND	5	ug/L	12/16/95
cis-1,3-Dichloropropene	10061-01-5	ND	5	ug/L	12/16/95
trans-1,3-Dichloropropene	10061-02-6	ND	5	ug/L	12/16/95
Ethylbenzene	100-41-4	ND	5	ug/L	12/16/95
2-Hexanone	591-78-6	ND	50	ug/L	12/16/95
Methylene Chloride	75-09-2	ND	20	ug/L	12/16/95
4-Methyl-2-pentanone	108-10-1	ND	50	ug/L	12/16/95
Styrene	100-42-5	ND	5	ug/L	12/16/95
1,1,2,2-Tetrachloroethane	79-34-5	ND	5	ug/L	12/16/95
Tetrachloroethene	127-18-4	ND	5	ug/L	12/16/95
Toluene	108-88-3	ND	5	ug/L	12/16/95
1,1,1-Trichloroethane	71-55-6	ND	5	ug/L	12/16/95
1,1,2-Trichloroethane	79-00-5	ND	5	ug/L	12/16/95
Trichloroethene	79-01-6	ND	5	ug/L	12/16/95
Vinyl Acetate	108-05-4	ND	50	ug/L	12/16/95
Vinyl Chloride	75-01-4	ND	10	ug/L	12/16/95
Xylenes, Total	1330-20-7	ND	10	ug/L	12/16/95

GEOMATRIX CONSULTANTS

SAMPLE ID: MW-2-1295
AEN LAB NO: 9512161-02
AEN WORK ORDER: 9512161
CLIENT PROJ. ID: 2906

DATE SAMPLED: 12/12/95
DATE RECEIVED: 12/13/95
REPORT DATE: 01/11/96

ANALYTE		METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
CCR 17 Metals						
Ag	Silver	EPA 6010	ND	0.005	mg/L	12/22/95
As	Arsenic	EPA 7060	1.2 *	0.002	mg/L	12/20/95
Ba	Barium	EPA 6010	0.56 *	0.01	mg/L	12/22/95
Be	Beryllium	EPA 6010	ND	0.002	mg/L	12/22/95
Cd	Cadmium	EPA 6010	ND	0.005	mg/L	12/22/95
Co	Cobalt	EPA 6010	0.009 *	0.005	mg/L	12/22/95
Cr	Chromium	EPA 6010	ND	0.01	mg/L	12/22/95
Cu	Copper	EPA 6010	ND	0.01	mg/L	12/22/95
Hg	Mercury	EPA 7470	ND	0.0002	mg/L	12/18/95
Mo	Molybdenum	EPA 6010	0.06 *	0.01	mg/L	12/22/95
Ni	Nickel	EPA 6010	0.19 *	0.01	mg/L	12/22/95
Pb	Lead	EPA 6010	ND	0.04	mg/L	12/22/95
Sb	Antimony	EPA 6010	0.06 *	0.02	mg/L	12/22/95
Se	Selenium	EPA 7740	ND	0.004	mg/L	12/20/95
Tl	Thallium	EPA 6010	ND	0.05	mg/L	12/22/95
V	Vanadium	EPA 6010	0.032 *	0.005	mg/L	12/22/95
Zn	Zinc	EPA 6010	4.6 *	0.01	mg/L	12/22/95

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: MW-3-1295
AEN LAB NO: 9512161-03
AEN WORK ORDER: 9512161
CLIENT PROJ. ID: 2906

DATE SAMPLED: 12/12/95
DATE RECEIVED: 12/13/95
REPORT DATE: 01/11/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Digestion, Metals by GFAA	EPA 3020	-		Prep Date	12/19/95
#Digestion, Metals by ICP	EPA 3010	-		Prep Date	12/19/95
Volatile Organic Compounds	EPA 8240				
Acetone	67-64-1	ND	100	ug/L	12/16/95
Benzene	71-43-2	ND	5	ug/L	12/16/95
Bromodichloromethane	75-27-4	ND	5	ug/L	12/16/95
Bromoform	75-25-2	ND	5	ug/L	12/16/95
Bromomethane	74-83-9	ND	10	ug/L	12/16/95
2-Butanone	78-93-3	ND	100	ug/L	12/16/95
Carbon Disulfide	75-15-0	ND	10	ug/L	12/16/95
Carbon Tetrachloride	56-23-5	ND	5	ug/L	12/16/95
Chlorobenzene	108-90-7	ND	5	ug/L	12/16/95
Chloroethane	75-00-3	ND	10	ug/L	12/16/95
2-Chloroethyl Vinyl Ether	110-75-8	ND	10	ug/L	12/16/95
Chloroform	67-66-3	ND	5	ug/L	12/16/95
Chloromethane	74-87-3	ND	10	ug/L	12/16/95
Dibromochloromethane	124-48-1	ND	5	ug/L	12/16/95
1,1-Dichloroethane	75-34-3	ND	5	ug/L	12/16/95
1,2-Dichloroethane	107-06-2	ND	5	ug/L	12/16/95
1,1-Dichloroethene	75-35-4	ND	5	ug/L	12/16/95
cis-1,2-Dichloroethene	156-59-2	ND	5	ug/L	12/16/95
trans-1,2-Dichloroethene	156-60-5	ND	5	ug/L	12/16/95
1,2-Dichloropropane	78-87-5	ND	5	ug/L	12/16/95
cis-1,3-Dichloropropene	10061-01-5	ND	5	ug/L	12/16/95
trans-1,3-Dichloropropene	10061-02-6	ND	5	ug/L	12/16/95
Ethylbenzene	100-41-4	ND	5	ug/L	12/16/95
2-Hexanone	591-78-6	ND	50	ug/L	12/16/95
Methylene Chloride	75-09-2	ND	20	ug/L	12/16/95
4-Methyl-2-pentanone	108-10-1	ND	50	ug/L	12/16/95
Styrene	100-42-5	ND	5	ug/L	12/16/95
1,1,2,2-Tetrachloroethane	79-34-5	ND	5	ug/L	12/16/95
Tetrachloroethene	127-18-4	ND	5	ug/L	12/16/95
Toluene	108-88-3	ND	5	ug/L	12/16/95
1,1,1-Trichloroethane	71-55-6	ND	5	ug/L	12/16/95
1,1,2-Trichloroethane	79-00-5	ND	5	ug/L	12/16/95
Trichloroethene	79-01-6	ND	5	ug/L	12/16/95
Vinyl Acetate	108-05-4	ND	50	ug/L	12/16/95
Vinyl Chloride	75-01-4	ND	10	ug/L	12/16/95
Xylenes, Total	1330-20-7	ND	10	ug/L	12/16/95

GEOMATRIX CONSULTANTS

SAMPLE ID: MW-3-1295
AEN LAB NO: 9512161-03
AEN WORK ORDER: 9512161
CLIENT PROJ. ID: 2906

DATE SAMPLED: 12/12/95
DATE RECEIVED: 12/13/95
REPORT DATE: 01/11/96

ANALYTE		METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
CCR 17 Metals						
Ag	Silver	EPA 6010	ND	0.005	mg/L	12/22/95
As	Arsenic	EPA 7060	0.018 *	0.002	mg/L	12/20/95
Ba	Barium	EPA 6010	0.12 *	0.01	mg/L	12/22/95
Be	Beryllium	EPA 6010	ND	0.002	mg/L	12/22/95
Cd	Cadmium	EPA 6010	0.070 *	0.005	mg/L	12/22/95
Co	Cobalt	EPA 6010	0.040 *	0.005	mg/L	12/22/95
Cr	Chromium	EPA 6010	ND	0.01	mg/L	12/22/95
Cu	Copper	EPA 6010	ND	0.01	mg/L	12/22/95
Hg	Mercury	EPA 7470	ND	0.0002	mg/L	12/18/95
Mo	Molybdenum	EPA 6010	ND	0.01	mg/L	12/22/95
Ni	Nickel	EPA 6010	0.04 *	0.01	mg/L	12/22/95
Pb	Lead	EPA 6010	ND	0.04	mg/L	12/22/95
Sb	Antimony	EPA 6010	ND	0.02	mg/L	12/22/95
Se	Selenium	EPA 7740	ND	0.004	mg/L	12/20/95
Tl	Thallium	EPA 6010	0.05 *	0.05	mg/L	12/22/95
V	Vanadium	EPA 6010	0.007 *	0.005	mg/L	12/22/95
Zn	Zinc	EPA 6010	26 *	0.01	mg/L	12/22/95

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: MW-4-1295
AEN LAB NO: 9512161-04
AEN WORK ORDER: 9512161
CLIENT PROJ. ID: 2906

DATE SAMPLED: 12/11/95
DATE RECEIVED: 12/13/95
REPORT DATE: 01/11/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Digestion, Metals by GFAA	EPA 3020	-		Prep Date	12/19/95
#Digestion, Metals by ICP	EPA 3010	-		Prep Date	12/19/95
Volatile Organic Compounds	EPA 8240				
Acetone	67-64-1	ND	100	ug/L	12/16/95
Benzene	71-43-2	ND	5	ug/L	12/16/95
Bromodichloromethane	75-27-4	ND	5	ug/L	12/16/95
Bromoform	75-25-2	ND	5	ug/L	12/16/95
Bromomethane	74-83-9	ND	10	ug/L	12/16/95
2-Butanone	78-93-3	ND	100	ug/L	12/16/95
Carbon Disulfide	75-15-0	ND	10	ug/L	12/16/95
Carbon Tetrachloride	56-23-5	ND	5	ug/L	12/16/95
Chlorobenzene	108-90-7	ND	5	ug/L	12/16/95
Chloroethane	75-00-3	ND	10	ug/L	12/16/95
2-Chloroethyl Vinyl Ether	110-75-8	ND	10	ug/L	12/16/95
Chloroform	67-66-3	ND	5	ug/L	12/16/95
Chloromethane	74-87-3	ND	10	ug/L	12/16/95
Dibromochloromethane	124-48-1	ND	5	ug/L	12/16/95
1,1-Dichloroethane	75-34-3	ND	5	ug/L	12/16/95
1,2-Dichloroethane	107-06-2	ND	5	ug/L	12/16/95
1,1-Dichloroethene	75-35-4	ND	5	ug/L	12/16/95
cis-1,2-Dichloroethene	156-59-2	ND	5	ug/L	12/16/95
trans-1,2-Dichloroethene	156-60-5	ND	5	ug/L	12/16/95
1,2-Dichloropropane	78-87-5	ND	5	ug/L	12/16/95
cis-1,3-Dichloropropene	10061-01-5	ND	5	ug/L	12/16/95
trans-1,3-Dichloropropene	10061-02-6	ND	5	ug/L	12/16/95
Ethylbenzene	100-41-4	ND	5	ug/L	12/16/95
2-Hexanone	591-78-6	ND	50	ug/L	12/16/95
Methylene Chloride	75-09-2	ND	20	ug/L	12/16/95
4-Methyl-2-pentanone	108-10-1	ND	50	ug/L	12/16/95
Styrene	100-42-5	ND	5	ug/L	12/16/95
1,1,2,2-Tetrachloroethane	79-34-5	ND	5	ug/L	12/16/95
Tetrachloroethene	127-18-4	ND	5	ug/L	12/16/95
Toluene	108-88-3	ND	5	ug/L	12/16/95
1,1,1-Trichloroethane	71-55-6	ND	5	ug/L	12/16/95
1,1,2-Trichloroethane	79-00-5	ND	5	ug/L	12/16/95
Trichloroethene	79-01-6	ND	5	ug/L	12/16/95
Vinyl Acetate	108-05-4	ND	50	ug/L	12/16/95
Vinyl Chloride	75-01-4	ND	10	ug/L	12/16/95
Xylenes, Total	1330-20-7	ND	10	ug/L	12/16/95

GEOMATRIX CONSULTANTS

SAMPLE ID: MW-4-1295
AEN LAB NO: 9512161-04
AEN WORK ORDER: 9512161
CLIENT PROJ. ID: 2906

DATE SAMPLED: 12/11/95
DATE RECEIVED: 12/13/95
REPORT DATE: 01/11/96

ANALYTE		METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
CCR 17 Metals						
Ag	Silver	EPA 6010	ND	0.05	mg/L	12/22/95
As	Arsenic	EPA 7060	0.005 *	0.002	mg/L	12/20/95
Ba	Barium	EPA 6010	ND	0.1	mg/L	12/22/95
Be	Beryllium	EPA 6010	ND	0.02	mg/L	12/22/95
Cd	Cadmium	EPA 6010	ND	0.05	mg/L	12/22/95
Co	Cobalt	EPA 6010	1.2 *	0.05	mg/L	12/22/95
Cr	Chromium	EPA 6010	ND	0.1	mg/L	12/22/95
Cu	Copper	EPA 6010	ND	0.1	mg/L	12/22/95
Hg	Mercury	EPA 7470	ND	0.0002	mg/L	12/18/95
Mo	Molybdenum	EPA 6010	ND	0.1	mg/L	12/22/95
Ni	Nickel	EPA 6010	3.0 *	0.1	mg/L	12/22/95
Pb	Lead	EPA 6010	ND	0.4	mg/L	12/22/95
Sb	Antimony	EPA 6010	ND	0.2	mg/L	12/22/95
Se	Selenium	EPA 7740	ND	0.02	mg/L	12/20/95
Tl	Thallium	EPA 6010	ND	0.5	mg/L	12/22/95
V	Vanadium	EPA 6010	ND	0.05	mg/L	12/22/95
Zn	Zinc	EPA 6010	430 *	0.1	mg/L	12/22/95

Reporting limits for metals by EPA 6010 elevated due to matrix interference.

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: MW-5-1295
AEN LAB NO: 9512161-05
AEN WORK ORDER: 9512161
CLIENT PROJ. ID: 2906

DATE SAMPLED: 12/11/95
DATE RECEIVED: 12/13/95
REPORT DATE: 01/11/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Digestion, Metals by GFAA	EPA 3020	-		Prep Date	12/19/95
#Digestion, Metals by ICP	EPA 3010	-		Prep Date	12/19/95
Volatile Organic Compounds	EPA 8240				
Acetone	67-64-1	ND	100	ug/L	12/16/95
Benzene	71-43-2	ND	5	ug/L	12/16/95
Bromodichloromethane	75-27-4	ND	5	ug/L	12/16/95
Bromoform	75-25-2	ND	5	ug/L	12/16/95
Bromomethane	74-83-9	ND	10	ug/L	12/16/95
2-Butanone	78-93-3	ND	100	ug/L	12/16/95
Carbon Disulfide	75-15-0	ND	10	ug/L	12/16/95
Carbon Tetrachloride	56-23-5	ND	5	ug/L	12/16/95
Chlorobenzene	108-90-7	ND	5	ug/L	12/16/95
Chloroethane	75-00-3	ND	10	ug/L	12/16/95
2-Chloroethyl Vinyl Ether	110-75-8	ND	10	ug/L	12/16/95
Chloroform	67-66-3	ND	5	ug/L	12/16/95
Chloromethane	74-87-3	ND	10	ug/L	12/16/95
Dibromochloromethane	124-48-1	ND	5	ug/L	12/16/95
1,1-Dichloroethane	75-34-3	ND	5	ug/L	12/16/95
1,2-Dichloroethane	107-06-2	ND	5	ug/L	12/16/95
1,1-Dichloroethene	75-35-4	ND	5	ug/L	12/16/95
cis-1,2-Dichloroethene	156-59-2	ND	5	ug/L	12/16/95
trans-1,2-Dichloroethene	156-60-5	ND	5	ug/L	12/16/95
1,2-Dichloropropane	78-87-5	ND	5	ug/L	12/16/95
cis-1,3-Dichloropropene	10061-01-5	ND	5	ug/L	12/16/95
trans-1,3-Dichloropropene	10061-02-6	ND	5	ug/L	12/16/95
Ethylbenzene	100-41-4	ND	5	ug/L	12/16/95
2-Hexanone	591-78-6	ND	50	ug/L	12/16/95
Methylene Chloride	75-09-2	ND	20	ug/L	12/16/95
4-Methyl-2-pentanone	108-10-1	ND	50	ug/L	12/16/95
Styrene	100-42-5	ND	5	ug/L	12/16/95
1,1,2,2-Tetrachloroethane	79-34-5	ND	5	ug/L	12/16/95
Tetrachloroethene	127-18-4	ND	5	ug/L	12/16/95
Toluene	108-88-3	ND	5	ug/L	12/16/95
1,1,1-Trichloroethane	71-55-6	ND	5	ug/L	12/16/95
1,1,2-Trichloroethane	79-00-5	ND	5	ug/L	12/16/95
Trichloroethene	79-01-6	ND	5	ug/L	12/16/95
Vinyl Acetate	108-05-4	ND	50	ug/L	12/16/95
Vinyl Chloride	75-01-4	ND	10	ug/L	12/16/95
Xylenes, Total	1330-20-7	ND	10	ug/L	12/16/95

GEOMATRIX CONSULTANTS

SAMPLE ID: MW-5-1295
AEN LAB NO: 9512161-05
AEN WORK ORDER: 9512161
CLIENT PROJ. ID: 2906

DATE SAMPLED: 12/11/95
DATE RECEIVED: 12/13/95
REPORT DATE: 01/11/96

ANALYTE		METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
CCR 17 Metals						
Ag	Silver	EPA 6010	ND	0.005	mg/L	12/22/95
As	Arsenic	EPA 7060	0.009 *	0.002	mg/L	12/20/95
Ba	Barium	EPA 6010	0.21 *	0.01	mg/L	12/22/95
Be	Beryllium	EPA 6010	ND	0.002	mg/L	12/22/95
Cd	Cadmium	EPA 6010	ND	0.005	mg/L	12/22/95
Co	Cobalt	EPA 6010	ND	0.005	mg/L	12/22/95
Cr	Chromium	EPA 6010	ND	0.01	mg/L	12/22/95
Cu	Copper	EPA 6010	ND	0.01	mg/L	12/22/95
Hg	Mercury	EPA 7470	ND	0.0002	mg/L	12/18/95
Mo	Molybdenum	EPA 6010	ND	0.01	mg/L	12/22/95
Ni	Nickel	EPA 6010	ND	0.01	mg/L	12/22/95
Pb	Lead	EPA 6010	ND	0.04	mg/L	12/22/95
Sb	Antimony	EPA 6010	ND	0.02	mg/L	12/22/95
Se	Selenium	EPA 7740	ND	0.004	mg/L	12/20/95
Tl	Thallium	EPA 6010	ND	0.05	mg/L	12/22/95
V	Vanadium	EPA 6010	ND	0.005	mg/L	12/22/95
Zn	Zinc	EPA 6010	0.02 *	0.01	mg/L	12/22/95

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: MW-6-1295
AEN LAB NO: 9512161-06
AEN WORK ORDER: 9512161
CLIENT PROJ. ID: 2906

DATE SAMPLED: 12/11/95
DATE RECEIVED: 12/13/95
REPORT DATE: 01/11/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Digestion, Metals by GFAA	EPA 3020	-		Prep Date	12/19/95
#Digestion, Metals by ICP	EPA 3010	-		Prep Date	12/19/95
Volatile Organic Compounds	EPA 8240				
Acetone	67-64-1	ND	100	ug/L	12/16/95
Benzene	71-43-2	ND	5	ug/L	12/16/95
Bromodichloromethane	75-27-4	ND	5	ug/L	12/16/95
Bromoform	75-25-2	ND	5	ug/L	12/16/95
Bromomethane	74-83-9	ND	10	ug/L	12/16/95
2-Butanone	78-93-3	ND	100	ug/L	12/16/95
Carbon Disulfide	75-15-0	ND	10	ug/L	12/16/95
Carbon Tetrachloride	56-23-5	ND	5	ug/L	12/16/95
Chlorobenzene	108-90-7	ND	5	ug/L	12/16/95
Chloroethane	75-00-3	ND	10	ug/L	12/16/95
2-Chloroethyl Vinyl Ether	110-75-8	ND	10	ug/L	12/16/95
Chloroform	67-66-3	ND	5	ug/L	12/16/95
Chloromethane	74-87-3	ND	10	ug/L	12/16/95
Dibromochloromethane	124-48-1	ND	5	ug/L	12/16/95
1,1-Dichloroethane	75-34-3	ND	5	ug/L	12/16/95
1,2-Dichloroethane	107-06-2	ND	5	ug/L	12/16/95
1,1-Dichloroethene	75-35-4	ND	5	ug/L	12/16/95
cis-1,2-Dichloroethene	156-59-2	ND	5	ug/L	12/16/95
trans-1,2-Dichloroethene	156-60-5	ND	5	ug/L	12/16/95
1,2-Dichloropropane	78-87-5	ND	5	ug/L	12/16/95
cis-1,3-Dichloropropene	10061-01-5	ND	5	ug/L	12/16/95
trans-1,3-Dichloropropene	10061-02-6	ND	5	ug/L	12/16/95
Ethylbenzene	100-41-4	ND	5	ug/L	12/16/95
2-Hexanone	591-78-6	ND	50	ug/L	12/16/95
Methylene Chloride	75-09-2	ND	20	ug/L	12/16/95
4-Methyl-2-pentanone	108-10-1	ND	50	ug/L	12/16/95
Styrene	100-42-5	ND	5	ug/L	12/16/95
1,1,2,2-Tetrachloroethane	79-34-5	ND	5	ug/L	12/16/95
Tetrachloroethene	127-18-4	ND	5	ug/L	12/16/95
Toluene	108-88-3	ND	5	ug/L	12/16/95
1,1,1-Trichloroethane	71-55-6	ND	5	ug/L	12/16/95
1,1,2-Trichloroethane	79-00-5	ND	5	ug/L	12/16/95
Trichloroethene	79-01-6	ND	5	ug/L	12/16/95
Vinyl Acetate	108-05-4	ND	50	ug/L	12/16/95
Vinyl Chloride	75-01-4	ND	10	ug/L	12/16/95
Xylenes, Total	1330-20-7	ND	10	ug/L	12/16/95

GEOMATRIX CONSULTANTS

SAMPLE ID: MW-6-1295
AEN LAB NO: 9512161-06
AEN WORK ORDER: 9512161
CLIENT PROJ. ID: 2906

DATE SAMPLED: 12/11/95
DATE RECEIVED: 12/13/95
REPORT DATE: 01/11/96

ANALYTE		METHOD/ CAS#	RESULT		REPORTING LIMIT	UNITS	DATE ANALYZED
CCR 17 Metals							
Ag	Silver	EPA 6010	ND		0.005	mg/L	12/22/95
As	Arsenic	EPA 7060	ND		0.002	mg/L	12/20/95
Ba	Barium	EPA 6010	0.24	*	0.01	mg/L	12/22/95
Be	Beryllium	EPA 6010	ND		0.002	mg/L	12/22/95
Cd	Cadmium	EPA 6010	ND		0.005	mg/L	12/22/95
Co	Cobalt	EPA 6010	0.009	*	0.005	mg/L	12/22/95
Cr	Chromium	EPA 6010	ND		0.01	mg/L	12/22/95
Cu	Copper	EPA 6010	ND		0.01	mg/L	12/22/95
Hg	Mercury	EPA 7470	ND		0.0002	mg/L	12/18/95
Mo	Molybdenum	EPA 6010	0.03	*	0.01	mg/L	12/22/95
Ni	Nickel	EPA 6010	0.03	*	0.01	mg/L	12/22/95
Pb	Lead	EPA 6010	ND		0.04	mg/L	12/22/95
Sb	Antimony	EPA 6010	ND		0.02	mg/L	12/22/95
Se	Selenium	EPA 7740	ND		0.004	mg/L	12/20/95
Tl	Thallium	EPA 6010	ND		0.05	mg/L	12/22/95
V	Vanadium	EPA 6010	0.022	*	0.005	mg/L	12/22/95
Zn	Zinc	EPA 6010	0.02	*	0.01	mg/L	12/22/95

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: MW-7-1295
AEN LAB NO: 9512161-07
AEN WORK ORDER: 9512161
CLIENT PROJ. ID: 2906

DATE SAMPLED: 12/12/95
DATE RECEIVED: 12/13/95
REPORT DATE: 01/11/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Digestion, Metals by GFAA	EPA 3020	-		Prep Date	12/19/95
#Digestion, Metals by ICP	EPA 3010	-		Prep Date	12/19/95
Volatile Organic Compounds	EPA 8240				
Acetone	67-64-1	ND	100	ug/L	12/16/95
Benzene	71-43-2	ND	5	ug/L	12/16/95
Bromodichloromethane	75-27-4	ND	5	ug/L	12/16/95
Bromoform	75-25-2	ND	5	ug/L	12/16/95
Bromomethane	74-83-9	ND	10	ug/L	12/16/95
2-Butanone	78-93-3	ND	100	ug/L	12/16/95
Carbon Disulfide	75-15-0	ND	10	ug/L	12/16/95
Carbon Tetrachloride	56-23-5	ND	5	ug/L	12/16/95
Chlorobenzene	108-90-7	ND	5	ug/L	12/16/95
Chloroethane	75-00-3	ND	10	ug/L	12/16/95
2-Chloroethyl Vinyl Ether	110-75-8	ND	10	ug/L	12/16/95
Chloroform	67-66-3	ND	5	ug/L	12/16/95
Chloromethane	74-87-3	ND	10	ug/L	12/16/95
Dibromochloromethane	124-48-1	ND	5	ug/L	12/16/95
1,1-Dichloroethane	75-34-3	ND	5	ug/L	12/16/95
1,2-Dichloroethane	107-06-2	ND	5	ug/L	12/16/95
1,1-Dichloroethene	75-35-4	ND	5	ug/L	12/16/95
cis-1,2-Dichloroethene	156-59-2	ND	5	ug/L	12/16/95
trans-1,2-Dichloroethene	156-60-5	ND	5	ug/L	12/16/95
1,2-Dichloropropane	78-87-5	ND	5	ug/L	12/16/95
cis-1,3-Dichloropropene	10061-01-5	ND	5	ug/L	12/16/95
trans-1,3-Dichloropropene	10061-02-6	ND	5	ug/L	12/16/95
Ethylbenzene	100-41-4	ND	5	ug/L	12/16/95
2-Hexanone	591-78-6	ND	50	ug/L	12/16/95
Methylene Chloride	75-09-2	ND	20	ug/L	12/16/95
4-Methyl-2-pentanone	108-10-1	ND	50	ug/L	12/16/95
Styrene	100-42-5	ND	5	ug/L	12/16/95
1,1,2,2-Tetrachloroethane	79-34-5	ND	5	ug/L	12/16/95
Tetrachloroethene	127-18-4	ND	5	ug/L	12/16/95
Toluene	108-88-3	ND	5	ug/L	12/16/95
1,1,1-Trichloroethane	71-55-6	ND	5	ug/L	12/16/95
1,1,2-Trichloroethane	79-00-5	ND	5	ug/L	12/16/95
Trichloroethene	79-01-6	ND	5	ug/L	12/16/95
Vinyl Acetate	108-05-4	ND	50	ug/L	12/16/95
Vinyl Chloride	75-01-4	ND	10	ug/L	12/16/95
Xylenes, Total	1330-20-7	ND	10	ug/L	12/16/95

GEOMATRIX CONSULTANTS

SAMPLE ID: MW-7-1295
AEN LAB NO: 9512161-07
AEN WORK ORDER: 9512161
CLIENT PROJ. ID: 2906

DATE SAMPLED: 12/12/95
DATE RECEIVED: 12/13/95
REPORT DATE: 01/11/96

ANALYTE		METHOD/ CAS#	RESULT		REPORTING LIMIT	UNITS	DATE ANALYZED
CCR 17 Metals							
Ag	Silver	EPA 6010	ND		0.005	mg/L	12/22/95
As	Arsenic	EPA 7060	ND		0.002	mg/L	12/20/95
Ba	Barium	EPA 6010	0.10	*	0.01	mg/L	12/22/95
Be	Beryllium	EPA 6010	ND		0.002	mg/L	12/22/95
Cd	Cadmium	EPA 6010	ND		0.005	mg/L	12/22/95
Co	Cobalt	EPA 6010	0.014	*	0.005	mg/L	12/22/95
Cr	Chromium	EPA 6010	ND		0.01	mg/L	12/22/95
Cu	Copper	EPA 6010	0.02	*	0.01	mg/L	12/22/95
Hg	Mercury	EPA 7470	ND		0.0002	mg/L	12/18/95
Mo	Molybdenum	EPA 6010	ND		0.01	mg/L	12/22/95
Ni	Nickel	EPA 6010	0.02	*	0.01	mg/L	12/22/95
Pb	Lead	EPA 6010	ND		0.04	mg/L	12/22/95
Sb	Antimony	EPA 6010	ND		0.02	mg/L	12/22/95
Se	Selenium	EPA 7740	ND		0.004	mg/L	12/20/95
Tl	Thallium	EPA 6010	ND		0.05	mg/L	12/22/95
V	Vanadium	EPA 6010	ND		0.005	mg/L	12/22/95
Zn	Zinc	EPA 6010	0.04	*	0.01	mg/L	12/22/95

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: MW-8-1295
AEN LAB NO: 9512161-08
AEN WORK ORDER: 9512161
CLIENT PROJ. ID: 2906

DATE SAMPLED: 12/11/95
DATE RECEIVED: 12/13/95
REPORT DATE: 01/11/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Digestion, Metals by GFAA	EPA 3020	-		Prep Date	12/19/95
#Digestion, Metals by ICP	EPA 3010	-		Prep Date	12/19/95
Volatile Organic Compounds	EPA 8240				
Acetone	67-64-1	ND	100	ug/L	12/16/95
Benzene	71-43-2	ND	5	ug/L	12/16/95
Bromodichloromethane	75-27-4	ND	5	ug/L	12/16/95
Bromoform	75-25-2	ND	5	ug/L	12/16/95
Bromomethane	74-83-9	ND	10	ug/L	12/16/95
2-Butanone	78-93-3	ND	100	ug/L	12/16/95
Carbon Disulfide	75-15-0	ND	10	ug/L	12/16/95
Carbon Tetrachloride	56-23-5	ND	5	ug/L	12/16/95
Chlorobenzene	108-90-7	ND	5	ug/L	12/16/95
Chloroethane	75-00-3	ND	10	ug/L	12/16/95
2-Chloroethyl Vinyl Ether	110-75-8	ND	10	ug/L	12/16/95
Chloroform	67-66-3	ND	5	ug/L	12/16/95
Chloromethane	74-87-3	ND	10	ug/L	12/16/95
Dibromochloromethane	124-48-1	ND	5	ug/L	12/16/95
1,1-Dichloroethane	75-34-3	ND	5	ug/L	12/16/95
1,2-Dichloroethane	107-06-2	ND	5	ug/L	12/16/95
1,1-Dichloroethene	75-35-4	ND	5	ug/L	12/16/95
cis-1,2-Dichloroethene	156-59-2	ND	5	ug/L	12/16/95
trans-1,2-Dichloroethene	156-60-5	ND	5	ug/L	12/16/95
1,2-Dichloropropane	78-87-5	ND	5	ug/L	12/16/95
cis-1,3-Dichloropropene	10061-01-5	ND	5	ug/L	12/16/95
trans-1,3-Dichloropropene	10061-02-6	ND	5	ug/L	12/16/95
Ethylbenzene	100-41-4	ND	5	ug/L	12/16/95
2-Hexanone	591-78-6	ND	50	ug/L	12/16/95
Methylene Chloride	75-09-2	ND	20	ug/L	12/16/95
4-Methyl-2-pentanone	108-10-1	ND	50	ug/L	12/16/95
Styrene	100-42-5	ND	5	ug/L	12/16/95
1,1,2,2-Tetrachloroethane	79-34-5	ND	5	ug/L	12/16/95
Tetrachloroethene	127-18-4	ND	5	ug/L	12/16/95
Toluene	108-88-3	ND	5	ug/L	12/16/95
1,1,1-Trichloroethane	71-55-6	ND	5	ug/L	12/16/95
1,1,2-Trichloroethane	79-00-5	ND	5	ug/L	12/16/95
Trichloroethene	79-01-6	ND	5	ug/L	12/16/95
Vinyl Acetate	108-05-4	ND	50	ug/L	12/16/95
Vinyl Chloride	75-01-4	ND	10	ug/L	12/16/95
Xylenes, Total	1330-20-7	ND	10	ug/L	12/16/95

GEOMATRIX CONSULTANTS

SAMPLE ID: MW-8-1295
AEN LAB NO: 9512161-08
AEN WORK ORDER: 9512161
CLIENT PROJ. ID: 2906

DATE SAMPLED: 12/11/95
DATE RECEIVED: 12/13/95
REPORT DATE: 01/11/96

ANALYTE		METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
CCR 17 Metals						
Ag	Silver	EPA 6010	ND	0.005	mg/L	12/22/95
As	Arsenic	EPA 7060	0.004 *	0.002	mg/L	12/20/95
Ba	Barium	EPA 6010	1.2 *	0.01	mg/L	12/22/95
Be	Beryllium	EPA 6010	ND	0.002	mg/L	12/22/95
Cd	Cadmium	EPA 6010	ND	0.005	mg/L	12/22/95
Co	Cobalt	EPA 6010	ND	0.005	mg/L	12/22/95
Cr	Chromium	EPA 6010	ND	0.01	mg/L	12/22/95
Cu	Copper	EPA 6010	ND	0.01	mg/L	12/22/95
Hg	Mercury	EPA 7470	ND	0.0002	mg/L	12/18/95
Mo	Molybdenum	EPA 6010	ND	0.01	mg/L	12/22/95
Ni	Nickel	EPA 6010	ND	0.01	mg/L	12/22/95
Pb	Lead	EPA 6010	ND	0.04	mg/L	12/22/95
Sb	Antimony	EPA 6010	ND	0.02	mg/L	12/22/95
Se	Selenium	EPA 7740	ND	0.004	mg/L	12/20/95
Tl	Thallium	EPA 6010	0.05 *	0.05	mg/L	12/22/95
V	Vanadium	EPA 6010	0.011 *	0.005	mg/L	12/22/95
Zn	Zinc	EPA 6010	0.01 *	0.01	mg/L	12/22/95

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: EB-1-1295
AEN LAB NO: 9512161-09
AEN WORK ORDER: 9512161
CLIENT PROJ. ID: 2906

DATE SAMPLED: 12/12/95
DATE RECEIVED: 12/13/95
REPORT DATE: 01/11/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Digestion, Metals by GFAA	EPA 3020	-		Prep Date	12/19/95
#Digestion, Metals by ICP	EPA 3010	-		Prep Date	12/19/95
Volatile Organic Compounds	EPA 8240				
Acetone	67-64-1	ND	100	ug/L	12/19/95
Benzene	71-43-2	ND	5	ug/L	12/19/95
Bromodichloromethane	75-27-4	ND	5	ug/L	12/19/95
Bromoform	75-25-2	ND	5	ug/L	12/19/95
Bromomethane	74-83-9	ND	10	ug/L	12/19/95
2-Butanone	78-93-3	ND	100	ug/L	12/19/95
Carbon Disulfide	75-15-0	ND	10	ug/L	12/19/95
Carbon Tetrachloride	56-23-5	ND	5	ug/L	12/19/95
Chlorobenzene	108-90-7	ND	5	ug/L	12/19/95
Chloroethane	75-00-3	ND	10	ug/L	12/19/95
2-Chloroethyl Vinyl Ether	110-75-8	ND	10	ug/L	12/19/95
Chloroform	67-66-3	6 *	5	ug/L	12/19/95
Chloromethane	74-87-3	ND	10	ug/L	12/19/95
Dibromochloromethane	124-48-1	ND	5	ug/L	12/19/95
1,1-Dichloroethane	75-34-3	ND	5	ug/L	12/19/95
1,2-Dichloroethane	107-06-2	ND	5	ug/L	12/19/95
1,1-Dichloroethene	75-35-4	ND	5	ug/L	12/19/95
cis-1,2-Dichloroethene	156-59-2	ND	5	ug/L	12/19/95
trans-1,2-Dichloroethene	156-60-5	ND	5	ug/L	12/19/95
1,2-Dichloropropane	78-87-5	ND	5	ug/L	12/19/95
cis-1,3-Dichloropropene	10061-01-5	ND	5	ug/L	12/19/95
trans-1,3-Dichloropropene	10061-02-6	ND	5	ug/L	12/19/95
Ethylbenzene	100-41-4	ND	5	ug/L	12/19/95
2-Hexanone	591-78-6	ND	50	ug/L	12/19/95
Methylene Chloride	75-09-2	ND	20	ug/L	12/19/95
4-Methyl-2-pentanone	108-10-1	ND	50	ug/L	12/19/95
Styrene	100-42-5	ND	5	ug/L	12/19/95
1,1,2,2-Tetrachloroethane	79-34-5	ND	5	ug/L	12/19/95
Tetrachloroethene	127-18-4	ND	5	ug/L	12/19/95
Toluene	108-88-3	ND	5	ug/L	12/19/95
1,1,1-Trichloroethane	71-55-6	ND	5	ug/L	12/19/95
1,1,2-Trichloroethane	79-00-5	ND	5	ug/L	12/19/95
Trichloroethene	79-01-6	ND	5	ug/L	12/19/95
Vinyl Acetate	108-05-4	ND	50	ug/L	12/19/95
Vinyl Chloride	75-01-4	ND	10	ug/L	12/19/95
Xylenes, Total	1330-20-7	ND	10	ug/L	12/19/95

GEOMATRIX CONSULTANTS

SAMPLE ID: EB-1-1295
AEN LAB NO: 9512161-09
AEN WORK ORDER: 9512161
CLIENT PROJ. ID: 2906

DATE SAMPLED: 12/12/95
DATE RECEIVED: 12/13/95
REPORT DATE: 01/11/96

ANALYTE		METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
CCR 17 Metals						
Ag	Silver	EPA 6010	ND	0.005	mg/L	12/04/95
As	Arsenic	EPA 7060	ND	0.002	mg/L	12/20/95
Ba	Barium	EPA 6010	ND	0.01	mg/L	12/04/95
Be	Beryllium	EPA 6010	ND	0.002	mg/L	12/04/95
Cd	Cadmium	EPA 6010	ND	0.005	mg/L	12/04/95
Co	Cobalt	EPA 6010	ND	0.005	mg/L	12/04/95
Cr	Chromium	EPA 6010	ND	0.01	mg/L	12/04/95
Cu	Copper	EPA 6010	ND	0.01	mg/L	12/04/95
Hg	Mercury	EPA 7470	ND	0.0002	mg/L	12/18/95
Mo	Molybdenum	EPA 6010	ND	0.01	mg/L	12/04/95
Ni	Nickel	EPA 6010	ND	0.01	mg/L	12/04/95
Pb	Lead	EPA 6010	ND	0.04	mg/L	12/04/95
Sb	Antimony	EPA 6010	ND	0.02	mg/L	12/04/95
Se	Selenium	EPA 7740	ND	0.004	mg/L	12/20/95
Tl	Thallium	EPA 6010	ND	0.05	mg/L	12/04/95
V	Vanadium	EPA 6010	ND	0.005	mg/L	12/04/95
Zn	Zinc	EPA 6010	ND	0.01	mg/L	12/04/95

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

AEN (CALIFORNIA)
QUALITY CONTROL REPORT

AEN JOB NUMBER: 9512161

CLIENT PROJECT ID: 2906

Quality Control and Project Summary

All laboratory quality control parameters were found to be within established limits.

Definitions

Laboratory Control Sample (LCS)/Method Spike(s): Control samples of known composition. LCS and Method Spike data are used to validate batch analytical results.

Matrix Spike(s): Aliquot of a sample (aqueous or solid) with added quantities of specific compounds and subjected to the entire analytical procedure. Matrix spike and matrix spike duplicate QC data are advisory.

Method Blank: An analytical control consisting of all reagents, internal standards, and surrogate standards carried through the entire analytical process. Used to monitor laboratory background and reagent contamination.

Not Detected (ND): Not detected at or above the reporting limit.

Relative Percent Difference (RPD): An indication of method precision based on duplicate analysis.

Reporting Limit (RL): The lowest concentration routinely determined during laboratory operations. The RL is generally 1 to 10 times the Method Detection Limit (MDL). Reporting limits are matrix, method, and analyte dependent and take into account any dilutions performed as part of the analysis.

Surrogates: Organic compounds which are similar to analytes of interest in chemical behavior, but are not found in environmental samples. Surrogates are added to all blanks, calibration and check standards, samples, and spiked samples. Surrogate recovery is monitored as an indication of acceptable sample preparation and instrumental performance.

D: Surrogates diluted out.

#: Indicates result outside of established laboratory QC limits.

QUALITY CONTROL DATA

METHOD: EPA 8240

AEN JOB NO: 9512161
AEN LAB NO: 1216-BLANK
DATE ANALYZED: 12/16/95
INSTRUMENT: 12
MATRIX: WATER

Method Blank

Analyte	CAS #	Result (ug/L)	Reporting Limit (ug/L)
Acetone	67-64-1	ND	100
Benzene	71-43-2	ND	5
Bromodichloromethane	75-27-4	ND	5
Bromoform	75-25-2	ND	5
Bromomethane	74-83-9	ND	10
2-Butanone	78-93-3	ND	100
Carbon Disulfide	75-15-0	ND	10
Carbon Tetrachloride	56-23-5	ND	5
Chlorobenzene	108-90-7	ND	5
Chloroethane	75-00-3	ND	10
2-Chloroethyl Vinyl Ether	110-75-8	ND	10
Chloroform	67-66-3	ND	5
Chloromethane	74-87-3	ND	10
Dibromochloromethane	124-48-1	ND	5
1,2-Dichlorobenzene	95-50-1	ND	5
1,3-Dichlorobenzene	541-73-1	ND	5
1,4-Dichlorobenzene	106-46-7	ND	5
1,1-Dichloroethane	75-34-3	ND	5
1,2-Dichloroethane	107-06-2	ND	5
1,1-Dichloroethene	75-35-4	ND	5
cis-1,2-Dichloroethene	156-59-2	ND	5
trans-1,2-Dichloroethene	156-60-5	ND	5
1,2-Dichloropropane	78-87-5	ND	5
cis-1,3-Dichloropropene	10061-01-5	ND	5
trans-1,3-Dichloropropene	10061-02-6	ND	5
Ethylbenzene	100-41-4	ND	5
2-Hexanone	591-78-6	ND	50
Methylene Chloride	75-09-2	ND	20
4-Methyl-2-pentanone	108-10-1	ND	50
Styrene	100-42-5	ND	5
1,1,2,2-Tetrachloroethane	79-34-5	ND	5
Tetrachloroethene	127-18-4	ND	5
Toluene	108-88-3	ND	5
1,1,1-Trichloroethane	71-55-6	ND	5
1,1,2-Trichloroethane	79-00-5	ND	5
Trichloroethene	79-01-6	ND	5
Vinyl Acetate	108-05-4	ND	50
Vinyl Chloride	75-01-4	ND	10
Xylenes, total	1330-20-7	ND	10

QUALITY CONTROL DATA

METHOD: EPA 8240

AEN JOB NO: 9512161
AEN LAB NO: 1219-BLANK
DATE ANALYZED: 12/19/95
INSTRUMENT: 12
MATRIX: WATER

Method Blank

Analyte	CAS #	Result (ug/L)	Reporting Limit (ug/L)
Acetone	67-64-1	ND	100
Benzene	71-43-2	ND	5
Bromodichloromethane	75-27-4	ND	5
Bromoform	75-25-2	ND	5
Bromomethane	74-83-9	ND	10
2-Butanone	78-93-3	ND	100
Carbon Disulfide	75-15-0	ND	10
Carbon Tetrachloride	56-23-5	ND	5
Chlorobenzene	108-90-7	ND	5
Chloroethane	75-00-3	ND	10
2-Chloroethyl Vinyl Ether	110-75-8	ND	10
Chloroform	67-66-3	ND	5
Chloromethane	74-87-3	ND	10
Dibromochloromethane	124-48-1	ND	5
1,2-Dichlorobenzene	95-50-1	ND	5
1,3-Dichlorobenzene	541-73-1	ND	5
1,4-Dichlorobenzene	106-46-7	ND	5
1,1-Dichloroethane	75-34-3	ND	5
1,2-Dichloroethane	107-06-2	ND	5
1,1-Dichloroethene	75-35-4	ND	5
cis-1,2-Dichloroethene	156-59-2	ND	5
trans-1,2-Dichloroethene	156-60-5	ND	5
1,2-Dichloropropane	78-87-5	ND	5
cis-1,3-Dichloropropene	10061-01-5	ND	5
trans-1,3-Dichloropropene	10061-02-6	ND	5
Ethylbenzene	100-41-4	ND	5
2-Hexanone	591-78-6	ND	50
Methylene Chloride	75-09-2	ND	20
4-Methyl-2-pentanone	108-10-1	ND	50
Styrene	100-42-5	ND	5
1,1,2,2-Tetrachloroethane	79-34-5	ND	5
Tetrachloroethene	127-18-4	ND	5
Toluene	108-88-3	ND	5
1,1,1-Trichloroethane	71-55-6	ND	5
1,1,2-Trichloroethane	79-00-5	ND	5
Trichloroethene	79-01-6	ND	5
Vinyl Acetate	108-05-4	ND	50
Vinyl Chloride	75-01-4	ND	10
Xylenes, total	1330-20-7	ND	10

QUALITY CONTROL DATA

METHOD: EPA 8240

AEN JOB NO: 9512161
INSTRUMENT: 12
MATRIX: WATER

Surrogate Standard Recovery Summary

Date Analyzed	Client Id.	Lab Id.	Percent Recovery 1,2-Dichloroethane-d_4	Toluene-d_8	p-Bromofluorobenzene
12/16/95	MW-1-1295	01	104	104	101
12/16/95	MW-2-1295	02	94	103	103
12/16/95	MW-3-1295	03	96	104	97
12/16/95	MW-4-1295	04	98	101	99
12/16/95	MW-5-1295	05	96	99	97
12/16/95	MW-6-1295	06	97	99	97
12/16/95	MW-7-1295	07	108	99	102
12/16/95	MW-8-1295	08	96	99	100
12/19/95	EB-1-1295	09	103	97	93
QC Limits:			76-114	88-110	86-115

DATE ANALYZED: 12/15/95
SAMPLE SPIKED: LCS
INSTRUMENT: 12
MATRIX: WATER

Laboratory Control Sample

Analyte	Spike Added (ug/L)	LCS Result (ug/L)	Percent Recovery	QC Limits Percent Recovery
1,1-Dichloroethene	50.0	67.3	135	59-155
Trichloroethene	50.0	48.3	97	71-157
Benzene	50.0	58.5	117	37-151
Toluene	50.0	53.1	106	47-150
Chlorobenzene	50.0	47.1	94	37-160

QUALITY CONTROL DATA

AEN JOB NO: 9512161
SAMPLE SPIKED: DI WATER
DATE(S) ANALYZED: 12/18-20/95
MATRIX: WATER

Method Spike Recovery Summary

Analyte	Inst./ Method	Spike Conc. (mg/L)	Blank Result (mg/L)	MS Result (mg/L)	MSD Result (mg/L)	MS Percent Recovery	RPD	QC Limits Percent Recovery	QC Limits RPD
Ag, Silver	ICP/6010	0.025	ND	0.0203	0.0218	81	7	72-127	10
As, Arsenic	4000/7060	0.04	ND	0.0388	0.0403	97	4	69-136	13
Ba, Barium	ICP/6010	1.0	ND	1.0300	1.0600	103	3	91-120	10
Cd, Cadmium	ICP/6010	0.05	ND	0.0534	0.0564	107	5	84-120	10
Cr, Chromium	ICP/6010	0.1	ND	0.105	0.1130	105	7	85-128	10
Cu, Copper	ICP/6010	0.125	ND	0.125	0.1290	100	3	86-123	10
Hg, Mercury	Hg/7470	2.0 ug/L	ND	2.05	2.05	103	<1	89-121	10
Ni, Nickel	ICP/6010	0.25	ND	0.2740	0.2850	110	4	92-121	10
Pb, Lead	ICP/6010	0.5	ND	0.5420	0.5600	108	3	90-122	10
Se, Selenium	4000/7740	0.08	ND	0.0700	0.0711	88	2	75-125	13
Zn, Zinc	ICP/6010	0.25	ND	0.2690	0.2880	108	7	90-121	10

*** END OF REPORT ***

American Environmental Network

Certificate of Analysis

DOHS Certification: 1172 AIHA Accreditation: 11134

GEOMATRIX CONSULTANTS
100 PINE ST., SUITE 1000
SAN FRANCISCO, CA 94111

ATTN: MIKE KEIM
CLIENT PROJ. ID: 2906

C.O.C. NUMBER: 6044,6043

REPORT DATE: 01/30/95

DATE(S) SAMPLED: 01/23/95

DATE RECEIVED: 01/23/95

AEN WORK ORDER: 9501236

PROJECT SUMMARY:

On January 23, 1995, this laboratory received 20 (10 water & 10 soil) sample(s).

Client requested 17 samples be analyzed for inorganic parameters; three soil samples were placed on hold. Results of analysis are summarized on the following page(s).

Please see quality control report for a summary of QC data pertaining to this project.

If you have any questions, please contact Client Services at (510) 930-9090.

Larry Klein
Laboratory Director

GEOMATRIX CONSULTANTS

SAMPLE ID: OW-8
AEN LAB NO: 9501236-01
AEN WORK ORDER: 9501236
CLIENT PROJ. ID: 2906

DATE SAMPLED: 01/23/95
DATE RECEIVED: 01/23/95
REPORT DATE: 01/30/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Digestion, Metals by GFAA	EPA 3020	-		Prep Date	01/23/95
#Digestion, Metals by ICP	EPA 3010	-		Prep Date	01/23/95
CCR 17 Metals					
Ag Silver	EPA 6010	ND	0.005	mg/L	01/24/95
As Arsenic	EPA 7060	ND	0.002	mg/L	01/24/95
Ba Barium	EPA 6010	0.09 *	0.01	mg/L	01/24/95
Be Beryllium	EPA 6010	ND	0.002	mg/L	01/24/95
Cd Cadmium	EPA 6010	ND	0.005	mg/L	01/24/95
Co Cobalt	EPA 6010	ND	0.005	mg/L	01/24/95
Cr Chromium	EPA 6010	ND	0.01	mg/L	01/24/95
Cu Copper	EPA 6010	ND	0.01	mg/L	01/24/95
Hg Mercury	EPA 7470	ND	0.0002	mg/L	01/24/95
Mo Molybdenum	EPA 6010	ND	0.01	mg/L	01/24/95
Ni Nickel	EPA 6010	0.03 *	0.01	mg/L	01/24/95
Pb Lead	EPA 6010	ND	0.04	mg/L	01/24/95
Sb Antimony	EPA 6010	ND	0.02	mg/L	01/24/95
Se Selenium	EPA 7740	ND	0.004	mg/L	01/24/95
Tl Thallium	EPA 6010	ND	0.05	mg/L	01/24/95
V Vanadium	EPA 6010	ND	0.005	mg/L	01/24/95
Zn Zinc	EPA 6010	ND	0.01	mg/L	01/24/95

ND = Not detected at or above the reporting limit
* = Value above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: OW-2
AEN LAB NO: 9501236-02
AEN WORK ORDER: 9501236
CLIENT PROJ. ID: 2906

DATE SAMPLED: 01/23/95
DATE RECEIVED: 01/23/95
REPORT DATE: 01/30/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Digestion, Metals by GFAA	EPA 3020	-		Prep Date	01/23/95
#Digestion, Metals by ICP	EPA 3010	-		Prep Date	01/23/95
CCR 17 Metals					
Ag Silver	EPA 6010	ND	0.005	mg/L	01/24/95
As Arsenic	EPA 7060	ND	0.002	mg/L	01/24/95
Ba Barium	EPA 6010	0.03 *	0.01	mg/L	01/24/95
Be Beryllium	EPA 6010	ND	0.002	mg/L	01/24/95
Cd Cadmium	EPA 6010	ND	0.005	mg/L	01/24/95
Co Cobalt	EPA 6010	ND	0.005	mg/L	01/24/95
Cr Chromium	EPA 6010	ND	0.01	mg/L	01/24/95
Cu Copper	EPA 6010	ND	0.01	mg/L	01/24/95
Hg Mercury	EPA 7470	ND	0.0002	mg/L	01/24/95
Mo Molybdenum	EPA 6010	ND	0.01	mg/L	01/24/95
Ni Nickel	EPA 6010	ND	0.01	mg/L	01/24/95
Pb Lead	EPA 6010	ND	0.04	mg/L	01/24/95
Sb Antimony	EPA 6010	ND	0.02	mg/L	01/24/95
Se Selenium	EPA 7740	ND	0.004	mg/L	01/24/95
Tl Thallium	EPA 6010	ND	0.05	mg/L	01/24/95
V Vanadium	EPA 6010	ND	0.005	mg/L	01/24/95
Zn Zinc	EPA 6010	ND	0.01	mg/L	01/24/95

ND = Not detected at or above the reporting limit
* = Value above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: W-1
AEN LAB NO: 9501236-03
AEN WORK ORDER: 9501236
CLIENT PROJ. ID: 2906

DATE SAMPLED: 01/23/95
DATE RECEIVED: 01/23/95
REPORT DATE: 01/30/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Digestion, Metals by GFAA	EPA 3020	-		Prep Date	01/23/95
#Digestion, Metals by ICP	EPA 3010	-		Prep Date	01/23/95
CCR 17 Metals					
Ag Silver	EPA 6010	ND	0.005	mg/L	01/24/95
As Arsenic	EPA 7060	0.062 *	0.002	mg/L	01/24/95
Ba Barium	EPA 6010	0.04 *	0.01	mg/L	01/24/95
Be Beryllium	EPA 6010	ND	0.002	mg/L	01/24/95
Cd Cadmium	EPA 6010	ND	0.005	mg/L	01/24/95
Co Cobalt	EPA 6010	ND	0.005	mg/L	01/24/95
Cr Chromium	EPA 6010	ND	0.01	mg/L	01/24/95
Cu Copper	EPA 6010	ND	0.01	mg/L	01/24/95
Hg Mercury	EPA 7470	ND	0.0002	mg/L	01/24/95
Mo Molybdenum	EPA 6010	0.22 *	0.01	mg/L	01/24/95
Ni Nickel	EPA 6010	ND	0.01	mg/L	01/24/95
Pb Lead	EPA 6010	ND	0.04	mg/L	01/24/95
Sb Antimony	EPA 6010	ND	0.02	mg/L	01/24/95
Se Selenium	EPA 7740	ND	0.004	mg/L	01/24/95
Tl Thallium	EPA 6010	ND	0.05	mg/L	01/24/95
V Vanadium	EPA 6010	0.007 *	0.005	mg/L	01/24/95
Zn Zinc	EPA 6010	0.02 *	0.01	mg/L	01/24/95

ND = Not detected at or above the reporting limit
* = Value above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: W-2
AEN LAB NO: 9501236-04
AEN WORK ORDER: 9501236
CLIENT PROJ. ID: 2906

DATE SAMPLED: 01/23/95
DATE RECEIVED: 01/23/95
REPORT DATE: 01/30/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Digestion, Metals by GFAA	EPA 3020	-		Prep Date	01/23/95
#Digestion, Metals by ICP	EPA 3010	-		Prep Date	01/23/95
CCR 17 Metals					
Ag Silver	EPA 6010	ND	0.005	mg/L	01/24/95
As Arsenic	EPA 7060	0.22 *	0.002	mg/L	01/24/95
Ba Barium	EPA 6010	0.69 *	0.01	mg/L	01/24/95
Be Beryllium	EPA 6010	ND	0.002	mg/L	01/24/95
Cd Cadmium	EPA 6010	0.011 *	0.005	mg/L	01/24/95
Co Cobalt	EPA 6010	0.16 *	0.005	mg/L	01/24/95
Cr Chromium	EPA 6010	ND	0.01	mg/L	01/24/95
Cu Copper	EPA 6010	0.12 *	0.01	mg/L	01/24/95
Hg Mercury	EPA 7470	ND	0.0002	mg/L	01/24/95
Mo Molybdenum	EPA 6010	ND	0.01	mg/L	01/24/95
Ni Nickel	EPA 6010	0.33 *	0.01	mg/L	01/24/95
Pb Lead	EPA 6010	0.17 *	0.04	mg/L	01/24/95
Sb Antimony	EPA 6010	ND	0.02	mg/L	01/24/95
Se Selenium	EPA 7740	ND	0.004	mg/L	01/24/95
Tl Thallium	EPA 6010	0.12 *	0.05	mg/L	01/24/95
V Vanadium	EPA 6010	0.032 *	0.005	mg/L	01/24/95
Zn Zinc	EPA 6010	21 *	0.01	mg/L	01/24/95

ND = Not detected at or above the reporting limit
* = Value above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: W-3
AEN LAB NO: 9501236-05
AEN WORK ORDER: 9501236
CLIENT PROJ. ID: 2906

DATE SAMPLED: 01/23/95
DATE RECEIVED: 01/23/95
REPORT DATE: 01/30/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Digestion, Metals by GFAA	EPA 3020	-		Prep Date	01/23/95
#Digestion, Metals by ICP	EPA 3010	-		Prep Date	01/23/95
CCR 17 Metals					
Ag Silver	EPA 6010	ND	0.005	mg/L	01/24/95
As Arsenic	EPA 7060	0.05 *	0.02	mg/L	01/24/95
Ba Barium	EPA 6010	0.03 *	0.01	mg/L	01/24/95
Be Beryllium	EPA 6010	ND	0.002	mg/L	01/24/95
Cd Cadmium	EPA 6010	0.006 *	0.005	mg/L	01/24/95
Co Cobalt	EPA 6010	0.35 *	0.005	mg/L	01/24/95
Cr Chromium	EPA 6010	ND	0.01	mg/L	01/24/95
Cu Copper	EPA 6010	0.01 *	0.01	mg/L	01/24/95
Hg Mercury	EPA 7470	ND	0.0002	mg/L	01/24/95
Mo Molybdenum	EPA 6010	ND	0.01	mg/L	01/24/95
Ni Nickel	EPA 6010	1.1 *	0.01	mg/L	01/24/95
Pb Lead	EPA 6010	ND	0.04	mg/L	01/24/95
Sb Antimony	EPA 6010	ND	0.02	mg/L	01/24/95
Se Selenium	EPA 7740	ND	0.04	mg/L	01/24/95
Tl Thallium	EPA 6010	ND	0.05	mg/L	01/24/95
V Vanadium	EPA 6010	ND	0.005	mg/L	01/24/95
Zn Zinc	EPA 6010	0.72 *	0.01	mg/L	01/24/95

Reporting limits elevated for Arsenic and Selenium due to matrix interference.

ND = Not detected at or above the reporting limit
* = Value above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: W-4
AEN LAB NO: 9501236-06
AEN WORK ORDER: 9501236
CLIENT PROJ. ID: 2906

DATE SAMPLED: 01/23/95
DATE RECEIVED: 01/23/95
REPORT DATE: 01/30/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Digestion, Metals by GFAA	EPA 3020	-		Prep Date	01/23/95
#Digestion, Metals by ICP	EPA 3010	-		Prep Date	01/23/95
CCR 17 Metals					
Ag Silver	EPA 6010	ND	0.005	mg/L	01/24/95
As Arsenic	EPA 7060	0.006 *	0.002	mg/L	01/24/95
Ba Barium	EPA 6010	1.8 *	0.01	mg/L	01/24/95
Be Beryllium	EPA 6010	ND	0.002	mg/L	01/24/95
Cd Cadmium	EPA 6010	0.69 *	0.005	mg/L	01/24/95
Co Cobalt	EPA 6010	0.052 *	0.005	mg/L	01/24/95
Cr Chromium	EPA 6010	ND	0.01	mg/L	01/24/95
Cu Copper	EPA 6010	0.02 *	0.01	mg/L	01/24/95
Hg Mercury	EPA 7470	0.0004 *	0.0002	mg/L	01/24/95
Mo Molybdenum	EPA 6010	ND	0.01	mg/L	01/24/95
Ni Nickel	EPA 6010	1.0 *	0.01	mg/L	01/24/95
Pb Lead	EPA 6010	0.22 *	0.04	mg/L	01/24/95
Sb Antimony	EPA 6010	ND	0.02	mg/L	01/24/95
Se Selenium	EPA 7740	ND	0.004	mg/L	01/24/95
Tl Thallium	EPA 6010	ND	0.05	mg/L	01/24/95
V Vanadium	EPA 6010	ND	0.005	mg/L	01/24/95
Zn Zinc	EPA 6010	540 *	0.01	mg/L	01/24/95

ND = Not detected at or above the reporting limit
* = Value above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: W-5
AEN LAB NO: 9501236-07
AEN WORK ORDER: 9501236
CLIENT PROJ. ID: 2906

DATE SAMPLED: 01/23/95
DATE RECEIVED: 01/23/95
REPORT DATE: 01/30/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Digestion, Metals by GFAA	EPA 3020	-		Prep Date	01/23/95
#Digestion, Metals by ICP	EPA 3010	-		Prep Date	01/23/95
CCR 17 Metals					
Ag Silver	EPA 6010	ND	0.005	mg/L	01/24/95
As Arsenic	EPA 7060	0.003 *	0.002	mg/L	01/24/95
Ba Barium	EPA 6010	0.27 *	0.01	mg/L	01/24/95
Be Beryllium	EPA 6010	ND	0.002	mg/L	01/24/95
Cd Cadmium	EPA 6010	0.29 *	0.005	mg/L	01/24/95
Co Cobalt	EPA 6010	0.053 *	0.005	mg/L	01/24/95
Cr Chromium	EPA 6010	ND	0.01	mg/L	01/24/95
Cu Copper	EPA 6010	0.04 *	0.01	mg/L	01/24/95
Hg Mercury	EPA 7470	ND	0.0002	mg/L	01/24/95
Mo Molybdenum	EPA 6010	ND	0.01	mg/L	01/24/95
Ni Nickel	EPA 6010	0.07 *	0.01	mg/L	01/24/95
Pb Lead	EPA 6010	0.30 *	0.04	mg/L	01/24/95
Sb Antimony	EPA 6010	ND	0.02	mg/L	01/24/95
Se Selenium	EPA 7740	ND	0.004	mg/L	01/24/95
Tl Thallium	EPA 6010	ND	0.05	mg/L	01/24/95
V Vanadium	EPA 6010	ND	0.005	mg/L	01/24/95
Zn Zinc	EPA 6010	40 *	0.01	mg/L	01/24/95

ND = Not detected at or above the reporting limit
* = Value above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: W-6
AEN LAB NO: 9501236-08
AEN WORK ORDER: 9501236
CLIENT PROJ. ID: 2906

DATE SAMPLED: 01/23/95
DATE RECEIVED: 01/23/95
REPORT DATE: 01/30/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Digestion, Metals by GFAA	EPA 3020	-		Prep Date	01/23/95
#Digestion, Metals by ICP	EPA 3010	-		Prep Date	01/23/95
CCR 17 Metals					
Ag Silver	EPA 6010	ND	0.005	mg/L	01/24/95
As Arsenic	EPA 7060	0.17 *	0.002	mg/L	01/24/95
Ba Barium	EPA 6010	200 *	0.01	mg/L	01/24/95
Be Beryllium	EPA 6010	ND	0.002	mg/L	01/24/95
Cd Cadmium	EPA 6010	ND	0.005	mg/L	01/24/95
Co Cobalt	EPA 6010	ND	0.005	mg/L	01/24/95
Cr Chromium	EPA 6010	ND	0.01	mg/L	01/24/95
Cu Copper	EPA 6010	ND	0.01	mg/L	01/24/95
Hg Mercury	EPA 7470	ND	0.0002	mg/L	01/24/95
Mo Molybdenum	EPA 6010	0.07 *	0.01	mg/L	01/24/95
Ni Nickel	EPA 6010	ND	0.01	mg/L	01/24/95
Pb Lead	EPA 6010	ND	0.04	mg/L	01/24/95
Sb Antimony	EPA 6010	ND	0.02	mg/L	01/24/95
Se Selenium	EPA 7740	0.006 *	0.004	mg/L	01/24/95
Tl Thallium	EPA 6010	ND	0.05	mg/L	01/24/95
V Vanadium	EPA 6010	0.076 *	0.005	mg/L	01/24/95
Zn Zinc	EPA 6010	0.05 *	0.01	mg/L	01/24/95

ND = Not detected at or above the reporting limit
* = Value above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: W-7
AEN LAB NO: 9501236-09
AEN WORK ORDER: 9501236
CLIENT PROJ. ID: 2906

DATE SAMPLED: 01/23/95
DATE RECEIVED: 01/23/95
REPORT DATE: 01/30/95

ANALYTE		METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Digestion, Metals by GFAA		EPA 3020	-		Prep Date	01/23/95
#Digestion, Metals by ICP		EPA 3010	-		Prep Date	01/23/95
CCR 17 Metals						
Ag	Silver	EPA 6010	ND	0.005	mg/L	01/24/95
As	Arsenic	EPA 7060	0.30 *	0.002	mg/L	01/24/95
Ba	Barium	EPA 6010	5.8 *	0.01	mg/L	01/24/95
Be	Beryllium	EPA 6010	ND	0.002	mg/L	01/24/95
Cd	Cadmium	EPA 6010	0.022 *	0.005	mg/L	01/24/95
Co	Cobalt	EPA 6010	ND	0.005	mg/L	01/24/95
Cr	Chromium	EPA 6010	ND	0.01	mg/L	01/24/95
Cu	Copper	EPA 6010	0.01 *	0.01	mg/L	01/24/95
Hg	Mercury	EPA 7470	ND	0.0002	mg/L	01/24/95
Mo	Molybdenum	EPA 6010	0.02 *	0.01	mg/L	01/24/95
Ni	Nickel	EPA 6010	0.03 *	0.01	mg/L	01/24/95
Pb	Lead	EPA 6010	0.12 *	0.04	mg/L	01/24/95
Sb	Antimony	EPA 6010	0.02 *	0.02	mg/L	01/24/95
Se	Selenium	EPA 7740	ND	0.004	mg/L	01/24/95
Tl	Thallium	EPA 6010	ND	0.05	mg/L	01/24/95
V	Vanadium	EPA 6010	0.012 *	0.005	mg/L	01/24/95
Zn	Zinc	EPA 6010	2.6 *	0.01	mg/L	01/24/95

ND = Not detected at or above the reporting limit
* = Value above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: W-8
AEN LAB NO: 9501236-10
AEN WORK ORDER: 9501236
CLIENT PROJ. ID: 2906

DATE SAMPLED: 01/23/95
DATE RECEIVED: 01/23/95
REPORT DATE: 01/30/95

ANALYTE		METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Digestion, Metals by GFAA		EPA 3020	-		Prep Date	01/23/95
#Digestion, Metals by ICP		EPA 3010	-		Prep Date	01/23/95
CCR 17 Metals						
Ag	Silver	EPA 6010	ND	0.05	mg/L	01/24/95
As	Arsenic	EPA 7060	0.010 *	0.002	mg/L	01/24/95
Ba	Barium	EPA 6010	ND	0.1	mg/L	01/24/95
Be	Beryllium	EPA 6010	ND	0.02	mg/L	01/24/95
Cd	Cadmium	EPA 6010	2.0 *	0.05	mg/L	01/24/95
Co	Cobalt	EPA 6010	0.14 *	0.05	mg/L	01/24/95
Cr	Chromium	EPA 6010	ND	0.1	mg/L	01/24/95
Cu	Copper	EPA 6010	ND	0.1	mg/L	01/24/95
Hg	Mercury	EPA 7470	ND	0.0002	mg/L	01/24/95
Mo	Molybdenum	EPA 6010	ND	0.1	mg/L	01/24/95
Ni	Nickel	EPA 6010	1.8 *	0.1	mg/L	01/24/95
Pb	Lead	EPA 6010	ND	0.4	mg/L	01/24/95
Sb	Antimony	EPA 6010	ND	0.2	mg/L	01/24/95
Se	Selenium	EPA 7740	ND	0.004	mg/L	01/24/95
Tl	Thallium	EPA 6010	ND	0.5	mg/L	01/24/95
V	Vanadium	EPA 6010	ND	0.05	mg/L	01/24/95
Zn	Zinc	EPA 6010	770 *	0.1	mg/L	01/24/95

Reporting limits elevated due to matrix interference.

ND = Not detected at or above the reporting limit
* = Value above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: B-2
AEN LAB NO: 9501236-11
AEN WORK ORDER: 9501236
CLIENT PROJ. ID: 2906

DATE SAMPLED: 01/23/95
DATE RECEIVED: 01/23/95
REPORT DATE: 01/30/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
pH	EPA 9045	4.5		S.U.	01/24/95
#Digestion, Metals by GFAA	EPA 3050	-		Prep Date	01/23/95
#Digestion, Metals AA/ICP	EPA 3050	-		Prep Date	01/23/95
CCR 17 Metals					
Ag Silver	EPA 6010	23 *	1	mg/kg	01/24/95
As Arsenic	EPA 7060	270 *	1	mg/kg	01/24/95
Ba Barium	EPA 6010	250 *	10	mg/kg	01/24/95
Be Beryllium	EPA 6010	ND	1	mg/kg	01/24/95
Cd Cadmium	EPA 6010	11 *	2	mg/kg	01/24/95
Co Cobalt	EPA 6010	ND	2	mg/kg	01/24/95
Cr Chromium	EPA 6010	11 *	5	mg/kg	01/24/95
Cu Copper	EPA 6010	1,600 *	5	mg/kg	01/24/95
Hg Mercury	EPA 7471	0.88 *	0.06	mg/kg	01/24/95
Mo Molybdenum	EPA 6010	33 *	2	mg/kg	01/24/95
Ni Nickel	EPA 6010	9 *	10	mg/kg	01/24/95
Pb Lead	EPA 6010	5,600 *	10	mg/kg	01/24/95
Sb Antimony	EPA 6010	ND	10	mg/kg	01/24/95
Se Selenium	EPA 7740	ND	2	mg/kg	01/24/95
Tl Thallium	EPA 6010	ND	10	mg/kg	01/24/95
V Vanadium	EPA 6010	28 *	5	mg/kg	01/24/95
Zn Zinc	EPA 6010	1,600 *	10	mg/kg	01/24/95

Reporting limits elevated due to matrix interference.

ND = Not detected at or above the reporting limit
* = Value above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: B-3
AEN LAB NO: 9501236-12
AEN WORK ORDER: 9501236
CLIENT PROJ. ID: 2906

DATE SAMPLED: 01/23/95
DATE RECEIVED: 01/23/95
REPORT DATE: 01/30/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
pH	EPA 9045	6.0		S.U.	01/24/95
#Digestion, Metals by GFAA	EPA 3050	-		Prep Date	01/23/95
#Digestion, Metals AA/ICP	EPA 3050	-		Prep Date	01/23/95
CCR 17 Metals					
Ag Silver	EPA 6010	30 *	1	mg/kg	01/24/95
As Arsenic	EPA 7060	370 *	1	mg/kg	01/24/95
Ba Barium	EPA 6010	1,200 *	10	mg/kg	01/24/95
Be Beryllium	EPA 6010	ND	1	mg/kg	01/24/95
Cd Cadmium	EPA 6010	280 *	2	mg/kg	01/24/95
Co Cobalt	EPA 6010	25 *	2	mg/kg	01/24/95
Cr Chromium	EPA 6010	7 *	5	mg/kg	01/24/95
Cu Copper	EPA 6010	3,600 *	5	mg/kg	01/24/95
Hg Mercury	EPA 7471	1.1 *	0.06	mg/kg	01/24/95
Mo Molybdenum	EPA 6010	3 *	2	mg/kg	01/24/95
Ni Nickel	EPA 6010	83 *	10	mg/kg	01/24/95
Pb Lead	EPA 6010	7,300 *	10	mg/kg	01/24/95
Sb Antimony	EPA 6010	490 *	10	mg/kg	01/24/95
Se Selenium	EPA 7740	3 *	2	mg/kg	01/24/95
Tl Thallium	EPA 6010	220 *	10	mg/kg	01/24/95
V Vanadium	EPA 6010	8 *	5	mg/kg	01/24/95
Zn Zinc	EPA 6010	18,000 *	10	mg/kg	01/24/95

Reporting limits elevated due to matrix interference.

ND = Not detected at or above the reporting limit
* = Value above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: B-4
AEN LAB NO: 9501236-13
AEN WORK ORDER: 9501236
CLIENT PROJ. ID: 2906

DATE SAMPLED: 01/23/95
DATE RECEIVED: 01/23/95
REPORT DATE: 01/30/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
pH	EPA 9045	6.1		S.U.	01/24/95
#Digestion, Metals by GFAA	EPA 3050	-		Prep Date	01/23/95
#Digestion, Metals AA/ICP	EPA 3050	-		Prep Date	01/23/95
CCR 17 Metals					
Ag Silver	EPA 6010	6 *	1	mg/kg	01/24/95
As Arsenic	EPA 7060	6 *	1	mg/kg	01/24/95
Ba Barium	EPA 6010	1,200 *	10	mg/kg	01/24/95
Be Beryllium	EPA 6010	ND	1	mg/kg	01/24/95
Cd Cadmium	EPA 6010	ND	2	mg/kg	01/24/95
Co Cobalt	EPA 6010	12 *	2	mg/kg	01/24/95
Cr Chromium	EPA 6010	12 *	5	mg/kg	01/24/95
Cu Copper	EPA 6010	85 *	5	mg/kg	01/24/95
Hg Mercury	EPA 7471	ND	0.06	mg/kg	01/24/95
Mo Molybdenum	EPA 6010	ND	2	mg/kg	01/24/95
Ni Nickel	EPA 6010	220 *	10	mg/kg	01/24/95
Pb Lead	EPA 6010	25 *	10	mg/kg	01/24/95
Sb Antimony	EPA 6010	ND	10	mg/kg	01/24/95
Se Selenium	EPA 7740	ND	2	mg/kg	01/24/95
Tl Thallium	EPA 6010	14 *	10	mg/kg	01/24/95
V Vanadium	EPA 6010	230 *	5	mg/kg	01/24/95
Zn Zinc	EPA 6010	46,000 *	10	mg/kg	01/24/95

Reporting limits elevated due to matrix interference.

ND = Not detected at or above the reporting limit
* = Value above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: B-5
AEN LAB NO: 9501236-14
AEN WORK ORDER: 9501236
CLIENT PROJ. ID: 2906

DATE SAMPLED: 01/23/95
DATE RECEIVED: 01/23/95
REPORT DATE: 01/30/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
pH	EPA 9045	5.9		S.U.	01/24/95
#Digestion, Metals by GFAA	EPA 3050	-		Prep Date	01/23/95
#Digestion, Metals AA/ICP	EPA 3050	-		Prep Date	01/23/95
CCR 17 Metals					
Ag Silver	EPA 6010	11 *	1	mg/kg	01/24/95
As Arsenic	EPA 7060	500 *	1	mg/kg	01/24/95
Ba Barium	EPA 6010	950 *	10	mg/kg	01/24/95
Be Beryllium	EPA 6010	ND	1	mg/kg	01/24/95
Cd Cadmium	EPA 6010	2,100 *	2	mg/kg	01/24/95
Co Cobalt	EPA 6010	6 *	2	mg/kg	01/24/95
Cr Chromium	EPA 6010	82 *	5	mg/kg	01/24/95
Cu Copper	EPA 6010	3,300 *	5	mg/kg	01/24/95
Hg Mercury	EPA 7471	65 *	0.06	mg/kg	01/24/95
Mo Molybdenum	EPA 6010	7 *	2	mg/kg	01/24/95
Ni Nickel	EPA 6010	70 *	10	mg/kg	01/24/95
Pb Lead	EPA 6010	6,800 *	10	mg/kg	01/24/95
Sb Antimony	EPA 6010	26 *	10	mg/kg	01/24/95
Se Selenium	EPA 7740	2 *	2	mg/kg	01/24/95
Tl Thallium	EPA 6010	ND	10	mg/kg	01/24/95
V Vanadium	EPA 6010	41 *	5	mg/kg	01/24/95
Zn Zinc	EPA 6010	51,000 *	10	mg/kg	01/24/95

Reporting limits elevated due to matrix interference.

ND = Not detected at or above the reporting limit
* = Value above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: B-6
AEN LAB NO: 9501236-15
AEN WORK ORDER: 9501236
CLIENT PROJ. ID: 2906

DATE SAMPLED: 01/23/95
DATE RECEIVED: 01/23/95
REPORT DATE: 01/30/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
pH	EPA 9045	11.2		S.U.	01/24/95
#Digestion, Metals by GFAA	EPA 3050	-		Prep Date	01/23/95
#Digestion, Metals AA/ICP	EPA 3050	-		Prep Date	01/23/95
CCR 17 Metals					
Ag Silver	EPA 6010	0.2 *	0.1	mg/kg	01/24/95
As Arsenic	EPA 7060	23 *	1	mg/kg	01/24/95
Ba Barium	EPA 6010	100.000 *	10	mg/kg	01/24/95
Be Beryllium	EPA 6010	0.1 *	0.1	mg/kg	01/24/95
Cd Cadmium	EPA 6010	4.6 *	0.2	mg/kg	01/24/95
Co Cobalt	EPA 6010	ND	0.2	mg/kg	01/24/95
Cr Chromium	EPA 6010	10 *	0.5	mg/kg	01/24/95
Cu Copper	EPA 6010	62 *	0.5	mg/kg	01/24/95
Hg Mercury	EPA 7471	2.3 *	0.06	mg/kg	01/24/95
Mo Molybdenum	EPA 6010	1.2 *	0.2	mg/kg	01/24/95
Ni Nickel	EPA 6010	81 *	1	mg/kg	01/24/95
Pb Lead	EPA 6010	56 *	1	mg/kg	01/24/95
Sb Antimony	EPA 6010	ND	1	mg/kg	01/24/95
Se Selenium	EPA 7740	ND	2	mg/kg	01/24/95
Tl Thallium	EPA 6010	ND	1	mg/kg	01/24/95
V Vanadium	EPA 6010	160 *	0.5	mg/kg	01/24/95
Zn Zinc	EPA 6010	780 *	1	mg/kg	01/24/95

ND = Not detected at or above the reporting limit
* = Value above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: B-7
AEN LAB NO: 9501236-16
AEN WORK ORDER: 9501236
CLIENT PROJ. ID: 2906

DATE SAMPLED: 01/23/95
DATE RECEIVED: 01/23/95
REPORT DATE: 01/30/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
pH	EPA 9045	8.2		S.U.	01/24/95
#Digestion, Metals by GFAA	EPA 3050	-		Prep Date	01/23/95
#Digestion, Metals AA/ICP	EPA 3050	-		Prep Date	01/23/95
CCR 17 Metals					
Ag Silver	EPA 6010	28 *	1	mg/kg	01/24/95
As Arsenic	EPA 7060	930 *	1	mg/kg	01/24/95
Ba Barium	EPA 6010	1,400 *	10	mg/kg	01/24/95
Be Beryllium	EPA 6010	ND	1	mg/kg	01/24/95
Cd Cadmium	EPA 6010	42 *	2	mg/kg	01/24/95
Co Cobalt	EPA 6010	2 *	2	mg/kg	01/24/95
Cr Chromium	EPA 6010	6 *	5	mg/kg	01/24/95
Cu Copper	EPA 6010	850 *	5	mg/kg	01/24/95
Hg Mercury	EPA 7471	0.83 *	0.06	mg/kg	01/24/95
Mo Molybdenum	EPA 6010	7 *	2	mg/kg	01/24/95
Ni Nickel	EPA 6010	17 *	10	mg/kg	01/24/95
Pb Lead	EPA 6010	24,000 *	10	mg/kg	01/24/95
Sb Antimony	EPA 6010	850 *	10	mg/kg	01/24/95
Se Selenium	EPA 7740	ND	2	mg/kg	01/24/95
Tl Thallium	EPA 6010	ND	10	mg/kg	01/24/95
V Vanadium	EPA 6010	31 *	5	mg/kg	01/24/95
Zn Zinc	EPA 6010	25,000 *	10	mg/kg	01/24/95

Reporting limits elevated due to matrix interference.

ND = Not detected at or above the reporting limit
* = Value above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: B-8
AEN LAB NO: 9501236-17
AEN WORK ORDER: 9501236
CLIENT PROJ. ID: 2906

DATE SAMPLED: 01/23/95
DATE RECEIVED: 01/23/95
REPORT DATE: 01/30/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
pH	EPA 9045	6.2		S.U.	01/24/95
#Digestion, Metals by GFAA	EPA 3050	-		Prep Date	01/23/95
#Digestion, Metals AA/ICP	EPA 3050	-		Prep Date	01/23/95
CCR 17 Metals					
Ag Silver	EPA 6010	7 *	1	mg/kg	01/24/95
As Arsenic	EPA 7060	220 *	1	mg/kg	01/24/95
Ba Barium	EPA 6010	150 *	10	mg/kg	01/24/95
Be Beryllium	EPA 6010	ND	1	mg/kg	01/24/95
Cd Cadmium	EPA 6010	750 *	2	mg/kg	01/24/95
Co Cobalt	EPA 6010	12 *	2	mg/kg	01/24/95
Cr Chromium	EPA 6010	6 *	5	mg/kg	01/24/95
Cu Copper	EPA 6010	930 *	5	mg/kg	01/24/95
Hg Mercury	EPA 7471	0.25 *	0.06	mg/kg	01/24/95
Mo Molybdenum	EPA 6010	5 *	2	mg/kg	01/24/95
Ni Nickel	EPA 6010	14 *	10	mg/kg	01/24/95
Pb Lead	EPA 6010	1,400 *	10	mg/kg	01/24/95
Sb Antimony	EPA 6010	190 *	10	mg/kg	01/24/95
Se Selenium	EPA 7740	ND	2	mg/kg	01/24/95
Tl Thallium	EPA 6010	270 *	10	mg/kg	01/24/95
V Vanadium	EPA 6010	ND	5	mg/kg	01/24/95
Zn Zinc	EPA 6010	23,000 *	10	mg/kg	01/24/95

Reporting limits elevated due to matrix interference.

ND = Not detected at or above the reporting limit
* = Value above reporting limit

AEN (CALIFORNIA)
QUALITY CONTROL REPORT

AEN JOB NUMBER: 9501236

CLIENT PROJECT ID: 2906

Quality Control and Project Summary

All laboratory quality control parameters were found to be within established limits.

Definitions

Laboratory Control Sample (LCS)/Method Spike(s): Control samples of known composition. LCS and Method Spike data are used to validate batch analytical results.

Matrix Spike(s): Aliquot of a sample (aqueous or solid) with added quantities of specific compounds and subjected to the entire analytical procedure. Matrix spike and matrix spike duplicate QC data are advisory.

Method Blank: An analytical control consisting of all reagents, internal standards, and surrogate standards carried through the entire analytical process. Used to monitor laboratory background and reagent contamination.

Not Detected (ND): Not detected at or above the reporting limit.

Relative Percent Difference (RPD): An indication of method precision based on duplicate analysis.

Reporting Limit (RL): The lowest concentration routinely determined during laboratory operations. The RL is generally 1 to 10 times the Method Detection Limit (MDL). Reporting limits are matrix, method, and analyte dependent and take into account any dilutions performed as part of the analysis.

Surrogates: Organic compounds which are similar to analytes of interest in chemical behavior, but are not found in environmental samples. Surrogates are added to all blanks, calibration and check standards, samples, and spiked samples. Surrogate recovery is monitored as an indication of acceptable sample preparation and instrumental performance.

D: Surrogates diluted out.

#: Indicates result outside of established laboratory QC limits.

QUALITY CONTROL DATA

AEN JOB NO: 9501236
SAMPLE SPIKED: DI WATER
DATE ANALYZED: 01/24/95
MATRIX: WATER

Method Spike Recovery Summary

Analyte	Inst./ Method	Spike Conc. (mg/L)	Sample Result (mg/L)	MS Result (mg/L)	MSD Result (mg/L)	Average Percent Recovery	RPD	QC Limits Percent Recovery	QC Limits RPD
Ag, Silver	ICP/6010	0.025	ND	0.025	0.027	103	7	64-122	8
As, Arsenic	4000/7060	0.040	ND	0.037	0.038	93	3	84-118	12
Ba, Barium	ICP/6010	1.000	ND	1.034	1.047	104	1	85-116	5
Cd, Cadmium	ICP/6010	0.050	ND	0.049	0.049	98	<1	78-119	10
Cr, Chromium	ICP/6010	0.100	ND	0.097	0.099	98	2	87-117	8
Cu, Copper	ICP/6010	0.125	ND	0.124	0.123	99	<1	85-113	6
Hg, Mercury	Hg/7470	2.00 ug/L	ND	1.85 ug/L	1.82 ug/L	92	2	80-120	15
Ni, Nickel	ICP/6010	0.250	ND	0.255	0.251	101	1	88-116	6
Pb, Lead	ICP/6010	0.500	ND	0.538	0.528	107	2	87-119	7
Se, Selenium	4000/7740	0.080	ND	0.073	0.073	91	<1	80-114	14
Zn, Zinc	ICP/6010	0.250	ND	0.251	0.253	101	1	87-117	7

QUALITY CONTROL DATA

AEN JOB NO: 9501236
SAMPLE(S) SPIKED: 9501236-05 (ICP); 9501236-06 (Hg)
DATE ANALYZED: 01/24/95
MATRIX: WATER

Matrix Spike Recovery Summary

Analyte	Inst./ Method	Spike Conc. (mg/L)	Sample Result (mg/L)	MS Result (mg/L)	MSD Result (mg/L)	Average Percent Recovery	RPD	QC Limits Percent Recovery	QC Limits RPD
Ag, Silver	ICP/6010	0.025	ND	0.026	0.026	104	2	78-111	9
Ba, Barium	ICP/6010	1.000	0.03	1.000	1.013	98	1	83-108	5
Cd, Cadmium	ICP/6010	0.050	0.006	0.049	0.049	87	<1	64-128	15
Cr, Chromium	ICP/6010	0.100	ND	0.095	0.096	96	1	75-114	7
Cu, Copper	ICP/6010	0.125	0.01	0.129	0.130	95	1	81-114	5
Hg, Mercury-ug/L	Hg/7470	2.00	0.38	2.40	2.50	104	4	80-120	15
Ni, Nickel	ICP/6010	0.250	1.14	1.353	1.349	84	<1	77-113	5
Pb, Lead	ICP/6010	0.500	ND	0.490	0.496	99	1	80-115	7
Zn, Zinc	ICP/6010	0.250	0.72	0.937	0.938	87	<1	68-116	7

QUALITY CONTROL DATA

AEN JOB NO: 9501236
SAMPLE SPIKED: SAND
DATE ANALYZED: 01/24/95
MATRIX: SOIL

Method Spike Recovery Summary

Analyte	Inst./ Method	Spike Conc. (mg/kg)	Sample Result (mg/kg)	MS Result (mg/kg)	MSD Result (mg/kg)	Average Percent Recovery	RPD	QC Limits Percent Recovery	QC Limits RPD
Ag, Silver	ICP/6010	10	ND	5.24	5.25	52	<1	40-100	7
As, Arsenic	4000/7060	20	ND	17.8	19.3	93	8	76-128	15
Ba, Barium	ICP/6010	150	ND	146.4	145.2	97	1	90-107	5
Cd, Cadmium	ICP/6010	10	ND	9.51	9.51	95	<1	85-106	7
Cr, Chromium	ICP/6010	50	ND	48.9	49.2	98	1	87-110	6
Cu, Copper	ICP/6010	50	ND	48.3	49.3	98	2	90-107	6
Hg, Mercury	Hg/7471	0.4	ND	0.338	0.324	83	4	75-125	15
Ni, Nickel	ICP/6010	50	ND	48.8	49.0	98	<1	87-109	6
Pb, Lead	ICP/6010	50	ND	48.7	48.4	97	1	85-111	6
Se, Selenium	4000/7740	40	ND	33.3	35.1	86	5	70-125	14
Zn, Zinc	ICP/6010	50	ND	47.4	46.7	94	1	84-105	7

QUALITY CONTROL DATA

AEN JOB NO: 9501236
SAMPLE SPIKED: 9501236-12 (GFAA); 9501236-17 (Hg,ICP)
DATE ANALYZED: 01/24/95
MATRIX: SOIL

Matrix Spike Recovery Summary

Analyte	Inst./ Method	Spike Conc. (mg/kg)	Sample Result (mg/kg)	MS Result (mg/kg)	MSD Result (mg/kg)	Average Percent Recovery	RPD	QC Limits Percent Recovery	QC Limits RPD
Ag, Silver	ICP/6010	10	6.8	14.3	13.5	71	6	31- 75	11
Ba, Barium	ICP/6010	150	146	311	273	97	13	60-116	16
Cd, Cadmium	ICP/6010	10	751	797	800	N/A	N/A	58-104	13
Cr, Chromium	ICP/6010	50	5.6	55.1	57.2	101	4	52-116	15
Cu, Copper	ICP/6010	50	925	1000	1002	N/A	N/A	53-126	12
Hg, Mercury	Hg/7471	0.4	0.25	0.69	0.65	105	6	75-125	15
Ni, Nickel	ICP/6010	50	14.2	64.3	67.1	103	4	52-113	12
Pb, Lead	ICP/6010	50	1407	1390	1674	N/A	N/A	52-115	13
Se, Selenium	4000/7740	40	3.1	35.8	35.5	81	1	27-140	23
Zn, Zinc	ICP/6010	50	22,810	23,760	24,230	N/A	N/A	34-123	13

N/A: Not applicable; spike overwhelmed

*** END OF REPORT ***

K-1,5-J

9501236

Chain-of-Custody Record

№ 6044

Date: 1/23/95

Page 1 of 2

Project No.: 2906

Samplers (Signatures):

	Date	Time	Sample Number	EPA Method 8010	EPA Method 8020	EPA Method 8240	EPA Method 8270	TPH as gasoline	TPH as diesel	TPH as BTEX	CCR 17 metals	pH	Cooled	Soil (S) or water (W)	Acidified	Number of containers
01A	1/23	0930	OW-8								X		Y	W	Y	1
02A		0850	OW-2								X			W		1
03A		1630	W-1								X			W		1
04A		1100	W-2								X	X		W		1
05A		1040	W-3								X	X		W		1
06A		1240	W-4								X	X		W		1
07A		1140	W-5								X	X		W		1
08A		1350	W-6								X	X		W		1
09A		1430	W-7								X	X		W		1
10A		1550	W-8								X	X		W		1
11A		945	B-2								X	X		S	Y	1
12A		900	B-3								X	X		S	N	1

ANALYSES

REMARKS

Additional comments

24 hr. turnaround

Soil samples:
analyze most disturbed areas of soil

No pH analyses on water samples

Turnaround time: 24 hr.

Results to: MIKE KEIM

Total No. of containers: 12

Relinquished by:	Date:	Relinquished by:	Date:	Relinquished by:	Date:	Method of shipment:
Signature: MIKE KEIM	1/23/95	Signature: NEIL HERRICK	1/23/95	Signature:		Lab courier
Printed name: GEOMATRIX		Printed name:		Printed name:		Laboratory comments and Log No:
Company:		Company:		Company:		
Received by:	**Time:**	**Received by:**	**Time:**	**Received by:**	**Time:**	
Signature: NEIL HERRICK	17:10	Signature: DENISE HARRINGTON	17:50	Signature:		
Printed name: AEN		Printed name: AEN		Printed name:		
Company:		Company:		Company:		

Geomatrix Consultants
100 Pine St. 10th Floor
San Francisco, CA 94111
(415) 434-9400

9501236

Chain-of-Custody Record

No. 6043

Date: 1/23/94

Project No.: 2906

Samplers (Signatures): Mike Keim

	Date	Time	Sample Number
13A	1/23	1115	B-4
14A		1050	B-5
15A		1245	B-6
16A		1335	B-7
17A		1430	B-8
18A		1110	B-4H
19A		1040	B-5H
20A	↓	940	B-2H

ANALYSES

EPA Method 8010	EPA Method 8020	EPA Method 8240	EPA Method 8270	TPH as gasoline	TPH as diesel	TPH as BTEX	CR 17 metals	pH	Cooled	Soil (S) or water (W)	Acidified	Number of containers
							X	X	Y	S	N	1
							X	X				1
							X	X				1
							X	X				1
							X	X				1
							X	X				1
							X	X				1

REMARKS

Additional comments: 24 hr. turnaround

Hold B-4H, B-5H, B-2H

Turnaround time: 24 hr.

Results to: MIKE KEIM

Total No. of containers: 20

	Date		Date		Date	Method of shipment: Lab courier
Relinquished by: Mike Keim	1/23/94	Relinquished by: Neil Herrick	1/23/94	Relinquished by:		Laboratory comments and Log No.:
Signature: MIKE KEIM		Signature: NEIL HERRICK		Signature:		
Printed name: GEOMATRIX		Printed name:		Printed name:		
Company:		Company:		Company:		
Received by: Mike Keim	Time: 17:10	Received by: Denise Harrington	Time: 17:10	Received by:	Time:	
Signature: NEIL HERRICK		Signature: DENISE HARRINGTON		Signature:		
Printed name:		Printed name: AEN		Printed name:		
Company:		Company:		Company:		

Geomatrix Consultants
100 Pine St. 10th Floor
San Francisco, CA 94111
(415) 434-9400

9501236

Chain-of-Custody Record

№ 6044

Date: 1/23/95

Page 1 of 2

Project No.: 2906

Samplers (Signatures):

	Date	Time	Sample Number	EPA Method 8010	EPA Method 8020	EPA Method 8240	EPA Method 8270	TPH as gasoline	TPH as diesel	TPH as BTEX	CCR 17 metals	pH	Cooled	Soil (S) or water (W)	Acidified	Number of containers
01A	1/23	0930	OW-8								X		Y	W	Y	1
02A		0850	OW-2								X			W		1
03A		1630	W-1								X			W		1
04A		1100	W-2								X	X		W		1
05A		1040	W-3								X	X		W		1
06A		1240	W-4								X	X		W		1
07A		1140	W-5								X	X		W		1
08A		1350	W-6								X	X		W		1
09A		1430	W-7								X	X		W		1
10A		1550	W-8								X	X		W		1
11A		945	B-2								X	X		S	Y	1
12A	↓	900	B-3								X	X	↓	S	N	1

ANALYSES

REMARKS

Additional comments

24 hr. turnaround

Soil samples: analyze most disturbed areas of soil

No pH analysis on water samples

Turnaround time: 24 hr.

Results to: MIKE KEIM

Total No. of containers: 12

Relinquished by:	Date:	Relinquished by:	Date:	Relinquished by:	Date:	Method of shipment:
Signature: MIKE KEIM	1/23/95	Signature: NEIL HERRICK	1/23/95	Signature:		Lab courier
Printed name: GEOMATRIX		Printed name:		Printed name:		Laboratory comments and Log No.:
Company:		Company:		Company:		
Received by:	Time:	Received by: Denise Harrington	Time:	Received by:	Time:	
Signature: NEIL HERRICK	17:10	Signature: DENISE HARRINGTON	17:50	Signature:		
Printed name: AEN		Printed name: AEN		Printed name:		
Company:		Company:		Company:		

Geomatrix Consultants
100 Pine St 10th Floor
San Francisco, CA 94111
(415) 434-9400

9501236

Chain-of-Custody Record

№ 6043

Date: 1/23/94

Page 2 of 2

Project No.: 2906

Samplers (Signatures): Mike Keim

ANALYSES

REMARKS

	Date	Time	Sample Number	EPA Method 8010	EPA Method 8020	EPA Method 8240	EPA Method 8270	TPH as gasoline	TPH as diesel	TPH as BTEX	CCR 17 metals	pH	Cooled	Soil (S) or water (W)	Acidified	Number of containers	Additional comments
13A	1/23	1115	B-4								X	X	Y	S	N	1	24 hr. turnaround
14A		1050	B-5								X	X				1	
15A		1245	B-6								X	X				1	
16A		1335	B-7								X	X				1	
17A		1430	B-8								X	X				1	
18A		1110	B-4H								X	X				1	Hold B-4H, B-5H, B-2H
19A		1040	B-5H								X	X				1	
20A	↓	940	B-2H								X	X	↓	↓	↓	1	

Turnaround time: 24 hr.

Results to: MIKE KEIM

Total No. of containers: 20

Relinquished by:	Date:	Relinquished by:	Date:	Relinquished by:	Date:
Signature: MIKE KEIM	1/23/95	Signature: NEIL HERRICK	1/23/95	Signature:	
Printed name: GEOMATRIX		Printed name:		Printed name:	
Company:		Company:		Company:	
Received by:	**Time:**	**Received by:**	**Time:**	**Received by:**	**Time:**
Signature: NEIL HERRICK	17:10	Signature: DENISE HARRINGTON	17:30	Signature:	
Printed name:		Printed name: AEN		Printed name:	
Company:		Company:		Company:	

Method of shipment: Lab courier

Laboratory comments and Log No.:

Geomatrix Consultants
100 Pine St 10th Floor
San Francisco, CA 94111
(415) 434-9400

American Environmental Network

Certificate of Analysis

DOHS Certification: 1172 AIHA Accreditation: 11134

GEOMATRIX CONSULTANTS
100 PINE ST., SUITE 1000
SAN FRANCISCO, CA 94111

ATTN: MIKE KEIM
CLIENT PROJ. ID: 2906

C.O.C. NUMBER: 5171

REPORT DATE: 06/19/95

DATE(S) SAMPLED: 05/31/95-06/01/95

DATE RECEIVED: 06/01/95

AEN WORK ORDER: 9506010

PROJECT SUMMARY:

On June 1, 1995, this laboratory received 12 soil sample(s).

Client requested 8 sample(s) be analyzed for inorganic parameters; four samples were placed on hold. Portion of samples for sulfur were subcontracted to a DOHS certified laboratory; subcontract report is attached. On June 2, 1995, client requested PCB extraction on two samples. Results of analysis are summarized on the following page(s). Please see quality control report for a summary of QC data pertaining to this project.

Samples will be stored for 30 days after completion of analysis, then disposed of in accordance with State and Federal regulations. Samples may be archived by prior arrangement.

If you have any questions, please contact Client Services at (510) 930-9090.

Larry Klein
Laboratory Director

GEOMATRIX CONSULTANTS

SAMPLE ID: BA4-2
AEN LAB NO: 9506010-01
AEN WORK ORDER: 9506010
CLIENT PROJ. ID: 2906

DATE SAMPLED: 06/01/95
DATE RECEIVED: 06/01/95
REPORT DATE: 06/19/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
pH	EPA 9045	7.8		S.U.	06/11/95
#Digestion, Metals by GFAA	EPA 3050	-		Prep Date	06/06/95
#Digestion, Metals AA/ICP	EPA 3050	-		Prep Date	06/06/95
Soluble Sulfate	EPA 300	97 *	5	mg/kg	06/13/95
#Extraction for Pest/PCBs	EPA 3550	-		Extrn Date	06/14/95
CCR 17 Metals					
Ag Silver	EPA 6010	ND	0.1	mg/kg	06/09/95
As Arsenic	EPA 7060	5.5 *	0.5	mg/kg	06/07/95
Ba Barium	EPA 6010	190 *	1	mg/kg	06/09/95
Be Beryllium	EPA 6010	0.5 *	0.1	mg/kg	06/09/95
Cd Cadmium	EPA 6010	ND	0.2	mg/kg	06/09/95
Co Cobalt	EPA 6010	17 *	0.2	mg/kg	06/09/95
Cr Chromium	EPA 6010	51 *	0.5	mg/kg	06/09/95
Cu Copper	EPA 6010	22 *	0.5	mg/kg	06/09/95
Hg Mercury	EPA 7471	0.09 *	0.06	mg/kg	06/11/95
Mo Molybdenum	EPA 6010	ND	0.2	mg/kg	06/09/95
Ni Nickel	EPA 6010	40 *	1	mg/kg	06/09/95
Pb Lead	EPA 6010	66 *	1	mg/kg	06/09/95
Sb Antimony	EPA 6010	ND	1	mg/kg	06/09/95
Se Selenium	EPA 7740	ND	1	mg/kg	06/07/95
Tl Thallium	EPA 6010	3 *	1	mg/kg	06/09/95
V Vanadium	EPA 6010	45 *	0.5	mg/kg	06/09/95
Zn Zinc	EPA 6010	93 *	1	mg/kg	06/09/95

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: BA4-7
AEN LAB NO: 9506010-02
AEN WORK ORDER: 9506010
CLIENT PROJ. ID: 2906

DATE SAMPLED: 06/01/95
DATE RECEIVED: 06/01/95
REPORT DATE: 06/19/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
pH	EPA 9045	8.2		S.U.	06/11/95
#Digestion, Metals by GFAA	EPA 3050	-		Prep Date	06/06/95
#Digestion, Metals AA/ICP	EPA 3050	-		Prep Date	06/06/95
Soluble Sulfate	EPA 300	220 *	5	mg/kg	06/13/95
CCR 17 Metals					
Ag Silver	EPA 6010	ND	0.1	mg/kg	06/09/95
As Arsenic	EPA 7060	3.0 *	0.5	mg/kg	06/07/95
Ba Barium	EPA 6010	300 *	1	mg/kg	06/09/95
Be Beryllium	EPA 6010	0.5 *	0.1	mg/kg	06/09/95
Cd Cadmium	EPA 6010	ND	0.2	mg/kg	06/09/95
Co Cobalt	EPA 6010	10 *	0.2	mg/kg	06/09/95
Cr Chromium	EPA 6010	38 *	0.5	mg/kg	06/09/95
Cu Copper	EPA 6010	33 *	0.5	mg/kg	06/09/95
Hg Mercury	EPA 7471	0.09 *	0.06	mg/kg	06/11/95
Mo Molybdenum	EPA 6010	ND	0.2	mg/kg	06/09/95
Ni Nickel	EPA 6010	34 *	1	mg/kg	06/09/95
Pb Lead	EPA 6010	30 *	1	mg/kg	06/09/95
Sb Antimony	EPA 6010	ND	1	mg/kg	06/09/95
Se Selenium	EPA 7740	ND	1	mg/kg	06/07/95
Tl Thallium	EPA 6010	3 *	1	mg/kg	06/09/95
V Vanadium	EPA 6010	46 *	0.5	mg/kg	06/09/95
Zn Zinc	EPA 6010	110 *	1	mg/kg	06/09/95

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: BA4-8
AEN LAB NO: 9506010-03
AEN WORK ORDER: 9506010
CLIENT PROJ. ID: 2906

DATE SAMPLED: 06/01/95
DATE RECEIVED: 06/01/95
REPORT DATE: 06/19/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
pH	EPA 9045	8.0		S.U.	06/11/95
#Digestion, Metals by GFAA	EPA 3050	-		Prep Date	06/06/95
#Digestion, Metals AA/ICP	EPA 3050	-		Prep Date	06/06/95
Soluble Sulfate	EPA 300	120 *	5	mg/kg	06/13/95
CCR 17 Metals					
Ag Silver	EPA 6010	0.3 *	0.1	mg/kg	06/09/95
As Arsenic	EPA 7060	1.3 *	0.5	mg/kg	06/07/95
Ba Barium	EPA 6010	1,900 *	1	mg/kg	06/09/95
Be Beryllium	EPA 6010	0.1 *	0.1	mg/kg	06/09/95
Cd Cadmium	EPA 6010	0.7 *	0.2	mg/kg	06/09/95
Co Cobalt	EPA 6010	9.6 *	0.2	mg/kg	06/09/95
Cr Chromium	EPA 6010	21 *	0.5	mg/kg	06/09/95
Cu Copper	EPA 6010	580 *	0.5	mg/kg	06/09/95
Hg Mercury	EPA 7471	0.09 *	0.06	mg/kg	06/11/95
Mo Molybdenum	EPA 6010	2.5 *	0.2	mg/kg	06/09/95
Ni Nickel	EPA 6010	320 *	1	mg/kg	06/09/95
Pb Lead	EPA 6010	27 *	1	mg/kg	06/09/95
Sb Antimony	EPA 6010	1 *	1	mg/kg	06/09/95
Se Selenium	EPA 7740	ND	1	mg/kg	06/07/95
Tl Thallium	EPA 6010	ND	1	mg/kg	06/09/95
V Vanadium	EPA 6010	270 *	0.5	mg/kg	06/09/95
Zn Zinc	EPA 6010	400 *	1	mg/kg	06/09/95

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: BA4-10
AEN LAB NO: 9506010-04
AEN WORK ORDER: 9506010
CLIENT PROJ. ID: 2906

DATE SAMPLED: 06/01/95
DATE RECEIVED: 06/01/95
REPORT DATE: 06/19/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
pH	EPA 9045	7.5		S.U.	06/11/95
#Digestion, Metals by GFAA	EPA 3050	-		Prep Date	06/06/95
#Digestion, Metals AA/ICP	EPA 3050	-		Prep Date	06/06/95
Soluble Sulfate	EPA 300	20 *	5	mg/kg	06/13/95
CCR 17 Metals					
Ag Silver	EPA 6010	ND	0.1	mg/kg	06/09/95
As Arsenic	EPA 7060	2.1 *	0.5	mg/kg	06/07/95
Ba Barium	EPA 6010	370 *	1	mg/kg	06/09/95
Be Beryllium	EPA 6010	0.2 *	0.1	mg/kg	06/09/95
Cd Cadmium	EPA 6010	ND	0.2	mg/kg	06/09/95
Co Cobalt	EPA 6010	4.6 *	0.2	mg/kg	06/09/95
Cr Chromium	EPA 6010	26 *	0.5	mg/kg	06/09/95
Cu Copper	EPA 6010	28 *	0.5	mg/kg	06/09/95
Hg Mercury	EPA 7471	ND	0.06	mg/kg	06/11/95
Mo Molybdenum	EPA 6010	0.5 *	0.2	mg/kg	06/09/95
Ni Nickel	EPA 6010	17 *	1	mg/kg	06/09/95
Pb Lead	EPA 6010	5 *	1	mg/kg	06/09/95
Sb Antimony	EPA 6010	ND	1	mg/kg	06/09/95
Se Selenium	EPA 7740	ND	1	mg/kg	06/07/95
Tl Thallium	EPA 6010	ND	1	mg/kg	06/09/95
V Vanadium	EPA 6010	26 *	0.5	mg/kg	06/09/95
Zn Zinc	EPA 6010	40 *	1	mg/kg	06/09/95

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: BA5-4
AEN LAB NO: 9506010-06
AEN WORK ORDER: 9506010
CLIENT PROJ. ID: 2906

DATE SAMPLED: 06/01/95
DATE RECEIVED: 06/01/95
REPORT DATE: 06/19/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
pH	EPA 9045	8.1		S.U.	06/11/95
#Digestion, Metals by GFAA	EPA 3050	-		Prep Date	06/06/95
#Digestion, Metals AA/ICP	EPA 3050	-		Prep Date	06/06/95
Soluble Sulfate	EPA 300	320 *	5	mg/kg	06/13/95
#Extraction for Pest/PCBs	EPA 3550	-		Extrn Date	06/14/95
CCR 17 Metals					
Ag Silver	EPA 6010	0.6 *	0.1	mg/kg	06/09/95
As Arsenic	EPA 7060	10 *	0.5	mg/kg	06/07/95
Ba Barium	EPA 6010	550 *	1	mg/kg	06/09/95
Be Beryllium	EPA 6010	0.5 *	0.1	mg/kg	06/09/95
Cd Cadmium	EPA 6010	5.3 *	0.2	mg/kg	06/09/95
Co Cobalt	EPA 6010	33 *	0.2	mg/kg	06/09/95
Cr Chromium	EPA 6010	79 *	0.5	mg/kg	06/09/95
Cu Copper	EPA 6010	350 *	0.5	mg/kg	06/09/95
Hg Mercury	EPA 7471	2.5 *	0.06	mg/kg	06/11/95
Mo Molybdenum	EPA 6010	1.7 *	0.2	mg/kg	06/09/95
Ni Nickel	EPA 6010	120 *	1	mg/kg	06/09/95
Pb Lead	EPA 6010	540 *	1	mg/kg	06/09/95
Sb Antimony	EPA 6010	5 *	1	mg/kg	06/09/95
Se Selenium	EPA 7740	ND	1	mg/kg	06/07/95
Tl Thallium	EPA 6010	5 *	1	mg/kg	06/09/95
V Vanadium	EPA 6010	42 *	0.5	mg/kg	06/09/95
Zn Zinc	EPA 6010	2,200 *	1	mg/kg	06/09/95

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: BA5-8
AEN LAB NO: 9506010-07
AEN WORK ORDER: 9506010
CLIENT PROJ. ID: 2906

DATE SAMPLED: 06/01/95
DATE RECEIVED: 06/01/95
REPORT DATE: 06/19/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
pH	EPA 9045	9.0		S.U.	06/11/95
#Digestion, Metals by GFAA	EPA 3050	-		Prep Date	06/06/95
#Digestion, Metals AA/ICP	EPA 3050	-		Prep Date	06/06/95
Soluble Sulfate	EPA 300	51 *	5	mg/kg	06/13/95
CCR 17 Metals					
Ag Silver	EPA 6010	0.3 *	0.1	mg/kg	06/09/95
As Arsenic	EPA 7060	3.5 *	0.5	mg/kg	06/07/95
Ba Barium	EPA 6010	2,900 *	1	mg/kg	06/12/95
Be Beryllium	EPA 6010	0.3 *	0.1	mg/kg	06/09/95
Cd Cadmium	EPA 6010	5.1 *	0.2	mg/kg	06/09/95
Co Cobalt	EPA 6010	8.5 *	0.2	mg/kg	06/09/95
Cr Chromium	EPA 6010	38 *	0.5	mg/kg	06/09/95
Cu Copper	EPA 6010	120 *	0.5	mg/kg	06/09/95
Hg Mercury	EPA 7471	1.3 *	0.06	mg/kg	06/11/95
Mo Molybdenum	EPA 6010	1.5 *	0.2	mg/kg	06/09/95
Ni Nickel	EPA 6010	56 *	1	mg/kg	06/09/95
Pb Lead	EPA 6010	350 *	1	mg/kg	06/09/95
Sb Antimony	EPA 6010	6 *	1	mg/kg	06/09/95
Se Selenium	EPA 7740	ND	1	mg/kg	06/07/95
Tl Thallium	EPA 6010	ND	1	mg/kg	06/09/95
V Vanadium	EPA 6010	42 *	0.5	mg/kg	06/09/95
Zn Zinc	EPA 6010	1,500 *	1	mg/kg	06/09/95

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: BA5-9
AEN LAB NO: 9506010-08
AEN WORK ORDER: 9506010
CLIENT PROJ. ID: 2906

DATE SAMPLED: 06/01/95
DATE RECEIVED: 06/01/95
REPORT DATE: 06/19/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
pH	EPA 9045	8.5		S.U.	06/11/95
#Digestion, Metals by GFAA	EPA 3050	-		Prep Date	06/06/95
#Digestion, Metals AA/ICP	EPA 3050	-		Prep Date	06/06/95
Soluble Sulfate	EPA 300	45 *	5	mg/kg	06/13/95
CCR 17 Metals					
Ag Silver	EPA 6010	ND	0.1	mg/kg	06/09/95
As Arsenic	EPA 7060	2.3 *	0.5	mg/kg	06/07/95
Ba Barium	EPA 6010	1,800 *	1	mg/kg	06/09/95
Be Beryllium	EPA 6010	0.3 *	0.1	mg/kg	06/09/95
Cd Cadmium	EPA 6010	ND	0.2	mg/kg	06/09/95
Co Cobalt	EPA 6010	4.0 *	0.2	mg/kg	06/09/95
Cr Chromium	EPA 6010	40 *	0.5	mg/kg	06/09/95
Cu Copper	EPA 6010	64 *	0.5	mg/kg	06/09/95
Hg Mercury	EPA 7471	ND	0.06	mg/kg	06/11/95
Mo Molybdenum	EPA 6010	2.1 *	0.2	mg/kg	06/09/95
Ni Nickel	EPA 6010	35 *	1	mg/kg	06/09/95
Pb Lead	EPA 6010	4 *	1	mg/kg	06/09/95
Sb Antimony	EPA 6010	ND	1	mg/kg	06/09/95
Se Selenium	EPA 7740	ND	1	mg/kg	06/07/95
Tl Thallium	EPA 6010	ND	1	mg/kg	06/09/95
V Vanadium	EPA 6010	42 *	0.5	mg/kg	06/09/95
Zn Zinc	EPA 6010	61 *	1	mg/kg	06/09/95

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: BA5-10
AEN LAB NO: 9506010-09
AEN WORK ORDER: 9506010
CLIENT PROJ. ID: 2906

DATE SAMPLED: 06/01/95
DATE RECEIVED: 06/01/95
REPORT DATE: 06/19/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
pH	EPA 9045	9.0		S.U.	06/11/95
#Digestion, Metals by GFAA	EPA 3050	-		Prep Date	06/06/95
#Digestion, Metals AA/ICP	EPA 3050	-		Prep Date	06/06/95
Soluble Sulfate	EPA 300	50 *	5	mg/kg	06/13/95
CCR 17 Metals					
Ag Silver	EPA 6010	ND	0.1	mg/kg	06/09/95
As Arsenic	EPA 7060	3.3 *	0.5	mg/kg	06/07/95
Ba Barium	EPA 6010	460 *	1	mg/kg	06/09/95
Be Beryllium	EPA 6010	0.3 *	0.1	mg/kg	06/09/95
Cd Cadmium	EPA 6010	ND	0.2	mg/kg	06/09/95
Co Cobalt	EPA 6010	4.9 *	0.2	mg/kg	06/09/95
Cr Chromium	EPA 6010	32 *	0.5	mg/kg	06/09/95
Cu Copper	EPA 6010	51 *	0.5	mg/kg	06/09/95
Hg Mercury	EPA 7471	ND	0.06	mg/kg	06/11/95
Mo Molybdenum	EPA 6010	0.8 *	0.2	mg/kg	06/09/95
Ni Nickel	EPA 6010	21 *	1	mg/kg	06/09/95
Pb Lead	EPA 6010	5 *	1	mg/kg	06/09/95
Sb Antimony	EPA 6010	ND	1	mg/kg	06/09/95
Se Selenium	EPA 7740	ND	1	mg/kg	06/07/95
Tl Thallium	EPA 6010	ND	1	mg/kg	06/09/95
V Vanadium	EPA 6010	31 *	0.5	mg/kg	06/09/95
Zn Zinc	EPA 6010	30 *	1	mg/kg	06/09/95

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

AEN (CALIFORNIA)
QUALITY CONTROL REPORT

AEN JOB NUMBER: 9506010

CLIENT PROJECT ID: 2906

Quality Control Summary

Barium matrix spike recovery and barium, copper and zinc RPDs for sample BA5-10 were outside of QC limits. This appears to be a matrix effect as method spike recoveries were within established limits.

All other laboratory quality control parameters were found to be within established limits.

Definitions

Laboratory Control Sample (LCS)/Method Spike(s): Control samples of known composition. LCS and Method Spike data are used to validate batch analytical results.

Matrix Spike(s): Aliquot of a sample (aqueous or solid) with added quantities of specific compounds and subjected to the entire analytical procedure. Matrix spike and matrix spike duplicate QC data are advisory.

Method Blank: An analytical control consisting of all reagents, internal standards, and surrogate standards carried through the entire analytical process. Used to monitor laboratory background and reagent contamination.

Not Detected (ND): Not detected at or above the reporting limit.

Relative Percent Difference (RPD): An indication of method precision based on duplicate analysis.

Reporting Limit (RL): The lowest concentration routinely determined during laboratory operations. The RL is generally 1 to 10 times the Method Detection Limit (MDL). Reporting limits are matrix, method, and analyte dependent and take into account any dilutions performed as part of the analysis.

Surrogates: Organic compounds which are similar to analytes of interest in chemical behavior, but are not found in environmental samples. Surrogates are added to all blanks, calibration and check standards, samples, and spiked samples. Surrogate recovery is monitored as an indication of acceptable sample preparation and instrumental performance.

D: Surrogates diluted out.

#: Indicates result outside of established laboratory QC limits.

QUALITY CONTROL DATA

AEN JOB NO: 9506010
SAMPLE(S) SPIKED: 9506010-09(ICP); 9506009-11(Hg); 9506010-03(Sulfate); 9506010-01(GFAA)
DATE(S) ANALYZED: 06/07-11/95
MATRIX: SOIL

Matrix Spike Recovery Summary

Analyte	Inst./ Method	Spike Conc. (mg/kg)	Sample Result (mg/kg)	MS Result (mg/kg)	MSD Result (mg/kg)	Average Percent Recovery	RPD	QC Limits Percent Recovery	QC Limits RPD
Ag, Silver	ICP/6010	10	ND	6.70	6.52	66	3	31- 88	9
As, Arsenic	4000/7060	10	5.53	11.06	11.53	58	4	42-143	24
Ba, Barium	ICP/6010	100	459.6	507.1	1689.0	638 #	108 #	65-121	12
Cd, Cadmium	ICP/6010	10	ND	9.28	9.00	91	3	68-100	8
Cr, Chromium	ICP/6010	50	31.6	79.5	79.3	96	<1	51-124	11
Cu, Copper	ICP/6010	50	50.6	83.8	131.0	114	44 #	60-127	12
Hg, Mercury	Hg/7471	0.4	0.348	0.786	0.760	106	3	75-125	20
Ni, Nickel	ICP/6010	50	20.8	66.6	68.8	94	3	46-125	11
Pb, Lead	ICP/6010	50	4.5	53.4	54.1	98	1	55-124	12
Se, Selenium	4000/7740	20	ND	12.6	13.0	64	3	27-140	23
Zn, Zinc	ICP/6010	50	29.8	71.9	93.6	106	26 #	47-121	10
Sulfate	DIONEX/300	100	120.0	235	N/A	115	N/A	75-125	N/A

N/A: Not Applicable

#: Outside laboratory quality control limits

QUALITY CONTROL DATA

AEN JOB NO: 9506010
SAMPLE SPIKED: SAND
DATE(S) ANALYZED: 06/07-08/95
MATRIX: SOIL

Method Blank and Spike Recovery Summary

Analyte	Inst./ Method	Spike Conc. (mg/kg)	Blank Result (mg/kg)	MS Result (mg/kg)	MSD Result (mg/kg)	Average Percent Recovery	RPD	QC Limits Percent Recovery	QC Limits RPD
Ag, Silver	ICP/6010	10	ND	6.92	6.99	70	1	33- 95	5
As, Arsenic	4000/7060	10	ND	9.37	9.32	93	1	76-128	15
Ba, Barium	ICP/6010	100	ND	96.6	97.4	97	1	91-107	5
Cd, Cadmium	ICP/6010	10	ND	9.77	9.85	98	1	87-108	5
Cr, Chromium	ICP/6010	50	ND	48.2	49.6	99	1	88-110	5
Cu, Copper	ICP/6010	50	ND	49.3	49.9	99	1	91-108	5
Hg, Mercury	Hg/7471	0.4	ND	0.406	0.413	102	2	80-117	5
Ni, Nickel	ICP/6010	50	ND	48.7	49.2	98	1	88-109	5
Pb, Lead	ICP/6010	50	ND	49.0	49.7	99	1	88-110	5
Se, Selenium	4000/7740	20	ND	17.3	18.8	90	8	70-125	14
Zn, Zinc	ICP/6010	50	ND	48.1	48.2	96	<1	85-105	5

QUALITY CONTROL DATA

AEN JOB NO: 9506010
SAMPLE SPIKED: ELUANT
DATE(S) ANALYZED: 06/13/95
MATRIX: LCS

Laboratory Control Sample Recovery

Analyte	Inst./ Method	Spike Conc. (mg/L)	Blank Result (mg/L)	MS Result (mg/L)	MSD Result (mg/L)	Average Percent Recovery	RPD	QC Limits Percent Recovery	QC Limits RPD
Sulfate	DIONEX/300	10.0	ND	10.20	9.81	100	4	80-120	15

*** END OF REPORT ***

Curtis & Tompkins, Ltd., Analytical Laboratories. Since 1878
2323 Fifth Street. Berkeley. CA 94710. Phone (510) 486-0900

A N A L Y T I C A L R E P O R T

Prepared for:

American Environmental Network
3440 Vincent Road
Pleasant Hill, CA 94523

Date: 14-JUN-95
Lab Job Number: 121235
Project ID: 9506010
Location: N/A

Reviewed by: Mary Rhinehart

Reviewed by:

CLIENT: American Environmental Network
PROJECT ID: 9506010
MATRIX: Soil

DATE REPORTED: 06/14/95

Metals Analytical Report

				Sulfur				
Sample ID	Lab ID	Sample Date	Receive Date	Result (mg/Kg)	Reporting Limit (mg/Kg)	QC Batch	Method	Analysis Date
BA4-2	121235-001	06/01/95	06/02/95	100	5.0	21068	EPA 6010A	06/13/95
BA4-7	121235-002	06/01/95	06/02/95	500	4.9	21068	EPA 6010A	06/13/95
BA4-8	121235-003	06/01/95	06/02/95	780	5.0	21068	EPA 6010A	06/13/95
BA4-10	121235-004	06/01/95	06/02/95	190	4.9	21068	EPA 6010A	06/13/95
BA5-4	121235-005	06/01/95	06/02/95	580	4.9	21068	EPA 6010A	06/13/95
BA5-8	121235-006	06/01/95	06/02/95	1200	4.9	21068	EPA 6010A	06/13/95
BA5-9	121235-007	06/01/95	06/02/95	5000	4.9	21068	EPA 6010A	06/13/95
BA5-10	121235-008	06/01/95	06/02/95	1900	5.0	21068	EPA 6010A	06/13/95

Curtis & Tompkins, Ltd.

CLIENT: American Environmental Network
JOB NUMBER: 121235

DATE REPORTED: 06/14/95

BATCH QC REPORT
PREP BLANK

Compound	Result	Reporting Limit	Units	QC Batch	Method	Analysis Date
Sulfur	ND	5	mg/Kg	21068	EPA 6010A	06/13/95

ND = Not Detected at or above reporting limit

Curtis & Tompkins, Ltd.

CLIENT: American Environmental Network
JOB NUMBER: 121235

DATE REPORTED: 06/14/95

BATCH QC REPORT
BLANK SPIKE / BLANK SPIKE DUPLICATE

Compound	Spike Amount	BS Result	BSD Result	Units	BS % Recovery	BSD % Recovery	Average Recovery	RPD	QC Batch	Method	Analysis Date
Sulfur	10000	9637	9580	ug/L	96	96	96	1	21068	EPA 6010A	06/13/95

9506010

Chain-of-Custody Record

No 5171

Date: 6/1/95

Page 1 of 2

Project No.: 2906

Samplers (Signatures):

	Date	Time	Sample Number	EPA Method 8010	EPA Method 8020	EPA Method 8240	EPA Method 8270	TPH as gasoline	TPH as diesel	TPH as BTEX	CCR 17 metals	Sulfate	Total Sulfer	pH	PCB extr. only	Cooled	Soil (S) or water (W)	Acidified	Number of containers
1A	6/1	815	BA4-2								X	X	X	X	✓	Y	S	N	1
1A	6/1	820	BA4-7								X	X	X	X					1
1A		825	BA4-8								X	X	X	X					1
1A		830	BA4-10								X	X	X	X					1
5A		835	BA4-12																1 Hold
1A		1020	BA5-4								X	X	X	X	✓				1
2A		1025	BA5-8								X	X	X	X					1
3A		1030	BA5-9								X	X	X	X					1
1A		1040	BA5-10								X	X	X	X					1
1A		1050	BA5-13																1 Hold
1A	↓	1045	BA5-16																1 Hold
2A	5/31	800	MWA1-BGM																1 Hold

ANALYSES

REMARKS

Additional comments

06/02/95 Per Mike Keim, extract the following samples for PCB before holding time expires 6/15. DO NOT analyze ~~until~~ unless requested. BA4-2 + BA5-4 UPS

Turnaround time: STANDARD

Results to: MIKE KEIM

Total No. of containers: 12

Relinquished by:	Date:	Relinquished by:	Date:	Relinquished by:	Date:	Method of shipment:
Signature: MIKE KEIM	6/1/95	Signature:	6/1	Signature:		Laboratory comments and Log No.:
Printed name: GEOMATRIX		Printed name:		Printed name:		
Company:		Company:		Company:		
Received by:	**Time:**	**Received by:**	**Time:**	**Received by:**	**Time:**	
Signature:	11:25	Signature: Lori L Pruitt	12:20	Signature:		
Printed name:		Printed name: AEN		Printed name:		
Company: AEN		Company:		Company:		

Geomatrix Consultants
100 Pine St. 10th Floor
San Francisco, CA. 94111
(415) 434-9400

CHANGE ORDER REQUEST

AMERICAN ENVIRONMENTAL NETWORK (AEN)
3440 VINCENT ROAD
PLEASANT HILL, CA 94523

PHONE (510) 930-9090 FAX (510) 930-0256

DATE/TIME 06/02/95 PM COMPANY Geomatrix

AEN REP. Roxy Sigua CONTACT Mike Kelm.

AEN PROJ NO. 9506009, 9506010 PROJECT 2906 (PROJ.#) 5170 + 5171 (COC#)

ADDITIONAL ~~ANALYSIS~~ work ✓ CHANGED ANALYSIS ___ OTHER ___

Per client request, extract the following samples for PCB (before the holding times expired 6/14 + 6/15): MWA1-1, MWA2-6, MW*3-5, BA4-2 and BA5-4.

(AEN sample #'s: 9506009-01A, -02A, -11A
9506010-01A, -06A)

ACCEPTED - *The above specifications of this Change Order are satisfactory and are hereby accepted*

X DATE OF ACCEPTANCE 6/5/95 X SIGNATURE Mike Kelm

PLEASE AUTHORIZE BY SIGNING REQUEST AND RETURN BY FAX

9506010

Chain-of-Custody Record

No 5171

Date: 6/1/95

Page 1 of 2

Project No.: 2906

Samplers (Signatures): Mike Keim

	Date	Time	Sample Number	EPA Method 8010	EPA Method 8020	EPA Method 8240	EPA Method 8270	TPH as gasoline	TPH as diesel	TPH as BTEX	CAM 17 metals	Sulfate	total Sulfer	pH	PCB extr. only	Cooled	Soil (S) or water (W)	Acidified	Number of containers
01A	6/1	815	BA4-2								X	X	X	X	✓	Y	S	N	1
02A	6/1	820	BA4-7								X	X	X	X					1
03A		825	BA4-8								X	X	X	X					1
04A		830	BA4-10								X	X	X	X					1
05A		835	BA4-12																1 Hold
06A		1020	BA5-4								X	X	X	X	✓				1
02A		1025	BA5-8								X	X	X	X					1
08A		1030	BA5-9								X	X	X	X					1
09A		1040	BA5-10								X	X	X	X					1
10A		1050	BA5-13																1 Hold
11A	↓	1045	BA5-16																1 Hold
12A	5/31	800	MWA1-BGM																1 Hold

ANALYSES

REMARKS

Additional comments

06/02/95 Per Mike Keim, extract the following samples for PCB before holding time expires 6/15. DO not analyze ~~unless~~ ~~confirm~~ requested BA4-2 + BA5-4 Lab

Turnaround time: STANDARD

Results to: MIKE KEIM

Total No. of containers: 12

Relinquished by:	Date:	Relinquished by:	Date:	Relinquished by:	Date:	Method of shipment:
Signature: MIKE KEIM	6/1/95	Signature:	6/1	Signature:		Laboratory comments and Log No.:
Printed name: GEOMATRIX		Printed name:		Printed name:		
Company:		Company:		Company:		
Received by:	**Time:**	**Received by:**	**Time:**	**Received by:**	**Time:**	
Signature:	11:25	Signature: Lori L Pruitt	12:20	Signature:		
Printed name: Michael McMillan		Printed name: LORI L PRUITT		Printed name:		
Company: LEN		Company: LEN		Company:		

Geomatrix Consultants
100 Pine St. 10th Floor
San Francisco, CA. 94111
(415) 434-9400

American Environmental Network

Certificate of Analysis

DOHS Certification: 1172 AIHA Accreditation: 11134

GEOMATRIX CONSULTANTS
100 PINE ST., SUITE 1000
SAN FRANCISCO, CA 94111

ATTN: MIKE KEIM
CLIENT PROJ. ID: 2906

C.O.C. NUMBER: 5170 & 5166

REPORT DATE: 06/19/95

DATE(S) SAMPLED: 05/31/95

DATE RECEIVED: 06/01/95

AEN WORK ORDER: 9506009

PROJECT SUMMARY:

On June 1, 1995, this laboratory received 24 soil sample(s).

Client requested 16 sample(s) be analyzed for inorganic parameters; eight samples were placed on hold. Portion of samples for sulfur were subcontracted to a DOHS certified laboratory; subcontract report is attached. On June 2, 1995, client requested PCB extraction on three samples. Results of analysis are summarized on the following page(s). Please see quality control report for a summary of QC data pertaining to this project.

Samples will be stored for 30 days after completion of analysis, then disposed of in accordance with State and Federal regulations. Samples may be archived by prior arrangement.

If you have any questions, please contact Client Services at (510) 930-9090.

Larry Klein
Laboratory Director

GEOMATRIX CONSULTANTS

SAMPLE ID: MWA1-1
AEN LAB NO: 9506009-01
AEN WORK ORDER: 9506009
CLIENT PROJ. ID: 2906

DATE SAMPLED: 05/31/95
DATE RECEIVED: 06/01/95
REPORT DATE: 06/19/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
pH	EPA 9045	7.9		S.U.	06/11/95
#Digestion, Metals by GFAA	EPA 3050	-		Prep Date	06/05/95
#Digestion, Metals AA/ICP	EPA 3050	-		Prep Date	06/05/95
Soluble Sulfate	EPA 300	16 *	5	mg/kg	06/09/95
#Extraction for Pest/PCBs	EPA 3550	-		Extrn Date	06/14/95
CCR 17 Metals					
Ag Silver	EPA 6010	0.2 *	0.1	mg/kg	06/06/95
As Arsenic	EPA 7060	7.5 *	0.5	mg/kg	06/07/95
Ba Barium	EPA 6010	530 *	1	mg/kg	06/06/95
Be Beryllium	EPA 6010	0.4 *	0.1	mg/kg	06/06/95
Cd Cadmium	EPA 6010	1.3 *	0.2	mg/kg	06/06/95
Co Cobalt	EPA 6010	15 *	0.2	mg/kg	06/06/95
Cr Chromium	EPA 6010	76 *	0.5	mg/kg	06/06/95
Cu Copper	EPA 6010	120 *	0.5	mg/kg	06/06/95
Hg Mercury	EPA 7471	4.8 *	0.06	mg/kg	06/11/95
Mo Molybdenum	EPA 6010	0.6 *	0.2	mg/kg	06/06/95
Ni Nickel	EPA 6010	140 *	1	mg/kg	06/06/95
Pb Lead	EPA 6010	170 *	1	mg/kg	06/06/95
Sb Antimony	EPA 6010	1 *	1	mg/kg	06/06/95
Se Selenium	EPA 7740	ND	1	mg/kg	06/07/95
Tl Thallium	EPA 6010	5 *	1	mg/kg	06/06/95
V Vanadium	EPA 6010	46 *	0.5	mg/kg	06/06/95
Zn Zinc	EPA 6010	330 *	1	mg/kg	06/06/95

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: MWA1-2
AEN LAB NO: 9506009-02
AEN WORK ORDER: 9506009
CLIENT PROJ. ID: 2906

DATE SAMPLED: 05/31/95
DATE RECEIVED: 06/01/95
REPORT DATE: 06/19/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
pH	EPA 9045	8.1		S.U.	06/11/95
#Digestion, Metals by GFAA	EPA 3050	-		Prep Date	06/05/95
#Digestion, Metals AA/ICP	EPA 3050	-		Prep Date	06/05/95
Soluble Sulfate	EPA 300	53 *	5	mg/kg	06/09/95
CCR 17 Metals					
Ag Silver	EPA 6010	0.1 *	0.1	mg/kg	06/06/95
As Arsenic	EPA 7060	2.9 *	0.5	mg/kg	06/07/95
Ba Barium	EPA 6010	410 *	1	mg/kg	06/06/95
Be Beryllium	EPA 6010	0.2 *	0.1	mg/kg	06/06/95
Cd Cadmium	EPA 6010	0.6 *	0.2	mg/kg	06/06/95
Co Cobalt	EPA 6010	7.7 *	0.2	mg/kg	06/06/95
Cr Chromium	EPA 6010	30 *	0.5	mg/kg	06/06/95
Cu Copper	EPA 6010	36 *	0.5	mg/kg	06/06/95
Hg Mercury	EPA 7471	0.22 *	0.06	mg/kg	06/11/95
Mo Molybdenum	EPA 6010	ND	0.2	mg/kg	06/06/95
Ni Nickel	EPA 6010	35 *	1	mg/kg	06/06/95
Pb Lead	EPA 6010	130 *	1	mg/kg	06/06/95
Sb Antimony	EPA 6010	ND	1	mg/kg	06/06/95
Se Selenium	EPA 7740	ND	1	mg/kg	06/07/95
Tl Thallium	EPA 6010	ND	1	mg/kg	06/06/95
V Vanadium	EPA 6010	35 *	0.5	mg/kg	06/06/95
Zn Zinc	EPA 6010	190 *	1	mg/kg	06/06/95

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: MWA1-7
AEN LAB NO: 9506009-03
AEN WORK ORDER: 9506009
CLIENT PROJ. ID: 2906

DATE SAMPLED: 05/31/95
DATE RECEIVED: 06/01/95
REPORT DATE: 06/19/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
pH	EPA 9045	7.3		S.U.	06/11/95
#Digestion, Metals by GFAA	EPA 3050	-		Prep Date	06/05/95
#Digestion, Metals AA/ICP	EPA 3050	-		Prep Date	06/05/95
Soluble Sulfate	EPA 300	83 *	5	mg/kg	06/09/95
CCR 17 Metals					
Ag Silver	EPA 6010	1.6 *	0.1	mg/kg	06/06/95
As Arsenic	EPA 7060	6.6 *	0.5	mg/kg	06/07/95
Ba Barium	EPA 6010	210 *	1	mg/kg	06/06/95
Be Beryllium	EPA 6010	0.5 *	0.1	mg/kg	06/06/95
Cd Cadmium	EPA 6010	9.4 *	0.2	mg/kg	06/06/95
Co Cobalt	EPA 6010	3.9 *	0.2	mg/kg	06/06/95
Cr Chromium	EPA 6010	42 *	0.5	mg/kg	06/06/95
Cu Copper	EPA 6010	140 *	0.5	mg/kg	06/06/95
Hg Mercury	EPA 7471	0.12 *	0.06	mg/kg	06/11/95
Mo Molybdenum	EPA 6010	3.6 *	0.2	mg/kg	06/06/95
Ni Nickel	EPA 6010	24 *	1	mg/kg	06/06/95
Pb Lead	EPA 6010	3,900 *	1	mg/kg	06/06/95
Sb Antimony	EPA 6010	7 *	1	mg/kg	06/06/95
Se Selenium	EPA 7740	1 *	1	mg/kg	06/07/95
Tl Thallium	EPA 6010	2 *	1	mg/kg	06/06/95
V Vanadium	EPA 6010	13 *	0.5	mg/kg	06/06/95
Zn Zinc	EPA 6010	1,900 *	1	mg/kg	06/06/95

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: MWA1-8
AEN LAB NO: 9506009-04
AEN WORK ORDER: 9506009
CLIENT PROJ. ID: 2906

DATE SAMPLED: 05/31/95
DATE RECEIVED: 06/01/95
REPORT DATE: 06/19/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
pH	EPA 9045	7.0		S.U.	06/11/95
#Digestion, Metals by GFAA	EPA 3050	-		Prep Date	06/05/95
#Digestion, Metals AA/ICP	EPA 3050	-		Prep Date	06/05/95
Soluble Sulfate	EPA 300	810 *	5	mg/kg	06/12/95
CCR 17 Metals					
Ag Silver	EPA 6010	0.7 *	0.1	mg/kg	06/06/95
As Arsenic	EPA 7060	11 *	0.5	mg/kg	06/07/95
Ba Barium	EPA 6010	570 *	1	mg/kg	06/06/95
Be Beryllium	EPA 6010	0.7 *	0.1	mg/kg	06/06/95
Cd Cadmium	EPA 6010	4.9 *	0.2	mg/kg	06/06/95
Co Cobalt	EPA 6010	6.9 *	0.2	mg/kg	06/06/95
Cr Chromium	EPA 6010	38 *	0.5	mg/kg	06/06/95
Cu Copper	EPA 6010	62 *	0.5	mg/kg	06/06/95
Hg Mercury	EPA 7471	18 *	0.06	mg/kg	06/11/95
Mo Molybdenum	EPA 6010	ND	0.2	mg/kg	06/06/95
Ni Nickel	EPA 6010	32 *	1	mg/kg	06/06/95
Pb Lead	EPA 6010	1,600 *	1	mg/kg	06/06/95
Sb Antimony	EPA 6010	5 *	1	mg/kg	06/06/95
Se Selenium	EPA 7740	ND	1	mg/kg	06/07/95
Tl Thallium	EPA 6010	2 *	1	mg/kg	06/06/95
V Vanadium	EPA 6010	29 *	0.5	mg/kg	06/06/95
Zn Zinc	EPA 6010	1,000 *	1	mg/kg	06/06/95

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: MWA1-8.5
AEN LAB NO: 9506009-05
AEN WORK ORDER: 9506009
CLIENT PROJ. ID: 2906

DATE SAMPLED: 05/31/95
DATE RECEIVED: 06/01/95
REPORT DATE: 06/19/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
pH	EPA 9045	5.7		S.U.	06/11/95
#Digestion, Metals by GFAA	EPA 3050	-		Prep Date	06/05/95
#Digestion, Metals AA/ICP	EPA 3050	-		Prep Date	06/05/95
Soluble Sulfate	EPA 300	3,300 *	5	mg/kg	06/12/95
CCR 17 Metals					
Ag Silver	EPA 6010	20 *	1	mg/kg	06/06/95
As Arsenic	EPA 7060	5.2 *	0.5	mg/kg	06/07/95
Ba Barium	EPA 6010	920 *	1	mg/kg	06/06/95
Be Beryllium	EPA 6010	ND	1	mg/kg	06/06/95
Cd Cadmium	EPA 6010	190 *	2	mg/kg	06/06/95
Co Cobalt	EPA 6010	30 *	2	mg/kg	06/06/95
Cr Chromium	EPA 6010	26 *	5	mg/kg	06/06/95
Cu Copper	EPA 6010	3,800 *	5	mg/kg	06/06/95
Hg Mercury	EPA 7471	20 *	0.06	mg/kg	06/11/95
Mo Molybdenum	EPA 6010	4 *	2	mg/kg	06/06/95
Ni Nickel	EPA 6010	53 *	10	mg/kg	06/06/95
Pb Lead	EPA 6010	15,000 *	10	mg/kg	06/06/95
Sb Antimony	EPA 6010	610 *	10	mg/kg	06/06/95
Se Selenium	EPA 7740	ND	1	mg/kg	06/07/95
Tl Thallium	EPA 6010	62 *	10	mg/kg	06/06/95
V Vanadium	EPA 6010	14 *	5	mg/kg	06/06/95
Zn Zinc	EPA 6010	30,000 *	10	mg/kg	06/06/95

Reporting limits elevated for metals due to matrix interference.

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: MWA1-9
AEN LAB NO: 9506009-06
AEN WORK ORDER: 9506009
CLIENT PROJ. ID: 2906

DATE SAMPLED: 05/31/95
DATE RECEIVED: 06/01/95
REPORT DATE: 06/19/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
pH	EPA 9045	5.8		S.U.	06/11/95
#Digestion, Metals by GFAA	EPA 3050	-		Prep Date	06/05/95
#Digestion, Metals AA/ICP	EPA 3050	-		Prep Date	06/05/95
Soluble Sulfate	EPA 300	5,400 *	5	mg/kg	06/12/95
CCR 17 Metals					
Ag Silver	EPA 6010	40 *	1	mg/kg	06/08/95
As Arsenic	EPA 7060	1,500 *	0.5	mg/kg	06/08/95
Ba Barium	EPA 6010	120 *	1	mg/kg	06/06/95
Be Beryllium	EPA 6010	ND	1	mg/kg	06/08/95
Cd Cadmium	EPA 6010	49 *	2	mg/kg	06/08/95
Co Cobalt	EPA 6010	2 *	2	mg/kg	06/08/95
Cr Chromium	EPA 6010	46 *	5	mg/kg	06/08/95
Cu Copper	EPA 6010	1,900 *	5	mg/kg	06/08/95
Hg Mercury	EPA 7471	57 *	0.06	mg/kg	06/11/95
Mo Molybdenum	EPA 6010	21 *	2	mg/kg	06/08/95
Ni Nickel	EPA 6010	38 *	10	mg/kg	06/08/95
Pb Lead	EPA 6010	30,000 *	10	mg/kg	06/08/95
Sb Antimony	EPA 6010	110 *	10	mg/kg	06/08/95
Se Selenium	EPA 7740	2 *	1	mg/kg	06/07/95
Tl Thallium	EPA 6010	ND	10	mg/kg	06/08/95
V Vanadium	EPA 6010	280 *	5	mg/kg	06/08/95
Zn Zinc	EPA 6010	17,000 *	10	mg/kg	06/08/95

Reporting limits elevated for metals due to matrix interference.

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: MWA1-10
AEN LAB NO: 9506009-07
AEN WORK ORDER: 9506009
CLIENT PROJ. ID: 2906

DATE SAMPLED: 05/31/95
DATE RECEIVED: 06/01/95
REPORT DATE: 06/19/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
pH	EPA 9045	5.2		S.U.	06/11/95
#Digestion, Metals by GFAA	EPA 3050	-		Prep Date	06/05/95
#Digestion, Metals AA/ICP	EPA 3050	-		Prep Date	06/05/95
Soluble Sulfate	EPA 300	2,600 *	5	mg/kg	06/09/95
CCR 17 Metals					
Ag Silver	EPA 6010	0.3 *	0.1	mg/kg	06/08/95
As Arsenic	EPA 7060	5.1 *	0.5	mg/kg	06/08/95
Ba Barium	EPA 6010	170 *	1	mg/kg	06/08/95
Be Beryllium	EPA 6010	0.5 *	0.1	mg/kg	06/08/95
Cd Cadmium	EPA 6010	75 *	0.2	mg/kg	06/08/95
Co Cobalt	EPA 6010	17 *	0.2	mg/kg	06/08/95
Cr Chromium	EPA 6010	75 *	0.5	mg/kg	06/08/95
Cu Copper	EPA 6010	53 *	0.5	mg/kg	06/08/95
Hg Mercury	EPA 7471	ND	0.06	mg/kg	06/11/95
Mo Molybdenum	EPA 6010	0.7 *	0.2	mg/kg	06/08/95
Ni Nickel	EPA 6010	170 *	1	mg/kg	06/08/95
Pb Lead	EPA 6010	75 *	1	mg/kg	06/08/95
Sb Antimony	EPA 6010	ND	1	mg/kg	06/08/95
Se Selenium	EPA 7740	ND	1	mg/kg	06/07/95
Tl Thallium	EPA 6010	3 *	1	mg/kg	06/08/95
V Vanadium	EPA 6010	42 *	0.5	mg/kg	06/08/95
Zn Zinc	EPA 6010	9,700 *	1	mg/kg	06/08/95

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: MWA2-6
AEN LAB NO: 9506009-08
AEN WORK ORDER: 9506009
CLIENT PROJ. ID: 2906

DATE SAMPLED: 05/31/95
DATE RECEIVED: 06/01/95
REPORT DATE: 06/19/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
pH	EPA 9045	7.8		S.U.	06/11/95
#Digestion, Metals by GFAA	EPA 3050	-		Prep Date	06/05/95
#Digestion, Metals AA/ICP	EPA 3050	-		Prep Date	06/05/95
Soluble Sulfate	EPA 300	860 *	5	mg/kg	06/12/95
#Extraction for Pest/PCBs	EPA 3550	-		Extrn Date	06/14/95
CCR 17 Metals					
Ag Silver	EPA 6010	21 *	1	mg/kg	06/08/95
As Arsenic	EPA 7060	1,200 *	0.5	mg/kg	06/08/95
Ba Barium	EPA 6010	1,200 *	1	mg/kg	06/08/95
Be Beryllium	EPA 6010	ND	1	mg/kg	06/08/95
Cd Cadmium	EPA 6010	180 *	2	mg/kg	06/08/95
Co Cobalt	EPA 6010	5 *	2	mg/kg	06/08/95
Cr Chromium	EPA 6010	15 *	5	mg/kg	06/08/95
Cu Copper	EPA 6010	1,800 *	5	mg/kg	06/08/95
Hg Mercury	EPA 7471	3.1 *	0.06	mg/kg	06/11/95
Mo Molybdenum	EPA 6010	8 *	2	mg/kg	06/08/95
Ni Nickel	EPA 6010	87 *	10	mg/kg	06/08/95
Pb Lead	EPA 6010	29,000 *	10	mg/kg	06/08/95
Sb Antimony	EPA 6010	830 *	10	mg/kg	06/08/95
Se Selenium	EPA 7740	4 *	1	mg/kg	06/07/95
Tl Thallium	EPA 6010	ND	10	mg/kg	06/08/95
V Vanadium	EPA 6010	140 *	5	mg/kg	06/08/95
Zn Zinc	EPA 6010	41,000 *	10	mg/kg	06/08/95

Reporting limits elevated for metals due to matrix interference.

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: MWA2-10
AEN LAB NO: 9506009-09
AEN WORK ORDER: 9506009
CLIENT PROJ. ID: 2906

DATE SAMPLED: 05/31/95
DATE RECEIVED: 06/01/95
REPORT DATE: 06/19/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
pH	EPA 9045	6.9		S.U.	06/11/95
#Digestion, Metals by GFAA	EPA 3050	-		Prep Date	06/05/95
#Digestion, Metals AA/ICP	EPA 3050	-		Prep Date	06/05/95
Soluble Sulfate	EPA 300	6 *	5	mg/kg	06/09/95
CCR 17 Metals					
Ag Silver	EPA 6010	ND	0.1	mg/kg	06/08/95
As Arsenic	EPA 7060	5.2 *	0.5	mg/kg	06/08/95
Ba Barium	EPA 6010	150 *	1	mg/kg	06/08/95
Be Beryllium	EPA 6010	0.3 *	0.1	mg/kg	06/08/95
Cd Cadmium	EPA 6010	0.2 *	0.2	mg/kg	06/08/95
Co Cobalt	EPA 6010	4.2 *	0.2	mg/kg	06/08/95
Cr Chromium	EPA 6010	28 *	0.5	mg/kg	06/08/95
Cu Copper	EPA 6010	54 *	0.5	mg/kg	06/08/95
Hg Mercury	EPA 7471	ND	0.06	mg/kg	06/11/95
Mo Molybdenum	EPA 6010	0.9 *	0.2	mg/kg	06/08/95
Ni Nickel	EPA 6010	25 *	1	mg/kg	06/08/95
Pb Lead	EPA 6010	10 *	1	mg/kg	06/08/95
Sb Antimony	EPA 6010	ND	1	mg/kg	06/08/95
Se Selenium	EPA 7740	ND	1	mg/kg	06/07/95
Tl Thallium	EPA 6010	ND	1	mg/kg	06/08/95
V Vanadium	EPA 6010	27 *	0.5	mg/kg	06/08/95
Zn Zinc	EPA 6010	600 *	1	mg/kg	06/08/95

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: MWA2-11.5
AEN LAB NO: 9506009-10
AEN WORK ORDER: 9506009
CLIENT PROJ. ID: 2906

DATE SAMPLED: 05/31/95
DATE RECEIVED: 06/01/95
REPORT DATE: 06/19/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
pH	EPA 9045	8.6		S.U.	06/11/95
#Digestion, Metals by GFAA	EPA 3050	-		Prep Date	06/05/95
#Digestion, Metals AA/ICP	EPA 3050	-		Prep Date	06/05/95
Soluble Sulfate	EPA 300	66 *	5	mg/kg	06/09/95
CCR 17 Metals					
Ag Silver	EPA 6010	0.5 *	0.1	mg/kg	06/08/95
As Arsenic	EPA 7060	4.2 *	0.5	mg/kg	06/08/95
Ba Barium	EPA 6010	1,700 *	1	mg/kg	06/08/95
Be Beryllium	EPA 6010	0.3 *	0.1	mg/kg	06/08/95
Cd Cadmium	EPA 6010	5.6 *	0.2	mg/kg	06/08/95
Co Cobalt	EPA 6010	7.7 *	0.2	mg/kg	06/08/95
Cr Chromium	EPA 6010	38 *	0.5	mg/kg	06/08/95
Cu Copper	EPA 6010	35 *	0.5	mg/kg	06/08/95
Hg Mercury	EPA 7471	ND	0.06	mg/kg	06/11/95
Mo Molybdenum	EPA 6010	ND	0.2	mg/kg	06/08/95
Ni Nickel	EPA 6010	39 *	1	mg/kg	06/08/95
Pb Lead	EPA 6010	250 *	1	mg/kg	06/08/95
Sb Antimony	EPA 6010	2 *	1	mg/kg	06/08/95
Se Selenium	EPA 7740	ND	1	mg/kg	06/07/95
Tl Thallium	EPA 6010	2 *	1	mg/kg	06/08/95
V Vanadium	EPA 6010	36 *	0.5	mg/kg	06/08/95
Zn Zinc	EPA 6010	390 *	1	mg/kg	06/08/95

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: MWA3-5
AEN LAB NO: 9506009-11
AEN WORK ORDER: 9506009
CLIENT PROJ. ID: 2906

DATE SAMPLED: 05/31/95
DATE RECEIVED: 06/01/95
REPORT DATE: 06/19/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
pH	EPA 9045	7.8		S.U.	06/11/95
#Digestion, Metals by GFAA	EPA 3050	-		Prep Date	06/06/95
#Digestion, Metals AA/ICP	EPA 3050	-		Prep Date	06/06/95
Soluble Sulfate	EPA 300	29 *	5	mg/kg	06/09/95
#Extraction for Pest/PCBs	EPA 3550	-		Extrn Date	06/14/95
CCR 17 Metals					
Ag Silver	EPA 6010	0.7 *	0.1	mg/kg	06/08/95
As Arsenic	EPA 7060	6.7 *	0.5	mg/kg	06/07/95
Ba Barium	EPA 6010	850 *	1	mg/kg	06/08/95
Be Beryllium	EPA 6010	0.5 *	0.1	mg/kg	06/08/95
Cd Cadmium	EPA 6010	2.1 *	0.2	mg/kg	06/08/95
Co Cobalt	EPA 6010	8.4 *	0.2	mg/kg	06/08/95
Cr Chromium	EPA 6010	43 *	0.5	mg/kg	06/08/95
Cu Copper	EPA 6010	180 *	0.5	mg/kg	06/08/95
Hg Mercury	EPA 7471	0.35 *	0.06	mg/kg	06/11/95
Mo Molybdenum	EPA 6010	ND	0.2	mg/kg	06/08/95
Ni Nickel	EPA 6010	30 *	1	mg/kg	06/08/95
Pb Lead	EPA 6010	3,300 *	1	mg/kg	06/08/95
Sb Antimony	EPA 6010	3 *	1	mg/kg	06/08/95
Se Selenium	EPA 7740	ND	1	mg/kg	06/07/95
Tl Thallium	EPA 6010	5 *	1	mg/kg	06/08/95
V Vanadium	EPA 6010	36 *	0.5	mg/kg	06/08/95
Zn Zinc	EPA 6010	940 *	1	mg/kg	06/08/95

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: MWA3-10
AEN LAB NO: 9506009-12
AEN WORK ORDER: 9506009
CLIENT PROJ. ID: 2906

DATE SAMPLED: 05/31/95
DATE RECEIVED: 06/01/95
REPORT DATE: 06/19/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
pH	EPA 9045	7.6		S.U.	06/11/95
#Digestion, Metals by GFAA	EPA 3050	-		Prep Date	06/06/95
#Digestion, Metals AA/ICP	EPA 3050	-		Prep Date	06/06/95
Soluble Sulfate	EPA 300	250 *	5	mg/kg	06/12/95
CCR 17 Metals					
Ag Silver	EPA 6010	0.2 *	0.1	mg/kg	06/08/95
As Arsenic	EPA 7060	12 *	0.5	mg/kg	06/07/95
Ba Barium	EPA 6010	120 *	1	mg/kg	06/08/95
Be Beryllium	EPA 6010	0.4 *	0.1	mg/kg	06/08/95
Cd Cadmium	EPA 6010	5.2 *	0.2	mg/kg	06/08/95
Co Cobalt	EPA 6010	14 *	0.2	mg/kg	06/08/95
Cr Chromium	EPA 6010	29 *	0.5	mg/kg	06/08/95
Cu Copper	EPA 6010	63 *	0.5	mg/kg	06/08/95
Hg Mercury	EPA 7471	0.32 *	0.06	mg/kg	06/11/95
Mo Molybdenum	EPA 6010	ND	0.2	mg/kg	06/08/95
Ni Nickel	EPA 6010	28 *	1	mg/kg	06/08/95
Pb Lead	EPA 6010	95 *	1	mg/kg	06/08/95
Sb Antimony	EPA 6010	ND	1	mg/kg	06/08/95
Se Selenium	EPA 7740	ND	1	mg/kg	06/07/95
Tl Thallium	EPA 6010	5 *	1	mg/kg	06/08/95
V Vanadium	EPA 6010	52 *	0.5	mg/kg	06/08/95
Zn Zinc	EPA 6010	2,700 *	1	mg/kg	06/08/95

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: MWA3-11
AEN LAB NO: 9506009-13
AEN WORK ORDER: 9506009
CLIENT PROJ. ID: 2906

DATE SAMPLED: 05/31/95
DATE RECEIVED: 06/01/95
REPORT DATE: 06/19/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
pH	EPA 9045	6.2		S.U.	06/11/95
#Digestion, Metals by GFAA	EPA 3050	-		Prep Date	06/06/95
#Digestion, Metals AA/ICP	EPA 3050	-		Prep Date	06/06/95
Soluble Sulfate	EPA 300	5,100 *	5	mg/kg	06/13/95
CCR 17 Metals					
Ag Silver	EPA 6010	19 *	1	mg/kg	06/08/95
As Arsenic	EPA 7060	290 *	0.5	mg/kg	06/08/95
Ba Barium	EPA 6010	750 *	1	mg/kg	06/08/95
Be Beryllium	EPA 6010	ND	1	mg/kg	06/08/95
Cd Cadmium	EPA 6010	33 *	2	mg/kg	06/08/95
Co Cobalt	EPA 6010	14 *	2	mg/kg	06/08/95
Cr Chromium	EPA 6010	24 *	5	mg/kg	06/08/95
Cu Copper	EPA 6010	4,100 *	5	mg/kg	06/08/95
Hg Mercury	EPA 7471	6.5 *	0.06	mg/kg	06/11/95
Mo Molybdenum	EPA 6010	47 *	2	mg/kg	06/08/95
Ni Nickel	EPA 6010	38 *	10	mg/kg	06/08/95
Pb Lead	EPA 6010	19,000 *	10	mg/kg	06/08/95
Sb Antimony	EPA 6010	55 *	10	mg/kg	06/08/95
Se Selenium	EPA 7740	3 *	1	mg/kg	06/07/95
Tl Thallium	EPA 6010	ND	10	mg/kg	06/08/95
V Vanadium	EPA 6010	46 *	5	mg/kg	06/08/95
Zn Zinc	EPA 6010	42,000 *	10	mg/kg	06/08/95

Reporting limits elevated for metals due to matrix interference.

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: MWA3-11.5
AEN LAB NO: 9506009-14
AEN WORK ORDER: 9506009
CLIENT PROJ. ID: 2906

DATE SAMPLED: 05/31/95
DATE RECEIVED: 06/01/95
REPORT DATE: 06/19/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
pH	EPA 9045	6.1		S.U.	06/11/95
#Digestion, Metals by GFAA	EPA 3050	-		Prep Date	06/06/95
#Digestion, Metals AA/ICP	EPA 3050	-		Prep Date	06/06/95
Soluble Sulfate	EPA 300	9,000 *	5	mg/kg	06/13/95
CCR 17 Metals					
Ag Silver	EPA 6010	30 *	1	mg/kg	06/08/95
As Arsenic	EPA 7060	660 *	0.5	mg/kg	06/08/95
Ba Barium	EPA 6010	340 *	1	mg/kg	06/08/95
Be Beryllium	EPA 6010	ND	1	mg/kg	06/08/95
Cd Cadmium	EPA 6010	25 *	2	mg/kg	06/08/95
Co Cobalt	EPA 6010	8 *	2	mg/kg	06/08/95
Cr Chromium	EPA 6010	140 *	5	mg/kg	06/08/95
Cu Copper	EPA 6010	2,700 *	5	mg/kg	06/08/95
Hg Mercury	EPA 7471	18 *	0.06	mg/kg	06/11/95
Mo Molybdenum	EPA 6010	57 *	2	mg/kg	06/08/95
Ni Nickel	EPA 6010	62 *	10	mg/kg	06/08/95
Pb Lead	EPA 6010	42,000 *	10	mg/kg	06/08/95
Sb Antimony	EPA 6010	300 *	10	mg/kg	06/08/95
Se Selenium	EPA 7740	3 *	1	mg/kg	06/07/95
Tl Thallium	EPA 6010	ND	10	mg/kg	06/08/95
V Vanadium	EPA 6010	69 *	5	mg/kg	06/08/95
Zn Zinc	EPA 6010	36,000 *	10	mg/kg	06/08/95

Reporting limits elevated for metals due to matrix interference.

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: MWA3-12
AEN LAB NO: 9506009-15
AEN WORK ORDER: 9506009
CLIENT PROJ. ID: 2906

DATE SAMPLED: 05/31/95
DATE RECEIVED: 06/01/95
REPORT DATE: 06/19/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
pH	EPA 9045	6.1		S.U.	06/11/95
#Digestion, Metals by GFAA	EPA 3050	-		Prep Date	06/06/95
#Digestion, Metals AA/ICP	EPA 3050	-		Prep Date	06/06/95
Soluble Sulfate	EPA 300	5,300 *	5	mg/kg	06/13/95
CCR 17 Metals					
Ag Silver	EPA 6010	11 *	1	mg/kg	06/08/95
As Arsenic	EPA 7060	380 *	0.5	mg/kg	06/08/95
Ba Barium	EPA 6010	580 *	1	mg/kg	06/08/95
Be Beryllium	EPA 6010	ND	1	mg/kg	06/08/95
Cd Cadmium	EPA 6010	55 *	2	mg/kg	06/08/95
Co Cobalt	EPA 6010	32 *	2	mg/kg	06/08/95
Cr Chromium	EPA 6010	81 *	5	mg/kg	06/08/95
Cu Copper	EPA 6010	4,000 *	5	mg/kg	06/08/95
Hg Mercury	EPA 7471	3.4 *	0.06	mg/kg	06/11/95
Mo Molybdenum	EPA 6010	12 *	2	mg/kg	06/08/95
Ni Nickel	EPA 6010	44 *	10	mg/kg	06/08/95
Pb Lead	EPA 6010	8,000 *	10	mg/kg	06/08/95
Sb Antimony	EPA 6010	99 *	10	mg/kg	06/08/95
Se Selenium	EPA 7740	ND	1	mg/kg	06/07/95
Tl Thallium	EPA 6010	ND	10	mg/kg	06/08/95
V Vanadium	EPA 6010	47 *	5	mg/kg	06/08/95
Zn Zinc	EPA 6010	42,000 *	10	mg/kg	06/08/95

Reporting limits elevated for metals due to matrix interference.

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: MWA3-13
AEN LAB NO: 9506009-16
AEN WORK ORDER: 9506009
CLIENT PROJ. ID: 2906

DATE SAMPLED: 05/31/95
DATE RECEIVED: 06/01/95
REPORT DATE: 06/19/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
pH	EPA 9045	5.7		S.U.	06/11/95
#Digestion, Metals by GFAA	EPA 3050	-		Prep Date	06/06/95
#Digestion, Metals AA/ICP	EPA 3050	-		Prep Date	06/06/95
Soluble Sulfate	EPA 300	3,000 *	5	mg/kg	06/13/95
CCR 17 Metals					
Ag Silver	EPA 6010	0.2 *	0.1	mg/kg	06/08/95
As Arsenic	EPA 7060	13 *	0.5	mg/kg	06/08/95
Ba Barium	EPA 6010	64 *	1	mg/kg	06/08/95
Be Beryllium	EPA 6010	0.3 *	0.1	mg/kg	06/08/95
Cd Cadmium	EPA 6010	5.1 *	0.2	mg/kg	06/08/95
Co Cobalt	EPA 6010	6.2 *	0.2	mg/kg	06/08/95
Cr Chromium	EPA 6010	30 *	0.5	mg/kg	06/08/95
Cu Copper	EPA 6010	34 *	0.5	mg/kg	06/08/95
Hg Mercury	EPA 7471	ND	0.06	mg/kg	06/11/95
Mo Molybdenum	EPA 6010	2.5 *	0.2	mg/kg	06/08/95
Ni Nickel	EPA 6010	34 *	1	mg/kg	06/08/95
Pb Lead	EPA 6010	12 *	1	mg/kg	06/08/95
Sb Antimony	EPA 6010	ND	1	mg/kg	06/08/95
Se Selenium	EPA 7740	ND	1	mg/kg	06/07/95
Tl Thallium	EPA 6010	4 *	1	mg/kg	06/08/95
V Vanadium	EPA 6010	35 *	0.5	mg/kg	06/08/95
Zn Zinc	EPA 6010	10,000 *	1	mg/kg	06/08/95

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

AEN (CALIFORNIA)
QUALITY CONTROL REPORT

AEN JOB NUMBER: 9506009

CLIENT PROJECT ID: 2906

Quality Control Summary

Zinc matrix spike recovery and silver, barium, cadmium and copper RPDs for sample MWA3-13 were outside of QC limits. This appears to be a matrix effect as method spike recoveries were within established limits.

All other laboratory quality control parameters were found to be within established limits.

Definitions

Laboratory Control Sample (LCS)/Method Spike(s): Control samples of known composition. LCS and Method Spike data are used to validate batch analytical results.

Matrix Spike(s): Aliquot of a sample (aqueous or solid) with added quantities of specific compounds and subjected to the entire analytical procedure. Matrix spike and matrix spike duplicate QC data are advisory.

Method Blank: An analytical control consisting of all reagents, internal standards, and surrogate standards carried through the entire analytical process. Used to monitor laboratory background and reagent contamination.

Not Detected (ND): Not detected at or above the reporting limit.

Relative Percent Difference (RPD): An indication of method precision based on duplicate analysis.

Reporting Limit (RL): The lowest concentration routinely determined during laboratory operations. The RL is generally 1 to 10 times the Method Detection Limit (MDL). Reporting limits are matrix, method, and analyte dependent and take into account any dilutions performed as part of the analysis.

Surrogates: Organic compounds which are similar to analytes of interest in chemical behavior, but are not found in environmental samples. Surrogates are added to all blanks, calibration and check standards, samples, and spiked samples. Surrogate recovery is monitored as an indication of acceptable sample preparation and instrumental performance.

D: Surrogates diluted out.

#: Indicates result outside of established laboratory QC limits.

QUALITY CONTROL DATA

AEN JOB NO: 9506009
SAMPLE(S) SPIKED: 9506009-16(ICP); 9506009-11(GFAA, Hg); 9506009-10(Sulfate)
DATE(S) ANALYZED: 06/08-11/95
MATRIX: SOIL

Matrix Spike Recovery Summary

Analyte	Inst./ Method	Spike Conc. (mg/kg)	Sample Result (mg/kg)	MS Result (mg/kg)	MSD Result (mg/kg)	Average Percent Recovery	RPD	QC Limits Percent Recovery	QC Limits RPD
Ag, Silver	ICP/6010	10	0.16	7.27	6.25	66	15 #	31- 88	9
As, Arsenic	4000/7060	10	6.71	12.98	13.67	66	5	42-143	24
Ba, Barium	ICP/6010	100	63.8	132.1	195.2	100	39 #	65-121	12
Cd, Cadmium	ICP/6010	10	5.14	16.67	15.09	107	10 #	68-100	8
Cr, Chromium	ICP/6010	50	30.5	75.7	74.8	90	1	51-124	11
Cu, Copper	ICP/6010	50	34.3	100.2	74.8	106	29 #	60-127	12
Hg, Mercury	Hg/7471	0.4	0.348	0.786	0.760	106	3	75-125	20
Ni, Nickel	ICP/6010	50	34.4	82.0	75.1	88	9	46-125	11
Pb, Lead	ICP/6010	50	12.3	66.7	64.5	106	3	55-124	12
Se, Selenium	4000/7740	20	ND	14.0	13.0	68	7	27-140	23
Zn, Zinc	ICP/6010	50	10440.0	11010.0	10400.0	530 #	6	47-121	10
Sulfate	DIONEX/300	100	65.5	163	N/A	98	N/A	75-125	N/A

N/A: Not Applicable

#: Outside laboratory quality control limits

QUALITY CONTROL DATA

AEN JOB NO: 9506009
SAMPLE SPIKED: SAND
DATE(S) ANALYZED: 06/06-11/95
MATRIX: SOIL

Method Blank and Spike Recovery Summary

Analyte	Inst./ Method	Spike Conc. (mg/kg)	Blank Result (mg/kg)	MS Result (mg/kg)	MSD Result (mg/kg)	Average Percent Recovery	RPD	QC Limits Percent Recovery	QC Limits RPD
Ag, Silver	ICP/6010	10	ND	7.02	7.12	71	1	33- 95	5
As, Arsenic	4000/7060	10	ND	10.62	11.00	108	4	76-128	15
Ba, Barium	ICP/6010	100	ND	97.4	98.4	98	1	91-107	5
Cd, Cadmium	ICP/6010	10	ND	9.70	9.96	98	3	87-108	5
Cr, Chromium	ICP/6010	50	ND	48.9	49.7	99	1	88-110	5
Cu, Copper	ICP/6010	50	ND	48.9	49.3	98	1	91-108	5
Hg, Mercury	Hg/7471	0.4	ND	0.406	0.413	102	2	80-117	5
Ni, Nickel	ICP/6010	50	ND	49.8	50.6	100	2	88-109	5
Pb, Lead	ICP/6010	50	ND	50.8	51.2	102	1	88-110	5
Se, Selenium	4000/7740	20	ND	18.0	18.7	92	4	70-125	14
Zn, Zinc	ICP/6010	50	ND	48.4	48.4	97	<1	85-105	5

QUALITY CONTROL DATA

AEN JOB NO: 9506009
SAMPLE SPIKED: SAND
DATE(S) ANALYZED: 06/07-08/95
MATRIX: SOIL

Method Blank and Spike Recovery Summary

Analyte	Inst./ Method	Spike Conc. (mg/kg)	Blank Result (mg/kg)	MS Result (mg/kg)	MSD Result (mg/kg)	Average Percent Recovery	RPD	QC Limits Percent Recovery	QC Limits RPD
Ag, Silver	ICP/6010	10	ND	6.92	6.99	70	1	33- 95	5
As, Arsenic	4000/7060	10	ND	9.37	9.32	93	1	76-128	15
Ba, Barium	ICP/6010	100	ND	96.6	97.4	97	1	91-107	5
Cd, Cadmium	ICP/6010	10	ND	9.77	9.85	98	1	87-108	5
Cr, Chromium	ICP/6010	50	ND	49.2	49.6	99	1	88-110	5
Cu, Copper	ICP/6010	50	ND	49.3	49.9	99	1	91-108	5
Ni, Nickel	ICP/6010	50	ND	48.7	49.2	98	1	88-109	5
Pb, Lead	ICP/6010	50	ND	49.0	49.7	99	1	88-110	5
Se, Selenium	4000/7740	20	ND	17.3	18.8	90	8	70-125	14
Zn, Zinc	ICP/6010	50	ND	48.1	48.2	96	<1	85-105	5

QUALITY CONTROL DATA

AEN JOB NO: 9506009
SAMPLE SPIKED: IC-QC-C
DATE(S) ANALYZED: 06/09/95
MATRIX: LCS

Laboratory Control Sample Recovery

Analyte	Inst./ Method	Spike Conc. (mg/L)	Blank Result (mg/L)	MS Result (mg/L)	MSD Result (mg/L)	Average Percent Recovery	RPD	QC Limits Percent Recovery	QC Limits RPD
Sulfate	DIONEX/300	10.0	ND	10.07	10.38	102	3	80-120	15

SAMPLE SPIKED: IC-QC-C
DATE(S) ANALYZED: 06/12/95
MATRIX: LCS

Laboratory Control Sample Recovery

Analyte	Inst./ Method	Spike Conc. (mg/L)	Blank Result (mg/L)	MS Result (mg/L)	MSD Result (mg/L)	Average Percent Recovery	RPD	QC Limits Percent Recovery	QC Limits RPD
Sulfate	DIONEX/300	10.0	ND	10.19	10.51	103	3	80-120	15

SAMPLE SPIKED: ELUANT
DATE(S) ANALYZED: 06/13/95
MATRIX: LCS

Laboratory Control Sample Recovery

Analyte	Inst./ Method	Spike Conc. (mg/L)	Blank Result (mg/L)	MS Result (mg/L)	MSD Result (mg/L)	Average Percent Recovery	RPD	QC Limits Percent Recovery	QC Limits RPD
Sulfate	DIONEX/300	10.0	ND	10.20	9.81	100	4	80-120	15

*** END OF REPORT ***

R-7.5-T

9506009

Chain-of-Custody Record

№ 5170

Date: 5/31/95

Page 1 of 2

Project No.: 2906

Samplers (Signatures):

ANALYSES

REMARKS

Date	Time	Sample Number	EPA Method 8010	EPA Method 8020	EPA Method 8240	EPA Method 8270	TPH as gasoline	TPH as diesel	TPH as BTEX	pH	Sulfate	Total Sulfer	PCBs ext.	17 CCR metals	Cooled	Soil (S) or water (W)	Acidified	Number of containers
5/31	940	MWA1-1 (MW1-1)								X	X	X	✓	X	Y	S	N	1
	945	MWA1-2 (MW1-2)								X	X	X		X				1
	950	MWA1-7 (MW1-7)								X	X	X		X				1
	955	MWA1-8 (MW1-8)								X	X	X		X				1
	958	MWA1-8.5 (MW1-8.5)								X	X	X		X				1
	959	MWA1-9 (MW-9-1)								X	X	X		X				1
	1005	MWA1-10 (MW10-1)								X	X	X		X				1
	1215	MWA2-6								X	X	X	✓	X				1
	1220	MWA2-10								X	X	X		X				1
	1225	MWA2-11.5								X	X	X		X				1
	1640	MWA3-5								X	X	X	✓	X				1
	1650	MWA3-10								X	X	X		X				1
																		12

Additional comments

6/2/95 Per Mike Keim, all sample IDs should start w/ MWA. JPS

6/2/95 Per Mike Keim, extract the following samples for PCB before holding time expires 6/14. Do not analyze unless requested.
MWA1-1, MWA2-6, MWA3-5. JPS

Turnaround time: Standard

Results to: Mike Keim

Total No. of containers: 12

Relinquished by: Mike Keim	Date: 6/1	Relinquished by:	Date: 6/1	Relinquished by:	Date:	Method of shipment:	
Signature: MIKE KEIM		Signature:		Signature:			
Printed name: GEOMATRIX	95	Printed name:		Printed name:		Laboratory comments and Log No.:	
Company:		Company:		Company:			
Received by:	Time:	Received by: Lori L Pruitt	Time: 12:20	Received by:	Time:		
Signature: Michael McKeller	11:25	Signature: Lori L. Pruitt		Signature:			
Printed name:		Printed name: AEN		Printed name:			
Company: AEN		Company:		Company:			

Geomatrix Consultants
100 Pine St. 10th Floor
San Francisco, CA. 94111
(415) 434-9400

R-1.01

9506009

Chain-of-Custody Record

№ 5166

Date: 5/31/95

Page 2 of 2

Project No.: 2906

Samplers (Signatures):

	Date	Time	Sample Number	EPA Method 8010	EPA Method 8020	EPA Method 8240	EPA Method 8270	TPH as gasoline	TPH as diesel	TPH as BTEX	PH	Sulfate	Total Sulfur	CCR 17 metals	Cooled	Soil (S) or water (W)	Acidified	Number of containers
13A	5/31	1655	MWA3-11								X	X	X	X	Y	S	N	1
14A	↓	1656	MWA3-11.5								X	X	X	X	↓	↓	↓	1
15A		1700	MWA3-12								X	X	X	X				1
16A		1705	MWA3-13								X	X	X	X				1
17A		1010	MWA1-12 (12-13)															1
18A		1015	MWA1-13 (13-13)															1
19A		1020	MWA1-14.5 (14.5-15)															1
20A		1030	MWA1-17 (17-17)															1
21A		1230	MWA2-14															1
22A		1240	MWA2-15															1
23A		1608	MWA3-14															1
24A	↓	1610	MWA3-15												↓	↓	↓	1

HOLD

ANALYSES

REMARKS

Additional comments

Turnaround time: STANDARD

Results to: MIKE KEIM

Total No. of containers: 24

	Date:		Date:		Date:	
Relinquished by:		Relinquished by:		Relinquished by:		Method of shipment:
Signature: MIKE KEIM	6/1	Signature:	6/1	Signature:		Laboratory comments and Log No.:
Printed name: GEOMATRIX	95	Printed name:		Printed name:		
Company:		Company:		Company:		
Received by:	Time:	Received by:	Time:	Received by:	Time:	
Signature:	11:25	Signature: Lori L. Pruitt	12:20	Signature:		
Printed name: Michael McMullen		Printed name: AEN		Printed name:		
Company: AEN		Company:		Company:		

Geomatrix Consultants
100 Pine St. 10th Floor
San Francisco, CA. 94111
(415) 434-9400

CHANGE ORDER REQUEST

AMERICAN ENVIRONMENTAL NETWORK (AEN)
3440 VINCENT ROAD
PLEASANT HILL, CA 94523

PHONE (510) 930-9090 FAX (510) 930-0256

DATE/TIME 06/02/95 PM COMPANY Geomatrix

AEN REP. Roxy Sigua CONTACT Mike Kelm

AEN PROJ NO. 9506009, 9506010 PROJECT 2906 (PROJ. #) 5170 + 5171 (COC #)

ADDITIONAL ~~ANALYSIS~~ work ✓ CHANGED ANALYSIS ___ OTHER ___

Per client request, extract the following samples for PCB (before the holding times expired 6/14 + 6/15): MWA1-1, MWA2-6, MW+3-5, BA4-2 and BA5-4.

(AEN sample id: 9506009-01A, -01A, -11A
9506010-01A -06A)

ACCEPTED - *The above specifications of this Change Order are satisfactory and are hereby accepted*

X DATE OF ACCEPTANCE 6/5/95 X SIGNATURE Mike Kelm

PLEASE AUTHORIZE BY SIGNING REQUEST AND RETURN BY FAX

Curtis & Tompkins, Ltd., Analytical Laboratories. Since 1878
2323 Fifth Street, Berkeley, CA 94710. Phone (510) 486-0900

A N A L Y T I C A L R E P O R T

Prepared for:

American Environmental Network
3440 Vincent Road
Pleasant Hill, CA 94523

Date: 14-JUN-95
Lab Job Number: 121234
Project ID: 9506009
Location: N/A

Reviewed by: Mary Plessas

Reviewed by:

CLIENT: American Environmental Network
PROJECT ID: 9506009
MATRIX: Soil

DATE REPORTED: 06/14/95

Metals Analytical Report

				Sulfur				
Sample ID	Lab ID	Sample Date	Receive Date	Result (mg/Kg)	Reporting Limit (mg/Kg)	QC Batch	Method	Analysis Date
MWA1-1	121234-001	05/31/95	06/02/95	300	5.0	21048	EPA 6010A	06/13/95
MWA1-2	121234-002	05/31/95	06/02/95	990	4.9	21048	EPA 6010A	06/13/95
MWA1-7	121234-003	05/31/95	06/02/95	370	5.0	21048	EPA 6010A	06/13/95
MWA1-8	121234-004	05/31/95	06/02/95	670	5.0	21048	EPA 6010A	06/13/95
MWA1-8.5	121234-005	05/31/95	06/02/95	3800	4.9	21048	EPA 6010A	06/13/95
MWA1-9	121234-006	05/31/95	06/02/95	38000	4.9	21048	EPA 6010A	06/13/95
MWA1-10	121234-007	05/31/95	06/02/95	3200	5.0	21048	EPA 6010A	06/13/95
MWA-2-6	121234-008	05/31/95	06/02/95	3400	5.0	21048	EPA 6010A	06/13/95
MWA2-10	121234-009	05/31/95	06/02/95	880	4.9	21048	EPA 6010A	06/13/95
MWA2-11.5	121234-010	05/31/95	06/02/95	430	4.9	21048	EPA 6010A	06/13/95
MWA3-5	121234-011	05/31/95	06/02/95	410	5.0	21048	EPA 6010A	06/13/95
MWA3-10	121234-012	05/31/95	06/02/95	380	4.9	21048	EPA 6010A	06/13/95
MWA3-11	121234-013	05/31/95	06/02/95	10000	5.0	21048	EPA 6010A	06/13/95
MWA3-11.5	121234-014	05/31/95	06/02/95	9000	4.9	21048	EPA 6010A	06/13/95
MWA3-12	121234-015	05/31/95	06/02/95	5100	4.9	21048	EPA 6010A	06/13/95
MWA3-13	121234-016	05/31/95	06/02/95	9800	5.0	21048	EPA 6010A	06/13/95

Curtis & Tompkins, Ltd.

CLIENT: American Environmental Network
JOB NUMBER: 121234

DATE REPORTED: 06/14/95

BATCH QC REPORT
PREP BLANK

Compound	Result	Reporting Limit	Units	QC Batch	Method	Analysis Date
Sulfur	ND	5	mg/Kg	21048	EPA 6010A	06/13/95

ND = Not Detected at or above reporting limit

Curtis & Tompkins, Ltd.

CLIENT: American Environmental Network
JOB NUMBER: 121234

DATE REPORTED: 06/14/95

BATCH QC REPORT
BLANK SPIKE / BLANK SPIKE DUPLICATE

Compound	Spike Amount	BS Result	BSD Result	Units	BS % Recovery	BSD % Recovery	Average Recovery	RPD	QC Batch	Method	Analysis Date
Sulfur	10000	9666	9351	ug/L	97	94	96	3	21048	EPA 6010A	06/13/95

R-7,5-F

9506009

Chain-of-Custody Record

No. 5170

Date: 5/31/95

Page 1 of 2

Project No.: 2906

Samplers (Signatures):

Date	Time	Sample Number	EPA Method 8010	EPA Method 8020	EPA Method 8240	EPA Method 8270	TPH as gasoline	TPH as diesel	TPH as BTEX	pH	Sulfate	total Sulfer	PCBs extr. only	17 CCR metals	Cooled	Soil (S) or water (W)	Acidified	Number of containers
5/31	940	MWA1-1 (MW1-1)								X	X	X	✓	X	Y	S	N	1
	945	MWA1-2 (MW1-2)								X	X	X		X				1
	950	MWA1-7 (MW1-7)								X	X	X		X				1
	955	MWA1-8 (MW1-8)								X	X	X		X				1
	958	MWA1-8.5 (MW1-8.5)								X	X	X		X				1
	959	MWA1-9 (MW1-9)								X	X	X		X				1
	1005	MWA1-10 (MW1-10)								X	X	X		X				1
	1215	MWA2-6								X	X	X	✓	X				1
	1220	MWA2-10								X	X	X		X				1
	1225	MWA2-11.5								X	X	X		X				1
	1640	MWA3-5								X	X	X	✓	X				1
	1650	MWA3-10								X	X	X		X				1

REMARKS

Additional comments

6/2/95 Per Mike Keim, all samples TAT should start w/ MWA. JRS

6/2/95 Per Mike Keim, extract the following samples for PCB before holding time expires 6/14. Do not analyze unless requested.
MWA1-1, MWA2-6, MWA3-5. JRS

Turnaround time: Standard

Results to: Mike Keim

Total No. of containers: 12

Relinquished by:	Date:	Relinquished by:	Date:	Relinquished by:	Date:	Method of shipment:
Signature: MIKE KEIM	6/1	Signature:	6/1	Signature:		Laboratory comments and Log No.:
Printed name: GEOMATRIX	95	Printed name:		Printed name:		
Company:		Company:		Company:		
Received by:	**Time:**	**Received by:**	**Time:**	**Received by:**	**Time:**	
Signature: Michael McKeller	11:25	Signature: Lori L. Pruitt	12:20	Signature:		
Printed name:		Printed name: AEN		Printed name:		
Company: AEN		Company:		Company:		

Geomatrix Consultants
100 Pine St. 10th Floor
San Francisco, CA 94111
(415) 434-9400

9506009

Chain-of-Custody Record

№ 5166

Date: 5/31/95

Page 2 of 2

Project No.: 2906

Samplers (Signatures):

	Date	Time	Sample Number	EPA Method 8010	EPA Method 8020	EPA Method 8240	EPA Method 8270	TPH as gasoline	TPH as diesel	TPH as BTEX	PH	Sulfate	Total Sulfur	CCR 17 metals									Cooled	Soil (S) or water (W)	Acidified	Number of containers
3A	5/31	1655	MWA3-11								X	X	X	X									Y	S	N	1
4A		1656	MWA3-11.5								X	X	X	X												1
5A		1700	MWA3-12								X	X	X	X												1
6A		1705	MWA3-13								X	X	X	X												1
7A		1010	MWA1-12 (5-12)																							1
8A		1015	MWA1-13 (5-13)																							1
9A		1020	MWA1-14.5 (5-14)																							1
20A		1030	MWA1-17 (5-17)																							1
21A		1230	MWA2-14																							1
22A		1240	MWA2-15																							1
23A		1608	MWA3-14																							1
24A	↓	1610	MWA3-15																				↓	↓	↓	1

ANALYSES

REMARKS

Additional comments

HOLD

Turnaround time: STANDARD

Results to: MIKE KEIM

Total No. of containers: 24

Relinquished by:	Date:	Relinquished by:	Date:	Relinquished by:	Date:	Method of shipment:
Signature: MIKE KEIM	6/1	Signature:	6/1	Signature:		Laboratory comments and Log No.:
Printed name: GEOMATRIX	9:5	Printed name:		Printed name:		
Company:		Company:		Company:		
Received by:	**Time:**	**Received by:**	**Time:**	**Received by:**	**Time:**	
Signature:	11:25	Signature:	12:20	Signature:		
Printed name: Michael McMullen		Printed name:		Printed name:		
Company: AEN		Company: AEN		Company:		

Geomatrix Consultants
100 Pine St. 10th Floor
San Francisco, CA. 94111
(415) 434-9400

Reporting Information: 13122

1. Client: AEN
Address: 3440 Vincent Rd Pleasant Hill CA 94523
Contact: Denise Harrington
Alt. Contact: Robin Bryan

American Environmental Network
3440 Vincent Road, Pleasant Hill, CA 94523
Phone (510) 930-9090
FAX (510) 930-0256

AEN

Page 1 of —

REQUEST FOR ANALYSIS / CHAIN OF CUSTODY

Lab Job Number:
Lab Destination: Curtis & Tompkins
Date Samples Shipped: 6-2-95
Lab Contact:
Date Results Required:
Date Report Required:
Client Phone No.: (510) 930-7070
Client FAX No.: (510) 930-0256

Address Report To:
2. #1

Send Invoice To:
3. #1
Ryan DiGiando

Send Report To: (1) or 2 (Circle one)

Client P.O. No.: 1078 Client Project I.D. No.: 9506009

Sample Team Member (s)

Lab Number	Client Sample Identification	Air Volume	Date/ Time Collected	Sample Type*	Pres.	No. of Cont.	Type of Cont.	ANALYSIS: Sulfur	Comments / Hazards
-1	MWA1-1	NA	5-31-95	S	Cold	1	4oz Jar		PLEASE fax results as soon as available
-2	MWA1-2								
-3	MWA1-7								
-4	MWA1-8								
-5	MWA1-8.5								
-6	MWA1-9								
-7	MWA1-10								
-8	MW4-2-6								
-9	MWA2-10								
-10	MWA2-11.5								
-11	MWA3-5								
-12	MWA3-10								
-13	MWA3-11								
-14	MWA3-11.5								

Relinquished by: (Signature) Robin Bryan	DATE 6-2-95	TIME 7:45	Received by: (Signature)	DATE 6-2-95	TIME 7:45
Relinquished by: (Signature)	DATE 6-2-95	TIME 9:10	Received by: (Signature)	DATE 6-2-95	TIME 9:10
Relinquished by: (Signature)	DATE	TIME	Received by: (Signature)	DATE	TIME
Method of Shipment			Lab Comments		

*Sample type (Specify): 1) 37mm 0.8 µm MCEF 2) 25mm 0.8 µm MCEF 3) 25mm 0.4 µm polycarb. filter
4) PVC filter, diam. ____ pore size ____ 5) Charcoal tube 6) Silica gel tube 7) Water (8) Soil 9) Bulk Sample
10) Other 11) Other

COPIES: WHITE - JOB FILE YELLOW - PROJECT FILE PINK - CLIENT

Reporting Information: [redacted] 11/1255/1 [redacted] American Environmental Network [redacted] AEN [redacted] P[redacted] 2 [redacted] 4

1. Client: [redacted]
Address: [redacted]
Contact: [redacted]
Alt. Contact: [redacted]

3440 Vincent Road, Pleasant Hill, CA 94523
Phone (510) 930-9090
FAX (510) 930-0256

REQUEST FOR ANALYSIS / CHAIN OF CUSTODY

Lab Job Number:
Lab Destination:
Date Samples Shipped:
Lab Contact: See 13
Date Results Required:
Date Report Required:
Client Phone No.:
Client FAX No.:

Address Report To:

2.

Send Invoice To:

3.

Send Report To: 1 or 2 (Circle one)

Client P.O. No.: 1078 Client Project I.D. No.: 756007

Sample Team Member (s)

Lab Number	Client Sample Identification	Air Volume	Date/ Time Collected	Sample Type*	Pres.	No. of Cont.	Type of Cont.	Sulfur	ANALYSIS	Comments / Hazards
-5	MW A 3 - 12	NA	5-31-95	8	Cold	1	4x2Jar	✓		
-6	MW A 3 -13	↓	↓	↓	↓	↓	↓	✓		
	-5									
	-6									
	-7									
	-8									
	-9									
	-10									
	-11									
	-12									
	-13									
	-14									

Relinquished by: (Signature) Robin Bryan	DATE 6-2-95	TIME 7:45	Received by: (Signature)	DATE 6-2-95	TIME 7:45
Relinquished by: (Signature)	DATE 6-2-95	TIME 9:10	Received by: (Signature) Ken Hoh	DATE 6-2-95	TIME 9:10
Relinquished by: (Signature)	DATE	TIME	Received by: (Signature)	DATE	TIME
Method of Shipment			Lab Comments		

*Sample type (Specify): 1) 37mm 0.8 µm MCEF 2) 25mm 0.8 µm MCEF 3) 25mm 0.4 µm polycarb. filter
4) PVC filter, diam. ____ pore size ____ 5) Charcoal tube 6) Silica gel tube 7) Water 8) Soil 9) Bulk Sample
10) Other ____ 11) Other ____

COPIES: WHITE - JOB FILE YELLOW - PROJECT FILE PINK - CLIENT

American Environmental Network

Certificate of Analysis

DOHS Certification: 1172 AIHA Accreditation: 11134

GEOMATRIX CONSULTANTS
100 PINE ST., SUITE 1000
SAN FRANCISCO, CA 94111

ATTN: MIKE KEIM
CLIENT PROJ. ID: 2906

C.O.C. NUMBER: 6045

REPORT DATE: 06/19/95

DATE(S) SAMPLED: 06/02/95

DATE RECEIVED: 06/02/95

AEN WORK ORDER: 9506047

PROJECT SUMMARY:

On June 2, 1995, this laboratory received 4 (3 water and 1 soil) sample(s).

Client requested sample(s) be analyzed for inorganic parameters. Portion of sample for sulfur was subcontracted to a DOHS certified laboratory; subcontract report is attached. Results of analysis are summarized on the following page(s). Please see quality control report for a summary of QC data pertaining to this project.

Samples will be stored for 30 days after completion of analysis, then disposed of in accordance with State and Federal regulations. Samples may be archived by prior arrangement.

If you have any questions, please contact Client Services at (510) 930-9090.

Larry Klein
Laboratory Director

GEOMATRIX CONSULTANTS

SAMPLE ID: MWA-1
AEN LAB NO: 9506047-01
AEN WORK ORDER: 9506047
CLIENT PROJ. ID: 2906

DATE SAMPLED: 06/02/95
DATE RECEIVED: 06/02/95
REPORT DATE: 06/19/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
Alkalinity, Total	EPA 310.1	150 *	2	mg CaCO3/L	06/13/95
#Digestion, Metals by GFAA	EPA 3020	-		Prep Date	06/07/95
#Digestion, Metals by ICP	EPA 3010	-		Prep Date	06/07/95
#Anion Sample Prep.		-		Prep date	06/03/95
CCR 17 Metals					
Ag Silver	EPA 6010	ND	0.05	mg/L	06/13/95
As Arsenic	EPA 7060	ND	0.01	mg/L	06/12/95
Ba Barium	EPA 6010	0.01 *	0.01	mg/L	06/12/95
Be Beryllium	EPA 6010	ND	0.02	mg/L	06/13/95
Cd Cadmium	EPA 6010	2.7 *	0.05	mg/L	06/13/95
Co Cobalt	EPA 6010	ND	0.05	mg/L	06/13/95
Cr Chromium	EPA 6010	ND	0.1	mg/L	06/13/95
Cu Copper	EPA 6010	0.57 *	0.1	mg/L	06/13/95
Hg Mercury	EPA 7470	ND	0.0002	mg/L	06/09/95
Mo Molybdenum	EPA 6010	ND	0.1	mg/L	06/13/95
Ni Nickel	EPA 6010	0.9 *	0.1	mg/L	06/13/95
Pb Lead	EPA 6010	ND	0.4	mg/L	06/13/95
Sb Antimony	EPA 6010	ND	0.2	mg/L	06/13/95
Se Selenium	EPA 7740	ND	0.02	mg/L	06/12/95
Tl Thallium	EPA 6010	ND	0.5	mg/L	06/13/95
V Vanadium	EPA 6010	ND	0.05	mg/L	06/13/95
Zn Zinc	EPA 6010	990 *	0.1	mg/L	06/13/95
Major Anions					
Fluoride, F	EPA 300	ND	10	mg/L	06/13/95
Chloride, Cl	EPA 300	660 *	50	mg/L	06/13/95
Nitrate, NO3-N	EPA 300	2.5 *	1	mg/L	06/03/95
Phosphate, PO4-P	EPA 300	ND	30	mg/L	06/03/95
Sulfate, SO4	EPA 300	3,900 *	50	mg/L	06/13/95

Reporting limits elevated for metals and anions due to matrix interference.

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: MWA-2
AEN LAB NO: 9506047-02
AEN WORK ORDER: 9506047
CLIENT PROJ. ID: 2906

DATE SAMPLED: 06/02/95
DATE RECEIVED: 06/02/95
REPORT DATE: 06/19/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
Alkalinity, Total	EPA 310.1	1,000 *	2	mg CaCO3/L	06/13/95
#Digestion, Metals by GFAA	EPA 3020	-		Prep Date	06/07/95
#Digestion, Metals by ICP	EPA 3010	-		Prep Date	06/07/95
#Anion Sample Prep.		-		Prep date	06/03/95
CCR 17 Metals					
Ag Silver	EPA 6010	ND	0.005	mg/L	06/12/95
As Arsenic	EPA 7060	1.1 *	0.002	mg/L	06/12/95
Ba Barium	EPA 6010	0.19 *	0.01	mg/L	06/12/95
Be Beryllium	EPA 6010	ND	0.002	mg/L	06/12/95
Cd Cadmium	EPA 6010	0.012 *	0.005	mg/L	06/12/95
Co Cobalt	EPA 6010	0.012 *	0.005	mg/L	06/12/95
Cr Chromium	EPA 6010	ND	0.01	mg/L	06/12/95
Cu Copper	EPA 6010	ND	0.01	mg/L	06/12/95
Hg Mercury	EPA 7470	ND	0.0002	mg/L	06/09/95
Mo Molybdenum	EPA 6010	0.07 *	0.01	mg/L	06/12/95
Ni Nickel	EPA 6010	0.21 *	0.01	mg/L	06/12/95
Pb Lead	EPA 6010	ND	0.04	mg/L	06/12/95
Sb Antimony	EPA 6010	0.04 *	0.02	mg/L	06/12/95
Se Selenium	EPA 7740	ND	0.004	mg/L	06/09/95
Tl Thallium	EPA 6010	ND	0.05	mg/L	06/12/95
V Vanadium	EPA 6010	0.012 *	0.005	mg/L	06/12/95
Zn Zinc	EPA 6010	5.5 *	0.01	mg/L	06/12/95
Major Anions					
Fluoride, F	EPA 300	ND	5	mg/L	06/13/95
Chloride, Cl	EPA 300	490 *	30	mg/L	06/13/95
Nitrate, NO3-N	EPA 300	ND	2	mg/L	06/03/95
Phosphate, PO4-P	EPA 300	ND	30	mg/L	06/03/95
Sulfate, SO4	EPA 300	460 *	30	mg/L	06/13/95

Reporting limits elevated for anions due to matrix interference.

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: MWA-3
AEN LAB NO: 9506047-03
AEN WORK ORDER: 9506047
CLIENT PROJ. ID: 2906

DATE SAMPLED: 06/02/95
DATE RECEIVED: 06/02/95
REPORT DATE: 06/19/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
Alkalinity, Total	EPA 310.1	430 *	2	mg CaCO3/L	06/13/95
#Digestion, Metals by GFAA	EPA 3020	-		Prep Date	06/07/95
#Digestion, Metals by ICP	EPA 3010	-		Prep Date	06/07/95
#Anion Sample Prep.		-		Prep date	06/03/95
CCR 17 Metals					
Ag Silver	EPA 6010	ND	0.005	mg/L	06/12/95
As Arsenic	EPA 7060	0.012 *	0.002	mg/L	06/12/95
Ba Barium	EPA 6010	0.05 *	0.01	mg/L	06/12/95
Be Beryllium	EPA 6010	ND	0.002	mg/L	06/12/95
Cd Cadmium	EPA 6010	0.010 *	0.005	mg/L	06/12/95
Co Cobalt	EPA 6010	0.006 *	0.005	mg/L	06/12/95
Cr Chromium	EPA 6010	ND	0.01	mg/L	06/12/95
Cu Copper	EPA 6010	ND	0.01	mg/L	06/12/95
Hg Mercury	EPA 7470	ND	0.0002	mg/L	06/09/95
Mo Molybdenum	EPA 6010	ND	0.01	mg/L	06/12/95
Ni Nickel	EPA 6010	ND	0.01	mg/L	06/12/95
Pb Lead	EPA 6010	ND	0.04	mg/L	06/12/95
Sb Antimony	EPA 6010	ND	0.02	mg/L	06/12/95
Se Selenium	EPA 7740	ND	0.004	mg/L	06/09/95
Tl Thallium	EPA 6010	ND	0.05	mg/L	06/12/95
V Vanadium	EPA 6010	ND	0.005	mg/L	06/12/95
Zn Zinc	EPA 6010	2.0 *	0.01	mg/L	06/12/95
Major Anions					
Fluoride, F	EPA 300	ND	5	mg/L	06/13/95
Chloride, Cl	EPA 300	590 *	30	mg/L	06/13/95
Nitrate, NO3-N	EPA 300	ND	2	mg/L	06/03/95
Phosphate, PO4-P	EPA 300	ND	30	mg/L	06/03/95
Sulfate, SO4	EPA 300	390 *	30	mg/L	06/13/95

Reporting limits elevated for anions due to matrix interference.

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: BA5-9B
AEN LAB NO: 9506047-04
AEN WORK ORDER: 9506047
CLIENT PROJ. ID: 2906

DATE SAMPLED: 06/02/95
DATE RECEIVED: 06/02/95
REPORT DATE: 06/19/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
pH	EPA 9045	11.2		S.U.	06/11/95
#Digestion, Metals by GFAA	EPA 3050	-		Prep Date	06/09/95
#Digestion, Metals by ICP	EPA 3010	-		Prep Date	06/09/95
#Anion Sample Prep.		-		Prep date	06/13/95
Soluble Sulfate	EPA 300	32 *	5	mg/kg	06/13/95
CCR 17 Metals					
Ag Silver	EPA 6010	0.3 *	0.1	mg/kg	06/12/95
As Arsenic	EPA 7060	1.3 *	0.5	mg/kg	06/13/95
Ba Barium	EPA 6010	29,000 *	1	mg/kg	06/13/95
Be Beryllium	EPA 6010	0.1 *	0.1	mg/kg	06/12/95
Cd Cadmium	EPA 6010	ND	0.2	mg/kg	06/12/95
Co Cobalt	EPA 6010	0.4 *	0.2	mg/kg	06/12/95
Cr Chromium	EPA 6010	18 *	0.5	mg/kg	06/12/95
Cu Copper	EPA 6010	250 *	0.5	mg/kg	06/12/95
Hg Mercury	EPA 7471	ND	0.06	mg/kg	06/09/95
Mo Molybdenum	EPA 6010	3.3 *	0.2	mg/kg	06/12/95
Ni Nickel	EPA 6010	250 *	1	mg/kg	06/12/95
Pb Lead	EPA 6010	84 *	1	mg/kg	06/12/95
Sb Antimony	EPA 6010	ND	1	mg/kg	06/12/95
Se Selenium	EPA 7740	ND	1	mg/kg	06/13/95
Tl Thallium	EPA 6010	ND	1	mg/kg	06/12/95
V Vanadium	EPA 6010	290 *	0.5	mg/kg	06/12/95
Zn Zinc	EPA 6010	470 *	1	mg/kg	06/12/95

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

AEN (CALIFORNIA)
QUALITY CONTROL REPORT

AEN JOB NUMBER: 9506047

CLIENT PROJECT ID: 2906

Quality Control Summary

All laboratory quality control parameters were found to be within established limits.

Definitions

Laboratory Control Sample (LCS)/Method Spike(s): Control samples of known composition. LCS and Method Spike data are used to validate batch analytical results.

Matrix Spike(s): Aliquot of a sample (aqueous or solid) with added quantities of specific compounds and subjected to the entire analytical procedure. Matrix spike and matrix spike duplicate QC data are advisory.

Method Blank: An analytical control consisting of all reagents, internal standards, and surrogate standards carried through the entire analytical process. Used to monitor laboratory background and reagent contamination.

Not Detected (ND): Not detected at or above the reporting limit.

Relative Percent Difference (RPD): An indication of method precision based on duplicate analysis.

Reporting Limit (RL): The lowest concentration routinely determined during laboratory operations. The RL is generally 1 to 10 times the Method Detection Limit (MDL). Reporting limits are matrix, method, and analyte dependent and take into account any dilutions performed as part of the analysis.

Surrogates: Organic compounds which are similar to analytes of interest in chemical behavior, but are not found in environmental samples. Surrogates are added to all blanks, calibration and check standards, samples, and spiked samples. Surrogate recovery is monitored as an indication of acceptable sample preparation and instrumental performance.

D: Surrogates diluted out.

#: Indicates result outside of established laboratory QC limits.

QUALITY CONTROL DATA

AEN JOB NO: 9506047
SAMPLE SPIKED: SAND
DATE(S) ANALYZED: 06/12-13/95
MATRIX: SOIL

Method Blank and Spike Recovery Summary

Analyte	Inst./ Method	Spike Conc. (mg/kg)	Blank Result (mg/kg)	MS Result (mg/kg)	MSD Result (mg/kg)	Average Percent Recovery	RPD	QC Limits Percent Recovery	QC Limits RPD
Ag, Silver	ICP/6010	10	ND	8.08	8.14	81	1	33- 95	5
As, Arsenic	4000/7060	20	ND	21.76	21.44	108	1	76-128	15
Ba, Barium	ICP/6010	100	ND	92.6	94.3	93	2	91-107	5
Cd, Cadmium	ICP/6010	10	ND	9.63	10.05	98	4	87-108	5
Cr, Chromium	ICP/6010	50	ND	50.6	51.5	102	2	88-110	5
Cu, Copper	ICP/6010	50	ND	48.2	49.1	97	2	91-108	5
Hg, Mercury	Hg/7471	0.4	ND	0.380	0.380	95	<1	80-117	5
Ni, Nickel	ICP/6010	50	ND	50.5	51.3	102	2	88-109	5
Pb, Lead	ICP/6010	50	ND	48.8	48.9	98	<1	88-110	5
Se, Selenium	4000/7740	40	ND	33.5	34.0	84	1	70-125	14
Zn, Zinc	ICP/6010	50	ND	48.5	48.9	97	1	85-105	5

QUALITY CONTROL DATA

AEN JOB NO: 9506047
AEN JOB NO: 9506047
SAMPLE SPIKED: DI WATER
DATE(S) ANALYZED: 06/03-13/95
MATRIX: WATER

Method Spike Recovery Summary

Analyte	Inst./ Method	Spike Conc. (mg/L)	Blank Result (mg/L)	MS Result (mg/L)	MSD Result (mg/L)	Average Percent Recovery	RPD	QC Limits Percent Recovery	QC Limits RPD
Ag, Silver	ICP/6010	0.025	ND	0.0258	0.0263	104	2	80-119	10
As, Arsenic	4000/7060	0.04	ND	0.0475	0.0452	116	5	84-118	12
Ba, Barium	ICP/6010	1.0	ND	1.0750	1.0860	108	1	93-112	5
Cd, Cadmium	ICP/6010	0.05	ND	0.0484	0.0482	97	<1	90-113	9
Cr, Chromium	ICP/6010	0.1	ND	0.1057	0.1095	108	4	87-117	7
Cu, Copper	ICP/6010	0.125	ND	0.1308	0.1314	105	<1	83-114	5
Hg, Mercury	Hg/7470	2.0 ug/L	ND	2.10	2.07	104	1	91-117	7
Ni, Nickel	ICP/6010	0.25	ND	0.2603	0.2639	105	1	91-113	5
Pb, Lead	ICP/6010	0.5	ND	0.5223	0.5263	105	1	94-115	6
Se, Selenium	4000/7740	0.08	ND	0.0735	0.0762	94	4	80-114	14
Zn, Zinc	ICP/6010	0.25	ND	0.2642	0.2660	106	1	92-113	5

SAMPLE SPIKED: ELUANT
DATE(S) ANALYZED: 06/13/95
MATRIX: LCS

Laboratory Control Sample Recovery

Analyte	Inst./ Method	Spike Conc. (mg/L)	Blank Result (mg/L)	MS Result (mg/L)	MSD Result (mg/L)	Average Percent Recovery	RPD	QC Limits Percent Recovery	QC Limits RPD
Fluoride	DIONEX/300	1.0	ND	1.01	0.93	97	8	80-120	15
Chloride	DIONEX/300	5.0	ND	5.08	5.17	103	2	80-120	15
Nitrate-N	DIONEX/300	1.0	ND	0.956	0.916	94	4	80-120	15
Phosphate	DIONEX/300	8.0	ND	9.07	8.95	113	2	80-120	15
Sulfate	DIONEX/300	10.0	ND	10.20	9.81	100	4	80-120	15

*** END OF REPORT ***

C-15-S
R-15-K
9506047

Chain-of-Custody Record

№ 6045

Date: 6/2/95

Page 1 of

Project No.: 2906

Samplers (Signatures):

Date	Time	Sample Number	EPA Method 8010	EPA Method 8020	EPA Method 8240	EPA Method 8270	TPH as gasoline	TPH as diesel	TPH as BTEX	CCR 17 Metals	Alkalinity	Anions	total sulfur	Sulfates	pH	Cooled	Soil (S) or water (W)	Acidified	Number of containers	Additional comments
6/2	1150	MWA-1								X	X	X					W	Y/N	2	01AB
6/2	1102	MWA-2								X	X	X					W	Y/N	2	02AB
6/2	1215	MWA-3								X	X	X					W	Y/N	2	03AB
6/2	1000	BA5-9B								X			X	X	X		S	N	1	04A

ANALYSES

REMARKS

Turnaround time: STANDARD

Results to: MIKE KEIM

Total No. of containers: 7

Relinquished by:	Date:	Relinquished by:	Date:	Relinquished by:	Date:	Method of shipment:
Signature: MIKE KEIM	6/2/95	Signature: Michael McMillan	6/2 95	Signature:		LAB COURIER
Printed name: GEOMATRIX		Printed name:		Printed name:		Laboratory comments and Log No.:
Company:		Company:		Company:		
Received by:	**Time:**	**Received by:**	**Time:**	**Received by:**	**Time:**	
Signature: Michael McMillan	14:35	Signature: Anne Gillespie	17:10	Signature:		
Printed name: Michael McMillan		Printed name: AEN		Printed name:		
Company: AEN		Company: 6/2/95 1710		Company:		

Geomatrix Consultants
100 Pine St 10th Floor
San Francisco, CA 94111
(415) 434-9400

Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878
2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

ANALYTICAL REPORT

Prepared for:

American Environmental Network
3440 Vincent Road
Pleasant Hill, CA 94523

Date: 14-JUN-95
Lab Job Number: 121270
Project ID: 9506047
Location: N/A

Reviewed by: Mary Pleszas

Reviewed by:

Curtis & Tompkins, Ltd.

SAMPLE ID: BA5-9B
LAB ID: 121270-001
CLIENT: American Environmental Network
PROJECT ID: 9506047
MATRIX: Soil

DATE SAMPLED: 06/02/95
DATE RECEIVED: 06/06/95
DATE REPORTED: 06/14/95

Metals Analytical Report

Compound	Result (mg/Kg)	Reporting Limit (mg/Kg)	QC Batch	Method	Analysis Date
Sulfur	310	5.0	21068	EPA 6010A	06/13/95

Curtis & Tompkins, Ltd.

CLIENT: American Environmental Network
JOB NUMBER: 121270

DATE REPORTED: 06/14/95

BATCH QC REPORT
PREP BLANK

Compound	Result	Reporting Limit	Units	QC Batch	Method	Analysis Date
Sulfur	ND	5	mg/Kg	21068	EPA 6010A	06/13/95

ND = Not Detected at or above reporting limit

Curtis & Tompkins, Ltd.

CLIENT: American Environmental Network
JOB NUMBER: 121270

DATE REPORTED: 06/14/95

BATCH QC REPORT
BLANK SPIKE / BLANK SPIKE DUPLICATE

Compound	Spike Amount	BS Result	BSD Result	Units	BS % Recovery	BSD % Recovery	Average Recovery	RPD	QC Batch	Method	Analysis Date
Sulfur	10000	9637	9580	ug/L	96	96	96	1	21068	EPA 6010A	06/13/95

Reporting Information:

1. Client: AEN
Address:
Contact: Denise Harrington
Alt. Contact:

America Environmental Network AEN
3440 Vincent Road, Pleasant Hill, CA 94523
Phone (510) 930-9090
FAX (510) 930-0256

REQUEST FOR ANALYSIS / CHAIN OF CUSTODY

Lab Job Number:
Lab Destination: Curtis + Tompkins
Date Samples Shipped:
Lab Contact:
Date Results Required: Standard
Date Report Required: Standard
Client Phone No.:
Client FAX No.:

Address Report To:
2. #1

Send Invoice To:
3. #1

Send Report To: (1) or 2 (Circle one)

Client P.O. No.: 1078 Client Project I.D. No.: 9506047

Sample Team Member (s)

121270

Lab Number	Client Sample Identification	Air Volume	Date/ Time Collected	Sample Type*	Pres.	No. of Cont.	Type of Cont.	ANALYSIS: Sulfur	Comments / Hazards
-1	BA5-9B	—	6/2/95	8	cold	1	jar	✓	

Relinquished by: (Signature) Anna Gillespie	DATE 6-6-95	TIME 1045	Received by: (Signature)	DATE 6-6-95	TIME 10:45
Relinquished by: (Signature)	DATE 6-6-95	TIME 12:40	Received by: (Signature) Peggy Busic	DATE 6/6/95	TIME 12:46
Relinquished by: (Signature)	DATE	TIME	Received by: (Signature)	DATE	TIME
Method of Shipment			Lab Comments		

*Sample type (Specify): 1) 37mm 0.8 µm MCEF 2) 25mm 0.8 µm MCEF 3) 25mm 0.4 µm polycarb. filter
4) PVC filter, diam. ____ pore size ____ 5) Charcoal tube 6) Silica gel tube 7) Water 8) Soil 9) Bulk Sample
10) Other ____ 11) Other ____

COPIES: WHITE - JOB FILE YELLOW - PROJECT FILE PINK - CLIENT

C-112
R-15-F
9506047

Chain-of-Custody Record

№ 6045

Date: 6/2/95

Page 1 of

Project No.: 2906

Samplers (Signatures):

Date	Time	Sample Number	EPA Method 8010	EPA Method 8020	EPA Method 8240	EPA Method 8270	TPH as gasoline	TPH as diesel	TPH as BTEX	CCR 17 Metals	Alkalinity	Anions	total sulfur	Sulfates	pH	Cooled	Soil (S) or water (W)	Acidified	Number of containers	Additional comments
6/2	1150	MWA-1								X	X	X					W	Y N	2	01AB
6/2	1102	MWA-2								X	X	X					W	Y N	2	02AB
6/2	1215	MWA-3								X	X	X					W	Y N	2	03AB
6/2	1000	BA5-9B								X			X	X	X		S	N	1	04A

ANALYSES

REMARKS

Turnaround time: STANDARD

Results to: MIKE KEIM

Total No. of containers: 7

Relinquished by:	Date:	Relinquished by:	Date:	Relinquished by:	Date:	Method of shipment:
Signature: MIKE KEIM	6/2/95	Signature:	6/2	Signature:		LAB COURIER
Printed name: GEOMATRIX		Printed name:	95	Printed name:		Laboratory comments and Log No.:
Company:		Company:		Company:		
Received by:	**Time:**	**Received by:**	**Time:**	**Received by:**	**Time:**	
Signature:	14:35	Signature:	17:10	Signature:		
Printed name:		Printed name: AEN		Printed name:		
Company: AEN		Company: 6/2/95 1710		Company:		

Geomatrix Consultants
100 Pine St. 10th Floor
San Francisco, CA 94111
(415) 434-9400

American Environmental Network

Certificate of Analysis

DOHS Certification: 1172 AIHA Accreditation: 11134

GEOMATRIX CONSULTANTS
100 PINE ST., SUITE 1000
SAN FRANCISCO, CA 94111

ATTN: MIKE KIEM
CLIENT PROJ. ID: 2906

C.O.C. NUMBER: 8483

REPORT DATE: 02/20/96

DATE(S) SAMPLED: 12/11/95-12/13/95

DATE RECEIVED: 12/13/95

AEN WORK ORDER: 9512161

PROJECT SUMMARY:

On December 13, 1995, this laboratory received 9 water sample(s).

Portions of said samples were subcontracted to AEN-Maryland (CA Cert: 1318) for EPA 8270 analysis. Per client request, subcontract report has been re-typed to match AEN-California reporting format. Client has received original subcontract report from AEN-Maryland.

If you have any questions, please contact Client Services at (510) 930-9090.

Larry Klein
Laboratory Director

GEOMATRIX CONSULTANTS

SAMPLE ID: MW-1-1295
AEN LAB NO: 9512161-01
AEN WORK ORDER: 9512161
CLIENT PROJ. ID: 2906

DATE SAMPLED: 12/12/95
DATE RECEIVED: 12/13/95
REPORT DATE: 02/20/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Extraction for BNAs	EPA 3520	-		Extrn Date	12/15/95
Semi-Volatile Organics	EPA 8270				
Acenaphthene	83-32-9	ND	10	ug/L	01/10/96
Acenaphthylene	208-96-8	ND	10	ug/L	01/10/96
Anthracene	120-12-7	ND	10	ug/L	01/10/96
Benzoic Acid	65-85-0	ND	50	ug/L	01/10/96
Benzo(a)anthracene	56-55-3	ND	10	ug/L	01/10/96
Benzo(b)fluoranthene	205-99-2	ND	10	ug/L	01/10/96
Benzo(k)fluoranthene	207-08-9	ND	10	ug/L	01/10/96
Benzo(g,h,i)perylene	191-24-2	ND	10	ug/L	01/10/96
Benzo(a)pyrene	50-32-8	ND	10	ug/L	01/10/96
Benzyl Alcohol	100-51-6	ND	10	ug/L	01/10/96
Bis(2-chloroethoxy)methane	111-91-1	ND	10	ug/L	01/10/96
Bis(2-chloroethyl) Ether	111-44-4	ND	10	ug/L	01/10/96
Bis(2-chloroisopropyl) Ether	108-60-1	ND	10	ug/L	01/10/96
Bis(2-ethylhexyl) Phthalate	117-81-7	ND	10	ug/L	01/10/96
4-Bromophenyl Phenyl Ether	101-55-3	ND	10	ug/L	01/10/96
Butylbenzyl Phthalate	85-68-7	ND	10	ug/L	01/10/96
4-Chloroaniline	106-47-8	ND	10	ug/L	01/10/96
2-Chloronaphthalene	91-58-7	ND	10	ug/L	01/10/96
4-Chlorophenyl Phenyl Ether	7005-72-3	ND	10	ug/L	01/10/96
Chrysene	218-01-9	ND	10	ug/L	01/10/96
Dibenzo(a,h)anthracene	53-70-3	ND	10	ug/L	01/10/96
Dibenzofuran	132-64-9	ND	10	ug/L	01/10/96
Di-n-butyl Phthalate	84-74-2	ND	10	ug/L	01/10/96
1,2-Dichlorobenzene	95-50-1	ND	10	ug/L	01/10/96
1,3-Dichlorobenzene	541-73-1	ND	10	ug/L	01/10/96
1,4-Dichlorobenzene	106-46-7	ND	10	ug/L	01/10/96
3,3'-Dichlorobenzidine	91-94-1	ND	20	ug/L	01/10/96
Diethyl Phthalate	84-66-2	ND	10	ug/L	01/10/96
Dimethyl Phthalate	131-11-3	ND	10	ug/L	01/10/96
2,4-Dinitrotoluene	121-14-2	ND	10	ug/L	01/10/96
2,6-Dinitrotoluene	606-20-2	ND	10	ug/L	01/10/96
Di-n-octyl Phthalate	117-84-0	ND	10	ug/L	01/10/96
Fluoranthene	206-44-0	ND	10	ug/L	01/10/96
Fluorene	86-73-7	ND	10	ug/L	01/10/96
Hexachlorobenzene	118-74-1	ND	10	ug/L	01/10/96
Hexachlorobutadiene	87-68-3	ND	10	ug/L	01/10/96
Hexachlorocyclopentadiene	77-47-4	ND	10	ug/L	01/10/96
Hexachloroethane	67-72-1	ND	10	ug/L	01/10/96
Indeno(1,2,3-cd)pyrene	193-39-5	ND	10	ug/L	01/10/96

GEOMATRIX CONSULTANTS

SAMPLE ID: MW-1-1295
AEN LAB NO: 9512161-01
AEN WORK ORDER: 9512161
CLIENT PROJ. ID: 2906

DATE SAMPLED: 12/12/95
DATE RECEIVED: 12/13/95
REPORT DATE: 02/20/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
Isophorone	78-59-1	ND	10	ug/L	01/10/96
2-Methylnaphthalene	91-57-6	ND	10	ug/L	01/10/96
Naphthalene	91-20-3	ND	10	ug/L	01/10/96
2-Nitroaniline	88-74-4	ND	50	ug/L	01/10/96
3-Nitroaniline	99-09-2	ND	50	ug/L	01/10/96
4-Nitroaniline	100-01-6	ND	50	ug/L	01/10/96
Nitrobenzene	98-95-3	ND	10	ug/L	01/10/96
N-Nitrosodiphenylamine	86-30-6	ND	10	ug/L	01/10/96
N-Nitrosodi-n-propylamine	621-64-7	ND	10	ug/L	01/10/96
Phenanthrene	85-01-8	ND	10	ug/L	01/10/96
Pyrene	129-00-0	ND	10	ug/L	01/10/96
1,2,4-Trichlorobenzene	120-82-1	ND	10	ug/L	01/10/96
4-Chloro-3-methylphenol	59-50-7	ND	10	ug/L	01/10/96
2-Chlorophenol	95-57-8	ND	10	ug/L	01/10/96
2,4-Dichlorophenol	120-83-2	ND	10	ug/L	01/10/96
2,4-Dimethylphenol	105-67-9	ND	10	ug/L	01/10/96
4,6-Dinitro-2-methylphenol	534-52-1	ND	50	ug/L	01/10/96
2,4-Dinitrophenol	51-28-5	ND	50	ug/L	01/10/96
2-Methylphenol	95-48-7	ND	10	ug/L	01/10/96
4-Methylphenol	106-44-5	ND	10	ug/L	01/10/96
2-Nitrophenol	88-75-5	ND	10	ug/L	01/10/96
4-Nitrophenol	100-02-7	ND	50	ug/L	01/10/96
Pentachlorophenol	87-86-5	ND	50	ug/L	01/10/96
Phenol	108-95-2	18 *	10	ug/L	01/10/96
2,4,5-Trichlorophenol	95-95-4	ND	50	ug/L	01/10/96
2,4,6-Trichlorophenol	88-06-2	ND	10	ug/L	01/10/96

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: MW-2-1295
AEN LAB NO: 9512161-02
AEN WORK ORDER: 9512161
CLIENT PROJ. ID: 2906

DATE SAMPLED: 12/12/95
DATE RECEIVED: 12/13/95
REPORT DATE: 02/20/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Extraction for BNAs	EPA 3520	-		Extrn Date	12/15/95
Semi-Volatile Organics	EPA 8270				
Acenaphthene	83-32-9	ND	10	ug/L	01/10/96
Acenaphthylene	208-96-8	ND	10	ug/L	01/10/96
Anthracene	120-12-7	ND	10	ug/L	01/10/96
Benzoic Acid	65-85-0	ND	50	ug/L	01/10/96
Benzo(a)anthracene	56-55-3	ND	10	ug/L	01/10/96
Benzo(b)fluoranthene	205-99-2	ND	10	ug/L	01/10/96
Benzo(k)fluoranthene	207-08-9	ND	10	ug/L	01/10/96
Benzo(g,h,i)perylene	191-24-2	ND	10	ug/L	01/10/96
Benzo(a)pyrene	50-32-8	ND	10	ug/L	01/10/96
Benzyl Alcohol	100-51-6	ND	10	ug/L	01/10/96
Bis(2-chloroethoxy)methane	111-91-1	ND	10	ug/L	01/10/96
Bis(2-chloroethyl) Ether	111-44-4	ND	10	ug/L	01/10/96
Bis(2-chloroisopropyl) Ether	108-60-1	ND	10	ug/L	01/10/96
Bis(2-ethylhexyl) Phthalate	117-81-7	ND	10	ug/L	01/10/96
4-Bromophenyl Phenyl Ether	101-55-3	ND	10	ug/L	01/10/96
Butylbenzyl Phthalate	85-68-7	ND	10	ug/L	01/10/96
4-Chloroaniline	106-47-8	ND	10	ug/L	01/10/96
2-Chloronaphthalene	91-58-7	ND	10	ug/L	01/10/96
4-Chlorophenyl Phenyl Ether	7005-72-3	ND	10	ug/L	01/10/96
Chrysene	218-01-9	ND	10	ug/L	01/10/96
Dibenzo(a,h)anthracene	53-70-3	ND	10	ug/L	01/10/96
Dibenzofuran	132-64-9	ND	10	ug/L	01/10/96
Di-n-butyl Phthalate	84-74-2	ND	10	ug/L	01/10/96
1,2-Dichlorobenzene	95-50-1	ND	10	ug/L	01/10/96
1,3-Dichlorobenzene	541-73-1	ND	10	ug/L	01/10/96
1,4-Dichlorobenzene	106-46-7	ND	10	ug/L	01/10/96
3,3'-Dichlorobenzidine	91-94-1	ND	20	ug/L	01/10/96
Diethyl Phthalate	84-66-2	ND	10	ug/L	01/10/96
Dimethyl Phthalate	131-11-3	ND	10	ug/L	01/10/96
2,4-Dinitrotoluene	121-14-2	ND	10	ug/L	01/10/96
2,6-Dinitrotoluene	606-20-2	ND	10	ug/L	01/10/96
Di-n-octyl Phthalate	117-84-0	ND	10	ug/L	01/10/96
Fluoranthene	206-44-0	ND	10	ug/L	01/10/96
Fluorene	86-73-7	ND	10	ug/L	01/10/96
Hexachlorobenzene	118-74-1	ND	10	ug/L	01/10/96
Hexachlorobutadiene	87-68-3	ND	10	ug/L	01/10/96
Hexachlorocyclopentadiene	77-47-4	ND	10	ug/L	01/10/96
Hexachloroethane	67-72-1	ND	10	ug/L	01/10/96
Indeno(1,2,3-cd)pyrene	193-39-5	ND	10	ug/L	01/10/96

GEOMATRIX CONSULTANTS

SAMPLE ID: MW-2-1295
AEN LAB NO: 9512161-02
AEN WORK ORDER: 9512161
CLIENT PROJ. ID: 2906

DATE SAMPLED: 12/12/95
DATE RECEIVED: 12/13/95
REPORT DATE: 02/20/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
Isophorone	78-59-1	ND	10	ug/L	01/10/96
2-Methylnaphthalene	91-57-6	ND	10	ug/L	01/10/96
Naphthalene	91-20-3	ND	10	ug/L	01/10/96
2-Nitroaniline	88-74-4	ND	50	ug/L	01/10/96
3-Nitroaniline	99-09-2	ND	50	ug/L	01/10/96
4-Nitroaniline	100-01-6	ND	50	ug/L	01/10/96
Nitrobenzene	98-95-3	ND	10	ug/L	01/10/96
N-Nitrosodiphenylamine	86-30-6	ND	10	ug/L	01/10/96
N-Nitrosodi-n-propylamine	621-64-7	ND	10	ug/L	01/10/96
Phenanthrene	85-01-8	ND	10	ug/L	01/10/96
Pyrene	129-00-0	ND	10	ug/L	01/10/96
1,2,4-Trichlorobenzene	120-82-1	ND	10	ug/L	01/10/96
4-Chloro-3-methylphenol	59-50-7	ND	10	ug/L	01/10/96
2-Chlorophenol	95-57-8	ND	10	ug/L	01/10/96
2,4-Dichlorophenol	120-83-2	ND	10	ug/L	01/10/96
2,4-Dimethylphenol	105-67-9	ND	10	ug/L	01/10/96
4,6-Dinitro-2-methylphenol	534-52-1	ND	50	ug/L	01/10/96
2,4-Dinitrophenol	51-28-5	ND	50	ug/L	01/10/96
2-Methylphenol	95-48-7	ND	10	ug/L	01/10/96
4-Methylphenol	106-44-5	ND	10	ug/L	01/10/96
2-Nitrophenol	88-75-5	ND	10	ug/L	01/10/96
4-Nitrophenol	100-02-7	ND	50	ug/L	01/10/96
Pentachlorophenol	87-86-5	ND	50	ug/L	01/10/96
Phenol	108-95-2	13 *	10	ug/L	01/10/96
2,4,5-Trichlorophenol	95-95-4	ND	50	ug/L	01/10/96
2,4,6-Trichlorophenol	88-06-2	ND	10	ug/L	01/10/96

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: MW-3-1295
AEN LAB NO: 9512161-03
AEN WORK ORDER: 9512161
CLIENT PROJ. ID: 2906

DATE SAMPLED: 12/12/95
DATE RECEIVED: 12/13/95
REPORT DATE: 02/20/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Extraction for BNAs	EPA 3520	-		Extrn Date	12/15/95
Semi-Volatile Organics	EPA 8270				
Acenaphthene	83-32-9	ND	15	ug/L	01/10/96
Acenaphthylene	208-96-8	ND	15	ug/L	01/10/96
Anthracene	120-12-7	ND	15	ug/L	01/10/96
Benzoic Acid	65-85-0	ND	73	ug/L	01/10/96
Benzo(a)anthracene	56-55-3	ND	15	ug/L	01/10/96
Benzo(b)fluoranthene	205-99-2	ND	15	ug/L	01/10/96
Benzo(k)fluoranthene	207-08-9	ND	15	ug/L	01/10/96
Benzo(g,h,i)perylene	191-24-2	ND	15	ug/L	01/10/96
Benzo(a)pyrene	50-32-8	ND	15	ug/L	01/10/96
Benzyl Alcohol	100-51-6	ND	15	ug/L	01/10/96
Bis(2-chloroethoxy)methane	111-91-1	ND	15	ug/L	01/10/96
Bis(2-chloroethyl) Ether	111-44-4	ND	15	ug/L	01/10/96
Bis(2-chloroisopropyl) Ether	108-60-1	ND	15	ug/L	01/10/96
Bis(2-ethylhexyl) Phthalate	117-81-7	ND	15	ug/L	01/10/96
4-Bromophenyl Phenyl Ether	101-55-3	ND	15	ug/L	01/10/96
Butylbenzyl Phthalate	85-68-7	ND	15	ug/L	01/10/96
4-Chloroaniline	106-47-8	ND	15	ug/L	01/10/96
2-Chloronaphthalene	91-58-7	ND	15	ug/L	01/10/96
4-Chlorophenyl Phenyl Ether	7005-72-3	ND	15	ug/L	01/10/96
Chrysene	218-01-9	ND	15	ug/L	01/10/96
Dibenzo(a,h)anthracene	53-70-3	ND	15	ug/L	01/10/96
Dibenzofuran	132-64-9	ND	15	ug/L	01/10/96
Di-n-butyl Phthalate	84-74-2	ND	15	ug/L	01/10/96
1,2-Dichlorobenzene	95-50-1	ND	15	ug/L	01/10/96
1,3-Dichlorobenzene	541-73-1	ND	15	ug/L	01/10/96
1,4-Dichlorobenzene	106-46-7	ND	15	ug/L	01/10/96
3,3'-Dichlorobenzidine	91-94-1	ND	29	ug/L	01/10/96
Diethyl Phthalate	84-66-2	ND	15	ug/L	01/10/96
Dimethyl Phthalate	131-11-3	ND	15	ug/L	01/10/96
2,4-Dinitrotoluene	121-14-2	ND	15	ug/L	01/10/96
2,6-Dinitrotoluene	606-20-2	ND	15	ug/L	01/10/96
Di-n-octyl Phthalate	117-84-0	ND	15	ug/L	01/10/96
Fluoranthene	206-44-0	ND	15	ug/L	01/10/96
Fluorene	86-73-7	ND	15	ug/L	01/10/96
Hexachlorobenzene	118-74-1	ND	15	ug/L	01/10/96
Hexachlorobutadiene	87-68-3	ND	15	ug/L	01/10/96
Hexachlorocyclopentadiene	77-47-4	ND	15	ug/L	01/10/96
Hexachloroethane	67-72-1	ND	15	ug/L	01/10/96
Indeno(1,2,3-cd)pyrene	193-39-5	ND	15	ug/L	01/10/96

GEOMATRIX CONSULTANTS

SAMPLE ID: MW-3-1295
AEN LAB NO: 9512161-03
AEN WORK ORDER: 9512161
CLIENT PROJ. ID: 2906

DATE SAMPLED: 12/12/95
DATE RECEIVED: 12/13/95
REPORT DATE: 02/20/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
Isophorone	78-59-1	ND	15	ug/L	01/10/96
2-Methylnaphthalene	91-57-6	ND	15	ug/L	01/10/96
Naphthalene	91-20-3	ND	15	ug/L	01/10/96
2-Nitroaniline	88-74-4	ND	73	ug/L	01/10/96
3-Nitroaniline	99-09-2	ND	73	ug/L	01/10/96
4-Nitroaniline	100-01-6	ND	73	ug/L	01/10/96
Nitrobenzene	98-95-3	ND	15	ug/L	01/10/96
N-Nitrosodiphenylamine	86-30-6	ND	15	ug/L	01/10/96
N-Nitrosodi-n-propylamine	621-64-7	ND	15	ug/L	01/10/96
Phenanthrene	85-01-8	ND	15	ug/L	01/10/96
Pyrene	129-00-0	ND	15	ug/L	01/10/96
1,2,4-Trichlorobenzene	120-82-1	ND	15	ug/L	01/10/96
4-Chloro-3-methylphenol	59-50-7	ND	15	ug/L	01/10/96
2-Chlorophenol	95-57-8	ND	15	ug/L	01/10/96
2,4-Dichlorophenol	120-83-2	ND	15	ug/L	01/10/96
2,4-Dimethylphenol	105-67-9	ND	15	ug/L	01/10/96
4,6-Dinitro-2-methylphenol	534-52-1	ND	73	ug/L	01/10/96
2,4-Dinitrophenol	51-28-5	ND	73	ug/L	01/10/96
2-Methylphenol	95-48-7	ND	15	ug/L	01/10/96
4-Methylphenol	106-44-5	ND	15	ug/L	01/10/96
2-Nitrophenol	88-75-5	ND	15	ug/L	01/10/96
4-Nitrophenol	100-02-7	ND	73	ug/L	01/10/96
Pentachlorophenol	87-86-5	ND	73	ug/L	01/10/96
Phenol	108-95-2	19 *	15	ug/L	01/10/96
2,4,5-Trichlorophenol	95-95-4	ND	73	ug/L	01/10/96
2,4,6-Trichlorophenol	88-06-2	ND	15	ug/L	01/10/96

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: MW-4-1295
AEN LAB NO: 9512161-04
AEN WORK ORDER: 9512161
CLIENT PROJ. ID: 2906

DATE SAMPLED: 12/11/95
DATE RECEIVED: 12/13/95
REPORT DATE: 02/20/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Extraction for BNAs	EPA 3520	-		Extrn Date	12/15/95
Semi-Volatile Organics	EPA 8270				
Acenaphthene	83-32-9	ND	9.8	ug/L	01/10/96
Acenaphthylene	208-96-8	ND	9.8	ug/L	01/10/96
Anthracene	120-12-7	ND	9.8	ug/L	01/10/96
Benzoic Acid	65-85-0	ND	49	ug/L	01/10/96
Benzo(a)anthracene	56-55-3	ND	9.8	ug/L	01/10/96
Benzo(b)fluoranthene	205-99-2	ND	9.8	ug/L	01/10/96
Benzo(k)fluoranthene	207-08-9	ND	9.8	ug/L	01/10/96
Benzo(g,h,i)perylene	191-24-2	ND	9.8	ug/L	01/10/96
Benzo(a)pyrene	50-32-8	ND	9.8	ug/L	01/10/96
Benzyl Alcohol	100-51-6	ND	9.8	ug/L	01/10/96
Bis(2-chloroethoxy)methane	111-91-1	ND	9.8	ug/L	01/10/96
Bis(2-chloroethyl) Ether	111-44-4	ND	9.8	ug/L	01/10/96
Bis(2-chloroisopropyl) Ether	108-60-1	ND	9.8	ug/L	01/10/96
Bis(2-ethylhexyl) Phthalate	117-81-7	ND	9.8	ug/L	01/10/96
4-Bromophenyl Phenyl Ether	101-55-3	ND	9.8	ug/L	01/10/96
Butylbenzyl Phthalate	85-68-7	ND	9.8	ug/L	01/10/96
4-Chloroaniline	106-47-8	ND	9.8	ug/L	01/10/96
2-Chloronaphthalene	91-58-7	ND	9.8	ug/L	01/10/96
4-Chlorophenyl Phenyl Ether	7005-72-3	ND	9.8	ug/L	01/10/96
Chrysene	218-01-9	ND	9.8	ug/L	01/10/96
Dibenzo(a,h)anthracene	53-70-3	ND	9.8	ug/L	01/10/96
Dibenzofuran	132-64-9	ND	9.8	ug/L	01/10/96
Di-n-butyl Phthalate	84-74-2	ND	9.8	ug/L	01/10/96
1,2-Dichlorobenzene	95-50-1	ND	9.8	ug/L	01/10/96
1,3-Dichlorobenzene	541-73-1	ND	9.8	ug/L	01/10/96
1,4-Dichlorobenzene	106-46-7	ND	9.8	ug/L	01/10/96
3,3'-Dichlorobenzidine	91-94-1	ND	20	ug/L	01/10/96
Diethyl Phthalate	84-66-2	ND	9.8	ug/L	01/10/96
Dimethyl Phthalate	131-11-3	ND	9.8	ug/L	01/10/96
2,4-Dinitrotoluene	121-14-2	ND	9.8	ug/L	01/10/96
2,6-Dinitrotoluene	606-20-2	ND	9.8	ug/L	01/10/96
Di-n-octyl Phthalate	117-84-0	ND	9.8	ug/L	01/10/96
Fluoranthene	206-44-0	ND	9.8	ug/L	01/10/96
Fluorene	86-73-7	ND	9.8	ug/L	01/10/96
Hexachlorobenzene	118-74-1	ND	9.8	ug/L	01/10/96
Hexachlorobutadiene	87-68-3	ND	9.8	ug/L	01/10/96
Hexachlorocyclopentadiene	77-47-4	ND	9.8	ug/L	01/10/96
Hexachloroethane	67-72-1	ND	9.8	ug/L	01/10/96
Indeno(1,2,3-cd)pyrene	193-39-5	ND	9.8	ug/L	01/10/96

GEOMATRIX CONSULTANTS

SAMPLE ID: MW-4-1295
AEN LAB NO: 9512161-04
AEN WORK ORDER: 9512161
CLIENT PROJ. ID: 2906

DATE SAMPLED: 12/11/95
DATE RECEIVED: 12/13/95
REPORT DATE: 02/20/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
Isophorone	78-59-1	ND	9.8	ug/L	01/10/96
2-Methylnaphthalene	91-57-6	ND	9.8	ug/L	01/10/96
Naphthalene	91-20-3	ND	9.8	ug/L	01/10/96
2-Nitroaniline	88-74-4	ND	49	ug/L	01/10/96
3-Nitroaniline	99-09-2	ND	49	ug/L	01/10/96
4-Nitroaniline	100-01-6	ND	49	ug/L	01/10/96
Nitrobenzene	98-95-3	ND	9.8	ug/L	01/10/96
N-Nitrosodiphenylamine	86-30-6	ND	9.8	ug/L	01/10/96
N-Nitrosodi-n-propylamine	621-64-7	ND	9.8	ug/L	01/10/96
Phenanthrene	85-01-8	ND	9.8	ug/L	01/10/96
Pyrene	129-00-0	ND	9.8	ug/L	01/10/96
1,2,4-Trichlorobenzene	120-82-1	ND	9.8	ug/L	01/10/96
4-Chloro-3-methylphenol	59-50-7	ND	9.8	ug/L	01/10/96
2-Chlorophenol	95-57-8	ND	9.8	ug/L	01/10/96
2,4-Dichlorophenol	120-83-2	ND	9.8	ug/L	01/10/96
2,4-Dimethylphenol	105-67-9	ND	9.8	ug/L	01/10/96
4,6-Dinitro-2-methylphenol	534-52-1	ND	49	ug/L	01/10/96
2,4-Dinitrophenol	51-28-5	ND	49	ug/L	01/10/96
2-Methylphenol	95-48-7	ND	9.8	ug/L	01/10/96
4-Methylphenol	106-44-5	ND	9.8	ug/L	01/10/96
2-Nitrophenol	88-75-5	ND	9.8	ug/L	01/10/96
4-Nitrophenol	100-02-7	ND	49	ug/L	01/10/96
Pentachlorophenol	87-86-5	ND	49	ug/L	01/10/96
Phenol	108-95-2	24 *	9.8	ug/L	01/10/96
2,4,5-Trichlorophenol	95-95-4	ND	49	ug/L	01/10/96
2,4,6-Trichlorophenol	88-06-2	ND	9.8	ug/L	01/10/96

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: MW-5-1295
AEN LAB NO: 9512161-05
AEN WORK ORDER: 9512161
CLIENT PROJ. ID: 2906

DATE SAMPLED: 12/11/95
DATE RECEIVED: 12/13/95
REPORT DATE: 02/20/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Extraction for BNAs	EPA 3520	-		Extrn Date	12/15/95
Semi-Volatile Organics	EPA 8270				
Acenaphthene	83-32-9	ND	10	ug/L	01/10/96
Acenaphthylene	208-96-8	ND	10	ug/L	01/10/96
Anthracene	120-12-7	ND	10	ug/L	01/10/96
Benzoic Acid	65-85-0	ND	52	ug/L	01/10/96
Benzo(a)anthracene	56-55-3	ND	10	ug/L	01/10/96
Benzo(b)fluoranthene	205-99-2	ND	10	ug/L	01/10/96
Benzo(k)fluoranthene	207-08-9	ND	10	ug/L	01/10/96
Benzo(g,h,i)perylene	191-24-2	ND	10	ug/L	01/10/96
Benzo(a)pyrene	50-32-8	ND	10	ug/L	01/10/96
Benzyl Alcohol	100-51-6	ND	10	ug/L	01/10/96
Bis(2-chloroethoxy)methane	111-91-1	ND	10	ug/L	01/10/96
Bis(2-chloroethyl) Ether	111-44-4	ND	10	ug/L	01/10/96
Bis(2-chloroisopropyl) Ether	108-60-1	ND	10	ug/L	01/10/96
Bis(2-ethylhexyl) Phthalate	117-81-7	ND	10	ug/L	01/10/96
4-Bromophenyl Phenyl Ether	101-55-3	ND	10	ug/L	01/10/96
Butylbenzyl Phthalate	85-68-7	ND	10	ug/L	01/10/96
4-Chloroaniline	106-47-8	ND	10	ug/L	01/10/96
2-Chloronaphthalene	91-58-7	ND	10	ug/L	01/10/96
4-Chlorophenyl Phenyl Ether	7005-72-3	ND	10	ug/L	01/10/96
Chrysene	218-01-9	ND	10	ug/L	01/10/96
Dibenzo(a,h)anthracene	53-70-3	ND	10	ug/L	01/10/96
Dibenzofuran	132-64-9	ND	10	ug/L	01/10/96
Di-n-butyl Phthalate	84-74-2	ND	10	ug/L	01/10/96
1,2-Dichlorobenzene	95-50-1	ND	10	ug/L	01/10/96
1,3-Dichlorobenzene	541-73-1	ND	10	ug/L	01/10/96
1,4-Dichlorobenzene	106-46-7	ND	10	ug/L	01/10/96
3,3'-Dichlorobenzidine	91-94-1	ND	21	ug/L	01/10/96
Diethyl Phthalate	84-66-2	ND	10	ug/L	01/10/96
Dimethyl Phthalate	131-11-3	ND	10	ug/L	01/10/96
2,4-Dinitrotoluene	121-14-2	ND	10	ug/L	01/10/96
2,6-Dinitrotoluene	606-20-2	ND	10	ug/L	01/10/96
Di-n-octyl Phthalate	117-84-0	ND	10	ug/L	01/10/96
Fluoranthene	206-44-0	ND	10	ug/L	01/10/96
Fluorene	86-73-7	ND	10	ug/L	01/10/96
Hexachlorobenzene	118-74-1	ND	10	ug/L	01/10/96
Hexachlorobutadiene	87-68-3	ND	10	ug/L	01/10/96
Hexachlorocyclopentadiene	77-47-4	ND	10	ug/L	01/10/96
Hexachloroethane	67-72-1	ND	10	ug/L	01/10/96
Indeno(1,2,3-cd)pyrene	193-39-5	ND	10	ug/L	01/10/96

GEOMATRIX CONSULTANTS

SAMPLE ID: MW-5-1295
AEN LAB NO: 9512161-05
AEN WORK ORDER: 9512161
CLIENT PROJ. ID: 2906

DATE SAMPLED: 12/11/95
DATE RECEIVED: 12/13/95
REPORT DATE: 02/20/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
Isophorone	78-59-1	ND	10	ug/L	01/10/96
2-Methylnaphthalene	91-57-6	ND	10	ug/L	01/10/96
Naphthalene	91-20-3	ND	10	ug/L	01/10/96
2-Nitroaniline	88-74-4	ND	52	ug/L	01/10/96
3-Nitroaniline	99-09-2	ND	52	ug/L	01/10/96
4-Nitroaniline	100-01-6	ND	52	ug/L	01/10/96
Nitrobenzene	98-95-3	ND	10	ug/L	01/10/96
N-Nitrosodiphenylamine	86-30-6	ND	10	ug/L	01/10/96
N-Nitrosodi-n-propylamine	621-64-7	ND	10	ug/L	01/10/96
Phenanthrene	85-01-8	ND	10	ug/L	01/10/96
Pyrene	129-00-0	ND	10	ug/L	01/10/96
1,2,4-Trichlorobenzene	120-82-1	ND	10	ug/L	01/10/96
4-Chloro-3-methylphenol	59-50-7	ND	10	ug/L	01/10/96
2-Chlorophenol	95-57-8	ND	10	ug/L	01/10/96
2,4-Dichlorophenol	120-83-2	ND	10	ug/L	01/10/96
2,4-Dimethylphenol	105-67-9	ND	10	ug/L	01/10/96
4,6-Dinitro-2-methylphenol	534-52-1	ND	52	ug/L	01/10/96
2,4-Dinitrophenol	51-28-5	ND	52	ug/L	01/10/96
2-Methylphenol	95-48-7	ND	10	ug/L	01/10/96
4-Methylphenol	106-44-5	ND	10	ug/L	01/10/96
2-Nitrophenol	88-75-5	ND	10	ug/L	01/10/96
4-Nitrophenol	100-02-7	ND	52	ug/L	01/10/96
Pentachlorophenol	87-86-5	ND	52	ug/L	01/10/96
Phenol	108-95-2	ND	10	ug/L	01/10/96
2,4,5-Trichlorophenol	95-95-4	ND	52	ug/L	01/10/96
2,4,6-Trichlorophenol	88-06-2	ND	10	ug/L	01/10/96

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: MW-6-1295
AEN LAB NO: 9512161-06
AEN WORK ORDER: 9512161
CLIENT PROJ. ID: 2906

DATE SAMPLED: 12/11/95
DATE RECEIVED: 12/13/95
REPORT DATE: 02/20/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Extraction for BNAs	EPA 3520	-		Extrn Date	12/15/95
Semi-Volatile Organics	EPA 8270				
Acenaphthene	83-32-9	ND	10	ug/L	01/10/96
Acenaphthylene	208-96-8	ND	10	ug/L	01/10/96
Anthracene	120-12-7	ND	10	ug/L	01/10/96
Benzoic Acid	65-85-0	ND	50	ug/L	01/10/96
Benzo(a)anthracene	56-55-3	ND	10	ug/L	01/10/96
Benzo(b)fluoranthene	205-99-2	ND	10	ug/L	01/10/96
Benzo(k)fluoranthene	207-08-9	ND	10	ug/L	01/10/96
Benzo(g,h,i)perylene	191-24-2	ND	10	ug/L	01/10/96
Benzo(a)pyrene	50-32-8	ND	10	ug/L	01/10/96
Benzyl Alcohol	100-51-6	ND	10	ug/L	01/10/96
Bis(2-chloroethoxy)methane	111-91-1	ND	10	ug/L	01/10/96
Bis(2-chloroethyl) Ether	111-44-4	ND	10	ug/L	01/10/96
Bis(2-chloroisopropyl) Ether	108-60-1	ND	10	ug/L	01/10/96
Bis(2-ethylhexyl) Phthalate	117-81-7	ND	10	ug/L	01/10/96
4-Bromophenyl Phenyl Ether	101-55-3	ND	10	ug/L	01/10/96
Butylbenzyl Phthalate	85-68-7	ND	10	ug/L	01/10/96
4-Chloroaniline	106-47-8	ND	10	ug/L	01/10/96
2-Chloronaphthalene	91-58-7	ND	10	ug/L	01/10/96
4-Chlorophenyl Phenyl Ether	7005-72-3	ND	10	ug/L	01/10/96
Chrysene	218-01-9	ND	10	ug/L	01/10/96
Dibenzo(a,h)anthracene	53-70-3	ND	10	ug/L	01/10/96
Dibenzofuran	132-64-9	ND	10	ug/L	01/10/96
Di-n-butyl Phthalate	84-74-2	ND	10	ug/L	01/10/96
1,2-Dichlorobenzene	95-50-1	ND	10	ug/L	01/10/96
1,3-Dichlorobenzene	541-73-1	ND	10	ug/L	01/10/96
1,4-Dichlorobenzene	106-46-7	ND	10	ug/L	01/10/96
3,3'-Dichlorobenzidine	91-94-1	ND	20	ug/L	01/10/96
Diethyl Phthalate	84-66-2	ND	10	ug/L	01/10/96
Dimethyl Phthalate	131-11-3	ND	10	ug/L	01/10/96
2,4-Dinitrotoluene	121-14-2	ND	10	ug/L	01/10/96
2,6-Dinitrotoluene	606-20-2	ND	10	ug/L	01/10/96
Di-n-octyl Phthalate	117-84-0	ND	10	ug/L	01/10/96
Fluoranthene	206-44-0	ND	10	ug/L	01/10/96
Fluorene	86-73-7	ND	10	ug/L	01/10/96
Hexachlorobenzene	118-74-1	ND	10	ug/L	01/10/96
Hexachlorobutadiene	87-68-3	ND	10	ug/L	01/10/96
Hexachlorocyclopentadiene	77-47-4	ND	10	ug/L	01/10/96
Hexachloroethane	67-72-1	ND	10	ug/L	01/10/96
Indeno(1,2,3-cd)pyrene	193-39-5	ND	10	ug/L	01/10/96

GEOMATRIX CONSULTANTS

SAMPLE ID: MW-6-1295
AEN LAB NO: 9512161-06
AEN WORK ORDER: 9512161
CLIENT PROJ. ID: 2906

DATE SAMPLED: 12/11/95
DATE RECEIVED: 12/13/95
REPORT DATE: 02/20/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
Isophorone	78-59-1	ND	10	ug/L	01/10/96
2-Methylnaphthalene	91-57-6	ND	10	ug/L	01/10/96
Naphthalene	91-20-3	ND	10	ug/L	01/10/96
2-Nitroaniline	88-74-4	ND	50	ug/L	01/10/96
3-Nitroaniline	99-09-2	ND	50	ug/L	01/10/96
4-Nitroaniline	100-01-6	ND	50	ug/L	01/10/96
Nitrobenzene	98-95-3	ND	10	ug/L	01/10/96
N-Nitrosodiphenylamine	86-30-6	ND	10	ug/L	01/10/96
N-Nitrosodi-n-propylamine	621-64-7	ND	10	ug/L	01/10/96
Phenanthrene	85-01-8	ND	10	ug/L	01/10/96
Pyrene	129-00-0	ND	10	ug/L	01/10/96
1,2,4-Trichlorobenzene	120-82-1	ND	10	ug/L	01/10/96
4-Chloro-3-methylphenol	59-50-7	ND	10	ug/L	01/10/96
2-Chlorophenol	95-57-8	ND	10	ug/L	01/10/96
2,4-Dichlorophenol	120-83-2	ND	10	ug/L	01/10/96
2,4-Dimethylphenol	105-67-9	ND	10	ug/L	01/10/96
4,6-Dinitro-2-methylphenol	534-52-1	ND	50	ug/L	01/10/96
2,4-Dinitrophenol	51-28-5	ND	50	ug/L	01/10/96
2-Methylphenol	95-48-7	ND	10	ug/L	01/10/96
4-Methylphenol	106-44-5	ND	10	ug/L	01/10/96
2-Nitrophenol	88-75-5	ND	10	ug/L	01/10/96
4-Nitrophenol	100-02-7	ND	50	ug/L	01/10/96
Pentachlorophenol	87-86-5	ND	50	ug/L	01/10/96
Phenol	108-95-2	ND	10	ug/L	01/10/96
2,4,5-Trichlorophenol	95-95-4	ND	50	ug/L	01/10/96
2,4,6-Trichlorophenol	88-06-2	ND	10	ug/L	01/10/96

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: MW-7-1295
AEN LAB NO: 9512161-07
AEN WORK ORDER: 9512161
CLIENT PROJ. ID: 2906

DATE SAMPLED: 12/13/95
DATE RECEIVED: 12/13/95
REPORT DATE: 02/20/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Extraction for BNAs	EPA 3520	-		Extrn Date	12/15/95
Semi-Volatile Organics	EPA 8270				
Acenaphthene	83-32-9	ND	14	ug/L	01/10/96
Acenaphthylene	208-96-8	ND	14	ug/L	01/10/96
Anthracene	120-12-7	ND	14	ug/L	01/10/96
Benzoic Acid	65-85-0	ND	69	ug/L	01/10/96
Benzo(a)anthracene	56-55-3	ND	14	ug/L	01/10/96
Benzo(b)fluoranthene	205-99-2	ND	14	ug/L	01/10/96
Benzo(k)fluoranthene	207-08-9	ND	14	ug/L	01/10/96
Benzo(g,h,i)perylene	191-24-2	ND	14	ug/L	01/10/96
Benzo(a)pyrene	50-32-8	ND	14	ug/L	01/10/96
Benzyl Alcohol	100-51-6	ND	14	ug/L	01/10/96
Bis(2-chloroethoxy)methane	111-91-1	ND	14	ug/L	01/10/96
Bis(2-chloroethyl) Ether	111-44-4	ND	14	ug/L	01/10/96
Bis(2-chloroisopropyl) Ether	108-60-1	ND	14	ug/L	01/10/96
Bis(2-ethylhexyl) Phthalate	117-81-7	ND	14	ug/L	01/10/96
4-Bromophenyl Phenyl Ether	101-55-3	ND	14	ug/L	01/10/96
Butylbenzyl Phthalate	85-68-7	ND	14	ug/L	01/10/96
4-Chloroaniline	106-47-8	ND	14	ug/L	01/10/96
2-Chloronaphthalene	91-58-7	ND	14	ug/L	01/10/96
4-Chlorophenyl Phenyl Ether	7005-72-3	ND	14	ug/L	01/10/96
Chrysene	218-01-9	ND	14	ug/L	01/10/96
Dibenzo(a,h)anthracene	53-70-3	ND	14	ug/L	01/10/96
Dibenzofuran	132-64-9	ND	14	ug/L	01/10/96
Di-n-butyl Phthalate	84-74-2	ND	14	ug/L	01/10/96
1,2-Dichlorobenzene	95-50-1	ND	14	ug/L	01/10/96
1,3-Dichlorobenzene	541-73-1	ND	14	ug/L	01/10/96
1,4-Dichlorobenzene	106-46-7	ND	14	ug/L	01/10/96
3,3'-Dichlorobenzidine	91-94-1	ND	28	ug/L	01/10/96
Diethyl Phthalate	84-66-2	ND	14	ug/L	01/10/96
Dimethyl Phthalate	131-11-3	ND	14	ug/L	01/10/96
2,4-Dinitrotoluene	121-14-2	ND	14	ug/L	01/10/96
2,6-Dinitrotoluene	606-20-2	ND	14	ug/L	01/10/96
Di-n-octyl Phthalate	117-84-0	ND	14	ug/L	01/10/96
Fluoranthene	206-44-0	ND	14	ug/L	01/10/96
Fluorene	86-73-7	ND	14	ug/L	01/10/96
Hexachlorobenzene	118-74-1	ND	14	ug/L	01/10/96
Hexachlorobutadiene	87-68-3	ND	14	ug/L	01/10/96
Hexachlorocyclopentadiene	77-47-4	ND	14	ug/L	01/10/96
Hexachloroethane	67-72-1	ND	14	ug/L	01/10/96
Indeno(1,2,3-cd)pyrene	193-39-5	ND	14	ug/L	01/10/96

GEOMATRIX CONSULTANTS

SAMPLE ID: MW-7-1295
AEN LAB NO: 9512161-07
AEN WORK ORDER: 9512161
CLIENT PROJ. ID: 2906

DATE SAMPLED: 12/13/95
DATE RECEIVED: 12/13/95
REPORT DATE: 02/20/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
Isophorone	78-59-1	ND	14	ug/L	01/10/96
2-Methylnaphthalene	91-57-6	ND	14	ug/L	01/10/96
Naphthalene	91-20-3	ND	14	ug/L	01/10/96
2-Nitroaniline	88-74-4	ND	69	ug/L	01/10/96
3-Nitroaniline	99-09-2	ND	69	ug/L	01/10/96
4-Nitroaniline	100-01-6	ND	69	ug/L	01/10/96
Nitrobenzene	98-95-3	ND	14	ug/L	01/10/96
N-Nitrosodiphenylamine	86-30-6	ND	14	ug/L	01/10/96
N-Nitrosodi-n-propylamine	621-64-7	ND	14	ug/L	01/10/96
Phenanthrene	85-01-8	ND	14	ug/L	01/10/96
Pyrene	129-00-0	ND	14	ug/L	01/10/96
1,2,4-Trichlorobenzene	120-82-1	ND	14	ug/L	01/10/96
4-Chloro-3-methylphenol	59-50-7	ND	14	ug/L	01/10/96
2-Chlorophenol	95-57-8	ND	14	ug/L	01/10/96
2,4-Dichlorophenol	120-83-2	ND	14	ug/L	01/10/96
2,4-Dimethylphenol	105-67-9	ND	14	ug/L	01/10/96
4,6-Dinitro-2-methylphenol	534-52-1	ND	69	ug/L	01/10/96
2,4-Dinitrophenol	51-28-5	ND	69	ug/L	01/10/96
2-Methylphenol	95-48-7	ND	14	ug/L	01/10/96
4-Methylphenol	106-44-5	ND	14	ug/L	01/10/96
2-Nitrophenol	88-75-5	ND	14	ug/L	01/10/96
4-Nitrophenol	100-02-7	ND	69	ug/L	01/10/96
Pentachlorophenol	87-86-5	ND	69	ug/L	01/10/96
Phenol	108-95-2	52 *	14	ug/L	01/10/96
2,4,5-Trichlorophenol	95-95-4	ND	69	ug/L	01/10/96
2,4,6-Trichlorophenol	88-06-2	ND	14	ug/L	01/10/96

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: MW-8-1295
AEN LAB NO: 9512161-08
AEN WORK ORDER: 9512161
CLIENT PROJ. ID: 2906

DATE SAMPLED: 12/11/95
DATE RECEIVED: 12/13/95
REPORT DATE: 02/20/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Extraction for BNAs	EPA 3520	-		Extrn Date	12/15/95
Semi-Volatile Organics	EPA 8270				
Acenaphthene	83-32-9	ND	9.9	ug/L	01/10/96
Acenaphthylene	208-96-8	ND	9.9	ug/L	01/10/96
Anthracene	120-12-7	ND	9.9	ug/L	01/10/96
Benzoic Acid	65-85-0	ND	49	ug/L	01/10/96
Benzo(a)anthracene	56-55-3	ND	9.9	ug/L	01/10/96
Benzo(b)fluoranthene	205-99-2	ND	9.9	ug/L	01/10/96
Benzo(k)fluoranthene	207-08-9	ND	9.9	ug/L	01/10/96
Benzo(g,h,i)perylene	191-24-2	ND	9.9	ug/L	01/10/96
Benzo(a)pyrene	50-32-8	ND	9.9	ug/L	01/10/96
Benzyl Alcohol	100-51-6	ND	9.9	ug/L	01/10/96
Bis(2-chloroethoxy)methane	111-91-1	ND	9.9	ug/L	01/10/96
Bis(2-chloroethyl) Ether	111-44-4	ND	9.9	ug/L	01/10/96
Bis(2-chloroisopropyl) Ether	108-60-1	ND	9.9	ug/L	01/10/96
Bis(2-ethylhexyl) Phthalate	117-81-7	ND	9.9	ug/L	01/10/96
4-Bromophenyl Phenyl Ether	101-55-3	ND	9.9	ug/L	01/10/96
Butylbenzyl Phthalate	85-68-7	ND	9.9	ug/L	01/10/96
4-Chloroaniline	106-47-8	ND	9.9	ug/L	01/10/96
2-Chloronaphthalene	91-58-7	ND	9.9	ug/L	01/10/96
4-Chlorophenyl Phenyl Ether	7005-72-3	ND	9.9	ug/L	01/10/96
Chrysene	218-01-9	ND	9.9	ug/L	01/10/96
Dibenzo(a,h)anthracene	53-70-3	ND	9.9	ug/L	01/10/96
Dibenzofuran	132-64-9	ND	9.9	ug/L	01/10/96
Di-n-butyl Phthalate	84-74-2	ND	9.9	ug/L	01/10/96
1,2-Dichlorobenzene	95-50-1	ND	9.9	ug/L	01/10/96
1,3-Dichlorobenzene	541-73-1	ND	9.9	ug/L	01/10/96
1,4-Dichlorobenzene	106-46-7	ND	9.9	ug/L	01/10/96
3,3'-Dichlorobenzidine	91-94-1	ND	20	ug/L	01/10/96
Diethyl Phthalate	84-66-2	ND	9.9	ug/L	01/10/96
Dimethyl Phthalate	131-11-3	ND	9.9	ug/L	01/10/96
2,4-Dinitrotoluene	121-14-2	ND	9.9	ug/L	01/10/96
2,6-Dinitrotoluene	606-20-2	ND	9.9	ug/L	01/10/96
Di-n-octyl Phthalate	117-84-0	ND	9.9	ug/L	01/10/96
Fluoranthene	206-44-0	ND	9.9	ug/L	01/10/96
Fluorene	86-73-7	ND	9.9	ug/L	01/10/96
Hexachlorobenzene	118-74-1	ND	9.9	ug/L	01/10/96
Hexachlorobutadiene	87-68-3	ND	9.9	ug/L	01/10/96
Hexachlorocyclopentadiene	77-47-4	ND	9.9	ug/L	01/10/96
Hexachloroethane	67-72-1	ND	9.9	ug/L	01/10/96
Indeno(1,2,3-cd)pyrene	193-39-5	ND	9.9	ug/L	01/10/96

GEOMATRIX CONSULTANTS

SAMPLE ID: MW-8-1295
AEN LAB NO: 9512161-08
AEN WORK ORDER: 9512161
CLIENT PROJ. ID: 2906

DATE SAMPLED: 12/11/95
DATE RECEIVED: 12/13/95
REPORT DATE: 02/20/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
Isophorone	78-59-1	ND	9.9	ug/L	01/10/96
2-Methylnaphthalene	91-57-6	ND	9.9	ug/L	01/10/96
Naphthalene	91-20-3	ND	9.9	ug/L	01/10/96
2-Nitroaniline	88-74-4	ND	49	ug/L	01/10/96
3-Nitroaniline	99-09-2	ND	49	ug/L	01/10/96
4-Nitroaniline	100-01-6	ND	49	ug/L	01/10/96
Nitrobenzene	98-95-3	ND	9.9	ug/L	01/10/96
N-Nitrosodiphenylamine	86-30-6	ND	9.9	ug/L	01/10/96
N-Nitrosodi-n-propylamine	621-64-7	ND	9.9	ug/L	01/10/96
Phenanthrene	85-01-8	ND	9.9	ug/L	01/10/96
Pyrene	129-00-0	ND	9.9	ug/L	01/10/96
1,2,4-Trichlorobenzene	120-82-1	ND	9.9	ug/L	01/10/96
4-Chloro-3-methylphenol	59-50-7	ND	9.9	ug/L	01/10/96
2-Chlorophenol	95-57-8	ND	9.9	ug/L	01/10/96
2,4-Dichlorophenol	120-83-2	ND	9.9	ug/L	01/10/96
2,4-Dimethylphenol	105-67-9	ND	9.9	ug/L	01/10/96
4,6-Dinitro-2-methylphenol	534-52-1	ND	49	ug/L	01/10/96
2,4-Dinitrophenol	51-28-5	ND	49	ug/L	01/10/96
2-Methylphenol	95-48-7	ND	9.9	ug/L	01/10/96
4-Methylphenol	106-44-5	ND	9.9	ug/L	01/10/96
2-Nitrophenol	88-75-5	ND	9.9	ug/L	01/10/96
4-Nitrophenol	100-02-7	ND	49	ug/L	01/10/96
Pentachlorophenol	87-86-5	ND	49	ug/L	01/10/96
Phenol	108-95-2	ND	9.9	ug/L	01/10/96
2,4,5-Trichlorophenol	95-95-4	ND	49	ug/L	01/10/96
2,4,6-Trichlorophenol	88-06-2	ND	9.9	ug/L	01/10/96

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: EB-1-1295
AEN LAB NO: 9512161-09
AEN WORK ORDER: 9512161
CLIENT PROJ. ID: 2906

DATE SAMPLED: 12/12/95
DATE RECEIVED: 12/13/95
REPORT DATE: 02/20/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Extraction for BNAs	EPA 3520	-		Extrn Date	12/17/95
Semi-Volatile Organics	EPA 8270				
Acenaphthene	83-32-9	ND	11	ug/L	01/10/96
Acenaphthylene	208-96-8	ND	11	ug/L	01/10/96
Anthracene	120-12-7	ND	11	ug/L	01/10/96
Benzoic Acid	65-85-0	ND	53	ug/L	01/10/96
Benzo(a)anthracene	56-55-3	ND	11	ug/L	01/10/96
Benzo(b)fluoranthene	205-99-2	ND	11	ug/L	01/10/96
Benzo(k)fluoranthene	207-08-9	ND	11	ug/L	01/10/96
Benzo(g,h,i)perylene	191-24-2	ND	11	ug/L	01/10/96
Benzo(a)pyrene	50-32-8	ND	11	ug/L	01/10/96
Benzyl Alcohol	100-51-6	ND	11	ug/L	01/10/96
Bis(2-chloroethoxy)methane	111-91-1	ND	11	ug/L	01/10/96
Bis(2-chloroethyl) Ether	111-44-4	ND	11	ug/L	01/10/96
Bis(2-chloroisopropyl) Ether	108-60-1	ND	11	ug/L	01/10/96
Bis(2-ethylhexyl) Phthalate	117-81-7	ND	11	ug/L	01/10/96
4-Bromophenyl Phenyl Ether	101-55-3	ND	11	ug/L	01/10/96
Butylbenzyl Phthalate	85-68-7	ND	11	ug/L	01/10/96
4-Chloroaniline	106-47-8	ND	11	ug/L	01/10/96
2-Chloronaphthalene	91-58-7	ND	11	ug/L	01/10/96
4-Chlorophenyl Phenyl Ether	7005-72-3	ND	11	ug/L	01/10/96
Chrysene	218-01-9	ND	11	ug/L	01/10/96
Dibenzo(a,h)anthracene	53-70-3	ND	11	ug/L	01/10/96
Dibenzofuran	132-64-9	ND	11	ug/L	01/10/96
Di-n-butyl Phthalate	84-74-2	ND	11	ug/L	01/10/96
1,2-Dichlorobenzene	95-50-1	ND	11	ug/L	01/10/96
1,3-Dichlorobenzene	541-73-1	ND	11	ug/L	01/10/96
1,4-Dichlorobenzene	106-46-7	ND	11	ug/L	01/10/96
3,3'-Dichlorobenzidine	91-94-1	ND	21	ug/L	01/10/96
Diethyl Phthalate	84-66-2	ND	11	ug/L	01/10/96
Dimethyl Phthalate	131-11-3	ND	11	ug/L	01/10/96
2,4-Dinitrotoluene	121-14-2	ND	11	ug/L	01/10/96
2,6-Dinitrotoluene	606-20-2	ND	11	ug/L	01/10/96
Di-n-octyl Phthalate	117-84-0	ND	11	ug/L	01/10/96
Fluoranthene	206-44-0	ND	11	ug/L	01/10/96
Fluorene	86-73-7	ND	11	ug/L	01/10/96
Hexachlorobenzene	118-74-1	ND	11	ug/L	01/10/96
Hexachlorobutadiene	87-68-3	ND	11	ug/L	01/10/96
Hexachlorocyclopentadiene	77-47-4	ND	11	ug/L	01/10/96
Hexachloroethane	67-72-1	ND	11	ug/L	01/10/96
Indeno(1,2,3-cd)pyrene	193-39-5	ND	11	ug/L	01/10/96

GEOMATRIX CONSULTANTS

SAMPLE ID: EB-1-1295
AEN LAB NO: 9512161-09
AEN WORK ORDER: 9512161
CLIENT PROJ. ID: 2906

DATE SAMPLED: 12/12/95
DATE RECEIVED: 12/13/95
REPORT DATE: 02/20/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
Isophorone	78-59-1	ND	11	ug/L	01/10/96
2-Methylnaphthalene	91-57-6	ND	11	ug/L	01/10/96
Naphthalene	91-20-3	ND	11	ug/L	01/10/96
2-Nitroaniline	88-74-4	ND	53	ug/L	01/10/96
3-Nitroaniline	99-09-2	ND	53	ug/L	01/10/96
4-Nitroaniline	100-01-6	ND	53	ug/L	01/10/96
Nitrobenzene	98-95-3	ND	11	ug/L	01/10/96
N-Nitrosodiphenylamine	86-30-6	ND	11	ug/L	01/10/96
N-Nitrosodi-n-propylamine	621-64-7	ND	11	ug/L	01/10/96
Phenanthrene	85-01-8	ND	11	ug/L	01/10/96
Pyrene	129-00-0	ND	11	ug/L	01/10/96
1,2,4-Trichlorobenzene	120-82-1	ND	11	ug/L	01/10/96
4-Chloro-3-methylphenol	59-50-7	ND	11	ug/L	01/10/96
2-Chlorophenol	95-57-8	ND	11	ug/L	01/10/96
2,4-Dichlorophenol	120-83-2	ND	11	ug/L	01/10/96
2,4-Dimethylphenol	105-67-9	ND	11	ug/L	01/10/96
4,6-Dinitro-2-methylphenol	534-52-1	ND	53	ug/L	01/10/96
2,4-Dinitrophenol	51-28-5	ND	53	ug/L	01/10/96
2-Methylphenol	95-48-7	ND	11	ug/L	01/10/96
4-Methylphenol	106-44-5	ND	11	ug/L	01/10/96
2-Nitrophenol	88-75-5	ND	11	ug/L	01/10/96
4-Nitrophenol	100-02-7	ND	53	ug/L	01/10/96
Pentachlorophenol	87-86-5	ND	53	ug/L	01/10/96
Phenol	108-95-2	ND	11	ug/L	01/10/96
2,4,5-Trichlorophenol	95-95-4	ND	53	ug/L	01/10/96
2,4,6-Trichlorophenol	88-06-2	ND	11	ug/L	01/10/96

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

K-2, S-4
C-3, S-4
R-7, S-K

9512161

Chain-of-Custody Record

№ 8483

Date: 12/13/95

Page 1 of 1

Project No.: 2906

Samplers (Signatures): Nathaniel A. Taylor 95

	Date	Time	Sample Number	EPA Method 8010	EPA Method 8020	EPA Method 8240	EPA Method 8270	TPH as gasoline	TPH as diesel	TPH as BTEX	CAM 17 Metals	Cooled	Soil (S) or water (W)	Acidified	Number of containers
01A-F	12/12	1340	MW-1-12/95			X	X				X	X	W	Y/N	6
02A-F	12/12	1200	MW-2-12/95			X	X				X	Y	W	Y/N	6
03A-F	12/12	1420	MW-3-12/95			X	X				X	X	W	Y/N	6
04A-F	12/11	1240	MW-4-12/95			X	X				X	X	W	Y/N	6
05A-F	12/11	1210	MW-5-12/95			X	X				X	X	W	Y/N	6
06A-F	12/11	1615	MW-6-12/95			X	X				X	X	W	Y/N	6
07A-C	12/12	1430	MW-7-12/95			X					X	X	W	Y/N	3
07D-E	12/13	0530	MW-7-12/95				X					X	W	Y/N	1
08A-F	12/11	1720	MW-8-12/95			X	X				X	X	W	Y/N	6
09A-F	12/12	1145	EB-1-12/95			~~X~~	~~X~~				✓	X	W	Y/N	6

HOLD 12/15/95 R. Beyer

Turnaround time: STANDARD

Results to: Mike Kiem

Total No. of containers: 52

REMARKS

Additional comments

Please Analyze all sample #'s for: 8240 8270 and, CAM 17 metals.

Standard TAT

Please Fax Results ASAP To Mr. Kiem 415+434-1315

Relinquished by:	Date:	Relinquished by:	Date:	Relinquished by:	Date:
Nathaniel A. Taylor	12/13/95 1010				
Signature: NATHANIEL A. TAYLOR		Signature:		Signature:	
Printed name: GEOMATRIX.		Printed name:		Printed name:	
Company:		Company:		Company:	
Received by:	**Time:**	**Received by:**	**Time:**	**Received by:**	**Time:**
Gina M Bellucci	12/13/95 1630				
Signature: GINA M BELLUCCI		Signature:		Signature:	
Printed name:		Printed name:		Printed name:	
Company: AEN		Company:		Company:	

Method of shipment: Pick-Up.

Laboratory comments and Log No.:

C.S. intact 12/15/95 14:55 Pm Mike Kiem, EB-1-1295 off hold for 8240, 8270 & CCR-17; delete slash between 12 & 95 for all sample id's P. Beyer

Geomatrix Consultants
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San Francisco, CA. 94111
(415) 434-9400