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SUBSURFACE INVESTIGATION REPORT
STANDARD BRANDS PAINT
EMERYVILLE, CALIFORNIA

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closed

Prepared for

Emeryville Redevelopment Agency

Prepared by

ENVIRON Corporation
Emeryville, California

August 18, 1995
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(continued)

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TABLES

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ACRONYMS

ACDEH	Alameda County Department of Environmental Health
BTEX	Benzene, Toluene, Ethylbenzene, and Xylenes
CPT	Cone Penetrometer Test
EFD	Emeryville Fire Department
EPA	Environmental Protection Agency
HVOC	Halogenated Volatile Organic Compound
mg/kg	milligrams of chemical per kilogram of soil
mg/L	milligrams of chemical per liter of water
µg/L	micrograms of chemical per liter of water
PCB	Polychlorinated Biphenyls
RWQCB	Regional Water Quality Control Board
TCE	Trichloroethylene
TEH	Total Extractable Hydrocarbons
TPH	Total Petroleum Hydrocarbons
TPH/D	Total Petroleum Hydrocarbons as Diesel
TPH/G	Total Petroleum Hydrocarbons as Gasoline
trans-1,2-DCE	trans-1,2-Dichloroethene
TRPH	Total Recoverable Petroleum Hydrocarbons
TVH	Total Volatile Hydrocarbons
USGS	United States Geological Survey
UST	Underground Storage Tank
VOC	Volatile Organic Compound

1.0 INTRODUCTION

1.0 INTRODUCTION

This report presents the results of a subsurface investigation of the Standard Brands Paint property at 4343 San Pablo Avenue in Emeryville, California (the Site). The Site is located at the corner of 45th Street and San Pablo Avenue; a vicinity map is provided as Figure 1. The subsurface investigation and subsequent interpretations were performed by ENVIRON International Corporation (ENVIRON) on behalf of the City of Emeryville Redevelopment Agency, who is planning to acquire the Site for redevelopment. The Site is within a larger area planned for redevelopment by Kaiser Foundation Health Plan, Inc. (Kaiser). Kaiser proposes to construct and operate a new medical center in the area.

1.1 Site Description and Use

The Site is a 1.2-acre parcel containing a retail store (Standard Brands Paint) and a paved parking lot. The store sells painting and home decorating supplies. Title records indicate that Standard Brands Paint Company (Standard Brands) purchased the property in 1985, and that the previous occupant was Oliver Tire and Rubber Company (Oliver Tire), who owned the property from approximately 1946 to 1985. Oliver Tire operated a tire recapping facility and rubber goods factory. Title records reviewed by ENVIRON went back to 1945; the property is shown as residential on 1903 and 1911 Sanborn maps.

1.2 Previous Investigations

Shallow soil and ground water contamination was encountered at the Site during a screening-level investigation by ENVIRON (*Subsurface Investigation Report, Standard Brands Property* December 3, 1993) and a more detailed investigation by Enviropro, Inc. (*Subsurface Environmental Investigation Report* August 31, 1994). These investigations were conducted to evaluate the Site's environmental conditions in preparation for the property sale and redevelopment. Both investigations were self-directed and the reports were submitted by Standard Brands to the Alameda County Department of Environmental Health (ACDEH) and San Francisco Regional Water Quality Control Board (RWQCB), the local oversight agencies for the area. An area of soil and ground water contamination was detected during these studies which appeared to be generally beneath the Standard Brands store. The principal compounds of concern in soil and ground water were reported to be petroleum hydrocarbons, with trace levels of other halogenated volatile organic compounds (VOCs). Enviropro characterized the hydrocarbons as thinner, gasoline, diesel and waste oil. Methylene chloride was also reported in soil and ground water by Enviropro, but was not detected during later investigations. Chemical concentrations in soil and ground water samples were sufficiently elevated so that Enviropro concluded that soil and ground water remediation would be needed. However, existing data were not sufficient to support selection of a remedial strategy.

1.3 Project Objective

The objective of this phase of investigation was to collect additional information needed to select and scope a remediation strategy for the site. Data were collected to verify previous soil results and to further evaluate the degradation of ground water quality. All available data were used in developing an understanding of subsurface conditions and possible remedial action.

1.4 Scope of Work

During June and July 1995, ENVIRON conducted a field investigation including soil borings, cone penetrometer tests (CPTs), and monitoring wells. The investigation was completed both on the Site (on-site) and west of the Site (off-site). The locations of the soil borings, CPTs and monitoring wells are shown on Figure 2. The investigation activities are summarized below.

- Seventeen soil borings (B-1 to B-17) were drilled to depths of between 10 and 33 feet to evaluate shallow soil and ground water quality. Ground water grab samples were collected at seven of these locations. Soil samples were collected from most borings to supplement previous soil testing at the Site.

- Six CPTs were completed to depths of approximately 60 feet to identify if deeper ground water zones were present which might be impacted by chemical releases from the Site. One to two coarser-grained intervals were identified at each location for sampling.

- Five shallow monitoring wells were constructed to evaluate ground water flow directions and measure water quality in key areas identified by soil and ground water grab samples. Monitoring wells were developed and monitored for water levels and water quality.

- Soil and ground water samples were tested by Chromalab Environmental Services, a California-certified laboratory in Pleasanton, California. U.S. Environmental Protection Agency (EPA) test methods were used as outlined below:

Total Volatile Hydrocarbons (TVH) Total Petroleum Hydrocarbons as Gasoline (TPH/G); benzene, toluene, ethylbenzene, xylenes (BTEX compounds)	EPA Method 8015 Modified
Total Extractable Hydrocarbons (TEH) TPH as Diesel (TPH/D) stoddard solvent/mineral spirits (thinner) motor oil, kerosene	EPA Method 8015 Modified
Halogenated VOCs	EPA Method 8010
Polychlorinated Biphenyls	EPA Method 8080 (Modified)

- Friedman and Bruya, Inc. was retained as expert hydrocarbon fingerprinters to characterize petroleum compounds in selected areas. After identifying the types of hydrocarbons present, Friedman and Bruya coordinated with Chromalab, who quantified the hydrocarbon concentrations using standard EPA methods. Friedman and Bruya's involvement helped Chromalab select the appropriate hydrocarbon standards for their analysis.

1.5 Report Organization

The remainder of this report is organized into the following sections:

2.0	Background Information	Presents information on the Site's physiographic and regional hydrogeologic setting, Oliver Tire's chemical use, and neighboring properties
3.0	Site Hydrogeology	Presents hydrogeologic findings of investigation
4.0	Chemical Test Results	Presents investigation chemical results
5.0	Discussion of Chemical Distributions	Describes chemical distributions at Site from results of this and previous investigations
6.0	Summary	Summarizes key findings

The appendices which accompany this report present descriptions and documentation of the field investigation, including boring logs and well construction diagrams (Appendix A); the laboratory reports and a review of laboratory and field quality control samples (Appendix B); and the CPT program (Appendix C).

2.0 BACKGROUND INFORMATION

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This section presents background information on the Site: the physiographic setting, ground water conditions in the area, Oliver Tire's past chemical use, and information on neighboring properties. The planned redevelopment of the Site and vicinity is also described briefly.

2.1 Physiographic Setting

The Site is in the East Bay Plain which is characterized by relatively flat terrain between the San Francisco Bay (the Bay) and the Berkeley Hills. As shown on Figure 1, the Site is approximately 4,000 feet east of the Bay and is in an area that slopes gently westward toward the Bay. The elevation of the Site is approximately 43 feet above mean sea level. Surface drainage from the Site goes to a network of storm drains located in streets and other paved areas; the storm drains ultimately discharge to the Bay. The ancestral Temescal Creek flowed just north of the Site, though it is now confined to a storm drain along 53rd Street (Alameda County Food Control District, File CB-320).

2.2 Regional Hydrogeologic Setting

Neighboring sites have conducted investigations for underground storage tank (UST) closures and other reasons, and have found that ground water is generally 5 to 15 feet below ground surface in the area of the Site (Weiss 1994, CH2M Hill 1995, Kaiser Engineers 1988). Ground water flow in the area is reported to be generally toward the Bay, westerly to southwesterly. Subsurface sediments in the shallow ground water zone are described at neighboring sites as typically silty clay with discontinuous interbeds of sands and gravels. The ground water flow rates are expected to be relatively low where the clayey deposits predominate, but higher where sands and gravels are present.

The surficial geology of the Site is illustrated on the *Geologic Map of Late Cenozoic Deposits of Alameda County, California* (United States Geological Survey [USGS] 1972). This map identifies fluvial sediments (composed of silty clay, silt and fine sand) in the area of the Site which are likely less than approximately 10-15 feet thick. These near-surface sediments have been characterized by the USGS as overlying a thick sequence of sediments which are identified as Older Alluvial Fan Deposits (USGS 1972) or basin fill deposits of the Alameda Formation (USGS 1957). These deeper sediments are composed of sandy, silty clays with discontinuous coarse-grained units (USGS 1957). The Older Alluvial Fan Deposits or Alameda Formation sediments are likely approximately 200-400 feet thick in the area of the Site and overlie bedrock of the Knoxville and Franciscan Formations (Rogers/Pacific 1991; Alameda County Flood Control and Water Conservation District 1993).

ENVIRON obtained a search of the data base of Alameda County East Bay Plain Wells on January 26, 1994. No water supply wells were identified on the Site or within approximately one-half miles of the Site. Outside of this area, isolated wells are identified as irrigation, industrial and domestic supply wells and they are typically 100- to 500-feet deep, screened in the deeper units of the Alameda Formation or Older Alluvial Fan Deposits. None of these relatively distant wells appear to be located downgradient of the Site.

2.3 Former Oliver Tire's Chemical Use

The former Site owner, Oliver Tire, operated a tire and rubber goods factory at the Site from approximately 1947 and 1985. Historical aerial photographs of the area indicate that the facility underwent a number of expansions during this time until the factory nearly occupied the entire property (Pacific Aerial Surveys, 1949-1985). Limited records about Oliver Tire's former activities at this property were available to ENVIRON; however, the available records indicate that chemicals were used in bulk and subsurface sumps were employed in Oliver Tire's factory buildings

The records reviewed by ENVIRON regarding Oliver Tire's operation are Sanborn maps (1951 and 1967), a 1971 building plan prepared by Oliver Tire which was on file at the Emeryville Building Department, and a rough demolition map of Oliver Tire which was provided by Standard Brands. The demolition map is a hand drawing of sumps and pits at the former facility. Copies of these were included in Enviropro's investigation report (1994).

The former chemical use areas identified in the above records are summarized on Figure 3 relative to the current layout of the Site. Figure 3 presents the approximate locations of sumps and pits identified on the building demolition map, one of which was labeled as containing "water and sludge." The chemical use areas identified on the 1971 building plan included hydraulic equipment, spray booths, a solvent storage area, and tanks. Because Oliver Tire's operation was changing during its 32 years at the Site and records are limited, the chemical use areas shown on Figure 3 are likely incomplete.

An oil and gas depot was located at the northeastern corner of the property from at least 1947 through 1950, based on 1947, 1949, and 1953 Pacific Aerial Survey photographs and the 1950 Sanborn map. The approximate location of the oil and gas depot and the fuel pumps is shown on Figure 3. It is possible that an underground storage tank (UST) was associated with the depot since no above-ground storage tanks are visible on the aerial photographs or noted on the Sanborn maps. A magnetic anomaly was identified during ENVIRON's recent field work in the area of the oil and gas depot which may represent an UST; the location of the magnetic anomaly also is shown on Figure 3. The oil and gas depot was apparently removed by Oliver

Tire in the early 1950s (prior to the 1953 aerial photograph). No other records of the oil and gas depot and associated fuel pumps or their removal were found.

According to Mr. George Warren of the Emeryville Fire Department (EFD), former inspector of the former facility, an existing Oliver Rubber facility on 65th Street in Emeryville conducts similar operations as the former facility. A review of EFD's file on the 65th Street facility indicated that their chemical use includes rubber, oils, solvents, and carbon black. Therefore, it is probable that similar chemicals were used at Oliver Tire. No documentation regarding Oliver Tire's chemical use was available at either the Emeryville Fire Department (file review May 21, 1993) or the California Environmental Protection Agency's Department of Toxic Substance Control (file review March 3, 1993).

2.4 Neighboring Properties and UST Sites

The Site is in an area of Emeryville which has had industrial activity since the early 1900's, and a number of neighboring properties have petroleum and solvents in subsurface and ground water which is documented in ACDEH and RWQCB files. The neighboring properties are described briefly below to place the Site in context for the area.

Residential Properties

Five residential lots with apartment buildings and houses are located west of the Site, across Emery Street. Off-site testing for this current investigation was conducted in the area of these residences (borings B-1, B-2, and MW-4, shown on Figure 2). Historical Sanborn maps and aerial photographs indicate that four of these properties have been residential since at least 1911. The fifth property has been residential since approximately 1953, based on review of historical aerial photographs. ENVIRON is not aware of any industrial activity on these properties.

Del Monte Plant 35 Cannery

The vacant Del Monte Cannery, Plant 35, covers approximately 14 acres and is located approximately one half block west of the Site, just west of the residential properties. Testing during ENVIRON's latest phase of investigation was conducted on the easternmost portion of the Del Monte property, east of Watts Street (borings B-3 and B-11, shown on Figure 2). According to Del Montes consultant, CH2M Hill, former cannery operations were located west of Watts Street, and the area east of Watts was used for employee parking (CH2M Hill 1992). Since 1986, Del Monte has conducted a number of investigations west of Watts Street to close USTs and test soil and ground water in preparation for sale of their property. The results of these investigations are presented in numerous reports prepared by Del Monte's consultant, CH2M Hill. Del Monte's approved remediation plans involve excavation of soil with greater than 100 milligrams per kilogram (mg/kg) of Total Petroleum Hydrocarbons (TPH) (CH2M Hill 1994).

Ground water remediation for VOCs is underway in the central and western portions of Del Monte's plant under oversight of the ACDEH and RWQCB. Del Monte plans to complete its soil remediation and to continue ground water extraction and monitoring until ACDEH and RWQCB concur that it is appropriate to discontinue (RWQCB April 19, 1995).

New Century Beverage Company (Pepsi)

The Pepsi property is immediately south of the Site, as shown on Figure 2, and is currently occupied by a Pepsi beverage canning plant. Pepsi has occupied the property since approximately 1958 and their operations have included canning, storage, vehicle and equipment maintenance, and gasoline and diesel fueling (Weiss 1994). During 1994, Pepsi conducted extensive investigations on their property and identified four petroleum ground water plumes, two originating at two fuel USTs, and two apparently originating upgradient (Weiss 1994). Pepsi removed one inactive 10,000-gallon fuel UST with associated piping and two pump islands. The other UST, an 8,000-gallon diesel UST, was removed by Pepsi in 1987. Weiss prepared a Remedial Action Plan, which we understand has been approved by the ACDEH (Weiss 1995). The approved Remedial Action Plan provides for excavating soil with TPH at concentrations greater that 100 mg/kg or with BTEX compounds exceeding EPA Preliminary Remediation Goals, and ground water monitoring.

AC Transit

The AC Transit property is located immediately north of the Site, across 45th Street (Figure 2). This property has been used for bus maintenance and fueling since approximately 1937, though it was previously operated by the Key System Transit Lines. During construction of the facility during the 1980's, petroleum-contaminated soil was remediated under oversight of the ACDEH. An UST tank farm was the site of a 16,000 gallon diesel spill in 1989, resulting in diesel contamination of soil and ground water. Cleanup was conducted under oversight by the RWQCB. Residual gasoline contamination associated with the pre-1986 activities at this property also was detected (AC Transit 1989).

Emeryville Fire Station

This property is immediately south of the Site, as shown on Figure 2. This property consists of a vacant fire station building constructed in 1959, paved parking, two small support buildings and a vehicle fueling station. Sanborn maps and Pacific Aerial Survey photographs indicate that the property has been used as a fire station since at least 1911 and the property appears undeveloped on the 1903 Sanborn map. The station had a 550-gallon UST and pump island, which the City of Emeryville removed during 1994. Soil adjacent to the former UST which contained TPH/G and TPH/D was excavated, and a monitoring well was installed. We understand that this site is still under ACDEH review.

City of Emeryville - San Pablo Avenue Property

The City of Emeryville's San Pablo Avenue property, at 4300 San Pablo Avenue, is across the street to the southeast of the subject Site, as shown on Figure 2. The property formerly housed a service station and car wash. Service station plans showed that the site had three 550-gallon USTs located under sidewalks along San Pablo Avenue and 43rd Street (Subsurface Consultants, 1991). Six ground water monitoring wells were installed at the property in 1990, including one (MW-6) on the west side of San Pablo Avenue, in front of the Emeryville Fire Station. Ground water flow is reported to be to the northwest, toward the Emeryville Fire Station and the Site (Subsurface Consultants letter report to City of Emeryville dated January 16, 1992). Ground water monitoring in 1990 and 1991 showed low mg/L levels of TEH and low μg/L levels of BTEX compounds in the on-site wells, but none in MW-6. Only TPH/D at 0.11 mg/L was detected in MW-6 (Subsurface Consultants, 1992). It appears that the most petroleum in ground water from this property is limited to east of San Pablo Avenue.

3.0 SITE HYDROGEOLOGY

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The soil borings, CPTs, and monitoring wells completed for this investigation allowed observation of hydrogeologic conditions at the Site. The boring logs, and monitoring well construction diagrams which record these observations are presented in Appendix A. Appendix C presents an explanation of the CPT logs, and Earth Technology Corporation's report on the CPT investigation. The findings are summarized below.

3.1 Stratigraphy

Investigations by ENVIRON and Enviropro found that shallow soils beneath the Site are primarily silty clay and silt, with discontinuous interbeds of silty and clayey sands and gravels. Three units were identified beneath the Site: artificial fill, an organic silty clay, and silty clay and silt with discontinuous clayey to silty sands and gravels. These units are described below.

Fill Materials The fill materials observed were typically crushed rock, sandy gravel engineered fill, or disturbed soil with construction debris (e.g. brick fragments). The fill was approximately 6-inches below ground surface (BGS) beneath the parking lot and up to 7 feet BGS beneath the store (at boring B-6). The areas of Oliver Tire's former subsurface sumps may have fill materials that extend to greater depths.

Organic Silty Clay The shallowest natural soil unit is an organic silty clay, which varies in color from dark gray to brown to black and locally contains visible decomposed plant material. It locally contains some sand and gravel. This unit was observed to be approximately 10 feet BGS beneath much of the Standard Brands property. In off-site borings completed for this investigation, the organic silty clay was observed to be approximately 4- to 8- BGS.

Silty Clay with Discontinuous Sand and Gravel Lenses Underlying the organic silty clay are light olive brown to gray silty clays with interbedded silty and clayey sands and gravels. The silty clay locally contains some angular gravel, shell fragments, and calcareous nodules. The discontinuous character of the sands and gravels is illustrated on the cross section on Figure 4 (cross section location is shown on Figure 3). The CPT logs indicate the soils in the upper approximately 25 to 30 feet BGS is in the clay and silt range. Below approximately 25 to 30 feet BGS, there is a general coarsening of the grain sizes; the CPTs indicate that sandy silt/silty sand predominates, with sand and clay interbeds. The increase in grain size in the deeper zone is illustrated on the cross section by an increase in the baseline on the soil behavior type plot for CPT-2 and CPT-8. The deeper sandier soils were also observed near the base of boring B-5.

3.2 Ground Water Levels

The five new wells constructed during this investigation were completed across the water table. Water levels were measured in the wells on two occasions, June 15, 1995 and June 27, 1995. The measured water level elevations are presented in Table 1. During the June 27, 1995 measurements, ENVIRON coordinated with the neighboring landowners, PepsiCo and the Emeryville Fire Station, to measure water levels the same day. The resulting potentiometric surface map for shallow ground water in the area of the Site is presented on Figure 5. The potentiometric surface on Figure 5 indicates that the gradient is westerly to southwesterly with a magnitude of 0.013. The gradient is more westerly closer to 45th Street and more southwesterly to the south, further from 45th Street. This gradient is consistent with measurements at neighboring properties. At the Pepsi site, the ground water gradient is to the southwest (Weiss 1994). At the AC Transit site, located across 45th Street to the north, the ground water gradient is reported to be to the west (Kaiser Engineers July 24, 1989). The depth to ground water at the Standard Brands property increases to the west from approximately 7 feet BGS at MW-1 to an estimated 11 feet BGS in the western portion of the store building.

At the neighboring Del Monte site, water level measurements in similar shallow zone monitoring wells fluctuated over a range of approximately 2 to 4.5 feet from December 1988 to March 1995. The mean water level fluctuation was approximately 3 feet (CH2M Hill 1992, ENVIRON 1995). This range of water level fluctuations would be expected to be similar at the Standard Brands Site. The June 1995 water levels at the Site were measured in the middle of the dry season following an unusual wet season with record high levels of precipitation. In this context, the June 1995 water levels depicted on Figure 5 and in Table 1 may represent approximately the middle of the likely range of water levels for the Site.

3.3 Hydrostratigraphy

Observations during this field program indicate that the ground water system beneath the Site can be generally divided into the vadose zone, shallow ground water which is partly unconfined and partly confined, and deeper confined ground water.

The vadose zone beneath the Site is the unsaturated soil above ground water. As discussed above, the depths to water observed in the shallow wells during the investigation indicate that the vadose zone during this investigation extended some 7 feet BGS on the east side of the Site, to some 11 feet BGS on the west side of the Site; however, during dryer years the vadose zone undoubtedly extends deeper. Based on the historical water level fluctuations observed at the neighboring Del Monte site, the vadose zone may extend up to approximately 2 feet deeper during dry years and up to approximately 2 feet shallower during wet seasons.

The schematic cross section on Figure 4 illustrates the shallow zone and deeper ground water zones identified during this investigation beneath the Site. The shallow zone extends to approximately 25 to 30 feet BGS, and the top of the deeper ground water zone begins at some 30 to 35 feet BGS. The deeper ground water zone is somewhat coarser grained than the shallow zone, as evidenced by the slight increase in grain size on the CPTs discussed above. The shallow zone and deeper zone appear to be separated by an aquitard in the area of the Site, as shown on the cross section (Figure 6).

The shallow zone appears to be unconfined in some areas while confined in others, resulting from the discontinuous nature of the sandy and gravelly deposits within the zone. At a number of locations it was possible to collect ground water grab samples from the near the water table due to the presence of shallow sandy or gravelly deposits; this indicates unconfined conditions at those locations (e.g. at ENVIRON boring B-2, B-3, CPT-8). At other locations, shallow ground water appeared to be under confined conditions because ground water was not observed during drilling until sandy or gravelly units were encountered up to approximately 20 to 25 feet deep. After these units were penetrated, the ground water level at these locations was observed to rise above the top of the coarse-grained unit.

4.0 CHEMICAL TEST RESULTS

4.0 CHEMICAL TEST RESULTS

The chemical test results for soil and ground water are described in this section. For reference, the laboratory reports by Chromalab and Friedman and Bruya are presented in Appendix B, which also contains a review of quality control samples. Test results are tabulated in accompanying Tables 2 through 4. The chemical test results for soil are described below first, followed by results for ground water.

4.1 Soil

Table 2 presents the results of soil testing from this investigation. Inspection of Table 2 indicates that the main compounds detected were petroleum hydrocarbons. Samples were collected from key areas for petroleum hydrocarbon fingerprinting by Friedman and Bruya, and they coordinated with Chromalab so that samples tested for TEH and TVH would be analyzed using appropriate product standards. Friedman and Bruya identified weathered mineral spirits or stoddard solvent as the main hydrocarbon in subsurface soil beneath the Standard Brands building. For consistency with Enviropro's 1994 investigation report, we refer to the stoddard solvent or mineral spirits at the Site as "thinner." Hydrocarbons in samples from within the Standard Brands building were all identified as containing thinner (borings B-4, B-5, B-6 and B-7). Friedman and Bruya identified other hydrocarbons mixed with the thinner: motor oil in the samples from borings B-4 and B-5, and diesel in the sample from boring B-7. Friedman and Bruya did not identify volatile hydrocarbons as gasoline in any ENVIRON samples, but felt that the volatile hydrocarbons were likely a fraction of the thinner.

A soil sample also was fingerprinted from off-site boring B-11, located on the Del Monte property. The sample from boring B-11 was collected where a visible hydrocarbon sheen was observed in saturated soil near the water table. Friedman and Bruya identified the hydrocarbons in the sample as containing a mixture of thinner and diesel. This identification and its location directly downgradient of the Site, suggests that the hydrocarbons observed at boring B-11 originated from soil beneath the Standard Brands building. Two soil samples collected from on-site boring B-10 contained hydrocarbons identified as motor oil.

Soil test results in Table 2 indicate that BTEX compounds generally are not detected or are present at relatively low concentrations. Benzene and toluene were not detected in soil beneath the Standard Brands store. Ethylbenzene and xylenes are present at relatively low concentrations and appear to be associated with the thinner. Halogenated VOCs were not detected in 19 of the 20 samples tested. Only trichloroethene (TCE) was reported in one sample from boring B-4 at a concentration of 0.015 mg/kg. Based on these results, neither halogenated VOCs nor BTEX compounds appear to be chemicals of concern.

4.2 Ground Water

Ground water grab sample results from this investigation are presented in Table 3 and monitoring well sample test results are presented in Table 4. Inspection of these tables indicates that the main detections of chemicals are in shallow zone ground water (less than approximately 25 to 30 feet) and petroleum hydrocarbons are the main compounds detected. The reported petroleum hydrocarbons are thinner, with some motor oil, diesel and TVH. Halogenated VOCs were generally not detected; they were reported at trace levels in only three samples just above the detection limits.

BTEX compounds are present in site ground water, but at relatively low concentrations. For the purposes of site characterization, the TEH and TVH results in ground water reported by EPA Method 8015 (Modified) can be summed and considered as Total Petroleum Hydrocarbons (TPH, shown on Tables 3 and 4). TPH was reported over 1.0 mg/L in three ground water samples: the ground water grab sample at CPT-8 on Emery Street (TPH of 8.1 mg/L); at monitoring well MW-3 on Emery Street (TPH of 4.6 mg/L and 3.0 mg/L); and in the ground water grab sample from boring B-11 on the Del Monte property (TPH of 10 mg/L). The hydrocarbons in the Emery Street samples were identified as thinner with associated volatile and extractable hydrocarbons. The sample from boring B-11, on the Del Monte property, was fingerprinted as thinner. These hydrocarbon identifications suggest that a TPH plume containing thinner exits the Site at the location of CPT-8 and well MW-3, and appears to extend as far as boring B-11.

Seven ground water grab samples were collected from the deeper zone beneath the Site (greater than approximately 30 feet BGS), and the results are also included in Table 3. The sample intervals were chosen based on inspection of the CPT results at CPT-1 to CPT-6, to target the first sandy unit in the deeper zone at each location. Additionally, at boring B5, located in the center of the soil contamination, a ground water grab sample was collected from the first apparently "clean" sandy unit below the petroleum contamination. The only confirmed detection was that of an unidentified extractable hydrocarbon in the sample from 32 - 37 feet deep at CPT-6 at 0.060 mg/L. These results indicate that deeper ground water quality has not been degraded by site activities.

5.0 DISCUSSION OF CHEMICAL DISTRIBUTIONS

5.0 DISCUSSION OF CHEMICAL DISTRIBUTIONS

The overall distribution of chemicals detected in soil and ground water is described in this section. Most previous testing at the Site was conducted by Enviropro (1994), and their test results are summarized in Table 5 (for soil) and Table 6 (ground water grab samples). Additionally, the chemical distributions in soil and ground water are illustrated in a series of figures, Figures 6 through 11. The chemical distributions are described below.

5.1 Soil

5.1.1 Petroleum Hydrocarbons

The areas containing petroleum hydrocarbons were generally delineated by Enviropro during their 1994 investigation by analyzing for Total Recoverable Petroleum Hydrocarbons (TRPH) using EPA Method 418.1, an inexpensive screening-level test. Once the areas with hydrocarbons were generally delineated, Enviropro used standard gas chromatography methods (EPA Method 8015M) to verify results by analyzing selected samples for individual extractable hydrocarbons and/or TVH. The results of their testing, together the results of the ENVIRON's investigations, delineate the hydrocarbon distributions, as outlined below.

TRPH

The results of Enviropro's TRPH testing are presented in Figure 7. TRPH was reported as elevated in unsaturated soil in two areas: a larger area beneath the Standard Brands store, and a smaller area just east of the store. In the eastern portion of the property, TRPH appears elevated at the anticipated depth of the capillary fringe, 10 to 11 feet, though overlying unsaturated soil does not have higher reported TRPH values (near borings G7, G13 and G14).

When reviewing TRPH results, it is important to consider that it has been shown to have positive biases from certain types of soils. False positive values have been shown to result if soils being tested have a high clay content, are calcareous, or have a high natural organic carbon content (Thomey et al. 1989). As discussed in Section 3, all of these factors are characteristic of soil beneath the Site. Consistent with this, there was typically no field evidence of contamination at the Site where TRPH was reported under approximately 100 mg/kg, but where it was over this value soil was typically noted to be discolored or have an odor. Therefore, we generally consider the TRPH results on Figure 7 which are under 100 mg/kg to be an artifact of the testing methodology, not of petroleum hydrocarbons.

Extractable Hydrocarbons

Figure 8 summarizes the results of testing extractable hydrocarbons during this and Enviropro's investigation. The results verify TRPH testing, and indicate that the main area where soil contains extractable hydrocarbons is beneath the store. As discussed previously, these hydrocarbons are characterized as thinner with some motor oil and diesel. The smaller release just east of the store also corresponds to an area identified by the TRPH tests; the hydrocarbons in this area were characterized as motor oil and diesel.

TVH

Figure 9 summarizes the results of testing for TVH in soil. As shown on the Figure, there are two areas where TVH were detected: in the area of the Standard Brands store, and in the area of the former oil and gas depot. Results indicate that the thinner in soil beneath the Standard Brands store contains a volatile fraction in the area of Enviropro boring G26 and in capillary fringe soils to the north and west of this boring. At the oil and gas depot, TVH was reported at the anticipated depth of the water table, and these may represent a degraded gasoline. No TVH was identified in shallow soil in the vicinity of the oil and gas depot.

As discussed in Section 4.0, Friedman and Bruya did not identify gasoline in any ENVIRON samples, in contrast with Enviropro's report of TPH/G in their borings G9 and G26. ENVIRON collected samples from borings immediately adjacent to where Enviropro reported TPH/G (ENVIRON borings B5 and B7) and the volatile hydrocarbons were identified as a fraction of the thinner. Consistent with this interpretation, BTEX compounds are reported at non-detectable or relatively low concentrations, not at concentrations which would be characteristic of gasoline. Enviropro's reported TPH/G is reported here as "volatile hydrocarbons."

Vertical Extent

The depth of petroleum hydrocarbons in soil is illustrated on the geologic cross section on Figure 6. The cross section on Figure 6 transects the main area containing TPH beneath the Standard Brands building (cross section location is shown on Figure 3). The TPH concentrations shown are summed from individual results by EPA Method 8015 (modified) or 418.1. The TPH concentrations shown are presented in the tables with soil chemical test results. As shown on Figure 6, TPH concentrations in soil are highest above and near the water table, and generally attenuate to relatively low concentrations below approximately 20 feet BGS. At boring B-5, TPH was evident from field evidence and analytical result near the base of the shallow zone.

5.1.2 Halogenated VOCs

As summarized in Tables 2 and 5, numerous unsaturated soil samples were tested for halogenated VOCs during this and previous investigations. Of the 55 samples tested, 49 had no detectable halogenated VOCs (other than the common lab contaminant, methylene chloride) and the remaining samples had detections of two compounds at trace levels. Trichloroethylene (TCE) was reported at a maximum concentration of 0.079 mg/kg and trans-1,2-dichloroethene (trans-1,2-DCE) was reported at a maximum concentration of 0.071 mg/kg. No other halogenated VOCs were reported in soil at the Standard Brands site, and they do not appear to be chemicals of concern in Site soils.

Methylene chloride was reported by Enviropro in soil beneath the store building in their borings G5 and G9, but we believe these to be false positive results. At adjacent ENVIRON borings B-4 and B-5, samples collected across the same depth ranges as Enviropro's samples had no detectable methylene chloride. Methylene chloride is a common lab contaminant, and is frequently reported due to its presence and use in the laboratory. Elevated false positive concentrations (in the mg/kg range) may be reported if the samples require dilution prior to analysis due to the presence of other compounds. The soil in these borings contains thinner and diesel, which could trigger dilution in the laboratory. Based on these considerations, we consider Enviropro's reported methylene chloride results to be false positives and have footnoted the results in Table 5 accordingly.

5.2 Shallow Ground Water

Testing of shallow ground water beneath the Site has identified petroleum hydrocarbons and low levels of halogenated VOCs which appear to originate from the Site.

5.2.1 Petroleum Hydrocarbons

Inspection of Tables 3, 4 and 6 reveals that BTEX compounds are present at relatively low concentrations in ground water. Therefore, the petroleum hydrocarbons can be considered as TPH by summing the concentrations of petroleum hydrocarbons detected by EPA Method 8015 (Modified). The summed TPH concentrations are shown in the tables presenting ground water results. An isoconcentration map of TPH in shallow ground water is presented on Figure 10. The isoconcentration map depicts a TPH plume originating in the area of the Standard Brands Paint store, from the area where the soil has been affected by thinner, diesel and motor oil. The highest concentrations are immediately beneath the building. The schematic geologic cross section on Figure 6 illustrates the TPH concentrations in ground water in blue, and shows the depth of TPH in ground water beneath the building. At borings B-4 and B-5, the highest concentrations are 20-25 feet BGS. However, further west along Emery Street, TPH is mainly shallower, less that 15-20 feet BGS.

Ground water testing near Oliver Tire's former oil and gas depot indicates that there is only minor impact to ground water quality in this area. As shown in Figure 10, TPH in samples from Enviropro borings G16 and G17 are slightly elevated in comparison to samples from surrounding upgradient and cross-gradient borings. However, only trace levels of ethylbenzene and xylenes were reported in well MW1, constructed immediately downgradient of this area.

5.2.2 Halogenated VOCs

The distribution of halogenated VOCs in shallow ground water is summarized on Figure 11. The distribution of these compounds generally coincides with the TPH plume, but the halogenated VOCs concentrations are substantially lower than the TPH concentrations and they appear to be present over a smaller area. An isoconcentration contour of 10 micrograms per liter (µg/L) of total halogenated VOCs is presented on Figure 11. The compounds present are TCE with lower concentrations of 1,2-dichloroethene (both cis- and trans- isomers), 1,1-dichloroethene, and vinyl chloride.

As shown on Figure 11, Enviropro reported methylene chloride in ground water grab samples from borings G5 (1,000 µg/L) and G9 (2,400 µg/L) beneath the Standard Brands store. Methylene chloride was reported at several other locations by Enviropro, but at lower concentrations. ENVIRON's analytical results suggest that these are false positive results, as no methylene chloride was identified in ENVIRON's ground water samples from across the Site. This interpretation is supported by the coincidence that the ground water samples with the highest reported methylene chloride concentrations are from the same borings (G5 and G9) as the soil samples with false positives of methylene chloride. The factors discussed earlier which indicate that methylene chloride results in soil are false positives apply equally to ground water: it is a common laboratory contaminant and laboratory dilutions can result in apparently high reported concentrations. Because of these considerations, the methylene chloride results for ground water are footnoted as being suspected false positive results on Figure 11 and in Table 6.

5.3 Deeper Zone Ground Water

Seven ground water grab samples were collected from the deeper zone beneath the Site, and the results are summarized on Figure 12. The test results on Figure 12 indicate that deeper ground water quality is essentially unaffected by the Site. The schematic geologic cross section on Figure 6 presents the TPH results for deeper ground water in context of the ground water zones. The shallow and deeper ground water zones, which were defined based on site stratigraphy, appear to be supported by the TPH (and other chemical) distributions. Chemicals appear to be restricted to the shallow zone, and are essentially absent from the deeper zone.

6.0 SUMMARY

6.0 SUMMARY

This section summarizes ENVIRON's findings with respect to Site hydrogeology and chemicals in soils and ground water.

Hydrogeology

- Two hydrostratigraphic zones were identified beneath the Site: a shallow zone which extends to approximately 25 to 30 feet BGS, and a deeper zone which is deeper than approximately 30 to 35 feet BGS. The two zones are separated beneath the Site by a clay aquitard.
- Ground water was approximately 7 to 11 feet deep during this investigation. Ground water flow at the site is to the west, and flow appears to be channelized in discontinuous and relatively thin silty and clayey sand and gravel deposits.

Chemicals in Soil

Analytical testing of soils at the Site principally detected petroleum hydrocarbons. Halogenated VOCs are not present at concentrations of concern (no concentrations exceed 0.150 mg/kg total VOCs.) Petroleum hydrocarbons at the Site occur in three areas, as described below.

- Beneath the Standard Brands building, where maximum reported concentrations are 7,600 mg/kg TRPH, 7,300 mg/kg TEH hydrocarbons, and 1,600 mg/kg TVH. These petroleum hydrocarbons extend to 20 to 25 feet BGS, which is below the current water table.
- East of the Standard Brands building, maximum reported concentrations are TRPH of 10,000 mg/kg and TEH of 2,400 mg/kg. No TVH was detected.
- Near the oil and gas depot, 154 mg/kg of TVH was reported in soil at the capillary fringe immediately downgradient, suggesting a small TVH release may have occurred in this area. A magnetic anomaly observed at the oil and gas depot suggests that a UST associated with the oil and gas depot may still be present, though this has not been verified.

Soils were tested for PCBs where Enviropro reported "heavy oils"; none were detected.

Chemicals in Ground Water

Analytical testing of ground water at the Site indicates that petroleum hydrocarbons in soil have degraded shallow ground water quality on-site and in a limited area off-site. The areas of degradation are as follows:

- In the area of the Standard Brands building, shallow zone ground water was reported by Enviropro to contain petroleum hydrocarbons as high as 22,520 mg/L (boring G9). This plume appears to originate beneath the Standard Brands store from the same area where thinner is reported in soil. The thinner plume appears to exit the Site at well MW-3 and appears to continue as far west as boring B-11.

- Petroleum hydrocarbon concentrations reported in ground water at the former oil and gas depot are relatively low, suggesting minimal impact to water quality from this former facility.

Halogenated VOCs are reported in ground water in a limited area, approximately coincident with the petroleum hydrocarbon plume but much smaller in areal extent. Maximum halogenated VOCs detected were 140 µg/L (total). Water quality in the deeper ground water zone appears to be unaffected by activities at the Site.

Methylene Chloride

The presence of methylene chloride in soil and ground water, reported during previous investigations, appears unlikely and is likely an artifact of laboratory contamination.

Necessity for Remediation

Chemical concentrations in soil and ground water at the Site appear sufficiently elevated that remediation will be required by local oversight agencies. The detected concentrations of petroleum hydrocarbons in soil beneath the Site are higher than those allowed to remain in place at neighboring sites. Additionally, soil remediation appears necessary in anticipation of site redevelopment, which will involve subsurface excavation and construction. A remediation plan will be developed to address soil and ground water contamination at the Site.

7.0 REFERENCES

7.0 REFERENCES

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TABLE 1 — GROUND WATER ELEVATIONS

Remedial Investigation

Standard Brands, Emeryville, California

Well	Surveying Information Northing (1)	Easting (1)	Ground Elevation (2)	Top of Casing Elevation	June 15, 1995 Ground Water Elevation	June 27, 1995 Ground Water Elevation
STANDARD BRANDS						
MW1	6017.36	4697.85	41.28	40.84	33.80	33.80
MW2	5833.13	4733.91	42.85	42.38	32.77	32.81
MW3	5847.90	4491.67	39.21	38.70	30.03	30.25
MW4	5811.29	4306.47	36.03	35.59	27.28	27.76
MW5	5771.91	4149.27	33.44	32.90	25.55	25.99
EMERYVILLE FIRE DEPARTMENT						
FDMW-1	5715 (3)	4713 (3)	43 (3)	42.5 (3)	N/A	33
PEPSICO (Provided by Weiss Associates)						
MW-1	N/A	N/A	N/A	38.74	N/A	31.05 (4)
MW-2	N/A	N/A	N/A	38.87	N/A	31.53
MW-3	N/A	N/A	N/A	40.79	N/A	30.36
MW-4	N/A	N/A	N/A	40.15	N/A	32.25
MW-5	N/A	N/A	N/A	36.49	N/A	27.50
MW-6	N/A	N/A	N/A	35.53	N/A	25.51
MW-7	N/A	N/A	N/A	37.53	N/A	29.63
MW-8	N/A	N/A	N/A	33.11	N/A	23.47
MW-9	N/A	N/A	N/A	36.06	N/A	27.75
MW-10	N/A	N/A	N/A	35.03	N/A	25.44
MW-11	N/A	N/A	N/A	32.74	N/A	23.88
MW-12	N/A	N/A	N/A	36.18	N/A	26.62
MW-13	N/A	N/A	N/A	34.65	N/A	25.66
MW-14	N/A	N/A	N/A	N/A	N/A	N/A

6/27.95
DTW

7.04
9.57
8.45
7.83

All measurements are in feet.

(1) Northing and Easting are based on Kaiser Emeryville grid plan.

(2) Elevations are feet above mean sea level, using the Emeryville Old City Hall benchmark as a datum.

(3) Survey data for FDMW-1 is approximate, based on tape measurements and calculations using digitized basemap.

(4) Apparently anomalous result

TABLE 2 — CHEMICAL TEST RESULTS FOR SOIL SAMPLES

Remedial Investigation

Standard Brands, Emeryville, California

	Boring:	B-1	B-2	B-3	B-4	B-4	B-4	B-4	B-5	B-5
	Depth Interval:	10.5-11 ft	6.0-6.5 ft	6.0-6.5 ft	8.0-8.5 ft	8.5-9.0 ft	9.5-10.0 ft	15.0-15.5 ft	5.5-6.0 ft	18.5-19.0 ft
	Date Collected:	5/16/95	5/17/95	5/17/95	5/15/95	5/15/95	5/15/95	5/15/95	5/15/95	5/15/95
TOTAL EXTRACTABLE HYDROCARBONS (TEH)										
Kerosene	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 20	< 5.0
Diesel	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 20	< 5.0
Motor Oil	mg/kg	< 10	< 10	< 10	< 10	< 10	**17**	< 10	< 200	< 50
Stoddard Solvent or Mineral Spirits (Thinner)	mg/kg	ND	ND	ND	ND	ND	**1.3**	**18**	**300**	**120**
Unidentified	mg/kg	ND	ND	ND	ND	ND	ND	ND	ND	ND
TOTAL VOLATILE HYDROCARBONS (TVH)										
Volatile Hydrocarbons TPH as gas	mg/kg	< 1.0	< 1.0	< 1.0 (1)	< 1.0	< 1.0	< 1.0	< 20	< 500	< 20
Benzene	mg/kg	< 0.005	< 0.005	< 0.005 (1)	< 0.005	< 0.005	< 0.005	< 0.1	< 2.5	< 0.1
Toluene	mg/kg	< 0.005	< 0.005	< 0.005 (1)	< 0.005	< 0.005	< 0.005	< 0.1	< 2.5	< 0.1
Ethyl Benzene	mg/kg	< 0.005	< 0.005	< 0.005 (1)	< 0.005	< 0.005	< 0.005	**0.2**	< 2.5	< 0.1
Total Xylenes	mg/kg	< 0.005	< 0.005	< 0.005 (1)	< 0.005	< 0.005	**0.0095**	**1.0**	**5.0**	**0.070**
TPH (TEH + TVH)	mg/kg	ND	ND	ND	ND	ND	18	19	300	120
HALOGENATED VOCs										
Trichloroethene	mg/kg	< 0.005	< 0.005	< 0.005	< 0.005	**0.015**	< 0.005	< 0.005	< 0.005	< 0.005
No other halogenated VOCs were detected.										

"< xx" indicates analyte was not detected above a reporting limit of xx.

"mg/kg" indicates milligrams per kilogram

"--" indicates not tested for this analyte.

"ND" indicates not detected.

"yes" indicates compounds identified by Friedman and Bruya but not quantified.

(1) Results are qualified because tests were run one day past hold time

(2) Friedman and Bruya identified these hydrocarbons as motor oil or weathered Bunker C oil.

TABLE 2 — CHEMICAL TEST RESULTS FOR SOIL SAMPLES

Remedial Investigation

Standard Brands, Emeryville, California

	Boring:		B-5	B-5	B-6	B-6	B-6	B-6	B-7	B-8
	Depth Interval:		24.5-25.0 ft	32.5-33.0 ft	6.0-6.5 ft	9.5-10.0 ft	13.5-14.0 ft	20.5-21.0 ft	9.0-9.5 ft	9.0-9.5 ft
	Date Collected:		5/15/95	5/15/95	5/15/95	5/15/95	5/15/95	5/15/95	5/15/95	5/15/95
TOTAL EXTRACTABLE HYDROCARBONS (TEH)									
Kerosene	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 50	< 1.0
Diesel	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	**520**	< 1.0
Motor Oil	mg/kg	< 10	< 10	< 10	< 10	< 10	< 10	< 500	< 10
Stoddard Solvent or Mineral Spirits (Thinner)	mg/kg	**8.3**	ND	**34**	**17**	**27**	ND	**680**	ND
Unidentified	mg/kg	ND	ND	ND	ND	ND	ND	ND	ND
TOTAL VOLATILE HYDROCARBONS (TVH)									
Volatile Hydrocarbons	mg/kg	< 20	< 1.0	< 100	< 4.0	< 200	< 1.0	< 1,000	< 1.0
Benzene	mg/kg	< 0.1	< 0.005	< 0.5	<0.020	< 1.0	< 0.005	< 5.0	< 0.005
Toluene	mg/kg	< 0.1	< 0.005	< 0.5	<0.020	< 1.0	< 0.005	< 5.0	< 0.005
Ethyl Benzene	mg/kg	< 0.1	< 0.005	< 0.5	<0.020	< 1.0	< 0.005	**5.4**	< 0.005
Total Xylenes	mg/kg	**0.14**	< 0.005	**1.2**	**0.081**	**2.1**	< 0.005	**35**	< 0.005
TPH (TEH + TVH)	mg/kg	8	ND	35	17	29	ND	1240	ND
HALOGENATED VOCs									
Trichloroethene	mg/kg	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
No other halogenated VOCs were detected.									

"< xx" indicates analyte was not detected above a reporting limit of xx.

"mg/kg" indicates milligrams per kilogram.

"--" indicates not tested for this analyte.

"ND" indicates not detected.

"yes" indicates compounds identified by Friedman and Bruya but not quantified.

(1) Results are qualified because tests were run one day past hold time.

(2) Friedman and Bruya identified these hydrocarbons as motor oil or weathered Bunker C oil.

TABLE 2 — CHEMICAL TEST RESULTS FOR SOIL SAMPLES

Remedial Investigation

Standard Brands, Emeryville, California

Boring:		B-8	B-9	B-9	B-10	B-10	B-10	B-11	B-11
Depth Interval:		18.0-18.5 ft	9.5-10.0 ft	18.0-18.5 ft	2.6-3.0 ft	11.0-11.5 ft	11.5-12.0 ft	4.5-5.0 ft	10.5-11.0 ft
Date Collected:		5/16/95	5/15/95	5/15/95	5/16/95	5/16/95	5/16/95	5/17/95	5/18/95
TOTAL EXTRACTABLE HYDROCARBONS (TEH)									
Kerosene	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0	--	--	< 1.0	--
Diesel	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0	--	--	< 1.0	yes
Motor Oil	mg/kg	< 10	< 10	< 10	**180 (2)**	**yes**	**yes**	< 10	--
Stoddard Solvent or Mineral Spirits (Thinner)	mg/kg	ND	ND	ND	ND	--	--	ND	yes
Unidentified	mg/kg	ND	ND	ND	**2.9**	--	--	ND	--
TOTAL VOLATILE HYDROCARBONS (TVH)									
Volatile Hydrocarbons	mg/kg	< 1.0	< 1.0	< 1.0	--	--	--	< 1.0 (1)	--
Benzene	mg/kg	< 0.005	< 0.005	< 0.005	--	--	--	< 0.005 (1)	--
Toluene	mg/kg	< 0.005	< 0.005	< 0.005	--	--	--	< 0.005 (1)	--
Ethyl Benzene	mg/kg	< 0.005	< 0.005	< 0.005	--	--	--	< 0.005 (1)	--
Total Xylenes	mg/kg	< 0.005	< 0.005	< 0.005	--	--	--	< 0.005 (1)	--
TPH (TEH + TVH)	mg/kg	ND	ND	ND	183	yes	yes	ND	yes
HALOGENATED VOCs									
Trichloroethene	mg/kg	< 0.005	< 0.005	< 0.005	--	--	--	< 0.005	--
No other halogenated VOCs were detected.									

"< xx" indicates analyte was not detected above a reporting limit of xx.

"mg/kg" indicates milligrams per kilogram.

"--" indicates not tested for this analyte

"ND" indicates not detected.

"yes" indicates compounds identified by Friedman and Bruya but not quantified

(1) Results are qualified because tests were run one day past hold time.

(2) Friedman and Bruya identified these hydrocarbons as motor oil or weathered Bunker C oil.

TABLE 3 — CHEMICAL TEST RESULTS FOR GROUND WATER GRAB SAMPLES

Remedial Investigation

Standard Brands, Emeryville, California

Boring:		B-1	B-2	B-3	B-5	B-8	B-9	B-11	B-11D	CPT-1	CPT-2
Depth Interval:		5-15 ft	3-13 ft	1-16 ft	29-33 ft	21-31 ft	21-31 ft	3-13 ft	3-13 ft	30-35 ft	31-36 ft
Date Collected:		5/16/95	5/17/95	5/17/95	5/15/95	5/16/95	5/15/95	5/17/95	5/17/95	5/17/95	5/17/95
TOTAL EXTRACTABLE HYDROCARBONS (TEH)											
Kerosene	mg/L	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 1.0	--	< 0.05	< 0.05
Diesel	mg/L	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 1.0	--	< 0.05	< 0.05
Motor Oil	mg/L	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 10	--	< 0.5	< 0.5
Stoddard Solvent or Mineral Spirits (Thinner)	mg/L	ND	ND	ND	ND	ND	ND	**10**	--	ND	ND
Unidentified	mg/L	ND	ND	ND	ND	ND	ND	ND	--	ND	ND
TOTAL VOLATILE HYDROCARBONS (TVH)											
Volatile Hydrocarbons	mg/L	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzene	µg/L	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Toluene	µg/L	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Ethyl Benzene	µg/L	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.0	< 2.0	< 0.5	< 0.5
Total Xylenes	µg/L	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 15	< 15	< 0.5	< 0.5
TPH (TEH + TVH)	mg/L	ND	ND	ND	ND	ND	ND	10	ND	ND	ND
HALOGENATED VOCs											
Cis-1,2-Dichloroethene	µg/L	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Trichloroethene	µg/L	**0.9**	< 0.5	< 0.5	< 0.5	**0.9**	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
No other halogenated VOCs were detected.											

"< xx" indicates analyte was not detected above a reporting limit of xx.

"mg/L" indicates milligrams per liter.

"µg/L" indicates micrograms per liter

"--" indicates not tested for this analyte.

"ND" indicates not detected

TABLE 3 — CHEMICAL TEST RESULTS
FOR GROUND WATER GRAB SAMPLES
Remedial Investigation
Standard Brands, Emeryville, California

Boring:		CPT-3	CPT-3D	CPT-4	CPT-4	CPT-4R	CPT-5	CPT-5	CPT-6	CPT-6
Depth Interval:		31-36 ft	31-36 ft	30-35 ft	46.5-51.5 ft	46.5-49.5 ft	23-28 ft	35-40 ft	15.5-17.5 ft	18-23 ft
Date Collected:		5/17/95	5/17/95	5/16/95	5/17/95	6/9/95	5/16/95	5/16/95	5/16/95	5/16/95
TOTAL EXTRACTABLE HYDROCARBONS (TEH)										
Kerosene	mg/L	< 0.05	< 0.05	--	< 0.05	--	< 0.05	< 0.05	< 0.05	< 0.05
Diesel	mg/L	< 0.05	< 0.05	--	< 0.05	--	< 0.05	< 0.05	< 0.05	< 0.05
Motor Oil	mg/L	< 0.5	< 0.5	--	< 0.5	--	< 0.5	< 0.5	< 0.5	< 0.5
Stoddard Solvent or Mineral Spirits (Thinner)	mg/L	ND	ND	--	ND	--	ND	ND	ND	ND
Unidentified	mg/L	ND	ND	--	ND	--	ND	ND	ND	ND
TOTAL VOLATILE HYDROCARBONS (TVH)										
Volatile Hydrocarbons	mg/L	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzene	µg/L	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Toluene	µg/L	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Ethyl Benzene	µg/L	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Total Xylenes	µg/L	< 0.5	< 0.5	< 0.5	**4.7**	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
TPH (TEH + TVH)	mg/L	ND	ND	ND	0.0047	ND	ND	ND	ND	ND
HALOGENATED VOCs										
Cis-1,2-Dichloroethene	µg/L	< 0.5	< 0.5	< 0.5	< 0.5	--	**1.6**	< 0.5	< 0.5	< 0.5
Trichloroethene	µg/L	< 0.5	< 0.5	< 0.5	< 0.5	--	< 0.5	< 0.5	< 0.5	< 0.5
No other halogenated VOCs were detected.										

"< xx" indicates analyte was not detected above a reporting limit of xx.
"mg/L" indicates milligrams per liter.
"µg/L" indicates micrograms per liter.
"--" indicates not tested for this analyte
"ND" indicates not detected

TABLE 3 — CHEMICAL TEST RESULTS FOR GROUND WATER GRAB SAMPLES

Remedial Investigation

Standard Brands, Emeryville, California

Boring:		CPT-6	CPT-8	SB051695TB	SB051795TB	SB051895TB	SB060995TB
Depth Interval:		32-37 ft	8-13 ft	Trip Blank	Trip Blank	Trip Blank	Trip Blank
Date Collected:		5/16/95	5/18/95	5/16/95	5/17/95	5/18/95	6/9/95
TOTAL EXTRACTABLE HYDROCARBONS (TEH)							
Kerosene	mg/L	< 0.05	< 0.05	--	--	--	--
Diesel	mg/L	< 0.05	< 0.05	--	--	--	--
Motor Oil	mg/L	< 0.5	< 0.5	--	--	--	--
Stoddard Solvent or Mineral Spirits (Thinner)	mg/L	ND	**2.5**	--	--	--	--
Unidentified	mg/L	**0.06**	**1.4**	--	--	--	--
TOTAL VOLATILE HYDROCARBONS (TVH)							
Volatile Hydrocarbons	mg/L	< 0.05	**4.2**	< 0.05	< 0.05	< 0.05	< 0.05
Benzene	µg/L	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Toluene	µg/L	< 0.5	**1.1**	< 0.5	< 0.5	< 0.5	< 0.5
Ethyl Benzene	µg/L	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Total Xylenes	µg/L	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
TPH (TEH + TVH)	mg/L	0.06	8.1				
HALOGENATED VOCs							
Cis-1,2-Dichloroethene	µg/L	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	--
Trichloroethene	µg/L	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	--
No other halogenated VOCs were detected.							

"< xx" indicates analyte was not detected above a reporting limit of xx

"mg/L" indicates milligrams per liter.

"µg/L" indicates micrograms per liter.

"--" indicates not tested for this analyte.

"ND" indicates not detected.

TABLE 4 — CHEMICAL TEST RESULTS FOR WATER SAMPLES FROM MONITORING WELLS

Remedial Investigation

Standard Brands, Emeryville, California

Monitoring Well:		MW1	MW2	MW3	MW3 (Dup)	MW4	MW5	MWTB 061595
Screen Interval:		7-17 ft	5-15 ft	5-15 ft	5-15 ft	5-15 ft	5-15 ft	Trip Blank
Date Collected:		6/15/95	6/15/95	6/15/95	6/15/95	6/15/95	6/15/95	6/15/95
TOTAL EXTRACTABLE HYDROCARBONS (TEH)								
Kerosene	mg/L	< 0.05	< 0.05	< 0.1	< 0.1	< 0.05	< 0.05	--
Diesel	mg/L	< 0.05	< 0.05	**0.8**	**0.44**	< 0.05	< 0.05	--
Motor Oil	mg/L	< 0.5	< 0.5	< 1.0	< 1.0	< 0.5	< 0.5	--
Stoddard Solvent or Mineral Spirits (Thinner)	mg/L	ND	ND	**3.8**	**2.57**	ND	ND	--
TOTAL VOLATILE HYDROCARBONS (TVH)								
Volatile Hydrocarbons	mg/L	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzene	µg/L	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Toluene	µg/L	< 0.5	< 0.5	< 0.5	**1.7**	< 0.5	< 0.5	< 0.5
Ethyl Benzene	µg/L	**5.1**	< 0.5	**0.8**	**1.2**	< 0.5	< 0.5	< 0.5
Total Xylenes	µg/L	**22**	< 0.5	**3.8**	**6.4**	< 0.5	< 0.5	< 0.5
TPH (TEH + TVH)	mg/L	0.027	ND	4.6	3.0	ND	ND	
HALOGENATED VOCs								
Trans-1,2-Dichloroethene	µg/L	< 0.5	< 0.5	**0.9**	**0.7**	< 0.5	< 0.5	< 0.5
Cis-1,2-Dichloroethene	µg/L	< 0.5	< 0.5	**1.9**	**1.3**	< 0.5	< 0.5	< 0.5
Trichloroethene	µg/L	< 0.5	< 0.5	**1.7**	**0.9**	< 0.5	< 0.5	< 0.5
No other halogenated VOCs were detected.								

"< xx" indicates analyte was not detected at reporting limit of xx.

"mg/L" indicates milligrams per liter."

"µg/L" indicates micrograms per liter."

"--" indicates not tested

"ND" indicates not detected.

TABLE 5 — CHEMICAL TEST RESULTS FOR ENVIROPRO'S SOIL SAMPLES

Remedial Investigation

Standard Brands, Emeryville, California

Boring:		G1	G2	G2	G3	G3	G4	G4	G4	G5	G5	G5	G5	G5
Top of Depth Interval:		13 ft	5 ft	11.5 ft	3 ft	11 ft	3 ft	8 ft	11 ft	2 ft	7 ft	12 ft	15 ft	18 ft
Date Collected:		6/15/94	6/13/94	6/13/94	6/13/94	6/13/94	6/13/94	6/13/94	6/13/94	6/15/94	6/15/94	6/15/94	6/15/94	6/15/94
TOTAL RECOVERABLE PETROLEUM HYDROCARBONS (TRPH)	mg/kg	**12**	--	--	**78**	**28**	--	--	--	**130**	**14**	**180**	**2000**	**14**
EXTRACTABLE HYDROCARBONS														
Diesel	mg/kg	--	--	< 10	--	--	--	--	--	--	--	< 10	--	--
Oil (1)	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--
Paint Thinner Range Organics	mg/kg	--	--	--	--	--	--	--	--	**610 (3)**	< 10	**55**	**55**	< 10
TOTAL VOLATILE HYDROCARBONS (TVH)														
Volatile Hydrocarbons (2)	mg/kg	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	--	--	**160**	--	**55**
Benzene	mg/kg	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	--	--	< 0.05	--	< 0.05
Toluene	mg/kg	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	--	--	< 0.05	--	< 0.05
Ethyl Benzene	mg/kg	< 0.005	< 0.005	< 0.005	< 0.005	**0.015**	< 0.005	< 0.005	< 0.005	--	--	< 0.05	--	< 0.05
Total Xylenes	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	**0.07**	< 0.01	< 0.01	< 0.01	--	--	< 0.1	--	< 0.1
TPH (greater of TRPH or [TEH+TVH])	mg/kg	12	0	0	78	28	0	0	0	610	14	215	2000	55
HALOGENATED VOCs														
Methylene Chloride	mg/kg	< 0.05	< 0.05	--	< 0.05	--	< 0.05	< 0.05	< 0.05	--	--	**3.9 (4)**	--	**2.2 (4)**
Trans-1,2-Dichloroethene	mg/kg	< 0.005	< 0.005	--	< 0.005	--	< 0.005	< 0.005	< 0.005	--	--	< 0.1	--	< 0.1
Trichloroethene	mg/kg	< 0.005	< 0.005	--	< 0.005	--	< 0.005	< 0.005	< 0.005	--	--	< 0.1	--	< 0.1
No other halogenated VOCs were detected.														

"< xx" indicates analyte was not detected above a reporting limit of xx.

"mg/kg" indicates milligrams per kilogram.

"--" indicates not tested for this analyte.

TABLE 5 — CHEMICAL TEST RESULTS FOR ENVIROPRO'S SOIL SAMPLES

Remedial Investigation

Standard Brands, Emeryville, California

Boring:		G6	G6	G6	G7	G7	G8	G8	G8	G9	G9	G9	G9	G9	G10
Top of Depth Interval:		3 ft	8 ft	11 ft	4 ft	11 ft	3 ft	7 ft	10.5 ft	3 ft	8 ft	11 ft	15 ft	19 ft	3 ft
Date Collected:		6/13/94	6/13/94	6/13/94	6/13/94	6/13/94	6/13/94	6/13/94	6/13/94	6/15/94	6/15/94	6/15/94	6/15/94	6/15/94	6/15/94
TOTAL RECOVERABLE PETROLEUM HYDROCARBONS (TRPH)	mg/kg	--	--	--	**18**	**170**	**5800**	**1900**	**10000**	**84**	**290**	**4000**	**1000**	**280**	**12**
EXTRACTABLE HYDROCARBONS															
Diesel	mg/kg	--	--	--	--	--	**1400 (5)**	--	< 100	--	--	< 10	--	--	--
Oil (1)	mg/kg	--	--	--	--	--	--	--	**2400**	--	--	--	--	--	--
Paint Thinner Range Organics	mg/kg	--	--	--	--	--	--	--	< 100	< 10	**65**	**180 (6)**	**50 (6)**	**45**	--
TOTAL VOLATILE HYDROCARBONS (TVH)															
Volatile Hydrocarbons (2)	mg/kg	< 1	< 1	< 1	--	--	< 1	--	< 1	--	--	**150**	--	--	--
Benzene	mg/kg	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	--	< 0.005	--	--	--	--	--	--
Toluene	mg/kg	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	--	< 0.005	--	--	--	--	--	--
Ethyl Benzene	mg/kg	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	--	< 0.005	--	--	--	--	--	--
Total Xylenes	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	--	< 0.01	--	--	--	--	--	--
TPH (greater of TRPH or [TEH+TVH])	mg/kg	0	0	0	18	170	5800	1900	10000	84	290	4000	1000	280	12
HALOGENATED VOCs															
Methylene Chloride	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	--	< 0.05	--	--	**3.4 (4)**	**3.3 (4)**	**5.3 (4)**	--
Trans-1,2-Dichloroethene	mg/kg	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	**0.005**	--	**0.071**	--	--	< 0.1	< 0.1	< 0.1	--
Trichloroethene	mg/kg	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	**0.026**	--	**0.079**	--	--	< 0.1	< 0.1	< 0.1	--
No other halogenated VOCs were detected.															

"< xx" indicates analyte was not detected above a reporting limit of xx.

"mg/kg" indicates milligrams per kilogram.

"--" indicates not tested for this analyte

TABLE 5 — CHEMICAL TEST RESULTS
FOR ENVIROPRO'S SOIL SAMPLES
Remedial Investigation

Standard Brands, Emeryville, California

Boring:		G10	G10	G10	G10	G11	G11	G11	G11	G12	G12	G12	G13	G13
Top of Depth Interval:		7 ft	11 ft	15 ft	19 ft	3 ft	7 ft	12 ft	15 ft	3 ft	7 ft	11 ft	3 ft	7 ft
Date Collected:		6/15/94	6/15/94	6/15/94	6/15/94	6/15/94	6/15/94	6/15/94	6/15/94	6/13/94	6/13/94	6/13/94	6/13/94	6/13/94
TOTAL RECOVERABLE PETROLEUM HYDROCARBONS (TRPH)	mg/kg	**20**	**16**	**38**	**16**	**10**	**10**	**8**	**32**	**3500**	**260**	**2800**	**16**	**58**
EXTRACTABLE HYDROCARBONS														
Diesel	mg/kg	--	--	--	--	--	--	--	--	**40 (5)**	**70 (5)**	< 10	--	< 10
Oil (1)	mg/kg	--	--	--	--	--	--	--	--	--	--	**370**	--	--
Paint Thinner Range Organics	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--
TOTAL VOLATILE HYDROCARBONS (TVH)														
Volatile Hydrocarbons (2)	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzene	mg/kg	--	--	--	--	--	--	--	--	--	< 0.005	--	--	--
Toluene	mg/kg	--	--	--	--	--	--	--	--	--	< 0.005	--	--	--
Ethyl Benzene	mg/kg	--	--	--	--	--	--	--	--	--	< 0.005	--	--	--
Total Xylenes	mg/kg	--	--	--	--	--	--	--	--	--	< 0.01	--	--	--
TPH (greater of TRPH or |TEH+TVH|)	mg/kg	20	16	38	16	10	10	8	32	3500	260	2800	16	58
HALOGENATED VOCs														
Methylene Chloride	mg/kg	< 0.05	--	--	--	--	--	--	--	< 0.05	< 0.05	< 0.05	--	< 0.05
Trans-1,2-Dichloroethene	mg/kg	< 0.005	--	--	--	--	--	--	--	< 0.005	**0.006**	< 0.005	--	< 0.005
Trichloroethene	mg/kg	< 0.005	--	--	--	--	--	--	--	< 0.005	**0.079**	**0.006**	--	< 0.005
No other halogenated VOCs were detected.														

"< xx" indicates analyte was not detected above a reporting limit of xx.

"mg/kg" indicates milligrams per kilogram.

"--" indicates not tested for this analyte.

TABLE 5 — CHEMICAL TEST RESULTS
FOR ENVIROPRO'S SOIL SAMPLES

Remedial Investigation

Standard Brands, Emeryville, California

Boring:		G13	G14	G14	G14	G15	G15	G16	G16	G16	G17	G17	G17	G18
Top of Depth Interval:		11 ft	3 ft	7 ft	10 ft	3 ft	11 ft	3 ft	7 ft	11 ft	5 ft	9 ft	11 ft	7 ft
Date Collected:		6/13/94	6/14/94	6/14/94	6/14/94	6/14/94	6/14/94	6/14/94	6/14/94	6/14/94	6/14/94	6/14/94	6/14/94	6/14/94
TOTAL RECOVERABLE PETROLEUM HYDROCARBONS (TRPH)	mg/kg	**180**	**30**	**28**	**420**	--	--	--	--	**30**	--	--	**24**	--
EXTRACTABLE HYDROCARBONS														
Diesel	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--
Oil (1)	mg/kg	< 10	--	--	--	--	--	--	--	--	--	--	< 10	--
Paint Thinner Range Organics	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--
TOTAL VOLATILE HYDROCARBONS (TVH)														
Volatile Hydrocarbons (2)	mg/kg	--	--	--	< 1	< 1	< 1	< 1	< 1	**150**	< 1	**1.8**	**1.7**	< 1
Benzene	mg/kg	--	--	--	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	**0.12**	< 0.005	< 0.005	< 0.005	< 0.005
Toluene	mg/kg	--	--	--	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	**0.59**	< 0.005	< 0.005	**0.005**	< 0.005
Ethyl Benzene	mg/kg	--	--	--	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	**0.78**	< 0.005	< 0.005	**0.007**	< 0.005
Total Xylenes	mg/kg	--	--	--	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	**3.0**	< 0.01	< 0.01	**0.013**	< 0.01
TPH (greater of TRPH or [TEH+TVH])	mg/kg	180	30	28	420	0	0	0	0	154	0	1.8	24	0
HALOGENATED VOCs														
Methylene Chloride	mg/kg	--	--	--	--	< 0.05	< 0.05	--	--	--	--	--	--	--
Trans-1,2-Dichloroethene	mg/kg	--	--	--	--	< 0.005	< 0.005	--	--	--	--	--	--	--
Trichloroethene	mg/kg	--	--	--	--	< 0.005	< 0.005	--	--	--	--	--	--	--
No other halogenated VOCs were detected.														

"< xx" indicates analyte was not detected above a reporting limit of xx.
"mg/kg" indicates milligrams per kilogram.
"--" indicates not tested for this analyte.

TABLE 5 — CHEMICAL TEST RESULTS
FOR ENVIROPRO'S SOIL SAMPLES
Remedial Investigation
Standard Brands, Emeryville, California

Boring:		G19	G21	G21	G21	G21	G21	G22	G22	G22	G22	G23	G23	G23
Top of Depth Interval:		11 ft	3 ft	7 ft	11 ft	15 ft	19 ft	4 ft	8 ft	13 ft	16 ft	4 ft	8 ft	14 ft
Date Collected:		6/14/94	6/14/94	6/14/94	6/14/94	6/14/94	6/14/94	6/16/94	6/16/94	6/16/94	6/16/94	6/16/94	6/16/94	6/16/94
TOTAL RECOVERABLE PETROLEUM HYDROCARBONS (TRPH)	mg/kg	--	--	--	**16**	**180**	**610**	**72**	**16**	**300**	**16**	**10**	**22**	**32**
EXTRACTABLE HYDROCARBONS														
Diesel	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--
Oil (1)	mg/kg	--	--	--	--	--	**310**	--	--	--	--	--	--	--
Paint Thinner Range Organics	mg/kg	--	--	--	--	**100 (3)**	< 10	--	--	**150**	--	--	--	--
TOTAL VOLATILE HYDROCARBONS (TVH)														
Volatile Hydrocarbons (2)	mg/kg	< 1	--	--	--	--	--	--	--	**100**	--	--	--	--
Benzene	mg/kg	< 0.005	--	--	--	--	--	--	--	< 0.005	--	--	--	--
Toluene	mg/kg	< 0 005	--	--	--	--	--	--	--	**0.058**	--	--	--	--
Ethyl Benzene	mg/kg	< 0 005	--	--	--	--	--	--	--	**0.63**	--	--	--	--
Total Xylenes	mg/kg	< 0.01	--	--	--	--	--	--	--	**0.81**	--	--	--	--
TPH (greater of TRPH or [TEH+TVH])	mg/kg	0	--	--	16	180	610	72	16	300	16	10	22	32
HALOGENATED VOCs														
Methylene Chloride	mg/kg	--	< 0.05	< 0.05	< 0.05	--	--	--	--	< 0.05	--	--	< 0.05	--
Trans-1,2-Dichloroethene	mg/kg	--	< 0.005	< 0 005	< 0.005	--	--	--	--	< 0.005	--	--	< 0.005	--
Trichloroethene	mg/kg	--	**0.018**	< 0.005	< 0 005	--	--	--	--	< 0.005	--	--	< 0.005	--
No other halogenated VOCs were detected.														

"< xx" indicates analyte was not detected above
a reporting limit of xx.
"mg/kg" indicates milligrams per kilogram.
"--" indicates not tested for this analyte

TABLE 5 — CHEMICAL TEST RESULTS FOR ENVIROPRO'S SOIL SAMPLES

Remedial Investigation

Standard Brands, Emeryville, California

Boring:		G23	G24	G24	G24	G24	G24	G24	G25	G25	G25	G25	G25	G26	G26
Top of Depth Interval:		17 ft	5 ft	8 ft	14 ft	16 ft	18 ft	20 ft	5 ft	10 ft	13 ft	17 ft	20 ft	6 ft	8 ft
Date Collected:		6/16/94	6/16/94	6/16/94	6/16/94	6/16/94	6/16/94	6/16/94	6/16/94	6/16/94	6/16/94	6/16/94	6/16/94	6/16/94	6/16/94
TOTAL RECOVERABLE PETROLEUM HYDROCARBONS (TRPH)	mg/kg	**140**	**14**	**12**	**16**	**1200**	**82**	**74**	**1200**	**8**	**580**	**500**	**21**	**4100**	**670**
EXTRACTABLE HYDROCARBONS															
Diesel	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	**1500 (8)**	**7300 (8)**
Oil (1)	mg/kg	--	--	--	--	**130 (7)**	--	--	< 10	--	< 10	--	--	--	--
Paint Thinner Range Organics	mg/kg	--	--	--	--	--	--	--	**880**	--	**590**	--	--	--	--
TOTAL VOLATILE HYDROCARBONS (TVH)															
Volatile Hydrocarbons (2)	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	**1300**	**1600**
Benzene	mg/kg	--	< 0.005	< 0 005	< 0.005	< 0 005	--	--	--	--	--	--	--	< 0.5	< 0.5
Toluene	mg/kg	--	< 0.005	< 0.005	< 0.005	< 0.005	--	--	--	--	--	--	--	**0.16**	**0.16**
Ethyl Benzene	mg/kg	--	< 0.005	< 0 005	< 0 005	< 0.005	--	--	--	--	--	--	--	< 0.5	**0.29**
Total Xylenes	mg/kg	--	< 0.01	< 0.01	< 0.01	**0.08**	--	--	--	--	--	--	--	**3.3**	**5.1**
TPH (greater of TRPH or [TEH+TVH])	mg/kg	140	14	12	16	1200	82	74	1200	8	590	500	21	4100	8900
HALOGENATED VOCs															
Methylene Chloride	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05	**0.054 (4)**	--	--	--	--	--	--	--	--	--
Trans-1,2-Dichloroethene	mg/kg	< 0 005	< 0 005	< 0.005	< 0.005	< 0 005	--	--	--	--	--	--	--	--	--
Trichloroethene	mg/kg	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	--	--	--	--	--	--	--	--	--
No other halogenated VOCs were detected.															

"< xx" indicates analyte was not detected above a reporting limit of xx.

"mg/kg" indicates milligrams per kilogram.

"--" indicates not tested for this analyte.

TABLE 5 — CHEMICAL TEST RESULTS
FOR ENVIROPRO'S SOIL SAMPLES
Remedial Investigation
Standard Brands, Emeryville, California

Boring:		G26	G26
Top of Depth Interval:		12 ft	18 ft
Date Collected:		6/16/94	6/16/94
TOTAL RECOVERABLE PETROLEUM HYDROCARBONS (TRPH)	mg/kg	**7600**	**38**
EXTRACTABLE HYDROCARBONS			
Diesel	mg/kg	**360 (8)**	< 10
Oil (1)	mg/kg	--	--
Paint Thinner Range Organics	mg/kg	--	--
TOTAL VOLATILE HYDROCARBONS (TVH)			
Volatile Hydrocarbons (2)	mg/kg	**1500**	< 1
Benzene	mg/kg	**0.097**	< 0 005
Toluene	mg/kg	**0.21**	< 0.005
Ethyl Benzene	mg/kg	**0.38**	< 0.005
Total Xylenes	mg/kg	**3.8**	< 0.01
TPH (greater of TRPH or [TEH+TVH])	mg/kg	7600	38
HALOGENATED VOCs			
Methylene Chloride	mg/kg	--	--
Trans-1,2-Dichloroethene	mg/kg	--	--
Trichloroethene	mg/kg	--	--
No other halogenated VOCs were detected.			

"< xx" indicates analyte was not detected above a reporting limit of xx.
"mg/kg" indicates milligrams per kilogram.
"--" indicates not tested for this analyte.

(1) Results were quantitated against a Diesel standard.
(2) Volatile hydrocarbons were characterized by Enviropro as gasoline, but this was not confirmed during this study.
(3) Identified as a heavier-than-paint-thinner hydrocarbon fuel resembling Diesel.
(4) Suspected false positive result
(5) Identified as resembling fuel oil
(6) Identified as a hydrocarbon mixture resembling paint thinner and waste oil.
(7) Identified as a fuel hydrocarbon mixture resembling paint thinner and Diesel.
(8) Identified as a mixture of Diesel and paint thinner fuels

TABLE 6 — CHEMICAL TEST RESULTS
ENVIROPRO'S GROUND WATER
GRAB SAMPLES
Remedial Investigation
Standard Brands, Emeryville, California

Boring:		G1	G2	G3	G4	G5	G6	G7	G8	G9	G10	G15	G16	G17	G18
Date Collected:		6/15/95	6/13/95	6/13/95	6/13/95	6/15/95	6/13/95	6/13/95	6/13/95	6/15/95	6/15/95	6/14/95	6/14/95	6/14/95	6/14/95
EXTRACTABLE HYDROCARBONS															
Diesel	mg/L	--	< 1	--	< 1	--	< 1	--	< 10	< 20	--	--	--	--	--
Oil (1)	mg/L	--	--	--	--	--	--	--	**100**	--	--	--	--	< 1	--
Paint Thinner Range Organics	mg/L	--	--	--	--	**120**	< 1	--	< 10	**520**	**42 (3)**	--	--	--	--
TOTAL VOLATILE HYDROCARBONS (TVH)															
Volatile Hydrocarbons (2)	mg/L	< 0.1	< 0.1	< 0.1	< 0.1	**36**	< 0.1	--	**0.1**	**22000**	--	< 0.1	**0.3**	**0.2**	< 0.1
Benzene	µg/L	< 0.5	**0.5**	< 0.5	< 0.5	< 25	< 0.5	--	**1.2**	--	--	< 0.5	**1.2**	**0.5**	< 0.5
Toluene	µg/L	**1.3**	**1.1**	**1.3**	**1.2**	< 25	**0.9**	--	**1.1**	--	--	**1.2**	**2.6**	**1.7**	**1.2**
Ethyl Benzene	µg/L	< 0.5	< 0.5	**0.6**	< 0.5	< 25	< 0.5	--	< 0.5	--	--	< 0.5	**2.1**	**0.9**	< 0.5
Total Xylenes	µg/L	**1.8**	**2.5**	**3.2**	**2.7**	< 50	**2.5**	--	**1.7**	--	--	**2.5**	**6.3**	**2.5**	**2.2**
TPH (TEH + TVH)	mg/L	0.0031	0.0041	0.0051	0.0039	156	0.0034	--	100	22500	42	0.0037	0.31	0.21	0.0034
HALOGENATED VOCs															
Chloromethane	µg/L	< 1	< 1	--	< 1	< 50	< 1	< 1	**1**	< 100	< 1	< 1	--	--	--
Vinyl Chloride	µg/L	< 1	< 1	--	< 1	< 50	< 1	< 1	**3**	< 100	< 1	< 1	--	--	--
1,1-Dichloroethene	µg/L	< 1	< 1	--	< 1	< 50	< 1	< 1	**2**	< 100	< 1	< 1	--	--	--
Methylene Chloride	µg/L	< 5	**29**	--	**24**	**1000**	**22**	**77**	**49**	**2400**	< 5	< 5	--	--	--
Trans-1,2-Dichloroethene	µg/L	< 1	< 1	--	< 1	< 50	< 1	< 1	**41**	< 100	< 1	< 1	--	--	--
Chloroform	µg/L	**3.4**	< 1	--	< 1	< 50	< 1	< 1	< 1	< 100	< 1	< 1	--	--	--
Trichloroethene	µg/L	< 1	< 1	--	< 1	**140**	< 1	< 1	**13**	< 100	< 1	< 1	--	--	--

No other halogenated VOCs were detected.

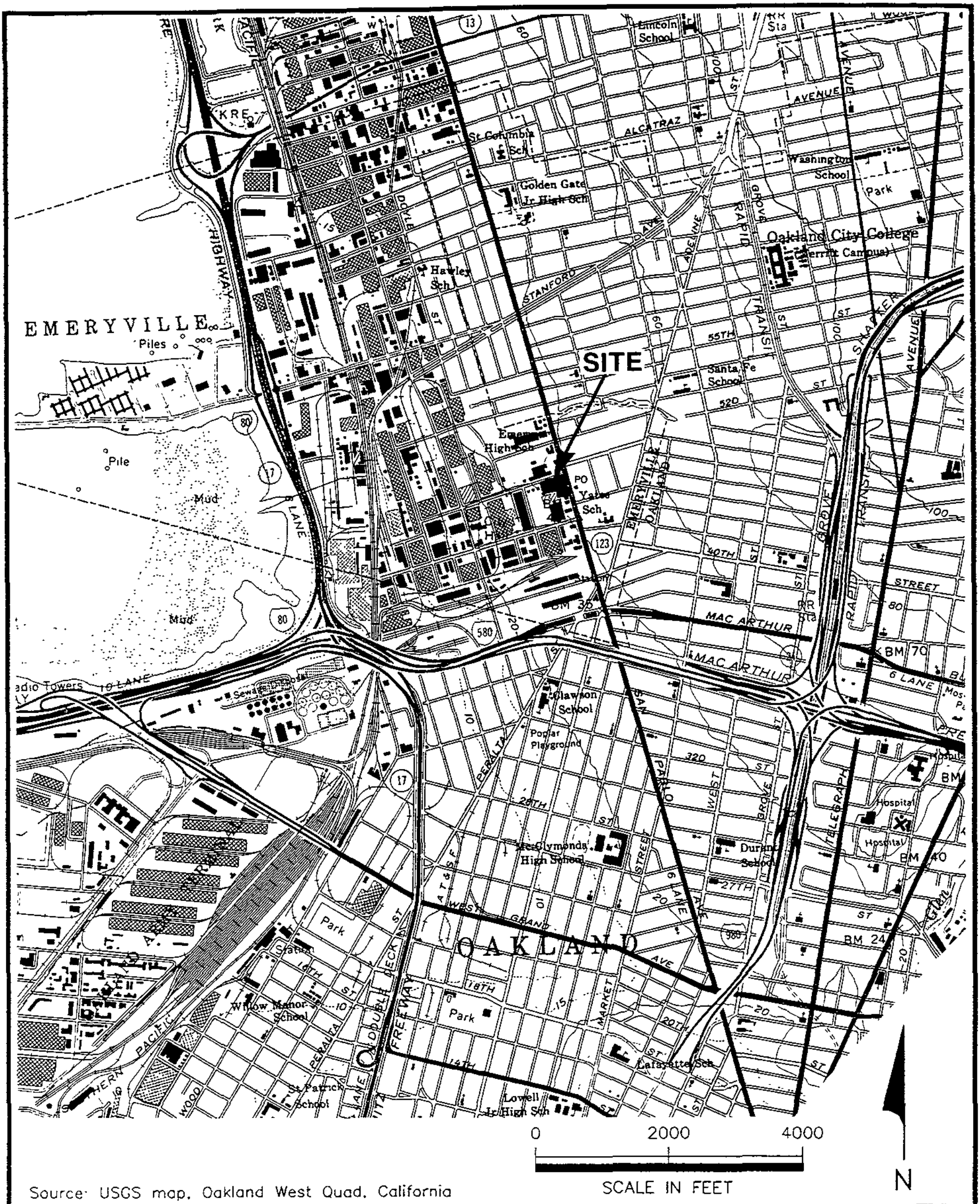
"< xx" indicates analyte was not detected above
a reporting limit of xx.
"mg/L" indicates milligrams per liter.
"µg/L" indicates micrograms per liter.
"--" indicates not tested for this analyte.

TABLE 6 — CHEMICAL TEST RESULTS
ENVIROPRO'S GROUND WATER
GRAB SAMPLES
Remedial Investigation
Standard Brands, Emeryville, California

Boring:		G19	G20	G21	G26
Date Collected:		6/14/95	6/14/95	6/14/95	6/16/95
EXTRACTABLE HYDROCARBONS					
Diesel	mg/L	--	--	--	**30 (4)**
Oil (1)	mg/L	--	--	--	--
Paint Thinner Range Organics	mg/L	--	--	**75 (3)**	--
TOTAL VOLATILE HYDROCARBONS (TVH)					
Volatile Hydrocarbons (2)	mg/L	< 0 1	< 0 1	--	**37**
Benzene	µg/L	**0.5**	< 0.5	--	**5.0**
Toluene	µg/L	**1.7**	**1.5**	--	**13**
Ethyl Benzene	µg/L	< 0 5	< 0.5	--	**26**
Total Xylenes	µg/L	**2.1**	**2.2**	--	**100**
TPH (TEH + TVH)	mg/L	0.0043	0.0037	75	67
HALOGENATED VOCs					
Chloromethane	µg/L	--	--	< 1	--
Vinyl Chloride	µg/L	--	--	**14**	--
1,1-Dichloroethene	µg/L	--	--	**2.6**	--
Methylene Chloride	µg/L	--	--	**11**	--
Trans-1,2-Dichloroethene	µg/L	--	--	**25**	--
Chloroform	µg/L	--	--	< 1	--
Trichloroethene	µg/L	--	--	**40**	--
No other halogenated VOCs were detected.					

"< xx" indicates analyte was not detected above a reporting limit of xx.
"mg/L" indicates milligrams per liter.
"µg/L" indicates micrograms per liter.
"--" indicates not tested for this analyte.

(1) Results were quantified against a Diesel standard.
(2) Volatile hydrocarbons were characterized by Enviropro as gasoline, but this was not confirmed during this study
(3) Identified as a mixture of Diesel fuel and a heavy hydrocarbon fuel resembling waste oil.
(4) Identified as a mixture of Diesel and paint thinner.



Source: USGS map, Oakland West Quad, California

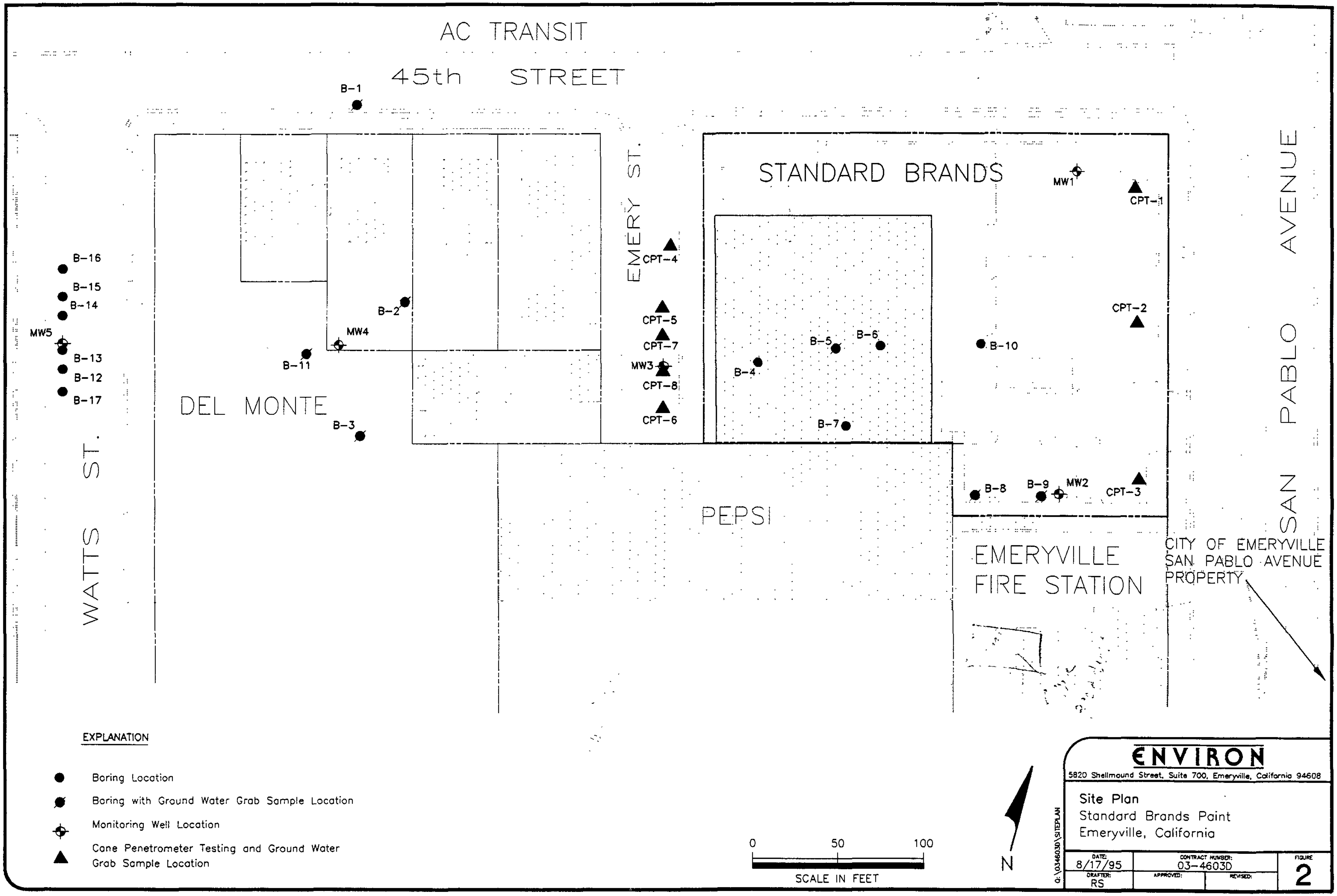
ENVIRON

Counsel in Health and Environmental Science

Site Location
Standard Brands Paint
Emeryville, California

Figure
1

Drafter: RS Date: 7/27/95 Contract Number: 03-4603D Approved: Revised:



EXPLANATION

● Boring Location

● Boring with Ground Water Grab Sample Location

⊕ Monitoring Well Location

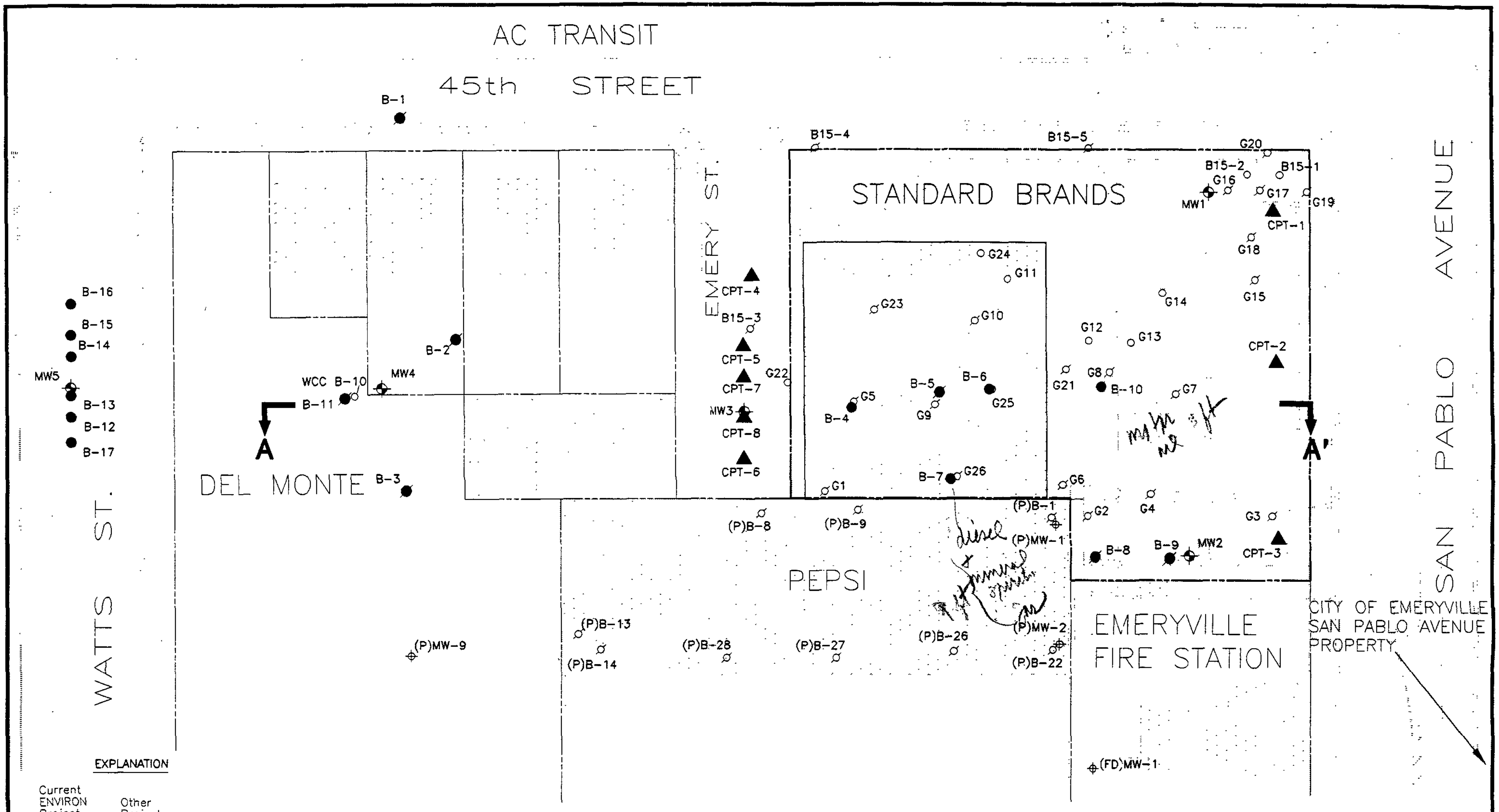
▲ Cone Penetrometer Testing and Ground Water Grab Sample Location

ENVIRON
5820 Shellmound Street, Suite 700, Emeryville, California 94608

Site Plan
Standard Brands Paint
Emeryville, California

o:\034603D\SITEPLAN

DATE: 8/17/95	CONTRACT NUMBER: 03-4603D	FIGURE 2
DRAFTER: RS	APPROVED:	REVISED:



EXPLANATION

Current ENVIRON Project	Other Projects	
●	○	Boring Location
●	⌀	Boring with Ground Water Grab Sample Location
⊕	⊕	Monitoring Well Location
▲	– –	Cone Penetrometer Testing and Ground Water Grab Sample Location
A A'		Cross Section Location

References:

1. Weiss Associates, 1994 (Pepsi Co. wells and borings are identified with prefix (P)).
2. Enviropro, Inc. 1994 (Borings G1 through G26).
3. ENVIRON, 1993 (Borings B15-1 through B15-5).

0 50 100
SCALE IN FEET

N

ENVIRON
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Previous Investigation Sample Locations
Standard Brands Paint
Emeryville, California

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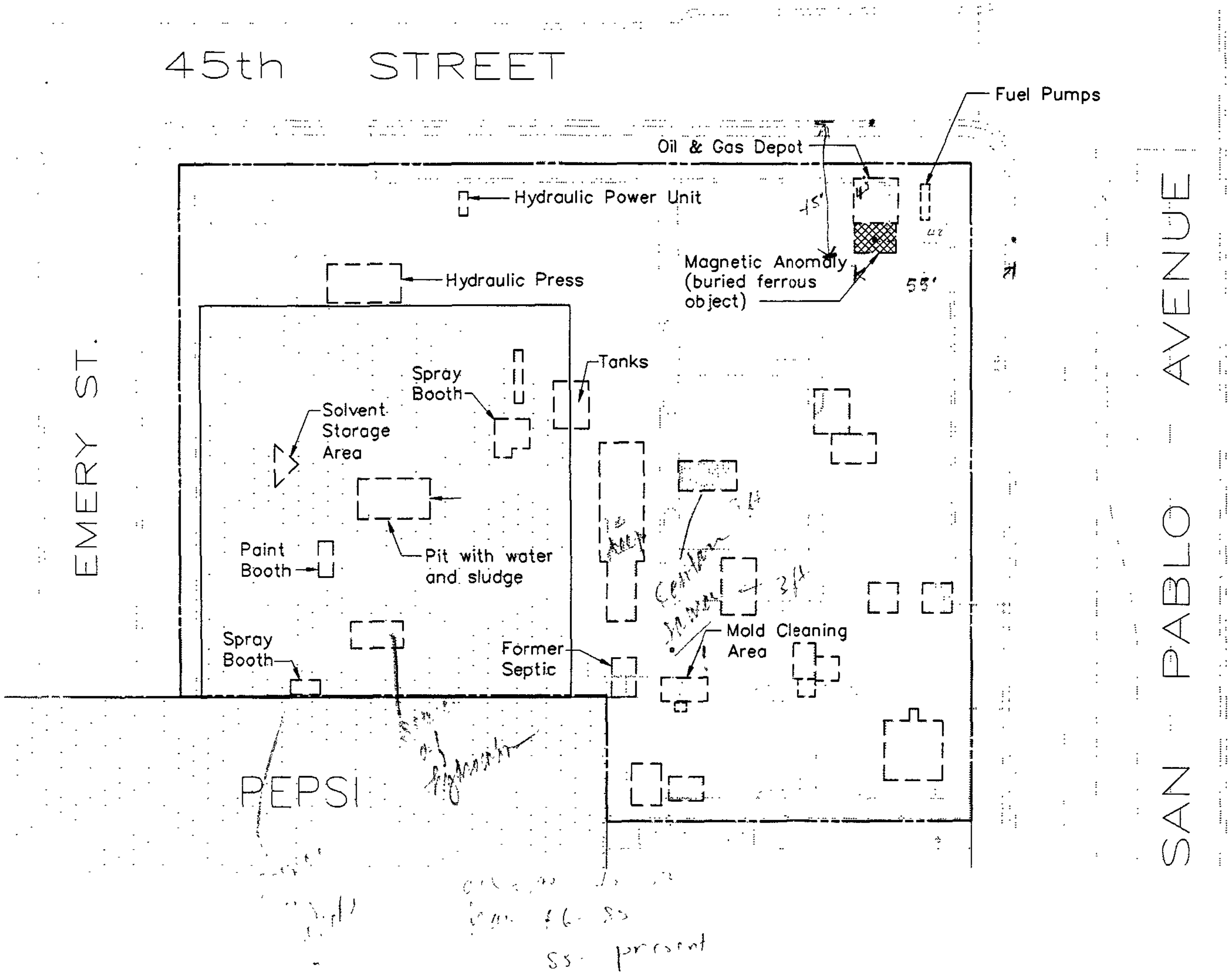
DATE:	CONTRACT NUMBER:		FIGURE
8/17/95	03-4603D		3
DRAFTER: RS	APPROVED:	REVISED:	



EXPLANATION

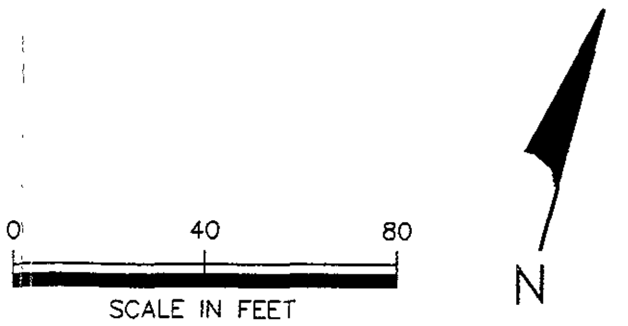
⬚	Former sump (approximate location)
⬚	Former Chemical Use Area.
⬚	Existing Building

Notes:

This map shows former Oliver Tire and Rubber's chemical use areas known to ENVIRON at the time of this report.

Sources:

1. City of Emeryville Building Department, file map of former Oliver Tire and Rubber Co., 7/29/1971;
2. Charles A. Campanella, Inc. building demolition notes for demolition of Oliver Tire Site, Approximately 1985 (Locations are approximate).
3. Pacific Aerial Surveys Photo number AV-28-12-33, 9/16/1949.
4. 1950 Sanborn Map.



ENVIRON

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Former Chemical Use Areas,
Oliver Tire & Rubber
Standard Brands Paint
Emeryville, California

DATE:	CONTRACT NUMBER:		FIGURE
8/17/95	03-4603D		4
DRAFTER: RS	APPROVED:	REVISED:	

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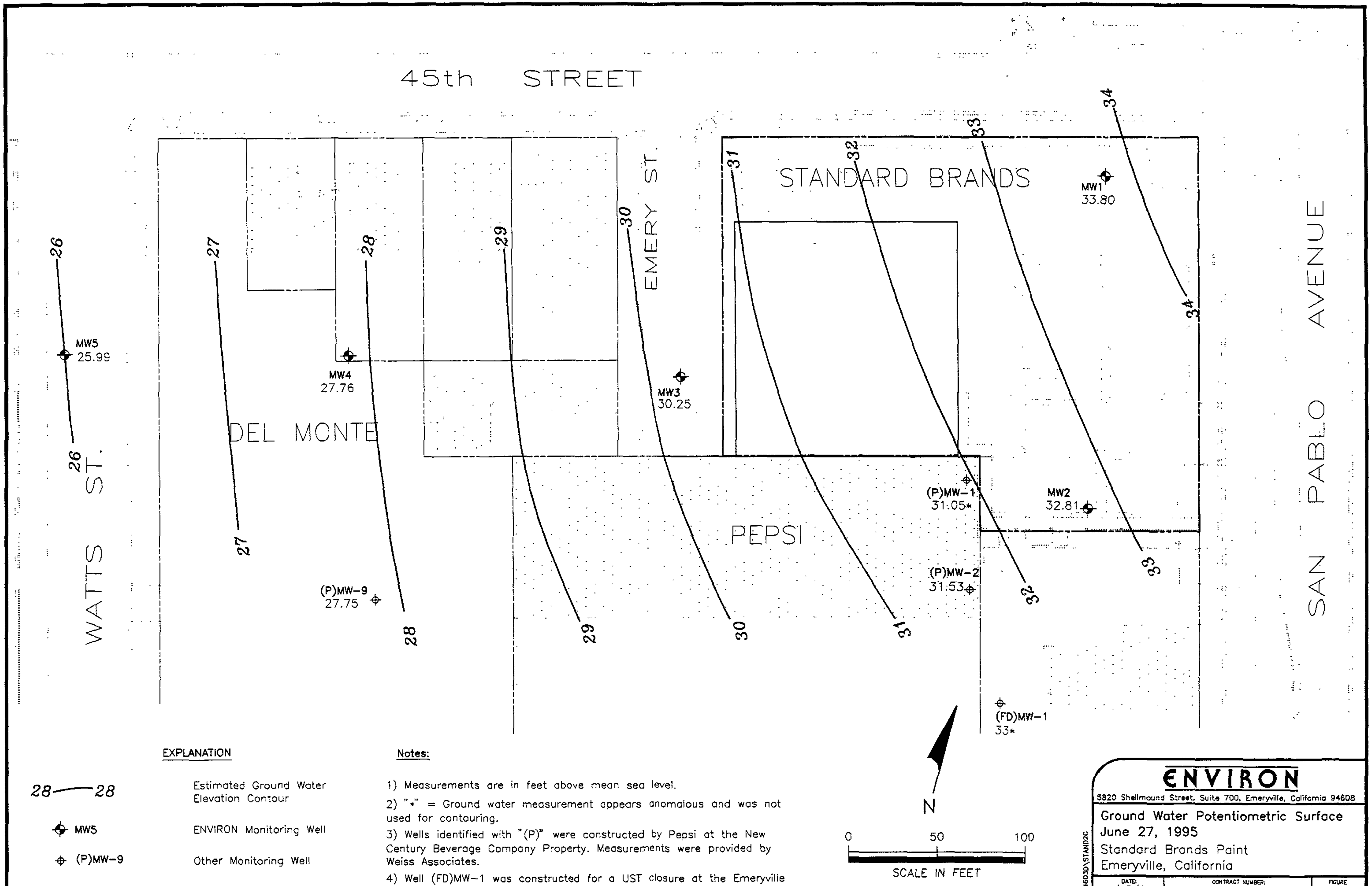


EXPLANATION

28——28	Estimated Ground Water Elevation Contour
⌖ MW5	ENVIRON Monitoring Well
⌖ (P)MW-9	Other Monitoring Well

Notes:

1) Measurements are in feet above mean sea level.

2) "*" = Ground water measurement appears anomalous and was not used for contouring.

3) Wells identified with "(P)" were constructed by Pepsi at the New Century Beverage Company Property. Measurements were provided by Weiss Associates.

4) Well (FD)MW-1 was constructed for a UST closure at the Emeryville Fire Department site. Permission to measure was given by SEACOR, Inc.

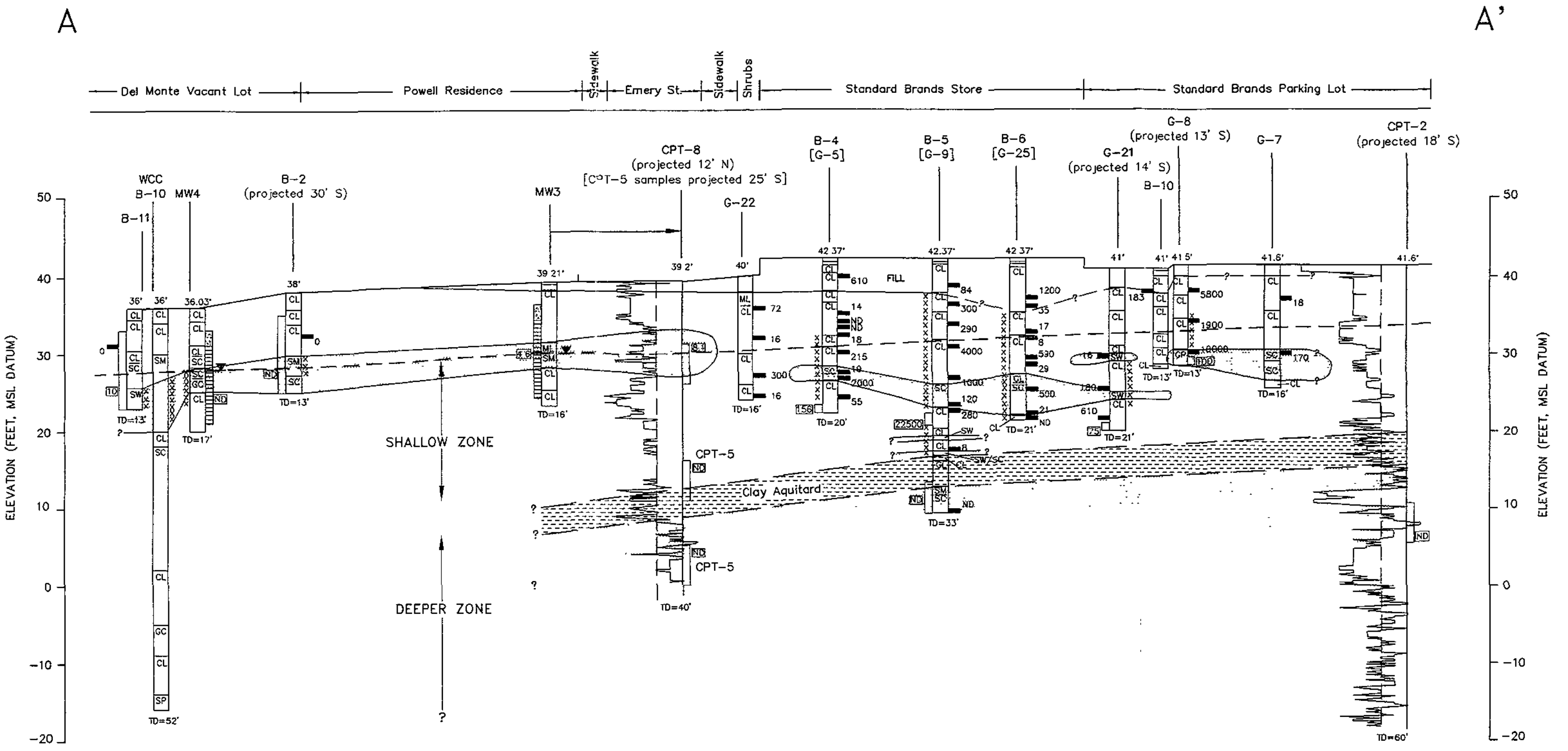
ENVIRON

5820 Shellmound Street, Suite 700, Emeryville, California 94608

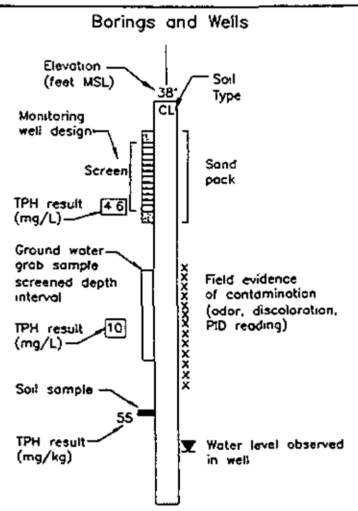
Ground Water Potentiometric Surface
June 27, 1995
Standard Brands Paint
Emeryville, California

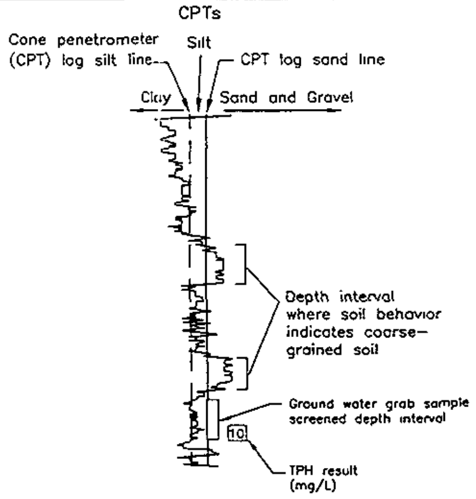
DATE:	CONTRACT NUMBER:		FIGURE
8/17/95	03-4603D		5
DRAFTER: JRK	APPROVED:	REVISED:	

Q:\034603D\STAND2C



EXPLANATION





☐ Silt/Clay

▨ Silty or Clayey Sand/Gravel

▨ Aquitard Separating Shallow and Deeper Ground Water Zones

— Interpreted Geologic Unit Boundary

Notes:

1. See Figure 3 for cross section location.
2. For borings B-4/G-5, B-5/G-9, and B-6/G-25, units shown as a consolidation of boring logs
3. See report tables for chemical results.

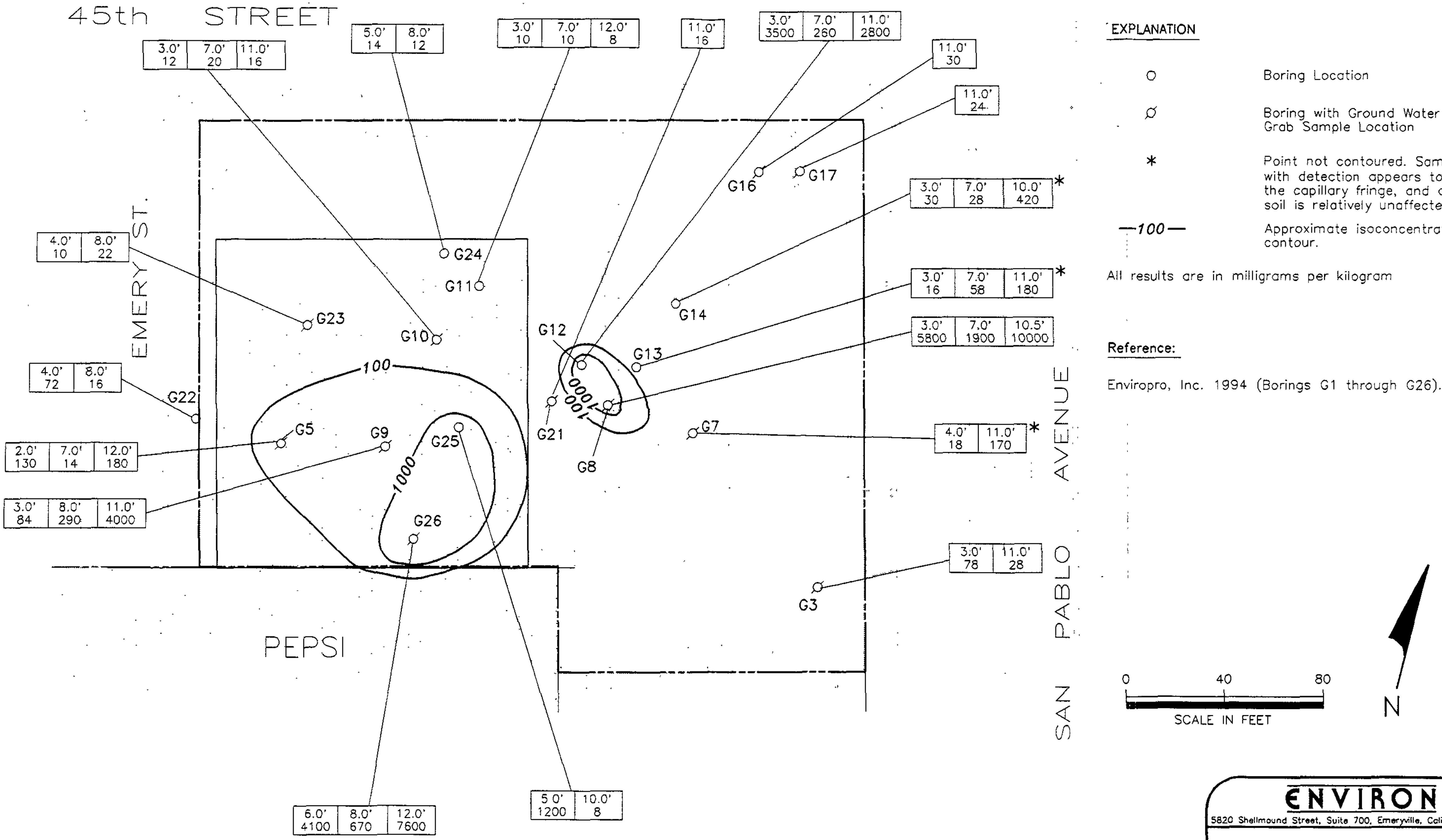
0 30 60
SCALE IN FEET
VERTICAL EXAGGERATION = 3X

ENVIRON
5820 Shellmound Street, Suite 700, Emeryville, California 94608

Schematic Geologic Cross-Section A-A'
Remedial Investigation
Standard Brands Site
Emeryville, California

0 \03460 3E\XSECAA

DATE:	CONTRACT NUMBER:	FIGURE
8/18/95	03-4603E	6
DRAFTER: RS	APPROVED: REVISED:	



EXPLANATION

○	Boring Location
⌀	Boring with Ground Water Grab Sample Location
*	Point not contoured. Sample with detection appears to be in the capillary fringe, and overlying soil is relatively unaffected.
—100—	Approximate isoconcentration contour.

All results are in milligrams per kilogram

Reference:

Enviropro, Inc. 1994 (Borings G1 through G26).

ENVIRON

5820 Shellmound Street, Suite 700, Emeryville, California 94608

TRPH in Soil
Standard Brands Paint
Emeryville, California

DATE:	CONTRACT NUMBER:		FIGURE
8/17/95	03-4603E		7
DRAFTER	APPROVED:	REVISED	
RS			

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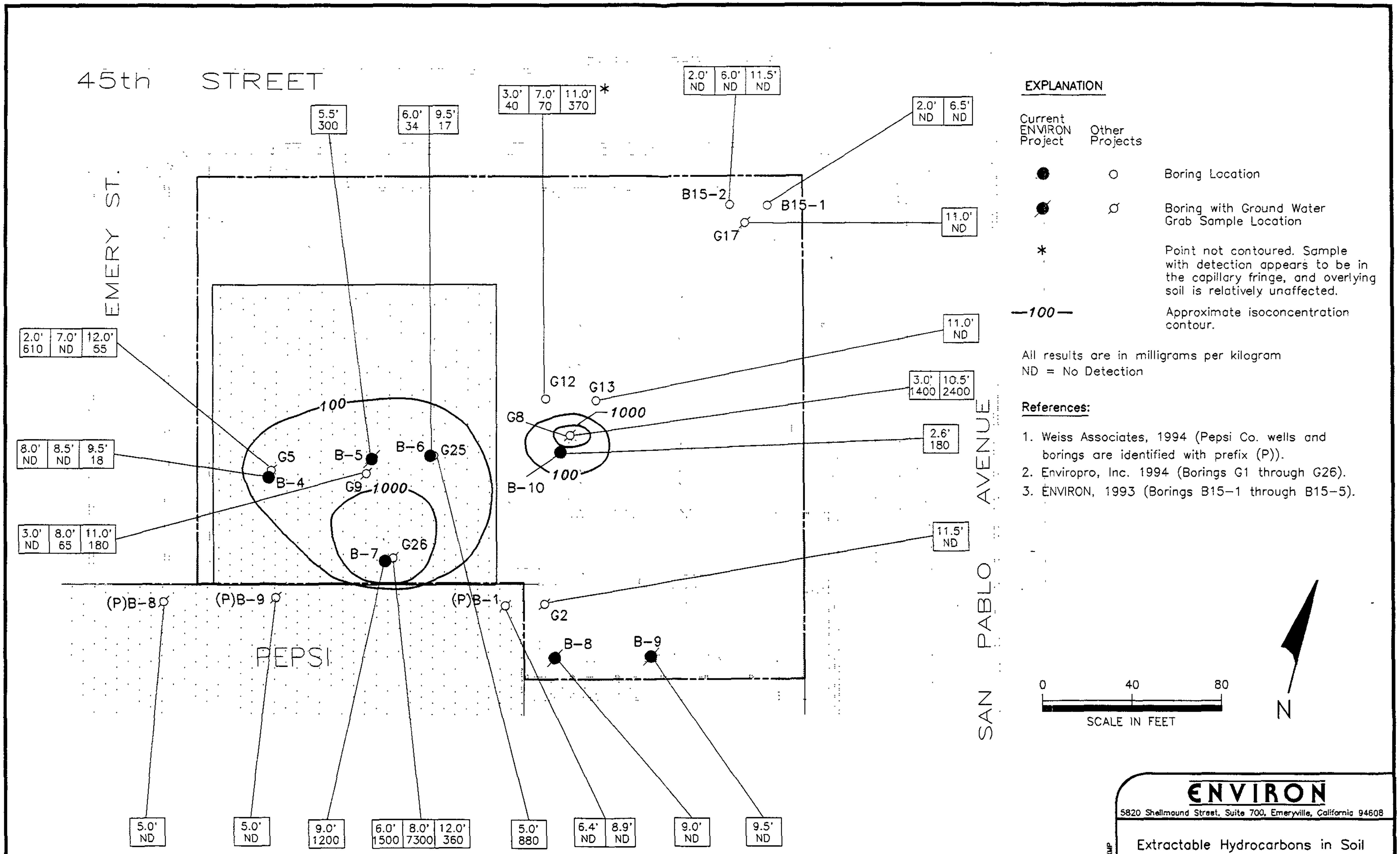

All results are in milligrams per kilogram
ND = No Detection

References:

1. Weiss Associates, 1994 (Pepsi Co. wells and borings are identified with prefix (P)).
2. Enviropro, Inc. 1994 (Borings G1 through G26).
3. ENVIRON, 1993 (Borings B15-1 through B15-5).

ENVIRON
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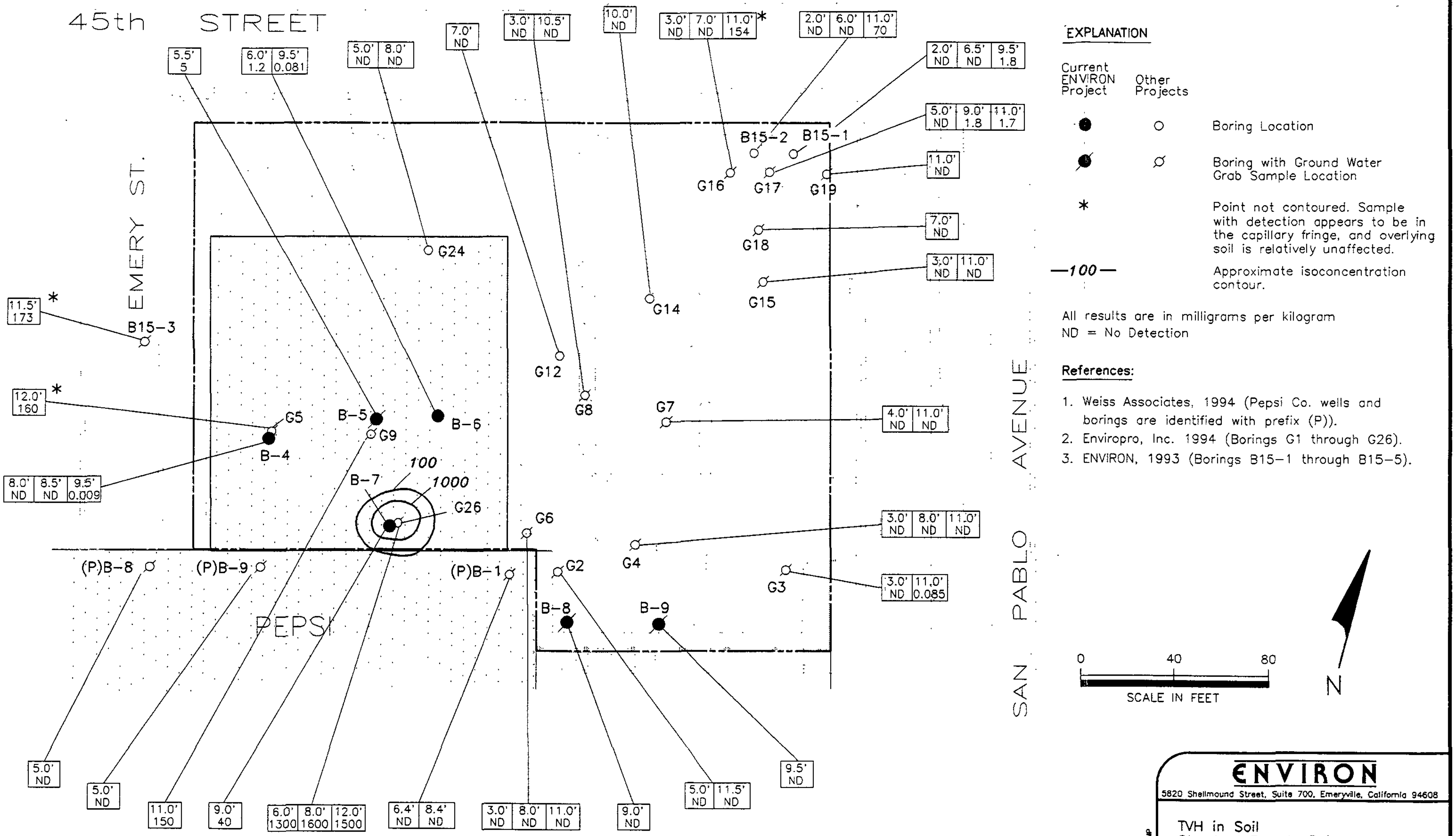
Extractable Hydrocarbons in Soil
Standard Brands Paint
Emeryville, California

Q:\0346030\TEPHBXMP

DATE:	CONTRACT NUMBER:		FIGURE
8/17/95	03-4603E		8
DRAFTER: RS	APPROVED:	REVISED:	



EXPLANATION

Current ENVIRON Project	Other Projects	
●	○	Boring Location
●	ø	Boring with Ground Water Grab Sample Location
*		Point not contoured. Sample with detection appears to be in the capillary fringe, and overlying soil is relatively unaffected.
—100—		Approximate isoconcentration contour.

All results are in milligrams per kilogram
ND = No Detection

References:

1. Weiss Associates, 1994 (Pepsi Co. wells and borings are identified with prefix (P)).
2. Enviropro, Inc. 1994 (Borings G1 through G26).
3. ENVIRON, 1993 (Borings B15-1 through B15-5).

ENVIRON
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TVH in Soil
Standard Brands Paint
Emeryville, California

DATE: 8/17/95
CONTRACT NUMBER: 03-4603E
FIGURE: 9
DRAFTER: RS
APPROVED:
REVISED:

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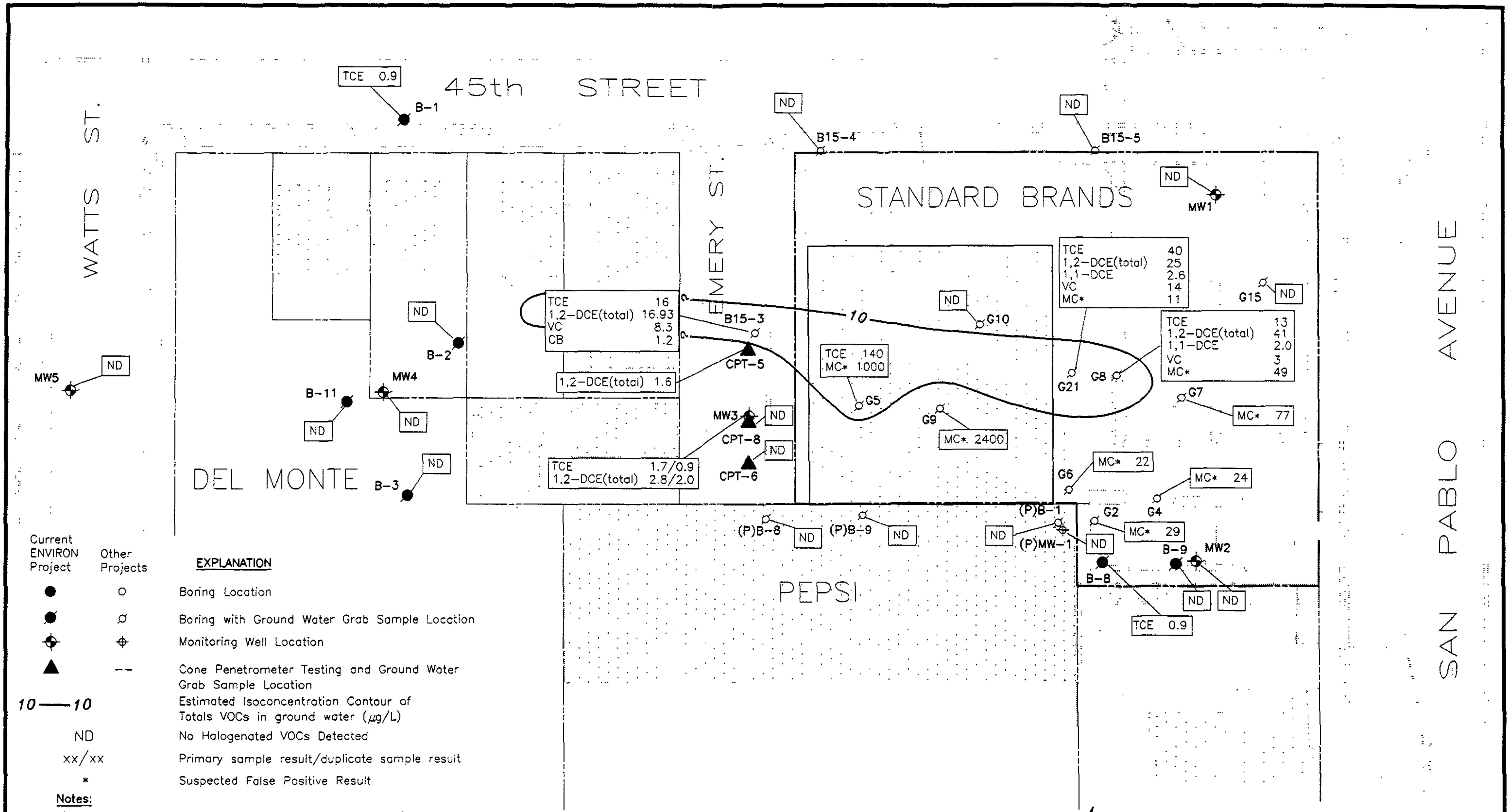


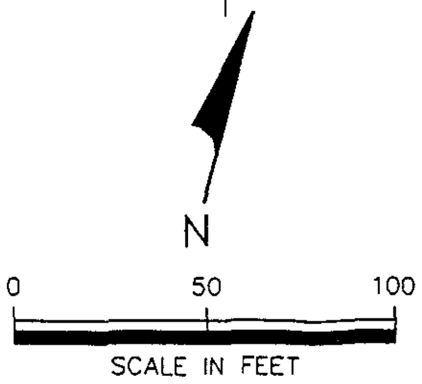
Current ENVIRON Project	Other Projects	EXPLANATION
●	○	Boring Location
⌀	⌀	Boring with Ground Water Grab Sample Location
⊕	⊕	Monitoring Well Location
▲	--	Cone Penetrometer Testing and Ground Water Grab Sample Location
10 —— 10		Estimated Isoconcentration Contour of Totals VOCs in ground water (μg/L)
ND		No Halogenated VOCs Detected
xx/xx		Primary sample result/duplicate sample result
*		Suspected False Positive Result

Notes:

1) All concentrations are in micrograms per liter (μg/L).
2) Only detected VOCs are shown.
3) Shallow ground water is considered less than approximately 25-30 feet deep.
4) Comparison of ground water grab sample results to wells should be made with care, as grab samples typically overestimate concentrations as compared to wells.
5) The following abbreviations are used:
   TCE = Trichloroethene
   1,2-DCE(total) = cis-1,2-Dichloroethene + trans-1,2-Dichloroethene
   1,1-DCE = 1,1-Dichloroethene
   CB = Chlorobenzene
   VC = Vinyl Chloride
   MC = Methylene Chloride

References:

1. Weiss Associates, 1994. (Pepsi Co. wells and soil borings are identified with prefix (P)).
2. Enviropro, Inc. 1994 (Borings G1 through G26).
3. ENVIRON, 1993 (Borings B15-1 through B15-5).

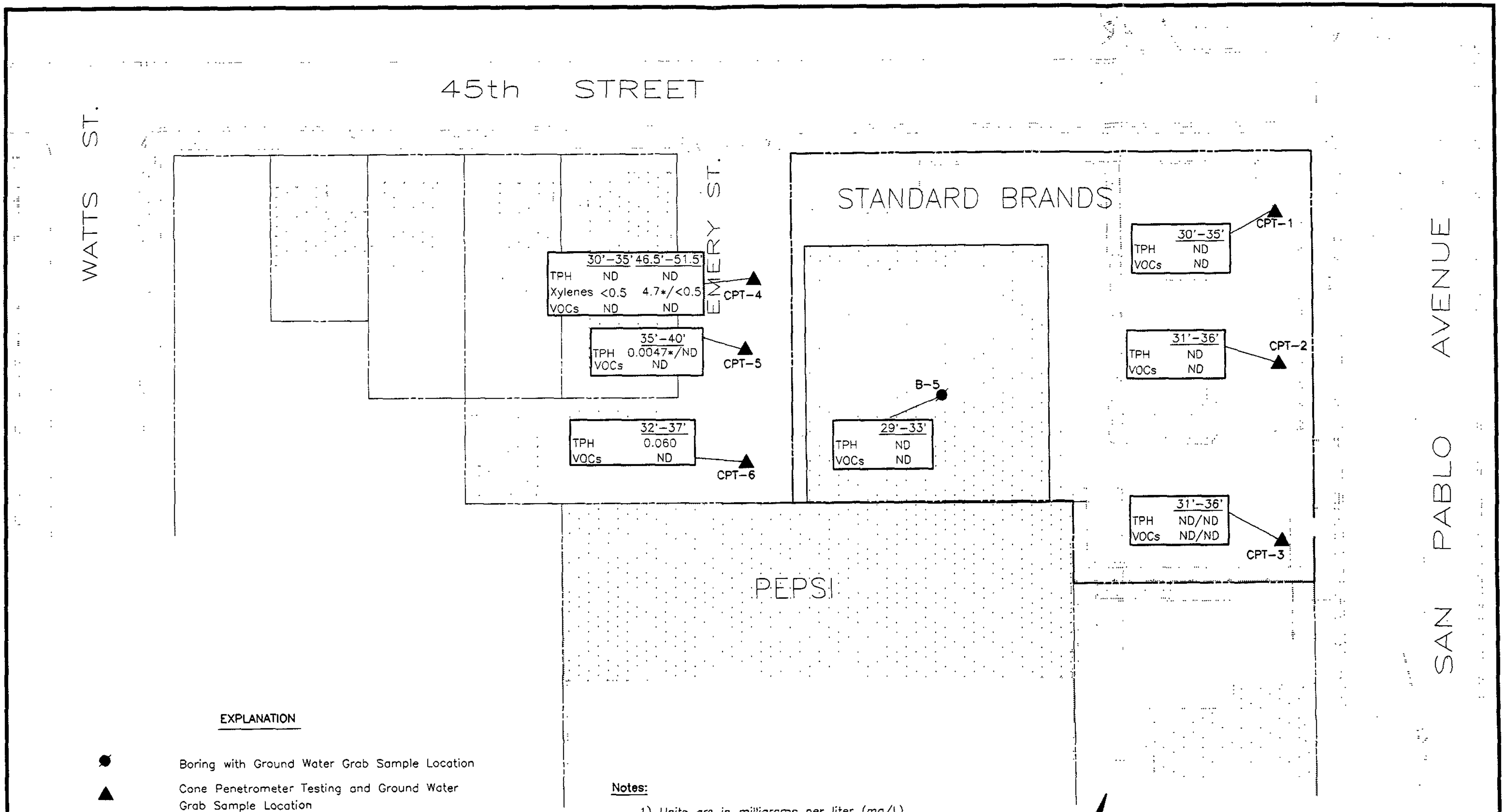


ENVIRON
5820 Shellmound Street, Suite 700, Emeryville, California 94608

Halogenated VOCs in Shallow Ground Water
Standard Brands Paint
Emeryville, California

DATE 7/31/95
CONTRACT NUMBER 03-4603D
FIGURE 11
DRAFTER: JRK
APPROVED:
REVISED:

Q:\034603D\HVOCSGW



EXPLANATION

●	Boring with Ground Water Grab Sample Location
▲	Cone Penetrometer Testing and Ground Water Grab Sample Location
ND	None Detected
*	Suspected False Positive Result
xx/xx	Primary and Duplicate Sample Results

Notes:

1) *Units are in milligrams per liter (mg/L)*
2) TPH concentrations shown are the sum of available petrloeum *hydrocarbon results at that location, including all purgable* and extractable hydrocarbons, and BTEX compounds.
3) *VOCs = Halogenated Volatile Organic Compounds*

ENVIRON
5820 Shellmound Street, Suite 700, Emeryville, California 94608

Chemical Testing Summary for
Deeper Ground Water
Standard Brands Site
Emeryville, California

o:\034603D\HVOCDGW

DATE 8/17/95
CONTRACT NUMBER 03–46030
FIGURE 12
DRAFTER JRK
APPROVED:
REVISED:

APPENDIX A

FIELD PROGRAM DOCUMENTATION

APPENDIX A

FIELD PROGRAM DOCUMENTATION

The subsurface investigation at Standard Brands was conducted in May and June 1995. During the first phase of the investigation (May 15 through 18, 1995), eight cone penetration tests (CPTs) were completed, eleven soil borings were drilled, and ground water grab samples were collected at many of the locations. During the second phase of the investigation (June 5 through 15, 1995), six soil borings were drilled and five shallow zone monitoring wells were installed, developed and sampled. Two ground water levels were subsequently measured on two separate occasions. The locations are shown in Figure 2 in the main body of the report.

A.1 Cone Penetration Test Procedure

The CPT and deeper ground water grab sampling was conducted by Earth Technology Corporation (Ertec) of Irvine, California, under the supervision of an ENVIRON geologist. Six CPTs (CPT-1 to CPT-6) were advanced to an approximate depths of 60 feet and two CPTs to approximately 40 feet (CPT-7 and CPT-8). A CPT rig from Gregg Drilling and Testing Inc. of Martinez, California, was used to collect one replicate ground water grab sample in the vicinity of the CPT-4 location. Ertec's report is presented in Appendix C.

The electronic cone penetration procedure consisted of advancing a cone tipped cylindrical probe (piezocone) attached to a string of 1.5-inch diameter steel pipe into the ground at a constant penetration rate of 2 centimeters per second (cm/sec). The piezocone contains two strain gauged load cells which measure the tip resistance, the soil shear resistance along the cylindrical sleeve and pore water pressure. The ratio of the sleeve resistance to the tip resistance provides an indication of subsurface lithology based on interpretation of soil behavior.

The CPT probes were advanced to approximate depths of 40 and 60 feet below ground surface. Upon completion of the CPT test procedure, the steel pipe assembly and piezocone tip were removed from the probe hole. The hollow steel pipe without the instrument tip and a plastic tremie pipe were advanced to the total depth of the probe. The open hole was then grouted with a bentonite slurry from the bottom, up to the ground surface using the tremie method.

A.2 Ground Water Grab Sample Collection with the CPT Rig

A total of 11 ground water grab samples and one quality control duplicate were collected using the Push-In-PVC-Piezometer (PIPP). The PIPP groundwater sampling probe was pushed into the ground using the CPT rig. The PIPP is a hardened steel cylindrical probe (approximately 2-inch O.D.) with a disposable cone shaped stainless steel drive tip. A drive tip and PVC screen was slipped into the PIPP's steel barrel, sealing the PVC screen inside the barrel with an O-ring. The

PIPP was then pushed into the ground to the desired sampling depth, and the push pipes were retracted approximately five feet, exposing the PVC screen. Ground water flowed into the screen and samples were collected by lowering a small diameter (0.66 or 0.75 inch) PVC or Teflon bailer down the push pipes from the surface. When sampling was completed, flexible plastic tubing was inserted to the bottom of the hole, and the sampler was removed, leaving the drive tip and plastic tubing in place. A bentonite slurry was pumped through the plastic tubing using the tremie method, sealing the probe hole from the bottom up.

After the PIPP was removed from the ground, it was disassembled and decontaminated in before reassembly. The PIPP was washed and scrubbed using a low phosphate (Alconox and deionized water) solution. The components of the probe were then rinsed twice in deionized water. A new PVC screen and stainless steel tip were used at each location.

A summary of ground water grab sample collection depths and locations are presented in Table A-1. For quality assurance/quality control (QA/QC) purposes, approximately 10% duplicate samples were collected and submitted for analyses.

A.3 Soil Borings

Seventeen soil borings were drilled and sampled. Eleven soil borings were drilled by Precision Sampling, Inc. (Precision) of San Rafael, California using a compression driven soil coring system. The coring devices (the Precision XD-1 and DA-1 systems) were manufactured by Precision Sampling, Inc. Six soil borings were drilled by Gregg Drilling and Testing, Inc. (Gregg) of Martinez, California using a Mobile B-53 hollow-stem-auger drill rig.

The soil borings drilled by Precision were drilled to approximate depths of 10 to 30 feet below ground surface (BGS) by simultaneously advancing two nested tubes into the ground with the rig. A smaller diameter inner rod was used to obtain and retrieve the soil cores, while an outer tube served as a temporary drive casing to prevent sloughing of the formation. Soil samples were collected during drilling by driving a 1-5/8-inch diameter by 3-foot long sample barrel into undisturbed soil. The sampler was lined with 6-inch long stainless steel liners to contain the soil samples. Upon removal from the borehole, soil samples selected for analytical testing were covered at the ends with Teflon™ film, capped, sealed with nonadhesive silicon tape, labeled, and placed in an iced cooler for transport to the analytical laboratory. A summary of soil samples submitted for analytical testing are presented in Table A-1. Samples not selected for analytical testing were extruded from the liners for logging.

The drilling rods and sampling equipment were cleaned with a high pressure, hot water washer prior to their arrival on-site, and between samples and boreholes. Soil cuttings and rinsate generated during the investigation were placed in 55-gallon steel drums and stored at the Del Monte site (1250 Park Avenue, Emeryville, California) for temporary storage prior to disposal.

The soil borings drilled by Gregg were drilled to approximate depths of 15 to 17 feet BGS with 6.25-inch outside diameter augers (3.25-inch inside diameter) and a 7-inch drill bit. Soil samples were collected continuously using a 5-foot long (2.5-inch inner diameter) core barrel. The augers were steamed cleaned prior to use to minimize the potential for cross contamination. The 5-foot long core barrel was cleaned in a Liquinox wash prior to collection of the soil samples. All rinsate, residual solids, and soil cuttings were placed in 55-gallon drums and transported to the Del Monte Site (1250 Park Avenue, Emeryville, California) for temporary storage prior to disposal pending analytical results from the borings.

An ENVIRON geologist was present during drilling to obtain samples of subsurface materials, maintain a continuous log of the borings, make observations of site conditions, conduct health and safety monitoring for organic vapors during drilling, and provide technical assistance as required. The soil samples were screened using either a flame ionization detector or a photo ionization detector, and the soils were classified according to the Unified Soil Classification System (see Figure A-1). The boring logs containing the field data for each location (soil description, OVM readings, depth to ground water) were reviewed by either Kimberly S. Jolitz or David E. Harnish, California Registered Geologists, and are presented in Figures A-2 through A-17. The well construction logs are presented in Figures A-18 through A-23.

A.4 Ground Water Grab Sample Collection from Borings

Ground water grab samples for chemical analysis were collected at selected boring locations drilled by precision (B-1, B-2, B-3, B-5, B-8, B-9, and B-11). After determining by visual inspection that the targeted water bearing zone had been penetrated, the drive casing was retracted and a temporary one-inch diameter PVC well was placed in the borehole. The wells had 10- or 15-feet of slotted screen with a bottom cap. Prior to collecting the grab samples, three casing volumes of water were removed from the temporary well casing. A pre-cleaned stainless-steel bailer and a dedicated nylon rope were used to purge and sample ground water at each location. During purging, field water quality parameters were monitored to evaluate temperature, pH, and specific conductance. Up to three sets of readings were recorded at each borehole to check that parameters were stable. All ground water grab samples were appropriately labeled and placed in an iced cooler for transport to the analytical laboratory under chain-of-custody control.

A.5 Well Construction

Monitoring wells were constructed in accordance with the California Department of Water Resources and Alameda Zone 7 Water Agency regulations. Wells were placed into borings drilled using 10-inch outside diameter (6-5/8-inch inside diameter) augers using Gregg's Mobile B-53 drill rig. All of the monitoring wells were constructed of 4-inch diameter Schedule 40 PVC casing. The well screen was placed to intercept the water table. The top of the sandpack was sounded during placement to assure that the sand was rising, and not bridging, as it was poured through the augers. A one- to two- foot bentonite pellet seal was emplaced and allowed to hydrate. Neat cement grout (to seal MW1, MW2, and MW3) and cement-bentonite grout (to seal

MW4, and MW5) was used from the top of the bentonite seal to the ground surface to seal the wells emplace. The wells were completed with traffic-rated Christy boxes. Table A-2 provides a summary of well construction information, and well details are presented on the well construction diagrams.

A.6 Well Development

Blaine Tech Services, Inc. of San Jose, California developed the wells under the supervision of an ENVIRON geologist. The well development occurred at least 48 hours following installation to allow adequate time for the grout seal to set. The wells were developed by a combination of surging and pumping. The wells were developed between June 12 and 13, 1995. Between 10 and 14 casing volumes of water were removed from wells MW1, MW2, MW3, and MW5 to produce relatively sediment-free water; the last turbidity reading was below 30 Nephelometric Turbidity Units (NTU) in each well. Twenty-six casing volumes (117 gallons) of water was removed from MW4 to produce a relatively sediment-free water.

A.7 Water Level Measurements

Ground water levels were measured with a Solinst electronic water level probe with gradations marked at 0.02 foot intervals on June 15 and 27, 1995 by ENVIRON and Blaine Tech Services personnel in five monitoring wells. Depth to ground water was measured from a surveyed reference point at the top of casing until two consecutive readings were within 0.01 foot of each other. The water level probe is calibrated annually with a steel engineering tape.

The measurement of water levels on June 27, 1995 was coordinated with two neighboring property owners. A representative for the Pepsi Site, 1150 Park Avenue (Weiss Associates of Emeryville) was met and a water level measurement was taken in Pepsico well (P)MW-8 with the ENVIRON Solinst sounder and with the Weiss slope indicator; the water level measurements were exactly the same. A representative for Emeryville Fire Department (SEACOR of San Francisco) was also met, who unlocked well FDMW-1 and the water level was measured. The water level data is presented in Table 1 in the main body of the report.

A.8 Well Sampling

Ground water sampling was conducted by Blaine Tech Services. The wells (MW1 through MW5) were sampled June 15, 1995. Water level and total depth were measured to calculate casing volume. A minimum of three casing volumes of water was purged from the well prior to sampling to ensure that samples represent aquifer conditions as much as possible.

The Middleburg style pump (a positive displacement pneumatic pump) which is made entirely of stainless steel and Teflon, was used in the wells. During purging, field water quality parameters (pH, conductivity, temperature, and turbidity) were monitored to evaluate the onset of steady-state conditions, indicating fresh water was being sampled. This information was recorded on ENVIRON's Water Purging and Sampling Logs included in this appendix.

When the purge parameters had stabilized and a minimum of three casing volumes of water had been evacuated from the well, ground water samples were collected using a decontaminated (steam-cleaned) stainless steel bailer gently lowered down the well by hand. Ground water samples were placed directly into laboratory-supplied bottles, sealed, labeled, and placed in an iced cooler for transport to the laboratory. Samples were delivered by courier to Chromalab, in Pleasanton, California.

All water generated during purging, sampling, and decontamination activities were placed in 55-gallon steel drums and stored at the Del Monte site 1250 Park Avenue, Emeryville, California for future disposal pending analytical results.

A.9 Health and Safety

ENVIRON followed the health and safety procedures described in the Site Safety Plan dated April 28, 1995 which is on file at ENVIRON. Air quality of the breathing zone was monitored during drilling to assure worker safety using either a photo ionization detector (PID, such as an organic vapor monitor [OVM], or Mini-Rae) or a flame ionization detector (FID, such as an organic vapor analyzer [OVA]). At most soil boring locations, the PID or FID was also used to measure the concentration of VOCs in the head space of a sealable plastic bag containing sample. FID and PID measurements are recorded on the boring logs.

The following tables and attachments complete this appendix:

Table A-1	Summary of Samples by Location
Table A-2	Well Design Summary
Attachment A	Soil Boring and Well Construction Logs
Attachment B	Well Purging and Sampling Logs

TABLE A-1 — SUMMARY OF SAMPLES BY LOCATION

Remedial Investigation

Standard Brands, Emeryville, California

Boring, CPT, or Monitoring Well	Total Depth of Boring, CPT or Well	Sample Date	Sample Type	Sample Depth	Analytical Tests
B-1	16 ft	5/16/95	Soil	10.5-11.0 ft	TVH, TEH, VOCs
		5/16/95	Water	5-15 ft	TVH, TEH, VOCs
B-2	13 ft	5/17/95	Soil	6.0-6.5 ft	TVH, TEH, VOCs
		5/17/95	Soil	10.0-10.5 ft	Hydrocarbon Fuel Scan
		5/17/95	Water	3-13 ft	TVH, TEH, VOCs
B-3	16 ft	5/17/95	Soil	6.0-6.5 ft	TVH, TEH, VOCs
		5/17/95	Water	1-16 ft	TVH, TEH, VOCs
B-4	16 ft	5/15/95	Soil	8.0-8.5 ft	TVH, TEH, VOCs
		5/15/95	Soil	8.5-9.0 ft	TVH, TEH, VOCs
		5/15/95	Soil	9.5-10.0 ft	TVH, TEH, VOCs
		5/15/95	Soil	14.5-15.0 ft	Hydrocarbon Fuel Scan
		5/15/95	Soil	15.0-15.5 ft	TVH, TEH, VOCs
B-5	33 ft	5/15/95	Soil	5.5-6.0 ft	TVH, TEH, VOCs
		5/15/95	Soil	7.0-7.5 ft	Hydrocarbon Fuel Scan
		5/15/95	Soil	18.5-19.0 ft	TVH, TEH, VOCs
		5/15/95	Soil	24.5-25.0 ft	TVH, TEH, VOCs
		5/15/95	Soil	32.5-33.0 ft	TVH, TEH, VOCs
		5/15/95	Water	21-33 ft	TVH, TEH, VOCs
B-6	21 ft	5/15/95	Soil	6.0-6.5 ft	TVH, TEH, VOCs
		5/15/95	Soil	9.5-10.0 ft	TVH, TEH, VOCs
		5/15/95	Soil	13.5-14.0 ft	TVH, TEH, VOCs
		5/15/95	Soil	14.5-15.0 ft	Hydrocarbon Fuel Scan
		5/15/95	Soil	20.5-21.0 ft	TVH, TEH, VOCs
B-7	10 ft	5/15/95	Soil	8.0-8.5 ft	Hydrocarbon Fuel Scan
		5/15/95	Soil	9.0-9.5 ft	TVH, TEH, VOCs
B-8	31 ft	5/15/95	Soil	9.0-9.5 ft	TVH, TEH, VOCs
		5/16/95	Soil	18.0-18.5 ft	TVH, TEH, VOCs
		5/16/95	Water	21-31 ft	TVH, TEH, VOCs
B-9	31 ft	5/15/95	Soil	9.5-10.0 ft	TVH, TEH, VOCs
		5/15/95	Soil	17.5-18.0 ft	Hydrocarbon Fuel Scan
		5/15/95	Soil	18.0-18.5 ft	TVH, TEH, VOCs
		5/15/95	Water	21-31 ft	TVH, TEH, VOCs

Notes:

(1) "TVH" indicates testing for total volatile hydrocarbons [Total Petroleum Hydrocarbons as Gasoline (TPH/G): benzene, toluene, ethyl benzene, xylenes (BTEX compounds)] by EPA test method 8015 modified.

(2) "TEH" indicates testing for total extractable hydrocarbons [TPH as Diesel (TPH/D), stoddard solvent/mineral spirits (thinner), motor oil, kerosene] by EPA test method 8015 modified.

(3) "VOCs" indicates testing for halogenated volatile organic compounds, by EPA test method 8010.

(4) "Hydrocarbon Fuel Scan" indicates hydrocarbon fuel type identification by Friedman and Bruya.

TABLE A-1 — SUMMARY OF SAMPLES BY LOCATION
Remedial Investigation
Standard Brands, Emeryville, California

Boring, CPT, or Monitoring Well	Total Depth of Boring, CPT or Well	Sample Date	Sample Type	Sample Depth	Analytical Tests
B-10	13 ft	5/16/95	Soil	2.6-3.0 ft	TEH
		5/16/95	Soil	11.0-11.5 ft	Hydrocarbon Fuel Scan
		5/16/95	Soil	11.5-12.0 ft	Hydrocarbon Fuel Scan, PCBs
B-11	13 ft	5/17/95	Soil	4.5-5.0 ft	TVH, TEH, VOCs
		5/17/95	Soil	10.5-11.0 ft	Hydrocarbon Fuel Scan
		5/17/95	Water	3-13 ft	TVH, TEH, VOCs
Duplicate Sample		5/17/95	Water	3-13 ft	TVH, VOCs
		5/17/95	Water	3-13 ft	Hydrocarbon Fuel Scan
B-12	16 ft	6/6/95	No Samples Taken		
B-13	16 ft	6/6/95	No Samples Taken		
B-14	15 ft	6/7/95	No Samples Taken		
B-15	15 ft	6/7/95	No Samples Taken		
B-16	15 ft	6/8/95	No Samples Taken		
B-17	15 ft	6/8/95	No Samples Taken		
CPT-1	60 ft	5/17/95	Water	30-35 ft	TVH, TEH, VOCs
CPT-2	60 ft	5/17/95	Water	31-36 ft	TVH, TEH, VOCs
CPT-3	60 ft	5/17/95	Water	31-36 ft	TVH, TEH, VOCs
Duplicate Sample		5/17/95	Water	31-36 ft	TVH, TEH, VOCs
CPT-4	60 ft	5/16/95	Water	30-35 ft	TVH, VOCs
		5/17/95	Water	46.5-51.5 ft	TVH, TEH, VOCs
CPT-4R	60 ft	6/9/95	Water	46.5-49.5 ft	TVH
CPT-5	60 ft	5/16/95	Water	23-28 ft	TVH, TEH, VOCs
		5/16/95	Water	35-40 ft	TVH, TEH, VOCs
CPT-6	60 ft	5/16/95	Water	15.5-17.5 ft	TVH, TEH, VOCs
		5/16/95	Water	18-23 ft	TVH, TEH, VOCs
		5/16/95	Water	32-37 ft	TVH, TEH, VOCs
CPT-7	40 ft	5/18/95	No Samples Taken		
CPT-8	40 ft	5/18/95	Water	8-13 ft	TVH, TEH, VOCs

Notes

(1) "TVH" indicates testing for total volatile hydrocarbons [Total Petroleum Hydrocarbons as Gasoline (TPH/G), benzene, toluene, ethyl benzene, xylenes (BTEX compounds)] by EPA test method 8015 modified

(2) "TEH" indicates testing for total extractable hydrocarbons [TPH as Diesel (TPH/D), stoddard solvent/mineral spirits (thinner), motor oil, kerosene] by EPA test method 8015 modified.

(3) "VOCs" indicates testing for halogenated volatile organic compounds, by EPA test method 8010.

(4) "Hydrocarbon Fuel Scan" indicates hydrocarbon fuel type identification by Friedman and Bruya

(5) "PCBs" indicates testing for polychlorinated biphenyls.

TABLE A-1 — SUMMARY OF SAMPLES BY LOCATION
Remedial Investigation
Standard Brands, Emeryville, California

Boring, CPT, or Monitoring Well	Total Depth of Boring, CPT or Well	Sample Date	Sample Type	Sample Depth	Analytical Tests
MW1	17 ft	6/15/95	Water	7-17 ft	TVH, TEH, VOCs
MW2	15 ft	6/15/95	Water	5-15 ft	TVH, TEH, VOCs
MW3	15 ft	6/15/95	Water	5-15 ft	TVH, TEH, VOCs
Duplicate Sample		6/15/95	Water	5-15 ft	TVH, TEH, VOCs
MW4	15 ft	6/15/95	Water	5-15 ft	TVH, TEH, VOCs
MW5	15 ft	6/15/95	Water	5-15 ft	TVH, TEH, VOCs

Notes

(1) "TVH" indicates testing for total volatile hydrocarbons [Total Petroleum Hydrocarbons as Gasoline (TPH/G); benzene. toluene, ethyl benzene. xylenes (BTEX compounds)] by EPA test method 8015 modified.

(2) "TEH" indicates testing for total extractable hydrocarbons [TPH as Diesel (TPH/D), stoddard solvent/mineral spirits (thinner), motor oil. kerosene] by EPA test method 8015 modified

(3) "VOCs" indicates testing for halogenated volatile organic compounds, by EPA test method 8010.

(4) "Hydrocarbon Fuel Scan" indicates hydrocarbon fuel type identification by Friedman and Bruya

FIGURE A-2 — WELL DESIGN SUMMARY

Remedial Investigation

Standard Brands, Emeryville, California

Well	Target Zone	Total Depth (feet)	Screen Interval (feet b.g.s.)	Filter Pack Interval (Number 2/16) (feet b.g.s.)	Bentonite Pellets/Chips (feet b.g.s.)	Neat Cement Seal (feet b.g.s.)	Cement-Bentonite Grout Seal (feet b.g.s.)	Surface Completion
MW1	Water table	17	7 - 17	5 - 17	3 - 5	0.5 - 3	--	Christy Box
MW2	Water table	15	5 - 15	3 - 15	2 - 3	0.5 - 2	--	Christy Box
MW3	Water table	15	5 - 15	3 - 15	2 - 3	0.5 - 2	--	Christy Box
MW4	Water table	15	5 - 15	5 - 15	2 - 3	--	0.5 - 2	Christy Box
MW5	Water table	15	5 - 15	3 - 15	2 - 3	--	0.5 - 2	Christy Box

Notes:

"feet b.g.s." = feet below ground surface

SOIL BORING AND WELL CONSTRUCTION LOGS

MAJOR DIVISIONS			GRAPHIC SYMBOL	SOIL CODE	DESCRIPTIONS
COARSE-GRAINED SOILS More than half is coarser than #200 sieve	GRAVELS more than half coarse fraction is larger than no. 4 sieve	CLEAN GRAVELS WITH LITTLE OR NO FINES	░	GW	WELL GRADED GRAVELS, WITH OR WITHOUT SAND, LITTLE OR NO FINES
			○	GP	POORLY GRADED GRAVELS, WITH OR WITHOUT SAND, LITTLE OR NO FINES
		GRAVELS WITH OVER 12% FINES	▥	GM	SILTY GRAVELS, SILTY GRAVELS WITH SAND
			▨	GC	CLAYEY GRAVELS, CLAYEY GRAVELS WITH SAND
	SANDS more than half coarse fraction is smaller than no. 4 sieve	CLEAN SANDS WITH LITTLE OR NO FINES	░	SW	WELL GRADED SANDS, WITH OR WITHOUT GRAVEL, LITTLE OR NO FINES
			░	SP	POORLY GRADED SANDS, WITH OR WITHOUT GRAVEL, LITTLE OR NO FINES
		SANDS WITH OVER 12% FINES	▥	SM	SILTY SANDS, WITH OR WITHOUT GRAVEL
			▨	SC	CLAYEY SANDS, WITH OR WITHOUT GRAVEL
FINE-GRAINED SOILS	SILTS AND CLAYS liquid limit 50 or less		▥	ML	INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, CLAYEY SILTS OF LOW PLASTICITY
			▨	CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, CLAYS WITH SANDS AND GRAVELS, LEAN CLAYS
			▥	OL	ORGANIC SILTS OR CLAYS OF LOW PLASTICITY
	SILTS AND CLAYS liquid limit greater than 50		▥	MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS, FINE SANDY OR SILTY SOILS, ELASTIC SILTS
			▨	CH	INORGANIC CLAYS OF HIGH PLASTICITY, FAT CLAYS
			▨	OH	ORGANIC SILTS OR CLAYS OF MEDIUM TO HIGH PLASTICITY
HIGHLY ORGANIC SOILS			≋	PT	PEAT AND OTHER HIGHLY ORGANIC SOILS

SOIL SAMPLE RECOVERY KEY

■	Soil Sample (relatively undisturbed) Complete Recovery
☒	Soil Sample (disturbed) Partial Recovery
▐	Continuous Core Run Sample Recovery
▯	Continuous Core Run No Recovery

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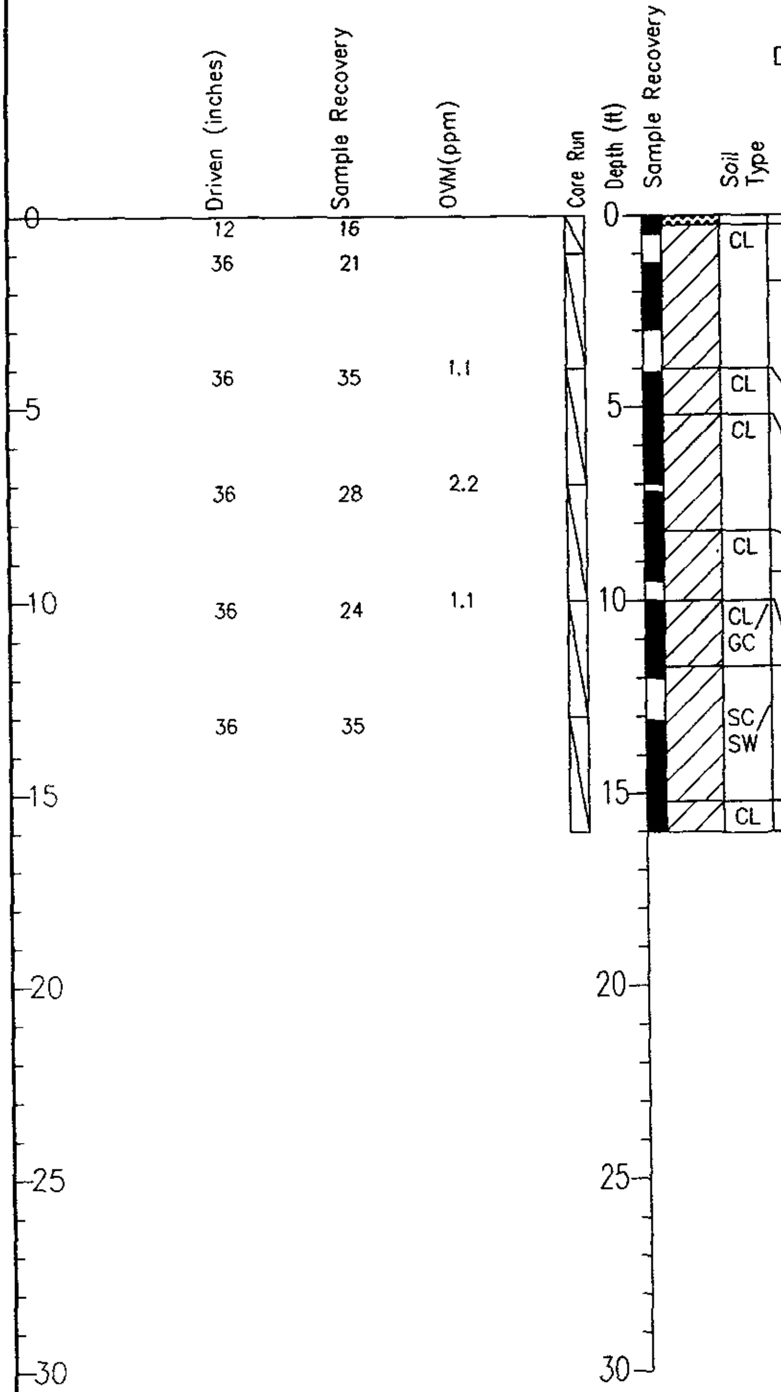
Key to Unified Soil Classification System
Standard Brands Remedial Design Investigation
4343 San Pablo Avenue
Emeryville, California

Figure
A-1

Drafter. RS Date: 8/1/95 Contract Number: 03-4603B Approved: Revised:

Surface Elev. N/A
Coordinates See Site Plan
Drill Date: Start 5/16/95 Finish 5/16/95
Drill Method Hydraulic-driven core barrel inside 2 1/2-inch diameter rod; custom design drill rig (XD-1)
Driller Precision Sampling, Inc. / Mike Polkinghorn
Logged by Heidi Dieffenbach
Reviewed by David Harnish

Driven (inches)	Sample Recovery	OVM(ppm)
12	16	
36	21	
36	35	1.1
36	28	2.2
36	24	1.1
36	35	



3-inches asphalt over baserock

VERY DARK GRAYISH BROWN SILTY CLAY (10YR 3/2) with fine sand,abundant rootlets, faint iron oxide staining, hard, damp (0% gravel, 20% sand, 80% fines)

Color becomes brown (10yr 4/3) from 2.3 ft.

LIGHT OLIVE BROWN SILTY CLAY (2.5 y 5/3) with fine sand *and abundant rootlet, very stiff, damp* (0,15,85)

VERY DARK GRAYISH BROWN SILTY CLAY (10YR 3/2) with fine to medium sand, and trace shell fragments, occasional angular gravel, hard, damp (0,10,90)

GRAYISH BROWN GRAVELLY CLAY (2.5Y 5/2) with angular to subrounded gravel and abundant shell fragments, black iron oxide flecks, hard, damp (15,15,70)

Grades to silty clay from 8.5ft

BROWN CLAYEY GRAVEL TO GRAVELLY CLAY (10YR 4/3) with fine to coarse sand, subrounded to angular gravel, well graded, iron oxide staining on gravel surfaces, wet (35,30,35)

YELLOWISH BROWN SILTY TO CLAYEY SAND (10YR 5/4) with gravel, sand is fine-to coarse-grained, subrounded to subangular gravel, wet (15,70,15)

LIGHT YELLOWISH BROWN SILTY CLAY (10YR 6/4) with fine sand, orange iron oxide flecks, very stiff, moist (0,20,80)

DRILLING NOTES:
1. Boring completed at a depth of 16.0 feet on 5/16/95.
2. Soil samples were collected by driving a 1.875-inch diameter by 3-foot long sample barrel into undisturbed soil.
3. Once the boring was completed, a 1-inch diameter PVC well casing with 0.010-inch slotted screen was placed into the borehole. The screen was set from 5 to 15 feet.
4. Depth to water in temporary PVC casing measured at 5.45 below ground surface on 5/16/95.
5. A ground water grab sample was collected on 5/16/95.
6. *Boring log indicates subsurface conditions only at the* location and time the boring was drilled.
7. Field estimates of percent gravel, sand and fines are shown in parentheses.

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LOG OF BORING
Page 1 of 1
Standard Brands Remedial Design Investigation
4343 San Pablo Ave.,
Emeryville, California
B-1

FIGURE
A-2

Surface Elev. N/A

Coordinates See Site Plan

Drill Date: Start 5/17/95 Finish 5/17/95

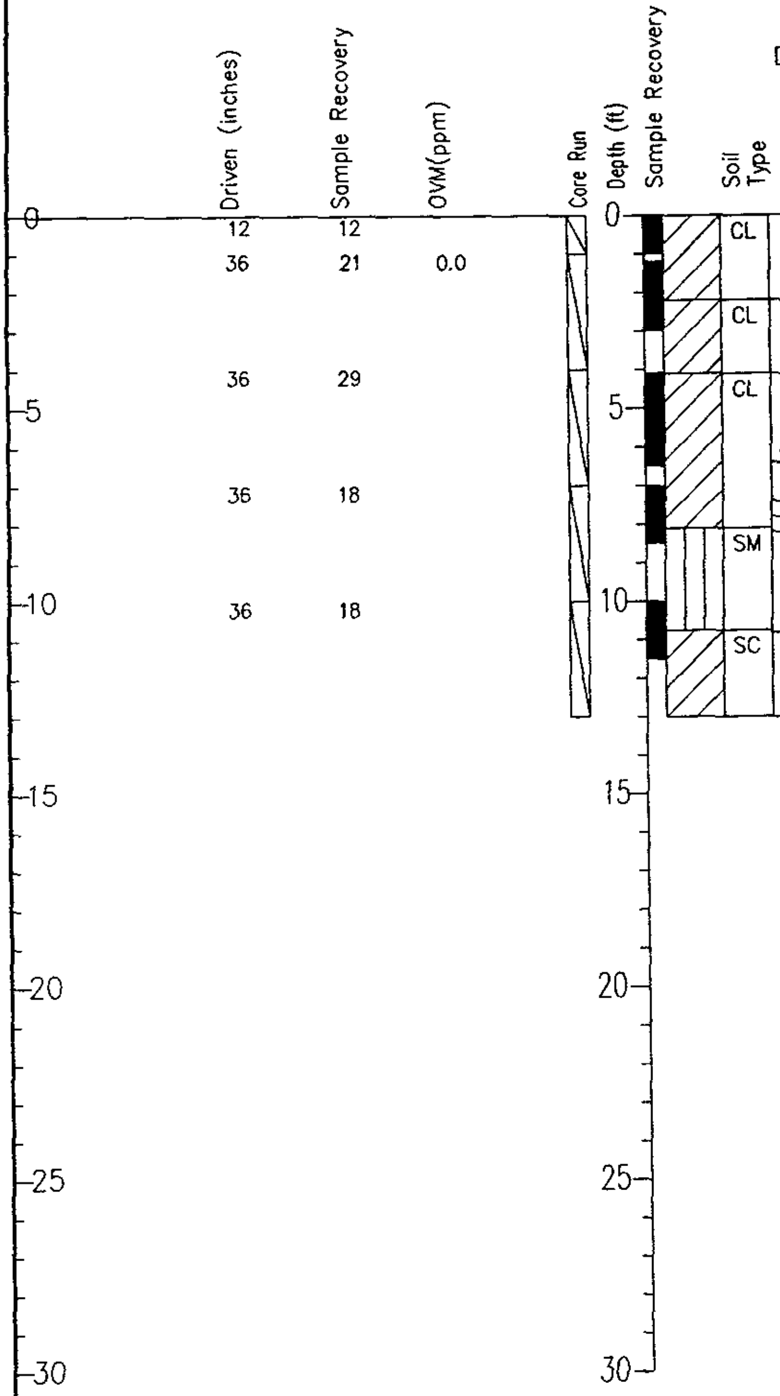
Drill Method Hydraulic-driven core barrel inside 2 1/2-inch diameter rod; Custom design drill rig (XD-1)

Driller Precision Sampling, Inc. / Mike Polkinghorn

Logged by Heidi Dieffenbach

Reviewed by David Harnish

Driven (inches)	Sample Recovery	OVM(ppm)
12	12	
36	21	0.0
36	29	
36	18	
36	18	



Soil Type	
CL	VERY DARK GRAY SILTY CLAY (10YR 3/1), with fine sand, abundant organic matter (rootlets), dry to damp, (2% gravel, 13% sand, 85% fines)
CL	BROWN SILTY CLAY (10YR 4/3) with fine sand, orange iron oxide staining, rich in organic matter (rootlets), damp, hard, (0,20,80)
CL	LIGHT OLIVE BROWN SANDY CLAY (2.5Y 5/4) with silt, fine sand, faint orange iron oxide staining, black iron oxide flecks, moist, stiff, (0,25,75) Wet from 6.4 ft. 2-inch gravelly sand lens at 7 4 ft. 2-inch gravelly sand lens at 7.8 ft.
SM	DARK GREENISH GRAY SILTY SAND (5BG 4/1), sand is fine-grained; well sorted, wet, (0,55,45)
SC	DARK YELLOWISH BROWN CLAYEY SAND (10YR 4/4) with gravel, fine to coarse sand, subangular, wet, (15,45,40)

DRILLING NOTES·

1. Boring completed at a depth of 13.0 feet on 5/17/95.
2. Soil samples were collected by driving a 1.875-inch diameter by 3-foot long sample barrel into undistured soil.
3. Once the boring was completed, a 1-inch diameter PVC well casing with 0.010-inch slotted screen was placed into the borehole. The screen was set from 3 to 13 feet.
4. Depth to water in temporary PVC casing measured at 6.6 feet below ground surface on 5/17/95.
5. A ground water grab sample was collected on 5/17/95.
6. Boring log indicates subsurface conditions only at the location and time the boring was drilled.
7. Field estimates of percent gravel, sand and fines are shown in parentheses.

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LOG OF BORING

Standard Brands Remedial Design Investigation
4343 San Pablo Ave.,
Emeryville, California

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B-2

FIGURE

A-3

Surface Elev. N/A

Coordinates See Site Plan

Drill Date: Start 5/17/95 Finish 5/17/95

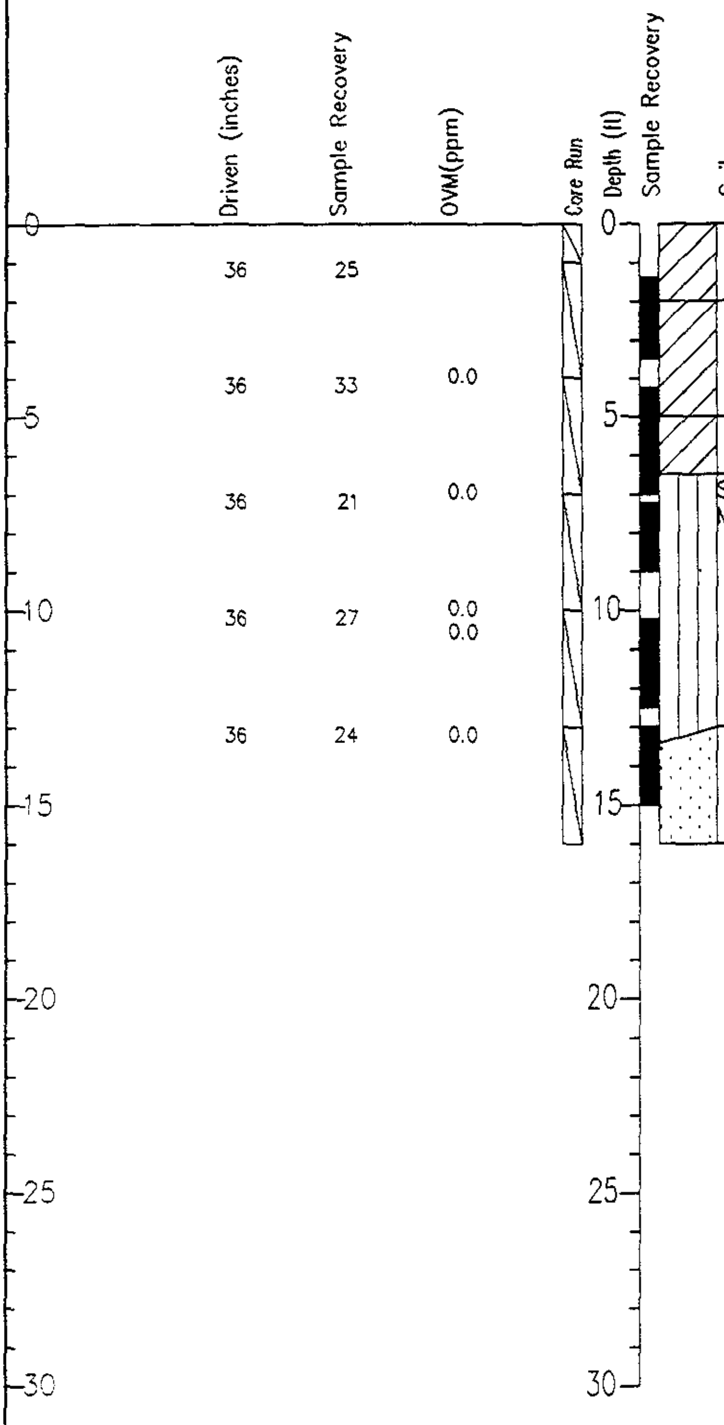
Drill Method Hydraulic-driven core barrel inside 2 1/2-inch diameter rod; Custom designed drill rig (XD-1)

Driller Precision Sampling, Inc. / Mike Polkinghorn

Logged by Heidi Dieffenbach

Reviewed by David Harnish

Driven (inches)	Sample Recovery	OVM(ppm)
36	25	
36	33	0.0
36	21	0.0
36	27	0.0 0.0
36	24	0.0



Soil Type	
CL	DARK GRAYISH BROWN SILTY CLAY (10YR 4/2) trace gravel, some fine to medium sand, rich in organic matter (rootlets), dry to damp, hard (5% gravel, 10% sand, 85% fines)
CL	VERY DARK GRAY SILTY CLAY (2.5Y 3/1) fine sand, rich in organic matter (rootlets), damp, hard (0,10,90) Becomes mottled from 4.5 ft
CL	BROWN SILTY CLAY (10YR 4/3) with fine sand and iron oxide staining, rich in organic matter, damp, hard (0,20,80)
SM/ML	▽ INTERBEDDED LIGHT OLIVE BROWN SILTY SAND AND SANDY SILT (2.5Y 5/4) very fine to fine grained sand, with faint iron oxide staining, trace black iron oxide flecks, wet, stiff (0,65,35) Wet from 7.0 ft. One-inch clayey sand lense at 8.8 ft. Becomes fine- to medium-grained, well-sorted sand, from 11.0 to 12.0 ft
SW	DARK GRAYISH BROWN GRAVELLY SAND (10YR 4/2) with clay, fine to coarse grained sand, gravel variable colored and subangular, wet (30,60,10)

DRILLING NOTES:
1. Boring completed at a depth of 16.0 feet on 5/17/95.
2. Soil samples were collected by driving a 1.875-inch diameter by 3-foot long sample barrel into undistured soil.
3. Once the boring was completed, a 1-inch diameter PVC well casing with 0.010-inch slotted screen was placed into the borehole. The screen was set from 1 to 16 feet.
4. Depth to water in temporary PVC casing measured at 7.08 feet below ground surface on 5/17/95.
5. A ground water grab sample was collected on 5/17/95
6. Boring log indicates subsurface conditions only at the *location and time the boring was drilled*
7. Field estimates of percent gravel, sand and fines are shown in parentheses.

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FIGURE

A-4

Surface Elev. N/A

Coordinates See Site Plan

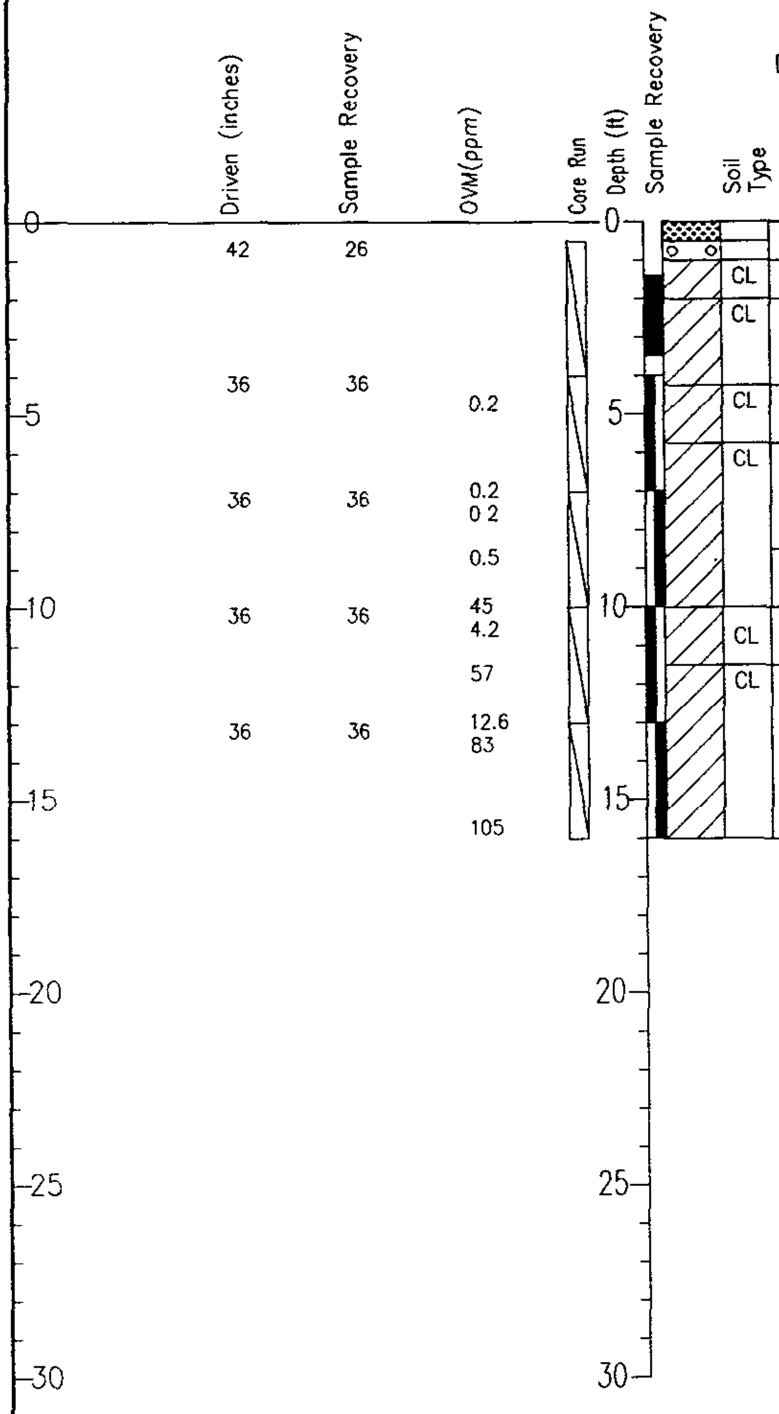
Drill Date: Start 5/15/95 Finish 5/15/95

Drill Method Hydraulic-driven core barrel inside 2 1/2-inch diameter rod; Custom designed drilling (DA-1)

Driller Precision Sampling, Inc. / Chris Fricke

Logged by Heidi Dieffenbach

Reviewed by David Harnish



6-inch concrete floor underlain by gravelly sand

GRAYISH BROWN GRAVELLY CLAY (2.5Y 5/2) with fine to coarse sand, and angular gravel; damp (35% gravel, 10% sand, 55% fines) [FILL]

BLACK SILTY CLAY (5Y 2.5/1) with fine to coarse sand, trace red brick fragments, trace rootlets, some subangular gravel, hard, damp (10,15,75) [FILL]

VERY DARK GRAY (10YR 3/1) TO BLACK SILTY CLAY, (2.5Y 2.5/1) fine sand, abundant organic matter, hard, damp (0,15,85)

DARK GRAYISH BROWN SILTY CLAY (2.5Y 4/2), with fine to medium sand, abundant organic matter (rootlets), orange iron oxide staining, damp, (0,25,75)

Color becomes very dark grayish brown from 8.5 ft.

OLIVE GRAY SILTY CLAY (5Y 5/2) with angular gravel, and fine to coarse sand, mottled with grayish green staining, faint odor (3,22,75)

GRAYISH GREEN SILTY CLAY (5G 5/1) with fine sand, trace white shell fragments, orange oxide flecks, petroleum hydrocarbon odor, damp (0,15,85)

DRILLING NOTES:

1. Boring completed at a depth of 16.0 feet on 5/15/95.
2. Soil samples were collected by driving a 1.875-inch diameter by 3-foot long sample barrel into undistured soil.
3. Boring log indicates subsurface conditions only at the location and time the boring was drilled.
4. Field estimates of percent gravel, sand, and fines are shown in parentheses.

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FIGURE

A-5

Surface Elev. N/A

Coordinates See Site Plan

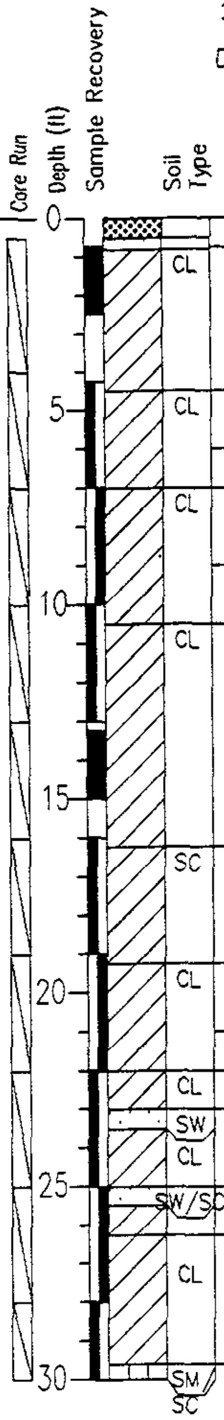
Drill Date: Start 5/15/95 Finish 5/15/95

Drill Method Hydraulic-driven core barrel inside 2 1/2-inch diameter rod; Custom designed drill rig (XD-1)

Driller Precision Sampling, Inc. / Mike Polkinghorn

Logged by Heidi Dieffenbach

Reviewed by David Hornish



Depth	Driven (inches)	Sample Recovery	OVM(ppm)	Soil Type	
0					6-inch concrete floor underlain by gravelly sand (SW)
	42	21		CL	VERY DARK GRAY SILTY CLAY (2.5Y 3/1) with fine to coarse sand, red brick fragments, concrete fragments, damp (15% gravel, 15% sand, 70% fines) [FILL]
	36	33	26		
5				CL	DARK GREENISH GRAY SILTY CLAY (5GY 4/1) with fine sand, soil discoloration and odor, damp (0,20,80)
			389		Color becomes dark gray (10YR 4/1) with faint iron oxide staining from 6.0 ft.
	36	36	400	CL	GREENISH GRAY SILTY CLAY (5G 5/1) with fine sand, occasional angular gravel, damp, strong petroleum hydrocarbon odor (0,15,85)
					Color becomes olive gray (5Y 5/2) *from* 9.0 ft
10	36	36	110 150	CL	OLIVE GRAY SILTY CLAY (5Y 5/1) with fine sand, faint orange iron oxide mottling, damp (0,20,80)
					Becomes moist at 13 ft.
	36	21	190 192		
15					
	36	36	10	SC	GRAY CLAYEY SAND (5Y 5/1) with trace of angular gravel, sand is fine-to coarse-grained, poorly sorted, variable colored sands, damp (5,65,30)
			67		
	36	36	72 86	CL	GRAY SILTY CLAY (5Y 5/1) with fine sand, faint orange iron oxide staining, very stiff, damp, faint odor (0,15,85)
20					
			10 4		Grades with fine sand from 21 ft.
	36	36		CL	LIGHT OLIVE BROWN SILTY CLAY (2.5Y 5/4) with fine sand, orange iron oxide flecks, petroleum *hydrocarbon odor, damp, very stiff to hard* (0,20,80)
				SW	Gravelly sand lens, with some silt, loose, from 23 to 23.5 ft.
				CL	
25	36	36	265	SW/SC	Gravelly sand lens, with some silt, loose, from 25 to 25.5 ft.
				CL	MOTTLED LIGHT YELLOWISH BROWN (2.5Y 6/3) AND YELLOWISH BROWN (10YR 5/6) with fine to medium sand, sand is subrounded to subangular, trace coarse sand, moist (2,35,63)
	36	36	2.9 2.1		
30			1.8 1.8	SM/SC	

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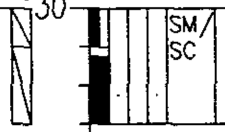
FIGURE

A-6

Surface Elev. N/A
Coordinates See Site Plan
Drill Date: Start 5/15/95 Finish 5/15/95
Drill Method Hydraulic-driven core barrel
2 1/2-inch diameter rod; custom designed drill rig (XD-1)
Driller Precision Sampling, Inc. / Mike Polkinghorn
Logged by Heidi Dieffenbach
Reviewed by David Harnish

Blows/Ft.	OVA(ppm)/OVM(ppm)	Driven (inches)	Sample Recovery	Core Run	Depth (ft)	Sample Recovery	Soil Type	
		24	21		30		SM/SC	LIGHT OLIVE BROWN CLAYEY SAND AND SILTY SAND (2.5Y 5/9) with angular to subrounded gravel poorly sorted, *moist to wet* (10,45,45).
					35			
					40			
					45			
					50			
					55			
					60			



DRILLING NOTES:

1. Boring completed at a depth of 33.0 feet on 5/15/95.
2. Soil samples were collected by driving a 1.875-inch diameter by 3-foot long sample barrel into undistured soil.
3. During drilling the outer well drilling rods were left in place to a depth of 29 feet Once the boring was completed, a 1-inch diameter PVC well casing with 0.010-inch slotted screen was placed into the borehole. the screen was set from 21 to 33 feet
4. Depth to water in temporary PVC casing measured at 14.88 feet below ground surface on 5/15/95.
5. A ground water grab sample was collected on 5/15/95.
6. Boring log indicates subsurface conditions only at the location and time the boring was drilled.
7. Field estimates of percent gravel, sand and fines are shown in parentheses

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FIGURE
A-6

Surface Elev. N/A

Coordinates See Site Plan

Drill Date: Start 5/15/95 Finish 5/15/95

Drill Method Hydraulic-driven core barrel

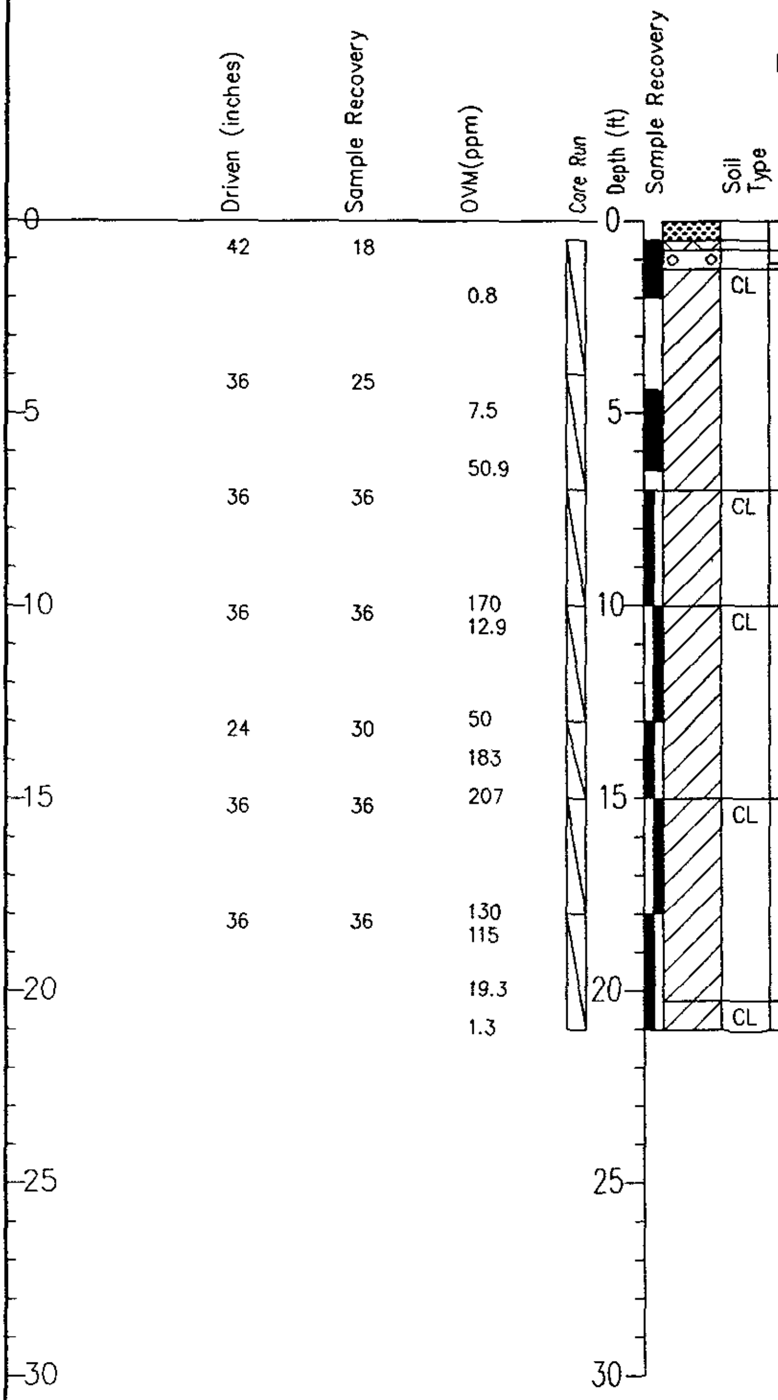
2 1/2-inch diameter rod; Custom designed drill rig (DA-1)

Driller Precision Sampling, Inc. / Chris Fricke

Logged by Heidi Dieffenbach

Reviewed by David Harnish

Driven (inches)	Sample Recovery	OVM(ppm)
42	18	
		0.8
36	25	
		7.5
		50.9
36	36	
36	36	170 12.9
		50
24	30	
		183
36	36	207
36	36	130 115
		19.3
		1.3



6-inch concrete floor underlain by fine sand

LIGHT YELLOWISH BROWN SANDY GRAVEL (10YR 6/4) gravel is angular, dry (50% gravel, 30% sand, 20% fines) [FILL]

Color becomes grayish brown (2.5Y 5/2) from 1.1 ft.

BLACK SILTY CLAY (5Y 2.5/1), with fine to coarse sand, poorly sorted, red brick fragments, sand is subangular to subrounded, trace rootlets, hard, damp, faint hydrocarbon odor (0,20,80)

VERY DARK GRAY SILTY CLAY (2.5Y 3/1) with fine to medium sand, trace angular coarse sand, faint iron oxide staining, trace rootlets, damp (0,25,75)

GREENISH GRAY SILTY CLAY (5G 5/1) with fine to coarse sand, sand is subangular, orange oxide flecks, petroleum odor, very stiff, damp to moist (0,15,85)

MOTTLED GREENISH GRAY (5G 5/1) AND OLIVE (5Y 4/3) SILTY CLAY, with coarse sand, some subrounded gravel, with orange oxide flecks, petroleum odor very stiff, damp (3,22,75)

LIGHT OLIVE BROWN SILTY CLAY (2.5Y 5/4) with fine sand, orange oxide flecks and orange oxide streaks, damp (0,15,85)

DRILLING NOTES:

1. Boring completed at a depth of 21.0 feet on 5/15/95.
2. Soil samples were collected by driving a 1.875-inch diameter by 3-foot long sample barrel into undisturbed soil.
3. Boring log indicates subsurface conditions only *at the location and time the boring was drilled.*
4. Field estimates of percent gravel, sand, and fines are shown in parentheses.

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FIGURE

A-7

Surface Elev. N/A

Coordinates See Site Plan

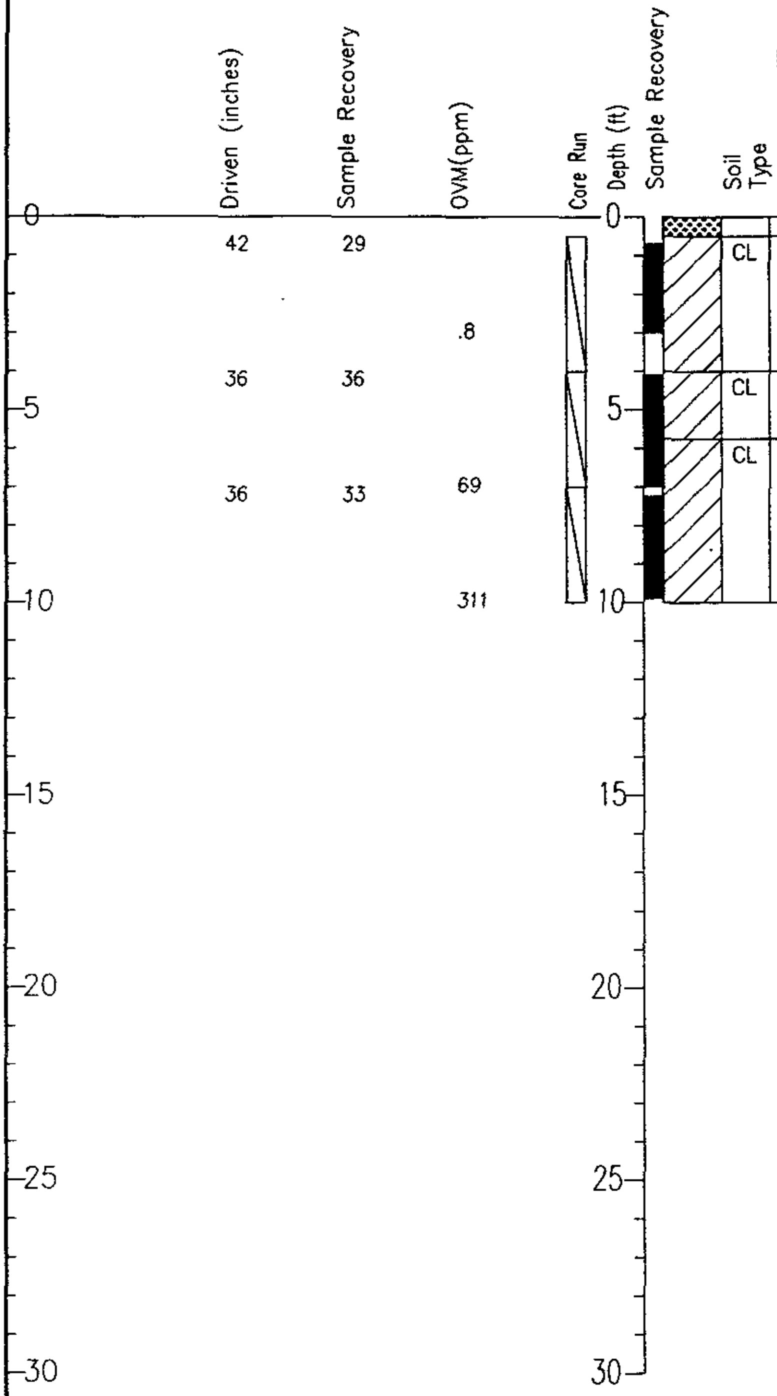
Drill Date: Start 5/15/95 Finish 5/15/95

Drill Method Hydraulic-driven core barrel inside 2 1/2-inch diameter rod; Custom designed drill rig (DA-1)

Driller Precision Sampling, Inc. / Chris Fricke

Logged by Heidi Dieffenbach

Reviewed by *David Harnish*



6-inch concrete floor

BLACK SILTY CLAY (5Y 2.5/1) with fine to coarse sand, poorly sorted, damp, red brick fragments, occasional angular gravel, some rootlets (5% gravel, 20% sand, 75% fines) [FILL]

BLACK SILTY CLAY (5Y 2.5/1) abundant organic matter, fine to coarse sand, damp, hard (0,15,85)

DARK GREENISH GRAY SILTY CLAY (5GY 4/1) with fine sand, strong petroleum hydrocarbon odor, stiff, damp (0,25,75)

DRILLING NOTES:
1. Boring completed at a depth of 10.0 feet on 5/15/95.
2. Soil samples were collected by driving a 1.875-inch diameter by 3-foot long sample barrel into undistured soil.
3 Boring log indicates subsurface conditions only at the location and time the boring was drilled.
4. Field estimates of percent gravel, sand, and fines are shown in parentheses.

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FIGURE

A-8

Surface Elev. N/A

Coordinates See Site Plan

Drill Date: Start 5/15/95 Finish 5/15/95

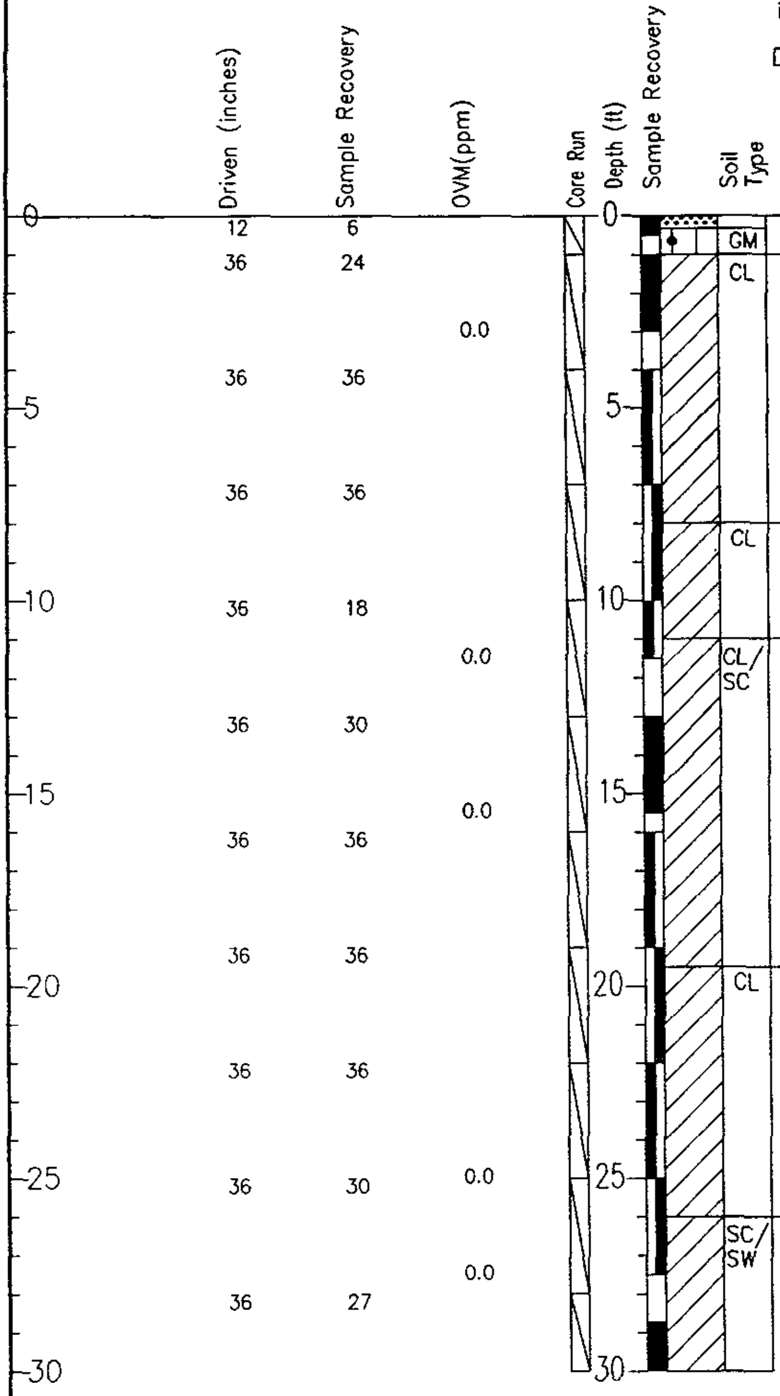
Drill Method Hydraulic-driven core barrel inside 2 1/2-inch diameter rod; Custom designed drill rig (DA-1,XD-1)

Driller Precision Sampling, Inc. / Mike Polkinghorn

Logged by Kim Jolitz

Reviewed by David Harnish

Driven (inches)	Sample Recovery	OVM(ppm)
12	6	
36	24	
		0.0
36	36	
36	36	
36	18	
		0.0
36	30	
		0.0
36	36	
36	36	
36	36	
		0.0
36	30	
		0.0
36	27	



Soil Type	Description
GM	4 inches asphalt over gray silty gravel [FILL]
CL	VERY DARK GRAY SILTY CLAY (10YR 3/1), with trace fine gravel and roots, high organic content, very stiff, damp, (5% gravel, 15% sand, 80% fines) Color becomes very dark grayish brown (10YR 3/2) from 4.2 ft.
CL	OLIVE GRAY SILTY CLAY (5Y 5/2) with sand and trace calcareous nodules, stiff, damp (5,10,85)
CL/SC	LIGHT OLIVE BROWN SANDY CLAY WITH CLAYEY SAND (2.5Y 5/4) with gravel and occasional iron oxides, stiff, damp (5,35,60) Becomes moist at 14.0 ft. 6-inch lens of clayey sand at 19 ft.
CL	MOTTLED LIGHT OLIVE BROWN (2.5Y 5/3) AND DARK YELLOWISH BROWN SILTY CLAY (10YR 4/4) with sand, medium stiff, moist (0,25,75) 6-inch lens of clayey sand at 22 ft. Grades with increasing silt from 24 to 26 ft.
SC/SW	DARK YELLOWISH BROWN CLAYEY WELL-GRADED GRAVELLY SAND (10YR 4/4), wet

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FIGURE

A-9

Surface Elev. N/A

Coordinates See Site Plan

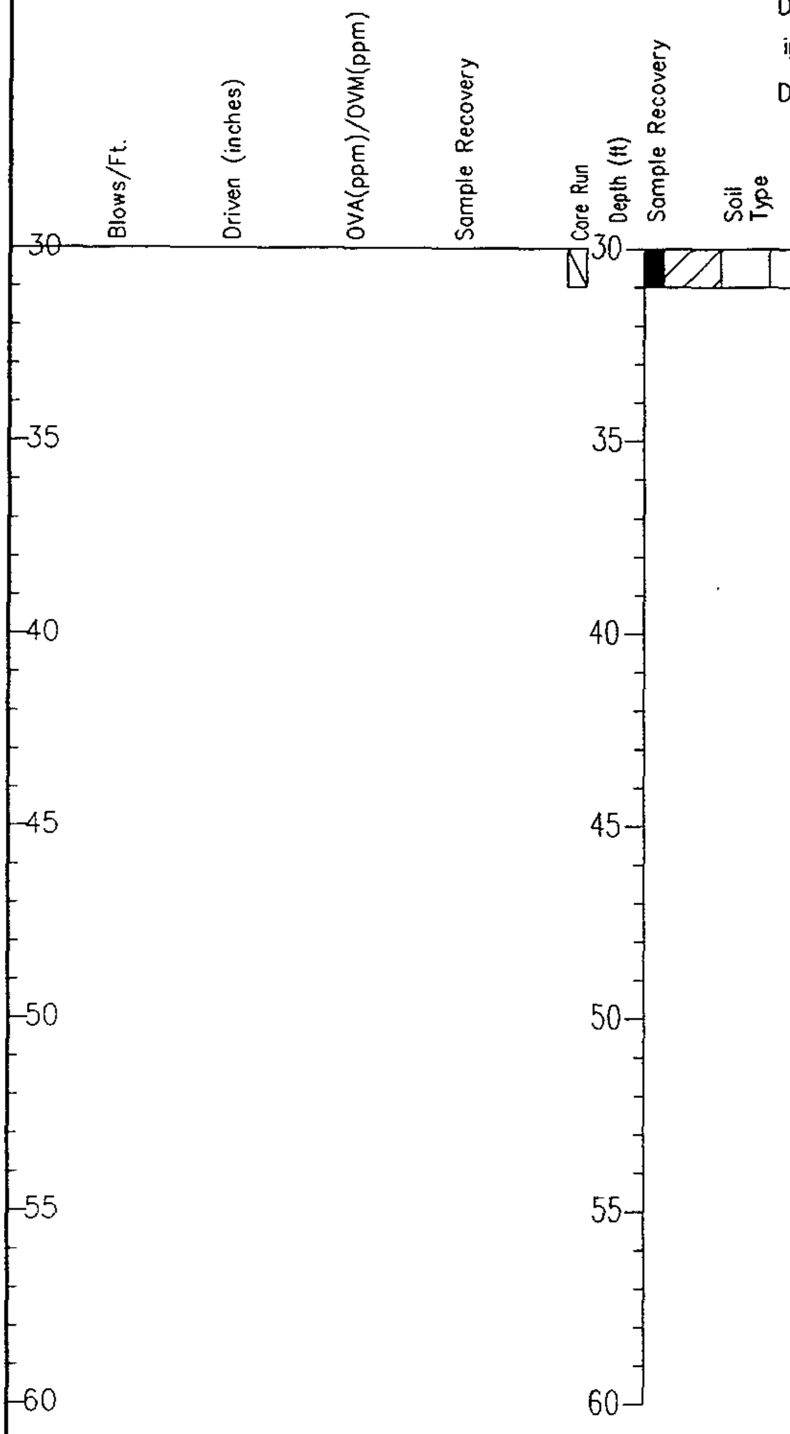
Drill Date: Start 5/15/95 Finish 5/15/95

Drill Method Hydraulic-driven core barrel inside 2 1/2-inch diameter rod; custom designed drill rig (DA-1,XD-1)

Driller Precision Sampling, Inc. / Mike Polkinghorn

Logged by Kim Jolitz

Reviewed by David Harnish



DRILLING NOTES:

1. Boring completed at a depth of 31.0 feet on 5/15/95.
2. Soil samples were collected by driving a 1.875-inch diameter by 3-foot long sample barrel into undistured soil.
3. During drilling the outer well drilling rods were left in place to a depth of 21 feet. Once the boring was completed, a 1-inch diameter PVC well casing with 0.010-inch slotted screen was placed into the borehole. The screen was set from 21 to 31 feet.
4. Depth to water in temporary PVC casing measured at 28.9 feet below ground surface on 5/15/95. Water level measured was not static.
5. A ground water grab sample was collected on 5/15/95.
6. Boring log indicates subsurface conditions only at the location and time the boring was drilled.
7. Field estimates of percent gravel, sand and fines are shown in parentheses.

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FIGURE

A-10

Surface Elev. N/A

Coordinates See Site Plan

Drill Date: Start 5/16/95 Finish 5/16/95

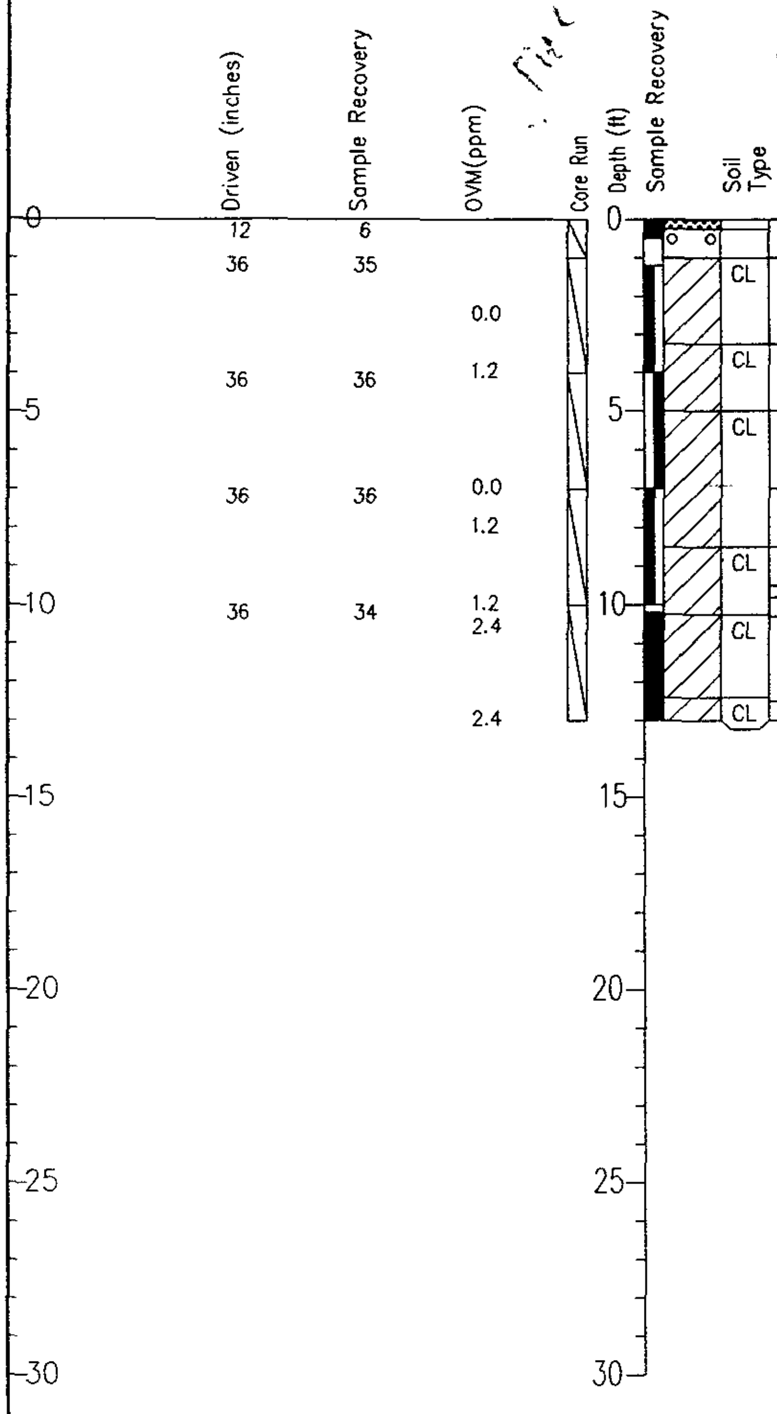
Drill Method Hydraulic-driven core barrel inside 2 1/2-inch diameter rod; custom designed drill rig (XD-1)

Driller Precision Sampling, Inc. / Mike Polkinghorn

Logged by Heidi Dieffenbach

Reviewed by David Harnish

Driven (inches)	Sample Recovery	OVM(ppm)
12	6	
36	35	
		0.0
36	36	1.2
36	36	0.0
		1.2
36	34	1.2
		2.4
		2.4



Soil Type	Description
	3 inches asphalt, over angular gravelly sand
CL	BLACK SILTY CLAY (2.5Y 2.5/1) with subangular gravel and fine to coarse sand, red brick fragments, damp (15% gravel, 15% sand, 70% fines)
CL	DARK GRAY (10YR 4/1) AND DARK YELLOWISH BROWN (10YR 4/4) SILTY CLAY, with fine sand, black iron oxide flecks, faint iron oxide staining, damp, hard (2,23,75)
CL	VERY DARK GRAY (10YR 3/1) TO VERY DARK GRAYISH BROWN SILTY CLAY (10YR 3/2) with fine sand, some organic matter, occasional angular gravel, hard, damp (0,15,85) Color grades to dark gray (10YR 4/1) from 7.0 ft.
CL	GRAY SILTY CLAY (10YR 5/1) with fine sand, some orange iron oxide flecks, trace shell fragments, hard, damp (0,20,80) *Color grades to light brownish gray* (2.5Y 6/2) *from* 9.5 *ft.* Abundant shell fragments from 9.8 to 10.3 ft.
CL	LIGHT YELLOWISH BROWN SILTY CLAY (2.5Y 6/3) with fine variable colored sand, trace shell fragments, some orange iron oxide staining, damp (0,15,85)
CL	LIGHT YELLOWISH BROWN SANDY GRAVELLY CLAY (2.5Y 6/3) fine to coarse sand, angular to subangular gravel, shell fragments, orange iron oxide staining, damp (15,20,65)

DRILLING NOTES

1. Boring completed at a depth of 13.0 feet on 5/16/95.
2. Soil samples were collected by driving a 1.875-inch diameter by 3-foot long sample barrel into undisturbed soil.
3. Boring log indicates subsurface conditions only at the location and time the boring was drilled.
4. Field estimates of percent gravel, sand, and fines are shown in parentheses.

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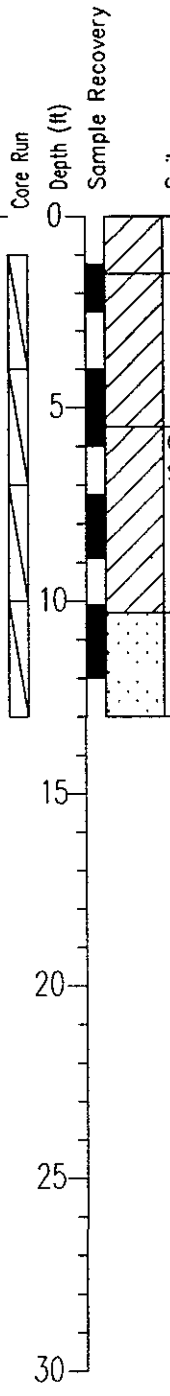
FIGURE

A-11

Surface Elev. N/A
Coordinates See Site Plan
Drill Date: Start 5/17/95 Finish 5/17/95
Drill Method Hydraulic-driven core barrel inside 2 1/2-inch diameter rod; Custom designed drill rig (XD-1)
Driller Precision Sampling, Inc. / Mike Polkinghorn
Logged by Heidi Dieffenbach
Reviewed by David Harnish

	Driven (inches)	Sample Recovery	OVM(ppm)
0			
	36	15	
			0.0
	36	24	
-5			
			0.0
	36	21	
			0.0
-10	36	20	
			794
-15			
-20			
-25			
-30			



Soil Type	
CL	VERY DARK GRAYISH BROWN SILTY CLAY (10YR 3/2) with fine sand, very faint iron oxide staining, damp, hard (0% gravel, 15% sand, 85% fines)
CL	BROWN SILTY CLAY (10YR 4/3) with fine sand, orange iron oxide staining, hard, damp (0,25,75) Becomes moist from 4.0 ft. Grades with fine sand from 5.0 ft.
CL/SC	DARK YELLOWISH BROWN SANDY CLAY TO CLAYEY SAND (10YR 4/4) with silt, trace subangular gravel, fine subangular sand, sand is well-sorted, moist to wet (3,40,57) 4-inch lens of gravelly sand from 8 4 ft
SW	VERY DARK GRAY GRAVELLY SAND (5Y 3/1) with some clay, subangular gravel, fine to coarse sand, poorly sorted, strong hydrocarbon odor, visible sheen, wet (15,45,40)

DRILLING NOTES:

1. Boring completed at a depth of 13.0 feet on 5/17/95.
2. Soil samples were collected by driving a 1.875-inch diameter by 3-foot long sample barrel into undistured soil
3. Once the boring was completed, a 1-inch diameter PVC well casing with 0.010-inch slotted screen was placed into the borehole. The screen was set from 3 to 13 feet.
4 Depth to water in temporary PVC casing measured at 5.8 feet below ground surface on 5/17/95.
5. A ground water grab sample was collected on 5/17/95.
6 Boring log indicates subsurface conditions only at the location and time the boring was drilled.
7. Field estimates of percent gravel, sand and fines are shown in parentheses.

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B-11

FIGURE
A-12

Surface Elev. N/A

Coordinates See Site Plan

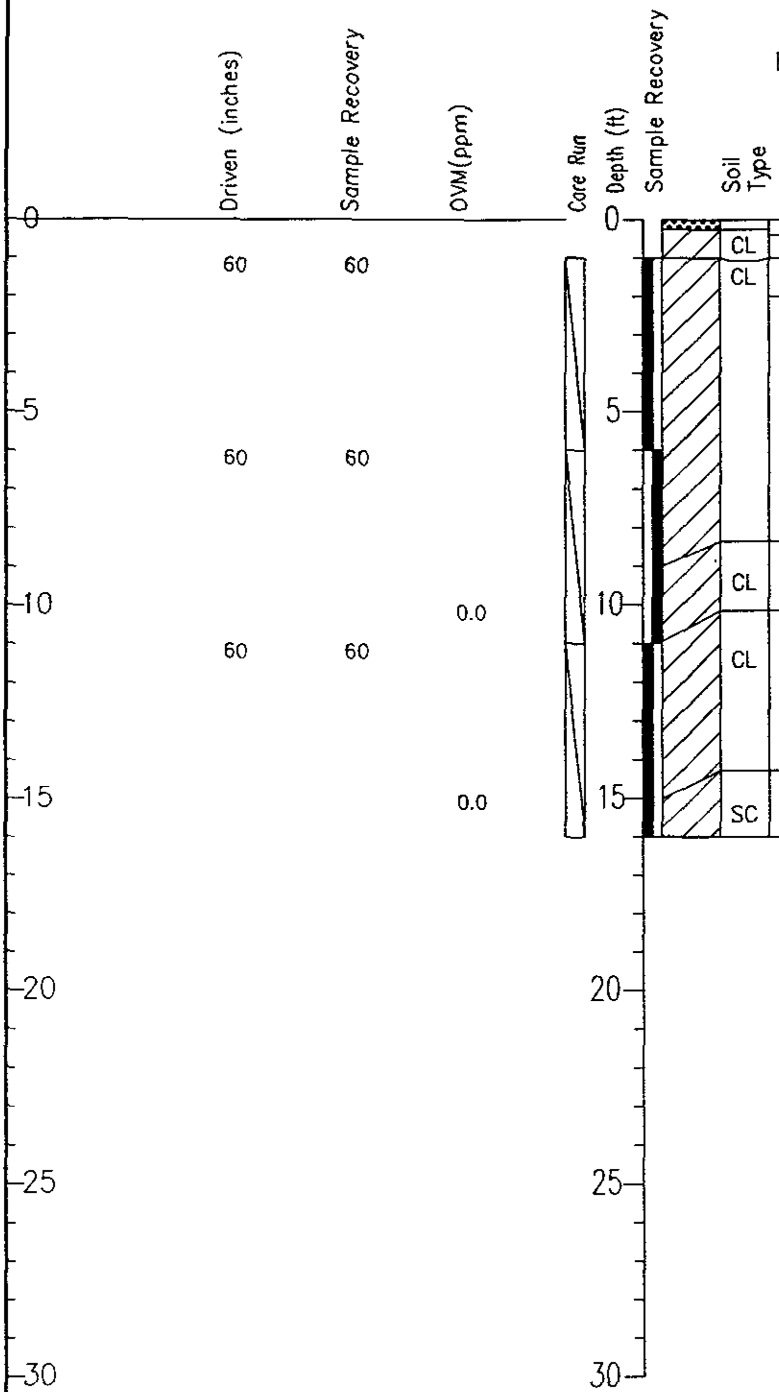
Drill Date: Start 6/6/95 Finish 6/6/95

Drill Method Moblie B-53; Hollow-Stem Augers, 6.25" O.D., 3.25" I.D., 7" bit

Driller Gregg Drilling/Ted Hogan

Logged by Kim Jolitz

Reviewed by Kim Jolitz



ASPHALT

CONCRETE

VERY DARK GRAY SILTY CLAY (10YR 3/1), very stiff, damp, (0% gravel, 25% sand, 75% fines)

Color becomes dark grayish brown (10YR 3/2) from 2.0 ft.

LIGHT OLIVE BROWN SILTY CLAY (2.5Y 5/3) with occasional *caliche, stiff, moist (0,25,75)*

OLIVE BROWN SILTY CLAY (2.5Y 4/3) with iron oxides and black flecks, very stiff, moist

MOTTLED LIGHT OLIVE BROWN (2.5Y 5/4) AND OLIVE GRAY (5Y 5/2) *CLAYEY SAND, damp, (0,60,40)*

DRILLING NOTES:
1. Boring completed at a depth of 16.0 feet on 6/6/95.
2 Continuous soil samples were collected using a 5-foot long (2.5" ID) core barrel.
3. Boring log indicates subsurface conditions only at the location and time the boring was drilled.
4. Field estimates of percent gravel, sand, and fines are shown in parentheses.

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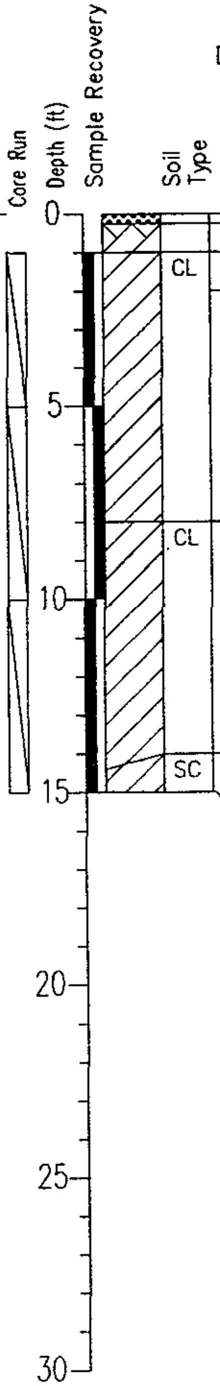
FIGURE

A-13

Surface Elev. N/A
Coordinates N/A
Drill Date: Start 6/7/95 Finish 6/7/95
Drill Method Mobile B-53; Hollow-Stem Auger, 6.25" O.D., 3.25" I.D., 7" bit.
Driller Gregg Drilling/Ted Hogan
Logged by Jake Russin
Reviewed by Kim Jolitz

Depth (ft)	Driven (inches)	Sample Recovery	OVM(ppm)
0			
	48	48	
			0.0
5	60	60	
			0.0
10	60	60	
15			0.0
20			
25			
30			



Soil Type	Description
	ASPHALT
	CONCRETE
CL	VERY DARK GRAY SILTY CLAY (10YR 3/1)with gravel, very stiff, moist, (10% Gravel, 20% sand, 70% fines), Color becomes dark grayish brown (10YR 3/2) from 2.0 ft.
CL	LIGHT OLIVE BROWN SILTY CLAY (2.5Y 5/3) with trace nodules caliche, iron-oxide streaking, stiff, moist (0,25,75) *Color becomes olive brown (2.5Y 4/3) from 10' to 11'*
SC	MOTTLED LIGHT OLIVE BROWN (2.5Y 5/4) AND OLIVE GRAY (5Y 5/2) CLAYEY SAND, soft, moist (0,55,45)

DRILLING NOTES:
1. Boring completed at a depth of 15 feet on 6/7/95.
2 Continuous soil samples were collected using a 5-foot long (2.5" ID) core barrel.
3. Boring log indicates subsurface conditions only at the location and time the boring was drilled.
4. Field estimates of percent gravel, sand, and fines are shown in parentheses.

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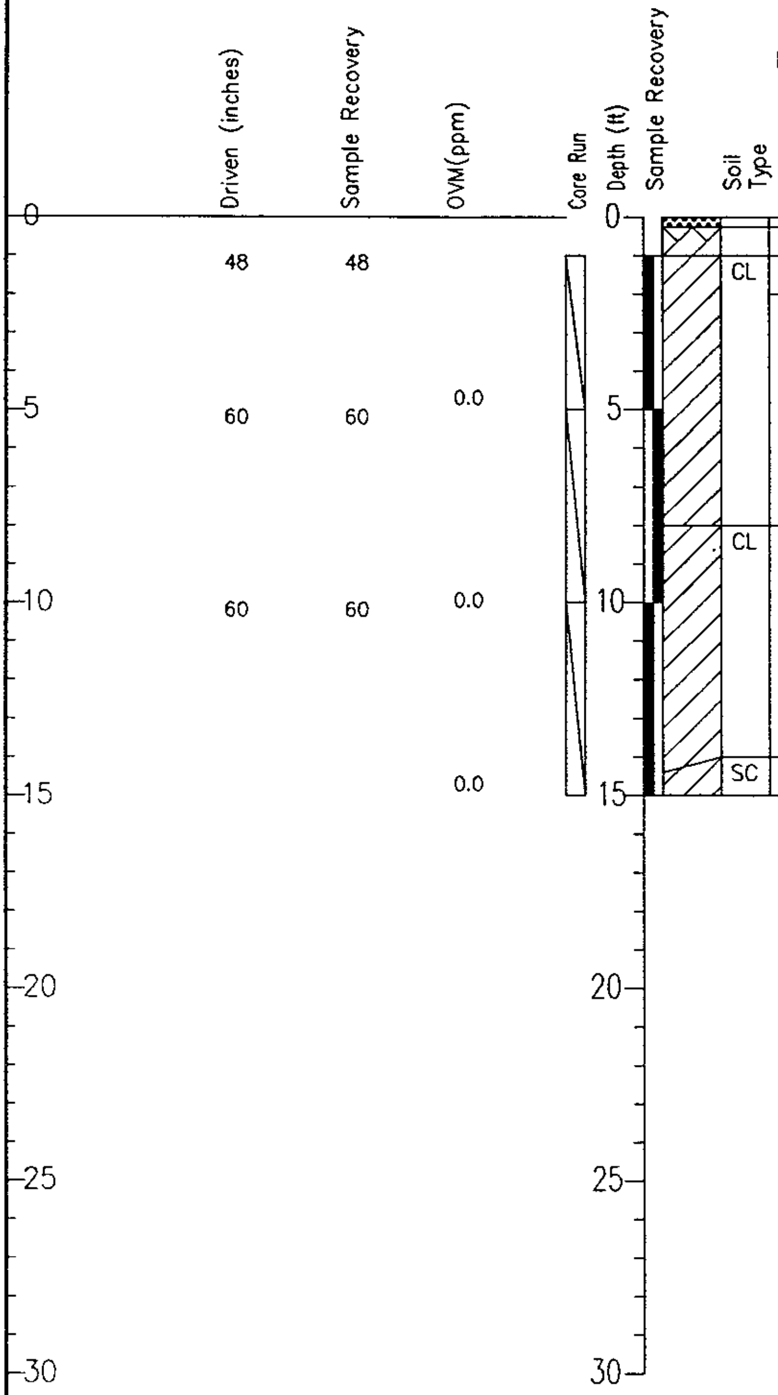
B-14

FIGURE
A-14

Surface Elev. N/A
Coordinates See Site Plan
Drill Date: Start 6/7/95 Finish 6/7/95
Drill Method Mobile B-53; Hollow-Stem Auger, 6.25" O.D., 3.25" I.D., 7" bit.
Driller Gregg Drilling/Rich Nessinger
Logged by Jake Russin
Reviewed by Kim Jolitz

Driven (inches)	Sample Recovery	OVM(ppm)
48	48	
60	60	0.0
60	60	0.0
		0.0



ASPHALT

CONCRETE

VERY DARK GRAY SILTY CLAY (10YR 3/1), very stiff, moist,

Color becomes dark grayish brown (10YR 3/2) from 2.0 ft.

LIGHT OLIVE BROWN SILTY CLAY (2.5Y 5/3) with occasional caliche, iron oxide, very stiff, moist (0,25,75)

Color becomes olive brown (2.5Y 4/3) from 10-11 feet, with black flecks

MOTTLED LIGHT OLIVE BROWN (2.5Y 5/4) AND OLIVE GRAY (5Y 5/2) CLAYEY SAND, soft, moist, (0,60,40)

DRILLING NOTES:

1. Boring completed at a depth of 15.0 feet on 6/7/95.
2. Continuous soil samples were collected using a 5-foot long (2.5" ID) core barrel.
3. Boring log indicates subsurface conditions only at the location and time the boring was drilled.
4. Field estimates of percent gravel, sand, and fines are shown in parentheses

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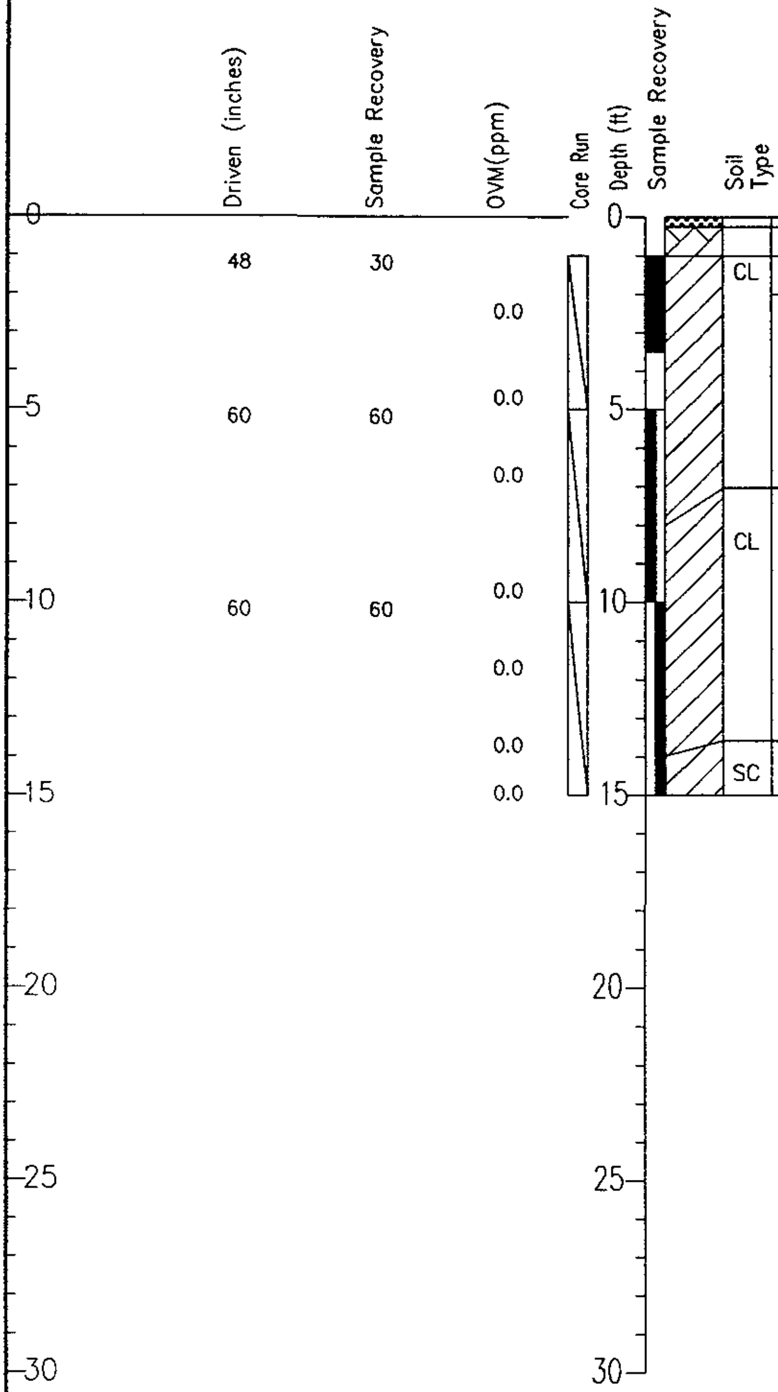
B-15

FIGURE
A-15

Surface Elev. N/A
Coordinates Refer to Site Plan
Drill Date: Start 6/8/95 Finish 6/8/95
Drill Method Mobile B-53; Hollow-Stem Auger, 6.25" O.D., 3.25" I.D., 7" bit.
Driller Gregg Drilling/Rich Nessinger
Logged by Jake Russin
Reviewed by Kim Jolitz



ASPHALT

CONCRETE

VERY DARK GRAY SILTY CLAY (10YR 3/1), very stiff, moist
Color becomes very dark grayish brown (10YR 3/2) from 2.5 ft.

MOTTLED LIGHT OLIVE BROWN (2.5Y 5/4) AND OLIVE GRAY SILTY CLAY (5Y 5/2), with occasional caliche nodules very stiff, moist.

MOTTLED LIGHT OLIVE BROWN (2.5Y 5/4) AND OLIVE GRAY (5Y 5/2) CLAYEY SAND, medium stiff, wet (0% gravel, 60% sand, 40% fines)

DRILLING NOTES:
1. Boring completed at a depth of 15.0 feet on 6/8/95.
2. Continuous soil samples were collected using a 5-foot long (2.5" ID) core barrel.
3. Boring log indicates subsurface conditions only at the location and time the boring was drilled.
4. Field estimates of percent gravel, sand, and fines are shown in parentheses.

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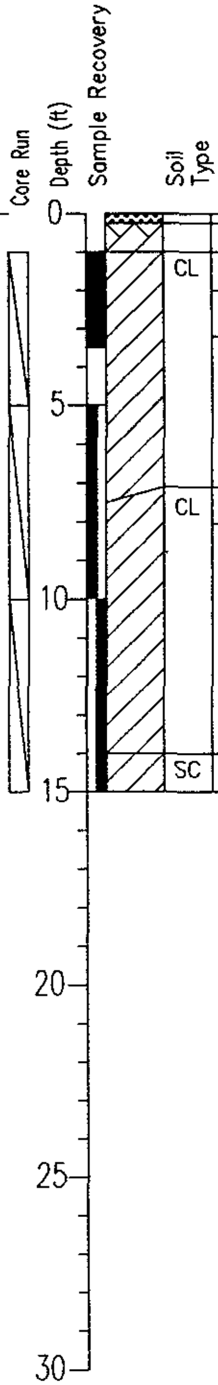
FIGURE
A-16

Surface Elev. N/A
Coordinates N/A
Drill Date: Start 6/8/95 Finish 6/8/95
Drill Method Mobile B-53; Hollow-Stem Auger, 6.25" O.D., 3.25" I.D., 7" bit.
Driller Gregg Drilling/Rich Nessinger
Logged by Jake Russin
Reviewed by Kim Jolitz

	Driven (inches)	Sample Recovery	OVM(ppm)
0			
	48	30	
			0.0
			0.0
5	60	60	
			0.0
			0.0
10	60	60	
			0.0
			0.0
15			0.0
20			
25			
30			



ASPHALT

CONCRETE

VERY DARK GRAY SILTY CLAY (10YR 3/1) with sand, very stiff, moist
Color becomes very dark grayish brown (10YR 3/2) from 2.5 ft.
Color is dark greenish gray (5G 3/1) from 3.2 to 3.5 ft.

OLIVE GRAY SILTY CLAY (5Y 5/3) with caliche and black flecks, stiff, moist (0% gravel, 25% sand, 75% fines)
Color becomes light olive brown (2.5Y 5/3) from 8.5 ft

▽ MOTTLED LIGHT OLIVE BROWN (2.5Y 5/4) AND OLIVE GRAY (5Y 5/2) CLAYEY SAND, stiff, wet (0,55,45)

DRILLING NOTES:
1. Boring completed at a depth of 15.0 feet on 6/8/95.
2 Continuous soil samples were collected using a 5-foot long (2.5" ID) core barrel.
3. Boring log indicates subsurface conditions only at the location and time the boring was drilled.
4. Field estimates of percent gravel, sand, and fines are shown in parentheses.

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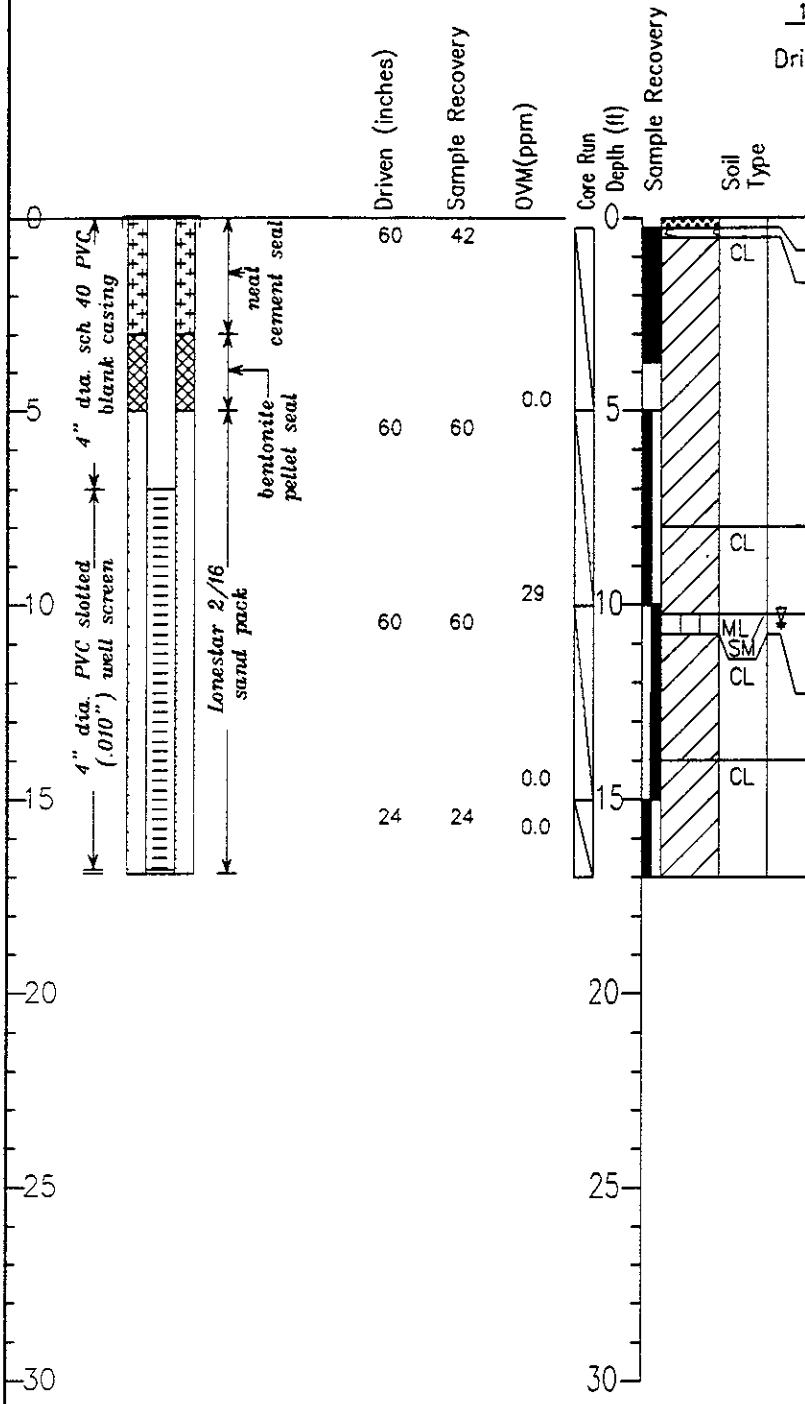
B-17

FIGURE
A-17

Top of PVC Casing
Elevation: 40.84feet, MSL Datum

Surface Elev. 41.28 feet MSL Datum
Coordinates N6017.36, E4697.85
Drill Date: Start 6/7/95 Finish 6/7/95
Drill Method Mobile B-53; Hollow-Stem Auger, 10" O.D., 6.25" I.D., 11" bit.
Driller Gregg Drilling/Ted Hogan
Logged by Jake Russin
Reviewed by Kim Jalitz



ASPHALT

GRAY SILTY GRAVEL (10YR 5/1) [FILL]

VERY DARK GRAYISH BROWN SILTY CLAY (10YR 4/2), moist, very stiff, (0% gravel, 25% sand, 75% fines)

Grades with decreasing silt content from 5.3 feet

MOTTLED DARK GRAYISH BROWN (2.5Y 4/2) AND GREENISH GRAY (5GY 4/1) SILTY CLAY with sand, angular gravel, strong hydrocarbon odor, moist, very stiff

MOTTLED LIGHT OLIVE BROWN (2.5Y 5/3) AND PALE OLIVE SANDY SILT (5Y 6/4) wet, stiff, (0,40,60)

MOTTLED LIGHT OLIVE BROWN SILTY CLAY (2.5Y 5/3 and 2.5Y 5/6) with sand, soft, wet, (0,30,70)

OLIVE GRAY SILTY CLAY (5Y 5/2) with sand, very stiff, moist, (0,20,80)

DRILLING NOTES:
1. Boring completed at a depth of 17.0 feet on 6/17/95.
2. Continuous soil samples were collected using a 5-foot long (2.5" ID) core barrel.
3. Boring log indicates subsurface conditions only at the location and time the boring was drilled.
4 Field estimates of percent gravel, sand, and fines are shown in parentheses.

MONITORING WELL NOTES:
1 4-inch diameter PVC well casing installed to a depth of 17.0 feet on 06/07/95.
2 Screened interval from 7.0 to 17.0 feet; sand pack from 5.0 to 17.0 feet.
3. Static ground water level recorded at a depth of 7.04 feet below top of casing on 6/15/95.

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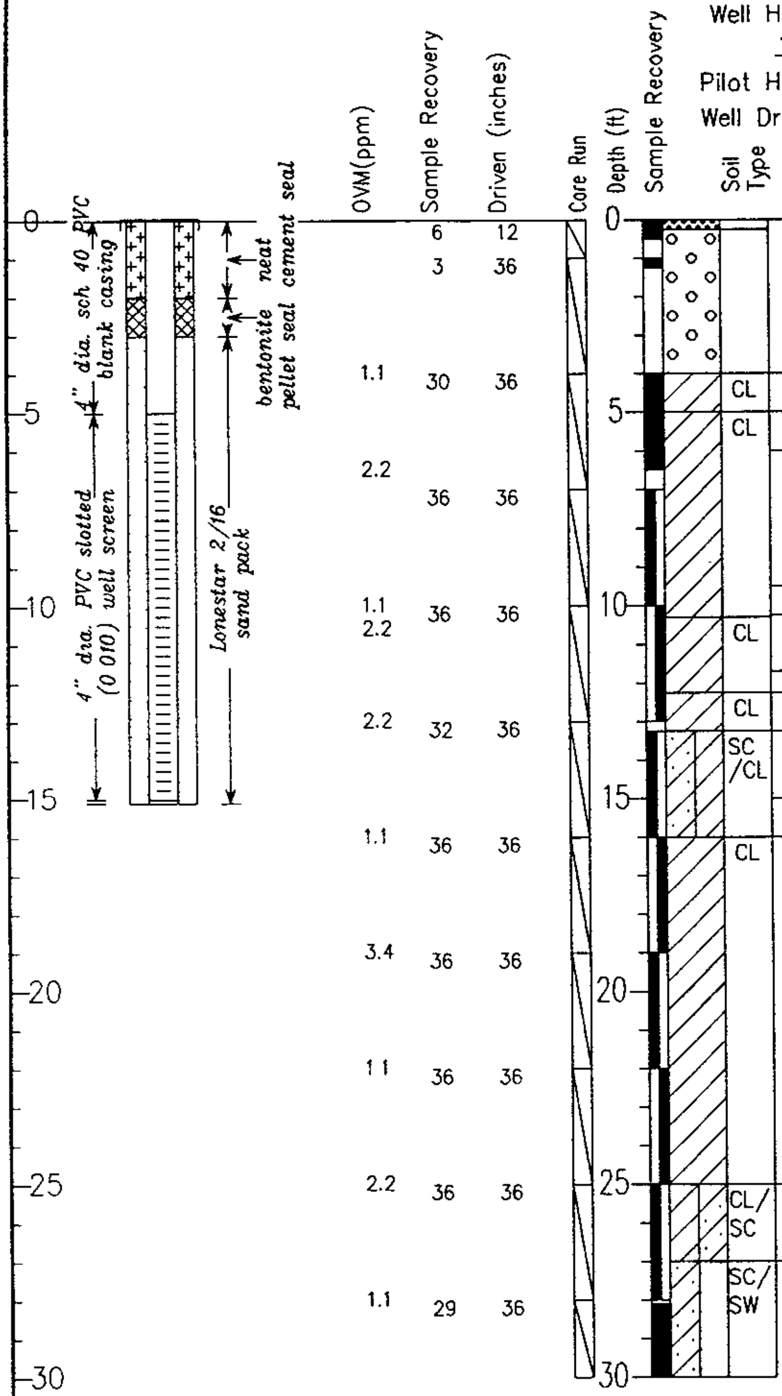
MW1

FIGURE
A-18

Top of PVC Casing
Elevation: 42.38, MSL Datum

Surface Elev. 42.85 feet, MSL Datum
Coordinates N5833.13, E4733.91
Pilot Hole Drill Date: Start 5/16/95 Finish 5/16/95
Well Hole Drill Date: Start 6/6/95 Finish 6/6/95
Pilot Hole Drill Method Hydraulic-driven core barrel inside 2 1/2-inch diameter rod; custom designed drill rig (XD-1)
Well Hole Drill Method Mobile B-53; Hollow-Stem Auger, 10" O.D., 6.25" I.D., 11" bit.
Pilot Hole Driller Precision Sampling, Inc. / Mike Polkinghorn
Well Driller Gregg Drilling/Ted Hogan
Logged by Heidi Dieffenbach
Reviewed by David Harnish



OVM(ppm)	Sample Recovery	Driven (inches)
	6	12
	3	36
1.1	30	36
2.2	36	36
1.1 2.2	36	36
2.2	32	36
1.1	36	36
3.4	36	36
1 1	36	36
2.2	36	36
1.1	29	36

3 inches asphalt, underlain by sandy gravel

BLACK SILTY CLAY (5Y 2.5/1), with very fine sand, rich in organic matter very stiff, damp (0% gravel, 10% sand, 90% fines)

DARK YELLOWISH BROWN SILTY CLAY (10YR 4/4) with fine to medium sand, trace coarse sand, faint orange iron oxide staining, trace black iron oxide flecks, hard, damp, (0,20,80)

Color grades to very dark grayish brown (10YR 3/2) from 6.0 ft.

Color grades to grayish brown (10YR 5/2) from 9.5 ft

PALE OLIVE SILTY CLAY (5Y 6/4), with fine sand, with calcareous concretions, damp, stiff (0,15,85)

6-inch lens of sandy gravelly clay at 11.7 ft., gravel is subangular

LIGHT OLIVE BROWN SILTY CLAY (2.5Y 5/3) with fine to medium sand, sand is subangular, some orange iron oxide flecks, moist, stiff (0,20,80)

LIGHT OLIVE BROWN SANDY CLAY (2.5Y 5/3), fine to coarse sand, subrounded to subangular, pervasive orange iron oxide staining moist (0,30,70)

12-inch lens of gravelly clay from 15.0 ft.

LIGHT OLIVE BROWN SILTY CLAY (2.5Y 5/3) with fine sand, pervasive orange iron oxide staining, stiff, moist (0,15,85)

Grades with increasing silt and fine sand from 22.0 ft.

LIGHT YELLOWISH BROWN SANDY CLAY TO CLAYEY SAND (10YR 6/4) with subangular gravel, fine to coarse sand, poorly sorted, wet (20,35,45)

YELLOWISH BROWN CLAYEY WELL-GRADED SAND (10YR 5/4) with subangular gravel, fine to coarse sand, variable colored gravel, poorly sorted, wet (30,40,30)

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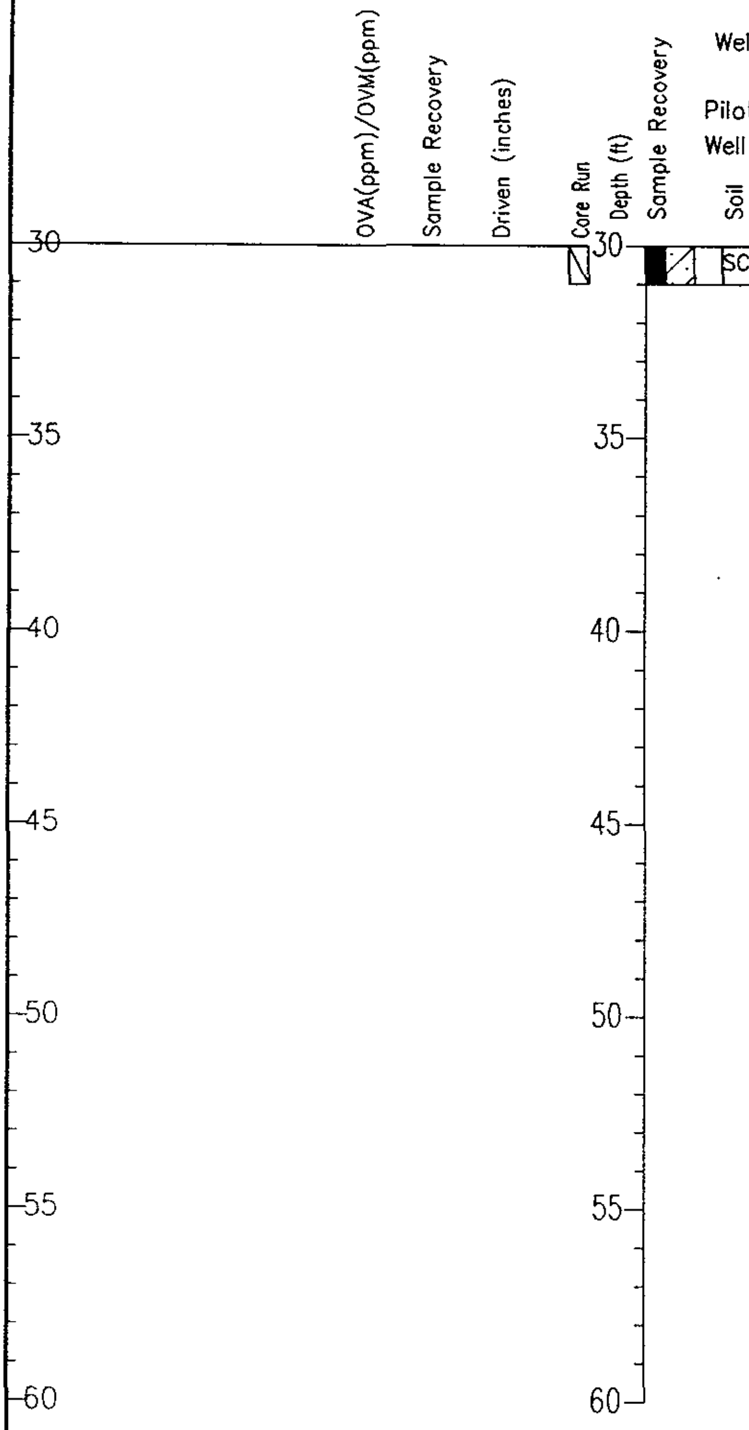
MW2 (B-8)

FIGURE
A-19

Surface Elev. N/A
Coordinates See Site Plan
Pilot Hole Drill Date: Start 5/16/95 Finish 5/16/95
Well Hole Drill Date: Start 6/6/95 Finish 6/6/95
Pilot Hole Drill Method Hydraulic-driven core barrel inside 2 1/2-inch diameter rod; custom designed drill rig (XD-1)
Well Hole Drill Method Mobile B-53; Hollow-Stem Auger, 10" O.D., 6.25" I.D., 11" bit.
Pilot Hole Driller Precision Sampling, Inc. / Mike Polkinghorn
Well Driller Gregg Drilling/Ted Hogan
Logged by Heidi Dieffenbach
Reviewed by David Harnish



DRILLING NOTES:

1. Boring completed at a depth of 31.0 feet on 5/16/95.
2. Soil samples were collected by driving a 1.875-inch diameter by 3-foot long sample barrel into undisturbed soil.
3. During drilling the outer well drilling rods were left in place to a depth of 21 feet. Once the boring was completed, a 1-inch diameter PVC well casing with 0.010-inch slotted screen was placed into the borehole. The screen was set from 21 to 31 feet.
4. Depth to water in temporary PVC casing measured at 22.22 feet below ground surface on 5/16/95. Water level measured was not static.
5. A ground water grab sample was collected on 5/16/95.
6. Boring log indicates subsurface conditions only at the location and time the boring was drilled
7. Field estimates of percent gravel, sand and fines are shown in parentheses.

MONITORING WELL NOTES:

1. 4-inch diameter PVC well casing to a depth of 15 feet on 6/6/95.
2. Screened interval from 5 to 15 feet, sand pack from 3 to 15 feet.
3. Static ground water level recorded at a depth of 9.61 feet below top of casing on 6/15/95.

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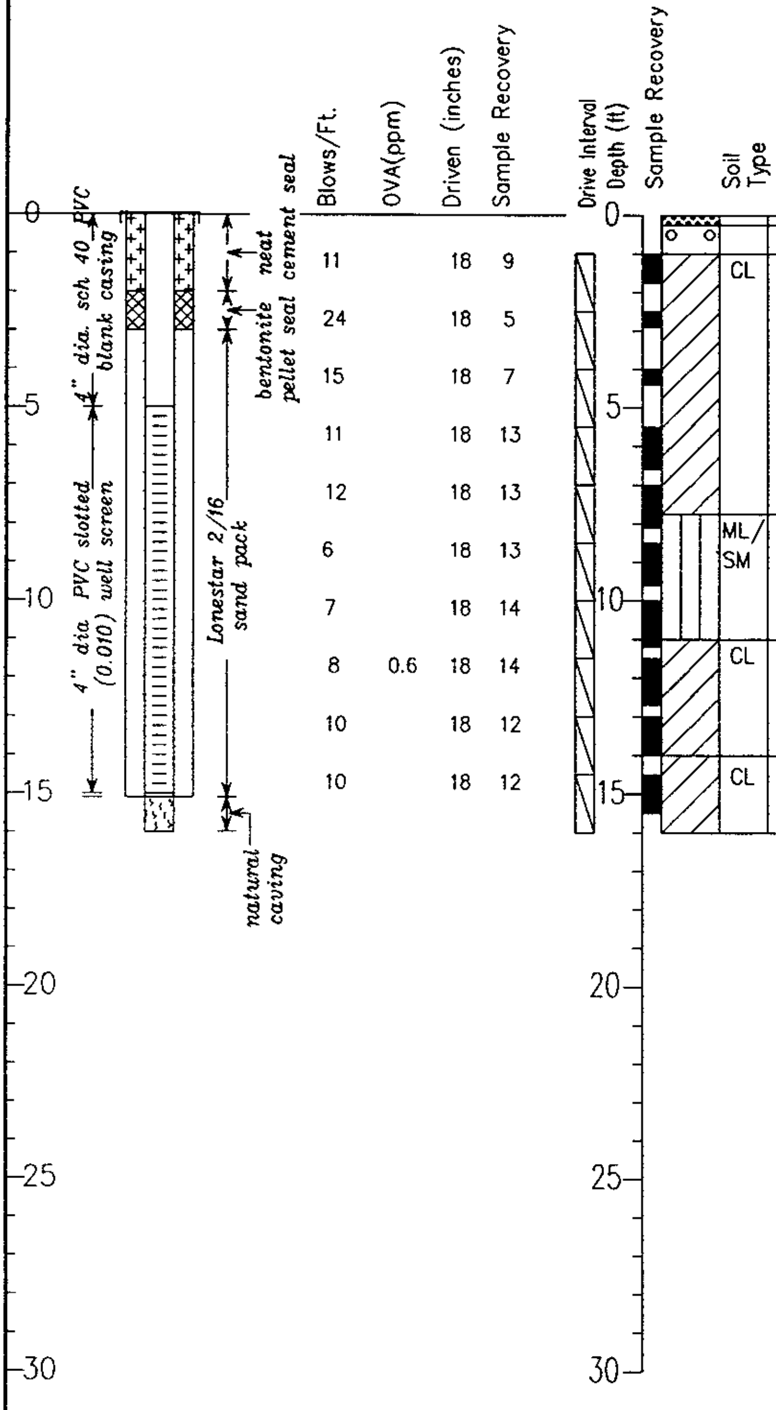
MW2 (B-8)

FIGURE
A-20

Top of PVC Casing
Elevation: 38.70 ft., MSL Datum

Surface Elev. 39.21 feet MSL Datum
Coordinates N: 5847.90, E: 4491.67
Drill Date: Start 6/6/95 Finish 6/6/95
Drill Method Mobile B-53; Hollow-Stem Auger,
Pilot Hole 6.25"O.D., 3.25" I.D., 7" bit
Reamed Hole 10" O.D., 6.25" I.D., 11" bit.
Driller Gregg Drilling/Ted Hogan
Logged by Jake Russin
Reviewed by Kim Jolitz



Blows/Ft.	OVA(ppm)	Driven (inches)	Sample Recovery
11		18	9
24		18	5
15		18	7
11		18	13
12		18	13
6		18	13
7		18	14
8	0.6	18	14
10		18	12
10		18	12

ASPHALT

GRAY SILTY GRAVEL (10YR5/1) [FILL]

VERY DARK GRAY SILTY CLAY (10YR 3/1) hard, damp (0% gravel, 20% sand, 80% fines)

Color becomes dark grayish brown (10YR 4/2) from 4 ft.

Becomes sandy silt from 7.0 ft.

OLIVE GRAY SANDY SILT (5Y 4/2) soft, moist, (0,40,60)

OLIVE GRAY SILTY CLAY (5Y 5/2), with sand and trace gravel, stiff, wet, (5,20,75)

MOTTLED LIGHT OLIVE BROWN (2.5Y 5/4) AND OLIVE-GRAY (5Y 5/2) SANDY CLAY with fine gravel and occasional iron oxides, stiff, wet (5,30,65)

DRILLING NOTES:

1. Boring completed at a depth of 16.0 feet on 6/6/95.
2. Continuous soil samples were collected using a California split spoon sampler (2" ID). Sampling resistance is shown in blows per foot using a 140 lb. hammer falling 30-inches.
3. Boring log indicates subsurface conditions only at the location and time the boring was drilled.
4. Field estimates of percent gravel, sand, and fines are shown in parentheses.

MONITORING WELL NOTES:

1. 4-inch diameter PVC well casing installed to a depth of 15.0 feet on 6/6/95.
2. Screened interval from 5.0 to 15.0 feet; sand pack from 3.0 to 15.0 feet.
3. Static ground water level recorded at a depth of 8.67 feet below top of casing on 6/15/95.

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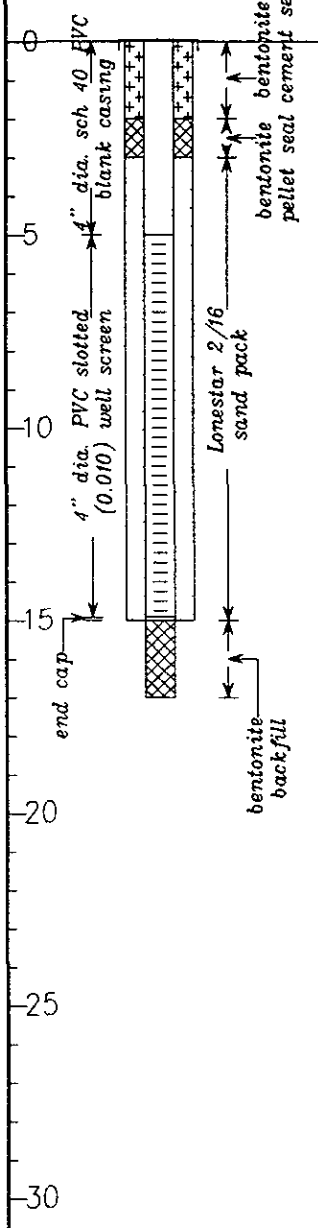
MW3

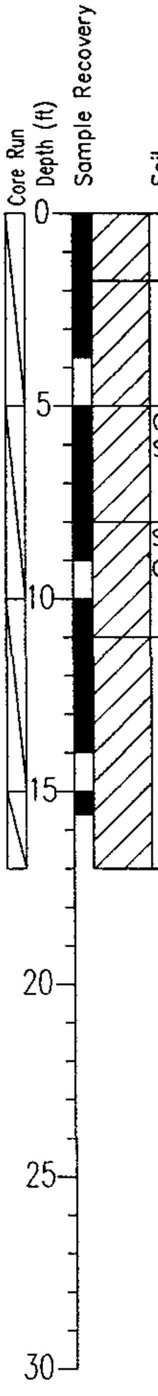
FIGURE
A-21

Top of PVC Casing
Elevation: 35.59 ft., MSL Datum

Surface Elev. 36.03 feet MSL Datum
Coordinates N:5811.29, E:4603.47
Drill Date: Start 6/9/95 Finish 6/9/95
Drill Method Mobile B-53; Hollow-Stem Auger,
Pilot Hole 6.25" O.D., 3.25" I.D., 7" bit.
Reamed Hole 10" O.D., 6.25" I.D., 11" bit
Driller Gregg Drilling/Rich Nessinger
Logged by Jake Russin
Reviewed by Kim Jolitz



Driven (inches)	Sample Recovery	OVA(ppm)/OVM(ppm)
60	45	
		0.0
		0.0
60	48	0.0
		0.0
60	48	13.5
		0.0
		0.0
24	7	0.0



Soil Type	
CL	VERY DARK GRAYISH BROWN SILTY CLAY (10YR 3/2) with some fine sand, hard, moist (0% gravel, 20% sand, 80% fines)
CL	BROWN SILTY CLAY (10YR 4/3), with sand very stiff, moist (0,30,70)
CL/SC ∇	BROWN SANDY CLAY TO CLAYEY SAND (10YR 4/3) with silt and trace gravel, sand is well-sorted, moist (5,45,50) Becomes wet from 7 ft.
SC/GC	BROWN CLAYEY SAND AND GRAVEL (10YR 3/3), poorly sorted, visible sheen, occasional dark greenish gray (10BG 3/1) discoloration, very soft, wet (40,40,20)
CL	MOTTLED DARK YELLOWISH BROWN (10YR 4/4) AND OLIVE GRAY SILTY CLAY (5Y 5/2) with sand and gravel, very stiff, wet (5,25,70) Color becomes dark yellowish brown (10YR 4/4) at 15 ft.

DRILLING NOTES:
1. Boring completed at a depth of 17.0 feet on 6/9/95.
2 Continuous soil samples were collected using a 5-foot long (2.5" ID) core barrel.
3. Boring log indicates subsurface conditions only at the location and time the boring was drilled
4. Field estimates of percent gravel, sand, and fines are shown in parentheses.

MONITORING WELL NOTES:
1. 4-inch diameter PVC well casing installed to a depth of 15.0 feet on 6/9/95.
2. Screened interval from 5.0 to 15.0 feet; sand pack from 3.0 to 15.0 feet.
3. Static ground water level recorded at a depth of 8.31 feet below top of casing on 6/15/95.

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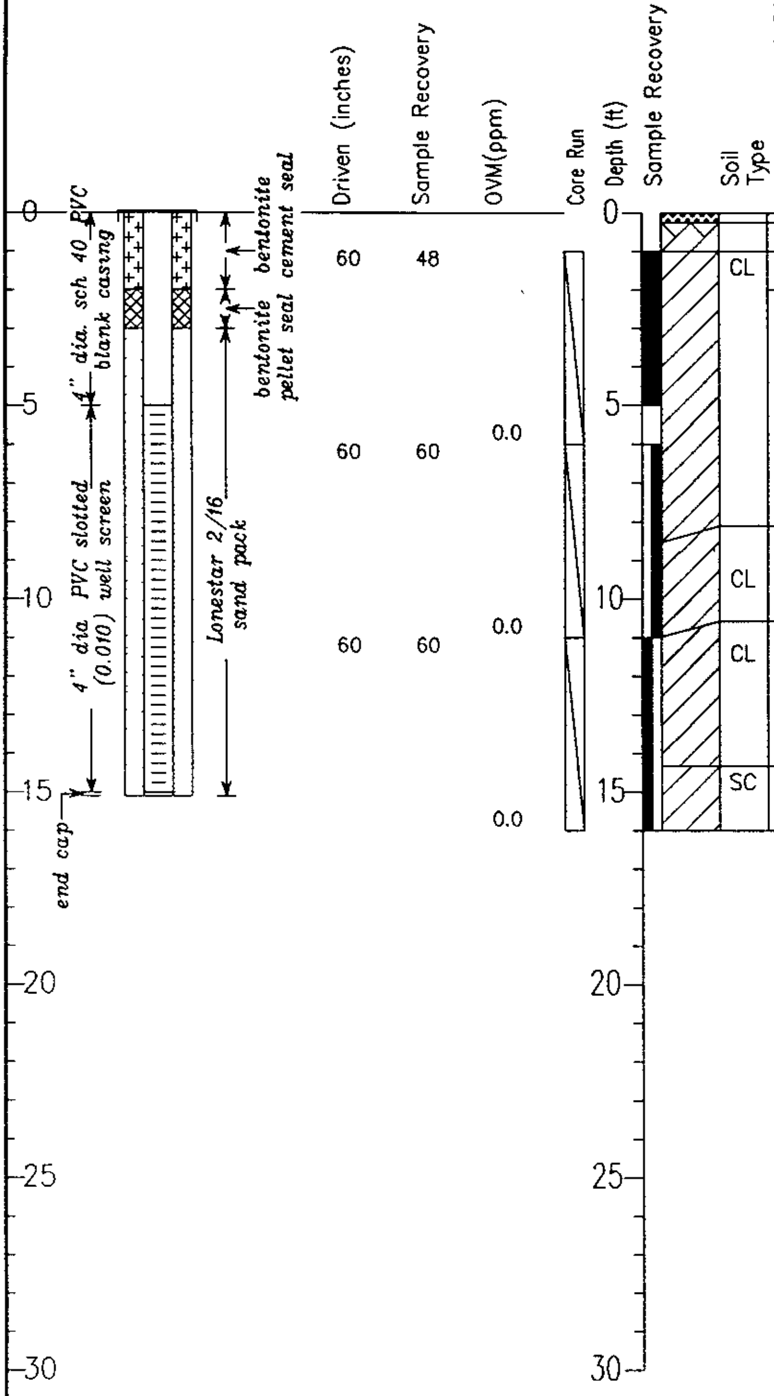
MW4

FIGURE
A-22

Top of PVC Casing
Elevation: 32.90 feet, MSL Datum

Surface Elev. 33.44 feet, MSL Datum
Coordinates N: 5771.91 E: 4149.27
Pilot Hole Drill Date: Start 6/6/95 Finish 6/6/95
Well Hole Drill Date: Start 6/9/95 Finish 6/9/95
Drill Method Mobile B-53; Hollow-Stem Auger.
Pilot Hole 6.25" OD, 3.25" ID, 7" bit.
Well Hole 10" O.D., 6.25" I.D., 11" bit.
Driller Gregg Drilling/Ted Hogan, Rich Nessinger
Logged by Jake Russin
Reviewed by Kim Jolitz



ASPHALT

CONCRETE

VERY DARK GRAY SILTY CLAY (10YR 3/1), very stiff, moist (0% gravel, 25% sand, 75% fines)
Color becomes dark grayish brown (10YR 3/2) from 2.0 ft

LIGHT OLIVE BROWN SILTY CLAY (2.5Y 5/3) with trace calcareous nodules, very stiff, moist (0,25,75)

OLIVE BROWN SILTY CLAY (2.5Y 4/3) with iron oxides and occasional black flecks, trace gravel and calcareous nodules (5,20,65)

MOTTLED LIGHT OLIVE BROWN (2.5Y 5/4) AND OLIVE GRAY CLAYEY SAND (5Y 5/2) with gravel, soft, damp (10,50,40)

DRILLING NOTES.
1. Boring completed at a depth of 16.0 feet on 6/6/95.
2 Boring log indicates subsurface conditions only at the location and time the boring was drilled
3 Field estimates of percent gravel, sand, and fines are shown in parentheses.

MONITORING WELL NOTES:
1. 4-inch diameter PVC well casing was installed to to a depth of 15.0 feet on 6/9/95.
2. Screened interval from 5.0 to 15.0 feet; sand pack from 3.0 to 15.0 feet.
3. Static ground water level recorded at a depth of 7.35 feet below top of casing on 6/15/95.

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MW5 (B-13)

FIGURE
A-23

WELL PURGING AND SAMPLING LOGS

(MONITORING WELLS)

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5820 Shellmound St. Suite 700
Emeryville, California 94608

WATER PURGING AND SAMPLING LOG

WELL NO. MW#1

PROJECT NAME Standard Brands Phase II

SAMPLING DATE 15 June 1995

CONTRACT NUMBER 03-4603D

P.M./SAMPLER(S) Harrish / Rissin

EQUIPMENT MODEL/TYPE	SERIAL NO.	DATE CALIBRATED	TEMP (°C)	STANDARD/ACTUA
Fluke 51 K/J Thermometer	5605135	Self-Calibrating		
HF Instruments DRT-15C (turb.)	n/a	2/23/95	See Blaine Calibration Log	
Myron L PDS Meter	117933E	6/15/95	24c	7.0/7.0

PURGING/SAMPLING METHOD Middleberg / Teflon Bailer

EQUIPMENT CLEANING METHOD(S) Steam Cleaning

PURGE WATER DISPOSAL METHOD Welded-top drums

WELL NUMBER OR SAMPLING LOCATION MW 1

WELL CASING RADIUS (CR) (in) 4

TOTAL DEPTH (TD) OF WELL (ft) 16.90

DEPTH TO WATER (DTW) (ft) 7.04

CASING VOLUME (gal) = (TD-DTW) $(CR)^2$ (.163) = 6.4

PURGING DATA

PURGING START TIME 1250

PURGING RATE (gpm) 1 gpm.

TIME/GALLONS SINCE START	TEMP (~~°C~~)	pH	CONDUCTIVITY (µmhos/cm)	TURBIDITY (NTU)	OTHER
1257/ 7	61.6 F	7.2	400	41.8	
1303/ 14	61.4 F	7.0	400	20.3	
1310/ 19.5	~~[illegible]~~ 61.2F	7.0	400	17.1	

PURGING STOP TIME 1310

GALLONS PURGED 19.5

CASING VOLUMES PURGED 3

OBSERVATIONS/COMMENTS
Blaine Tech: Crew: Mike Dilloughney Truck: #11

LABORATORY NAME CHROMALAB

SAMPLE I.D. MW1061595

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5820 Shellmound St. Suite 700
Emeryville, California 94608

WATER PURGING AND SAMPLING LOG

WELL NO. MW3

PROJECT NAME Standard Brands Phase II

SAMPLING DATE 15 June 1995

CONTRACT NUMBER 03-4603D

P.M./SAMPLER(S) Hanish / Rosson

EQUIPMENT MODEL/TYPE	SERIAL NO.	DATE CALIBRATED	TEMP (°C)	STANDARD/ACTUAL
Fluke 51 K/J Thermometer	5605135	Self-Calibrating		
HF Instruments DRT 15C (turbidimeter)	n/a	2/23/95	See Blaine	Calibration Logs
Myron L PDS Meter	1170133E	6/15/95	24c	7.0/7.0

PURGING/SAMPLING METHOD Middleberg / Teflon Bailer

EQUIPMENT CLEANING METHOD(S) Steam Cleaning

PURGE WATER DISPOSAL METHOD Welded-Top Drums

WELL NUMBER OR SAMPLING LOCATION MW3

WELL CASING RADIUS (CR) (in) 4

TOTAL DEPTH (TD) OF WELL (ft) 14.98

DEPTH TO WATER (DTW) (ft) 8.67

CASING VOLUME (gal) = (TD-DTW) $(CR)^2$ (.163) = 4.1

PURGING DATA

PURGING START TIME 1210

PURGING RATE (gpm) 1/2 gpm

TIME/GALLONS SINCE START	TEMP ~~(°C)~~ F	pH	CONDUCTIVITY (µmhos/cm)	TURBIDITY (NTU)	OTHER
1215/4	66.0 F	7.2	600	174.2	Cloudy
1222/8	67.2 F	7.2	600	43.4	
1231/12.5	67.8 F	7.2	600	74.2	

PURGING STOP TIME 1231

GALLONS PURGED 12.5

CASING VOLUMES PURGED 3

OBSERVATIONS/COMMENTS
Blaine Tech Crew: Mike DiVoughney, Truck #11

LABORATORY NAME CHROMALAB

SAMPLE I.D. MW3061595 & MW3061595D

ENVIRON

Counsel in Health and Environmental Science
5820 Shellmound St. Suite 700
Emeryville, California 94608

WATER PURGING AND SAMPLING LOG

PROJECT NAME Standard Brands Phase I

CONTRACT NUMBER 03-4603D

WELL NO. MW5

SAMPLING DATE 15 June 1995

P.M./SAMPLER(S) [illegible] / Russin

EQUIPMENT MODEL/TYPE	SERIAL NO.	DATE CALIBRATED	TEMP (°C)	STANDARD/ACTUAL
Fluke 51 K/J Thermometer	560535	Self-Calibrating		
Hf Scientific DRT-15C (turbidity)	n/a	2/23/95	See Blaine	(Calibration log)
Myron L. DDS Meter	1170133E	~~[illegible]~~ 6/15/95	21 °C	7.0/7.0

PURGING/SAMPLING METHOD Submersible Pump / Teflon Bailer → [illegible]

EQUIPMENT CLEANING METHOD(S) Steam Cleaning

PURGE WATER DISPOSAL METHOD Welded-top Drums

WELL NUMBER OR SAMPLING LOCATION MW5
WELL CASING RADIUS (CR) (in) 4
TOTAL DEPTH (TD) OF WELL (ft) 14.80
DEPTH TO WATER (DTW) (ft) 7.35
CASING VOLUME (gal) = (TD-DTW) (CR)² (.163) = 4.8 gal.

PURGING DATA

PURGING START TIME 0900

PURGING RATE (gpm) 16 (intermittent [illegible]) Then 0.75 (Middle bag)

TIME/GALLONS SINCE START	TEMP (~~°C~~)	pH	CONDUCTIVITY (µmhos/cm)	TURBIDITY (NTU)	OTHER
0903/5	58.8 F	7.6	500	[illegible]	
0905/10	55.5 F	7.6	300	125.6	
0907/15	54.2 F	7.6	730	32.4	
[illegible]/20	54.4 F	7.6	550	7200	Shut off pumps [illegible]

2a start ② 1018 – Middle bag – New Depth = 7.35 (same as before)

TIME/GALLONS SINCE START	TEMP	pH	CONDUCTIVITY (µmhos/cm)	TURBIDITY (NTU)	OTHER
1018/5	58.8	7.6	500	78.3	
1028/10	58.6	7.6	500	12.8	
1035/15	58.4	7.6	500	12.4	

PURGING STOP TIME 1035

GALLONS PURGED 20+15=35

CASING VOLUMES PURGED 4+3=7

OBSERVATIONS/COMMENTS

[illegible] each [illegible] Middle [illegible] #11

LABORATORY NAME [illegible]

SAMPLE I.D. MW5061595

APPENDIX B

LABORATORY REPORTS AND DATA QUALITY REVIEW

APPENDIX B

LABORATORY REPORTS AND DATA QUALITY REVIEW

The analytical laboratory reports for soil and ground water samples are presented in this appendix. A total of 31 soil samples, 25 ground water grab samples, three duplicate ground water grab samples, five monitoring well ground water samples, and one monitoring well ground water duplicate sample were analyzed. Most samples were analyzed for Total Volatile Hydrocarbons (TVH) and Total Extractable Hydrocarbons (TEH) by EPA Test Method 8015 Modified and halogenated volatile organic compounds (VOCs) by EPA Test Method 8010. The TVH analysis included Total Petroleum Hydrocarbons as gasoline and benzene, toluene, ethylbenzene, and xylenes (TPH/G and BTEX). The TEH analysis included TPH as diesel (TPH/D), stoddard solvent/mineral spirits (thinner), motor oil and kerosene. A summary of samples collected and the analytical tests performed are presented in Table A-1 in Appendix A. The chemical analyses were performed by Chromalab, a California-certified laboratory, located in Pleasanton, California. Friedman & Bruya, Inc. of Seattle, Washington was retained to identify the type of hydrocarbons in split samples collected from key areas. Table B-1 presents the listing of the water and soil samples and the respective laboratory reports. A brief summary of quality control sample results follows.

B.1 Field Quality Control Samples

The ground water grab samples and well samples collected were submitted to the laboratory with trip blanks to monitor for potential false positive results introduced during transport or in the laboratory. Five trip blanks were analyzed for TVH and four trip blanks for VOCs. No compounds were detected in any of the trip blanks, indicating no positive bias was introduced. A summary of the test results for trip blanks is presented in Table B-2.

Duplicate samples were collected at boring B11 (soil sample from 3-13 feet), CPT-3 (ground water grab sample from 31-36 feet) and monitoring well MW3. No compounds were detected in both primary and duplicate samples collected at B11 and CPT-3. For the ground water samples collected at monitoring well MW3, the detected compounds were generally consistent between both the primary and duplicate samples. The duplicate sample from MW3 reported a concentration of 1.7 µg/L of toluene while the primary sample indicated <0.5 µg/L for toluene. Since the reported toluene concentration is very low and near the detection limit it may be a false positive.

B.2 Laboratory Quality Control

The samples were analyzed within the specified hold times for each analysis with the exception of the soil samples from B-3 @ 6.0-6.5 and B-11 @ 4.5-5.0. These samples were analyzed one day outside of hold time for EPA Test Method 8015 modified for TVH; TVH compounds were not detected in these samples.

The internal laboratory quality control consisted of method blanks, matrix spike samples, and laboratory control spike samples. These quality control samples characterized the precision and accuracy of laboratory results and evaluated if any matrix interference affects analytical results. Surrogate spike recoveries were within acceptable ranges for all samples, indicating that no matrix interference existed and that no unusual bias affected sample results in the laboratory. The results of the laboratory quality control blank spike samples and matrix spike samples prepared with each sample batch were within acceptable control limits. The results of the laboratory quality control indicates that the test results in this report are of sufficient quality to support the conclusions presented.

The following tables followed by the laboratory reports are included and complete this appendix.

Table B-1	Key to Laboratory Reports
Table B-2	Summary of Field Quality Control Samples

TABLE B-1 — KEY TO LABORATORY REPORTS

Remedial Investigation

Standard Brands, Emeryville, California

Boring, CPT, or Monitoring Well	Sample Date	Sample Type	Sample Depth	Laboratory Submission Number	Laboratory Report Date
B-1	5/16/95	Soil	10.5-11.0 ft	9505210	6/5/95
	5/16/95	Water	5-15 ft	9505210	6/5/95
B-2	5/17/95	Soil	6.0-6.5 ft	9505222	6/15/95
	5/17/95	Soil	10.0-10.5 ft	Friedman and Bruya	5/31/95
	5/17/95	Water	3-13 ft	9505222	6/15/95
B-3	5/17/95	Soil	6.0-6.5 ft	9505222	6/15/95
	5/17/95	Water	1-16 ft	9505222	6/15/95
B-4	5/15/95	Soil	8.0-8.5 ft	9505199	6/7/95
	5/15/95	Soil	8.5-9.0 ft	9505199	6/7/95
	5/15/95	Soil	9.5-10.0 ft	9505199	6/7/95
	5/15/95	Soil	14.5-15.0 ft	Friedman and Bruya	5/19/95
	5/15/95	Soil	15.0-15.5 ft	9505199	6/7/95
B-5	5/15/95	Soil	5.5-6.0 ft	9505199	6/7/95
	5/15/95	Soil	7.0-7.5 ft	Friedman and Bruya	5/19/95
	5/15/95	Soil	18.5-19.0 ft	9505199	6/7/95
	5/15/95	Soil	24.5-25.0 ft	9505199	6/7/95
	5/15/95	Soil	32.5-33.0 ft	9505199	6/7/95
	5/15/95	Water	29-33 ft	9505199	6/7/95
B-6	5/15/95	Soil	6.0-6.5 ft	9505199	6/7/95
	5/15/95	Soil	9.5-10.0 ft	9505199	6/7/95
	5/15/95	Soil	13.5-14.0 ft	9505199	6/7/95
	5/15/95	Soil	14.5-15.0 ft	Friedman and Bruya	5/19/95
	5/15/95	Soil	20.5-21.0 ft	9505199	6/7/95
B-7	5/15/95	Soil	8.0-8.5 ft	Friedman and Bruya	5/19/95
	5/15/95	Soil	9.0-9.5 ft	9505199	6/7/95
B-8	5/15/95	Soil	9.0-9.5 ft	9505199	6/7/95
	5/16/95	Soil	18.0-18.5 ft	9505210	6/5/95
	5/16/95	Water	21-31 ft	9505210	6/5/95
B-9	5/15/95	Soil	9.5-10.0 ft	9505199	6/7/95
	5/15/95	Soil	17.5-18.0 ft	Friedman and Bruya	5/19/95
	5/15/95	Soil	18.0-18.5 ft	9505199	6/7/95
	5/15/95	Water	21-31 ft	9505199	6/7/95
B-10	5/16/95	Soil	2.6-3.0 ft	9505210	6/5/95
	5/16/95	Soil	11.0-11.5 ft	Friedman and Bruya	5/24/95
	5/16/95	Soil	11.5-12.0 ft	Friedman and Bruya	5/24/95
B-11	5/17/95	Soil	4.5-5.0 ft	9505222	6/15/95
	5/17/95	Soil	10.5-11.0 ft	Friedman and Bruya	5/31/95

TABLE B-1 — KEY TO LABORATORY REPORTS

Remedial Investigation

Standard Brands, Emeryville, California

Boring, CPT, or Monitoring Well	Sample Date	Sample Type	Sample Depth	Laboratory Submission Number	Laboratory Report Date
	5/17/95	Water	3-13 ft	9505222	6/15/95
Duplicate sample	5/17/95	Water	3-13 ft	9505222	6/15/95
	5/17/95	Water	3-13 ft	Friedman and Bruya	5/31/95
CPT-1	5/17/95	Water	30-35 ft	9505222	6/15/95
CPT-2	5/17/95	Water	31-36 ft	9505222	6/15/95
CPT-3	5/17/95	Water	31-36 ft	9505222	6/15/95
Duplicate sample	5/17/95	Water	31-36 ft	9505222	6/15/95
CPT-4	5/16/95	Water	30-35 ft	9505205	6/15/95
	5/17/95	Water	46.5-51.5 ft	9505222	6/15/95
CPT-4R	6/9/95	Water	46.5-49.5 ft	9506125	6/19/95
CPT-5	5/16/95	Water	23-28 ft	9505205, 9505210	6/5/95, 6/15/95
	5/16/95	Water	35-40 ft	9505205, 9505210	6/5/95, 6/15/95
CPT-6	5/16/95	Water	15.5-17.5 ft	9505205, 9505210	6/5/95, 6/15/95
	5/16/95	Water	18-23 ft	9505205, 9505210	6/5/95, 6/15/95
	5/16/95	Water	32-37 ft	9505205, 9505210	6/5/95, 6/15/95
CPT-8	5/18/95	Water	8-13 ft	9505246	6/5/95
MW1	6/15/95	Water	7-17 ft	9506215	6/23/95
MW2	6/15/95	Water	5-15 ft	9506215	6/23/95
MW3	6/15/95	Water	5-15 ft	9506215	6/23/95
Duplicate sample	6/15/95	Water	5-15 ft	9506215	6/23/95
MW4	6/15/95	Water	5-15 ft	9506215	6/23/95
MW5	6/15/95	Water	5-15 ft	9506215	6/23/95

TABLE B-2 — SUMMARY OF QUALITY CONTROL SAMPLES
Remedial Investigation
Standard Brands, Emeryville, California

Sample I.D.	Sample Date	Analytical Tests	Summary of Detections
Duplicates			
B11 3-13ft	5/17/95	TEH, VOCs	No compounds detected in both the primary and duplicate samples at or below laboratory detection limit.
CPT-3 31-36 ft.	5/17/95	TVH, TEH, VOCs	No compounds detected in both the primary and duplicate samples at or below laboratory detection limit.
MW3	6/15/95	TVH, TEH, VOCs	See Table 4 in the main body of the report.
Trip Blanks			
SB051695TB	5/16/95	TVH, VOCs	No compounds detected at or below laboratory detection limit.
SB 051795TB	5/17/95	TVH, VOCs	No compounds detected at or below laboratory detection limit.
SB051895TB	5/18/95	TVH, VOCs	No compounds detected at or below laboratory detection limit.
SB060695TB	6/9/95	TVH	No compounds detected at or below laboratory detection limit.
MWTB 061595	6/15/95	TVH, VOCs	No compounds detected at or below laboratory detection limit.

Notes:

(1) "TVH" indicates testing for total volatile hydrocarbons [Total Petroleum Hydrocarbons as Gasoline (TPH/G); benzene, toluene, ethyl benzene, xylenes (BTEX compounds)] by EPA test method 8015 modified.

(2) "TEH" indicates testing for total extractable hydrocarbons [TPH as Diesel (TPH/D), stoddard solvent/mineral spirits (thinner), motor oil, kerosene] by EPA test method 8015 modified.

(3) "VOCs" indicates testing for halogenated volatile organic compounds, by EPA test method 8010.

Laboratory Report for
Soil and Ground Water Grab Samples

Sampling Date: May 16, 1995

Chromalab Environmental Services
Submission Number: 9505205
Report Date: June 15, 1995

<u>Sample Locations</u>

CPT-4 (Partial Report)
CPT-5 (Partial Report)
CPT-6 (Partial Report)

CHROMALAB, INC.
Environmental Services (SDB)

May 30, 1995 *Submission #:* 9505199

ENVIRON

Atten: Kim Jolitz

Project: S.S. PHASE I SITE INVEST. *Project#:* 03-3118L
Received: May 15, 1995

re: **Surrogate** report for 2 samples for Gasoline and BTEX analysis.

Matrix: SOIL
Lab Run#: 6773 *Analyzed:* May 23, 1995
Method: EPA 5030/8015M/8020

Sample#	**Client Sample ID**	**Surrogate**	**% Recovered**
88653	B-8 @ 9.0-9.5	TRIFLUOROTOLUENE	77
88654	B-9 @ 9.5-10.0	TRIFLUOROTOLUENE	105

Sample#	**QC Sample Type**	**Surrogate**	**% Recovered**
89512	*Method blank (MDB)*	TRIFLUOROTOLUENE	110
89513	*Blank Spike (BSP)*	TRIFLUOROTOLUENE	101

QCSURR JACK 30-May-95 08:24 24

CHROMALAB, INC.
Environmental Services (SDB)

May 30, 1995 *Submission #:* 9505199

ENVIRON

Atten: Kim Jolitz

Project: S.S. PHASE I SITE INVEST. *Project#:* 03-3118L
Received: May 15, 1995

re: **Surrogate** *report for 5 samples for Gasoline and BTEX analysis.*

Matrix: SOIL
Lab Run#: 6829 *Analyzed:* May 26, 1995
Method: EPA 5030/8015M/8020

Sample#	Client Sample ID	Surrogate	% Recovered
88655	B-9 @ 18.0-18.5	TRIFLUOROTOLUENE	110
88658	B-4A @ 8.0-8.5	TRIFLUOROTOLUENE	113
88659	B-4A @ 9.5-10.0	TRIFLUOROTOLUENE	94
88660	B-4A @ 15.0-15.5	TRIFLUOROTOLUENE	70
88698	B-7 9.0-9.5	TRIFLUOROTOLUENE	65

Sample#	QC Sample Type	Surrogate	% Recovered
90079	*Method blank (MDB)*	TRIFLUOROTOLUENE	107
90080	*Blank Spike (BSP)*	TRIFLUOROTOLUENE	93

QCSURR JACK 30-May-95 08:24 24

ENVIRON

Counsel in Health and Environmental Science

C

21406 Sheet Of 2

5820 Shellmound St., Suite 700
Emeryville, California 94608
(510) 655-7400

PROJECT NAME: Standard Brands

CASE NO.: ~~03-3118~~ 03-4603B

ENVIRON SAMPLE ID.	COLLECTION DATE	COLLECTED BY (Initials)	MATRIX	TOTAL NO. OF CONTAINERS	ANALYSES: 8010 + Freon 113	~~TPH-G~~	TPH/Gas + BTEX										COMMENTS
✓ CPES-23-28	5/16/95	PC	WATER	3	X												*RUSH 24 HR TAT ON
✓ CPT-5-35-40	5/16/95	P.C.	water	3	X												8010 *
~~CPT-5~~																	
✓ CPT-6-15.5-17.5	5/16/95	P.C.	WATER	3	X												RESULTS TO
✓ CPT-6-18-23	5/16/95	P.C.	WATER	3	X												KIM JOLITZ
✓ CPT-6-32-37	5/16/95	P.C.	water	3	X												
✓ CPT-4-30-35	5/16/95	P.C.	water	3	X		X										LEVEL 2 REPORT
TOTAL	☒	☒	☒														

RUSH

Relinquished by:	Date:	Time:	Received by:	Company:	Date:	Time:
Paul Cheney	5/16/95	1700		Chromalab	5-16-95	1700

CHROMALAB, INC.
SAMPLE RECEIPT CHECKLIST

Client Name ENVIRON

Date/Time Received 5/16/95 / 1700
Date / Time

Project

Received by B. Morrow

Reference/Subm # 21982/9505205

Carrier name

Checklist completed by: / 5/17/95
Signature / Date

Logged in by TA / 5/16/95
Initials / Date

Matrix

Shipping container in good condition? NA____ Yes____ No____

Custody seals present on shipping container? Intact____ Broken____ Yes____ No____

Custody seals on sample bottles? Intact____ Broken____ Yes____ No____

Chain of custody present? [✓ Yes] No____

Chain of custody signed when relinquished and received? [✓ Yes] No____

Chain of custody agrees with sample labels? [✓ Yes] No____

Samples in proper container/bottle? [✓ Yes] No____

Samples intact? [✓ Yes] No____

Sufficient sample volume for indicated test? [✓ Yes] No____

VOA vials have zero headspace? NA____ [✓ Yes] No____

Trip Blank received? NA____ Yes____ [✓ No]

All samples received within holding time? [✓ Yes] No____

Container temperature? ____

pH upon receipt ____ pH adjusted ____ Check performed by: ____ [✓ NA]

Any NO response must be detailed in the comments section below. If items are not applicable, they should be marked NA.

Client contacted? ____

Date contacted? ____

Person contacted? ____

Contacted by? ____

Regarding? ____

Comments: ____

Corrective Action: ____

SMPLRECD.CK

CHROMALAB, INC.
Environmental Services (SDB)

May 30, 1995

Submission #: 9505199

ENVIRON

Atten: Kim Jolitz

Project: S.S. PHASE I SITE INVEST. *Project#:* 03-3118L
Received: May 15, 1995

re: **Matrix spike** report for Gasoline and BTEX analysis.

Matrix: SOIL
Lab Run#: 6776 *Instrument:* GC1-1 *Analyzed:* May 24, 1995
Method: EPA 5030/8015M/8020

Analyte	Spiked Sample Result	Spike Amt	% Spike Rec	Dup Spike Rec	Control Limits	% RPD	% RPD Lim
GASOLINE	N.D. mg/Kg	5.0 mg/Kg	99	--	80-118	N/A	N/A
BENZENE	N.D. ug/Kg	25 ug/Kg	107	89.0	80-127	18	20
TOLUENE	N.D. ug/Kg	25 ug/Kg	108	90.0	80-130	18	20
ETHYL BENZENE	N.D. ug/Kg	25 ug/Kg	109	107	81-119	1.9	20
XYLENES	N.D. ug/Kg	50 ug/Kg	113	122	83-125	7.7	20

Sample Spiked: 88643
Submission #: 9505199
Client Sample ID: B-4 @ 8.5-9.0

SPK1

QCMSPK JACK 30-May-95 08 23 50

CHROMALAB, INC.

Environmental Services (SDB)

May 30, 1995

Submission #: 9505199

ENVIRON

Atten: Kim Jolitz

Project: S.S. PHASE I SITE INVEST. *Project#:* 03-3118L
Received: May 15, 1995

re: **Surrogate** report for 6 samples for Gasoline and BTEX analysis.

Matrix: SOIL
Lab Run#: 6776
Method: EPA 5030/8015M/8020

Analyzed: May 24, 1995

Sample#	**Client Sample ID**	**Surrogate**	**% Recovered**
88643	B-4 @ 8.5-9.0	TRIFLUOROTOLUENE	81
88645	B-5 @ 5.5-6.0	TRIFLUOROTOLUENE	100
88646	B-5 @ 18.5-19.0	TRIFLUOROTOLUENE	98
88647	B-5 @ 24.5-25.0	TRIFLUOROTOLUENE	91
88648	B-5 @ 32.5-33.0	TRIFLUOROTOLUENE	104
88649	B-6 @ 6.0-6.5	TRIFLUOROTOLUENE	95

Sample#	**QC Sample Type**	**Surrogate**	**% Recovered**	
89594	*Method blank (MDB)*	TRIFLUOROTOLUENE	98	
89595	*Blank Spike (BSP)*	TRIFLUOROTOLUENE	104	
89597	*Matrix spike (MS)*	TRIFLUOROTOLUENE	105	SPK1
89598	*Matrix spike duplicate (MSD)*	TRIFLUOROTOLUENE	88	SPK2

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CHROMALAB, INC.
Environmental Services (SDB)

June 21, 1995

Submission #: 9505199
Revised from May 30, 1995

ENVIRON

Atten: Kim Jolitz

Project: S.S. PHASE I SITE INVEST. *Project#:* 03-3118L
Received: May 15, 1995

re: 16 samples for Gasoline and BTEX analysis.

Matrix: SOIL
Sampled: May 15, 1995 *Run:* 6773-J *Analyzed:* May 23, 1995
Method: EPA 5030/8015M/8020

Spl #	CLIENT SMPL ID	Gasoline (mg/Kg)	Benzene (ug/Kg)	Toluene (ug/Kg)	Ethyl Benzene (ug/Kg)	Total Xylenes (ug/Kg)
88653	B-8 @ 9.0-9.5	N.D.	N.D.	N.D.	N.D.	N.D.
88654	B-9 @ 9.5-10.0	N.D.	N.D.	N.D.	N.D.	N.D.

Matrix: SOIL
Sampled: May 15, 1995 *Run:* 6776-J *Analyzed:* May 24, 1995
Method: EPA 5030/8015M/8020

Spl #	CLIENT SMPL ID	Gasoline (mg/Kg)	Benzene (ug/Kg)	Toluene (ug/Kg)	Ethyl Benzene (ug/Kg)	Total Xylenes (ug/Kg)
88643	B-4 @ 8.5-9.0	N.D.	N.D.	N.D.	N.D.	N.D.
88645	B-5 @ 5.5-6.0	N.D.	N.D.	N.D.	N.D.	5000
	Note: GAS DET.LIMIT=500mg/Kg,BTEX DET.LIMIT=2500ug/Kg					
88646	B-5 @ 18.5-19.0	N.D.	N.D.	N.D.	N.D.	70
	Note: GAS DET.LIMIT=20mg/Kg,BTEX DET.LIMIT=100ug/Kg					
88647	B-5 @ 24.5-25.0	N.D.	N.D.	N.D.	N.D.	140
	Note: GAS DET.LIMIT=20mg/Kg,BTEX DET.LIMIT=100ug/Kg					
38648	B-5 @ 32.5-33.0	N.D.	N.D.	N.D.	N.D.	N.D.
88649	B-6 @ 6.0-6.5	N.D.	N.D.	N.D.	N.D.	1200
	Note: GAS DET.LIMIT=100mg.Kg,BTEX DET.LIMIT=500ug/Kg					

Matrix: SOIL
Sampled: May 15, 1995 *Run:* 6778-J *Analyzed:* May 24, 1995
Method: EPA 5030/8015M/8020

Spl #	CLIENT SMPL ID	Gasoline (mg/Kg)	Benzene (ug/Kg)	Toluene (ug/Kg)	Ethyl Benzene (ug/Kg)	Total Xylenes (ug/Kg)
88650	B-6 @ 9.5-10.0	N.D.	N.D.	N.D.	N.D.	81
	Note: GAS DET.LIMIT=4mg/Kg,BTEX DET.LIMIT=20ug/Kg					
88651	B-6 @ 13.5-14.0	N.D.	N.D.	N.D.	N.D.	2100
	Note: GAS DET.LIMIT=200mg/Kg,BTEX DET.LIMIT=1000ug/Kg					
88652	B-6 @ 20.5-21.0	N.D.	N.D.	N.D.	N.D.	N.D.

CHROMALAB, INC.
Environmental Services (SDB)

June 21, 1995

Submission #: 9505199
Page 2
Revised From May 30, 1995

ENVIRON

Atten: Kim Jolitz

Project: S.S. PHASE I SITE INVEST. *Project#:* 03-3118L
Received: May 15, 1995

re: 16 samples for Gasoline and BTEX analysis, continued.

Matrix: SOIL
Sampled: May 15, 1995 *Run:* 6829-J *Analyzed:* May 26, 1995
Method: EPA 5030/8015M/8020

Spl #	CLIENT SMPL ID	Gasoline (mg/Kg)	Benzene (ug/Kg)	Toluene (ug/Kg)	Ethyl Benzene (ug/Kg)	Total Xylenes (ug/Kg)
88655	B-9 @ 18.0-18.5	N.D.	N.D.	N.D.	N.D.	N.D.
88658	B-4A @ 8.0-8.5	N.D.	N.D.	N.D.	N.D.	N.D.
88659	B-4A @ 9.5-10.0	N.D.	N.D.	N.D.	N.D.	9.5
88660	B-4A @ 15.0-15.5	N.D.	N.D.	N.D.	200	1000
	Note: GAS DET.LIMIT=20 mg/Kg,BTEX DET.LIMIT=100ug/kG					
88698	B-7 9.0-9.5	N.D.	N.D.	N.D.	5400	35000
	Note: GAS DET.LIMIT=1000mg/Kg,BTEX DET.LIMIT=5000ug/Kg					
Reporting Limits		1.0	5.0	5.0	5.0	5.0
Blank Result		N.D.	N.D.	N.D.	N.D.	N.D.
Blank Spike Result (%)		93	101	100	101	108

Jack Kelly
Chemist

Ali Kharrazi
Organic Manager

CHROMALAB, INC.
Environmental Services (SDB)

May 22, 1995 *Submission #:* 9505199

ENVIRON

Atten: Kim Jolitz

Project: S.S. PHASE I SITE INVEST. *Project#:* 03-3118L
Received: May 15, 1995

re: One sample for Volatile Halogenated Organics analysis.

Sample ID: **B-4A @ 9.5-10.0**
Spl#: 88659 *Matrix:* SOIL
Sampled: May 15, 1995 *Run#:* 6750 *Analyzed:* May 18, 1995
ethod: EPA 8010/8260

ANALYTE	RESULT (ug/Kg)	REPORTING LIMIT (ug/Kg)	BLANK RESULT (ug/Kg)	BLANK SPIKE RESULT (%)
CHLOROMETHANE	N.D.	5.0	N.D.	--
VINYL CHLORIDE	N.D.	5.0	N.D.	--
BROMOCHLOROMETHANE	N.D.	5.0	N.D.	--
CHLOROETHANE	N.D.	5.0	N.D.	--
TRICHLOROFLUOROMETHANE	N.D.	5.0	N.D.	--
1,1-DICHLOROETHENE	N.D.	5.0	N.D.	122
ETHYLENE CHLORIDE	N.D.	5.0	N.D.	--
RANS-1,2-DICHLOROETHENE	N.D.	5.0	N.D.	--
CIS-1,2-DICHLOROETHENE	N.D.	5.0	N.D.	--
1,1-DICHLOROETHANE	N.D.	5.0	N.D.	--
CHLOROFORM	N.D.	5.0	N.D.	--
1,1,1-TRICHLOROETHANE	N.D.	5.0	N.D.	--
CARBON TETRACHLORIDE	N.D.	5.0	N.D.	--
1,2-DICHLOROETHANE	N.D.	5.0	N.D.	--
TRICHLOROETHENE	N.D.	5.0	N.D.	120
1,2-DICHLOROPROPANE	N.D.	5.0	N.D.	--
ROMODICHLOROMETHANE	N.D.	5.0	N.D.	--
-CHLOROETHYL VINYL ETHER	N.D.	5.0	N.D.	--
TRANS-1,3-DICHLOROPROPENE	N.D.	5.0	N.D.	--
CIS-1,3-DICHLOROPROPENE	N.D.	5.0	N.D.	--
1,1,2-TRICHLOROETHANE	N.D.	5.0	N.D.	--
TETRACHLOROETHENE	N.D.	5.0	N.D.	--
DIBROMOCHLOROMETHANE	N.D.	5.0	N.D.	--
CHLOROBENZENE	N.D.	5.0	N.D.	116
BROMOFORM	N.D.	5.0	N.D.	--
1,1,2,2-TETRACHLOROETHANE	N.D.	5.0	N.D.	--
1,3-DICHLOROBENZENE	N.D.	5.0	N.D.	--
1,4-DICHLOROBENZENE	N.D.	5.0	N.D.	--
1,2-DICHLOROBENZENE	N.D.	5.0	N.D.	--
TRICHLOROTRIFLUOROETHANE	N.D.	5.0	N.D.	--

Oleg Nemtsov

Oleg Nemtsov
Chemist

Ali Kharrazi
Organic Manager

CHROMALAB, INC.

Environmental Services (SDB)

May 22, 1995 *Submission #:* 9505199

ENVIRON

Atten: Kim Jolitz

Project: S.S. PHASE I SITE INVEST. *Project#:* 03-3118L
Received: May 15, 1995

re: One sample for Volatile Halogenated Organics analysis.

Sample ID: **B-4A @ 15.0-15.5**
Spl#: 88660 *Matrix:* SOIL
Sampled: May 15, 1995 *Run#:* 6750 *Analyzed:* May 18, 1995
Method: EPA 8010/8260

ANALYTE	**RESULT (ug/Kg)**	**REPORTING LIMIT (ug/Kg)**	**BLANK RESULT (ug/Kg)**	**BLANK SPIKE RESULT (%)**
CHLOROMETHANE	N.D.	5.0	N.D.	--
VINYL CHLORIDE	N.D.	5.0	N.D.	--
BROMOCHLOROMETHANE	N.D.	5.0	N.D.	--
CHLOROETHANE	N.D.	5.0	N.D.	--
TRICHLOROFLUOROMETHANE	N.D.	5.0	N.D.	--
1,1-DICHLOROETHENE	N.D.	5.0	N.D.	122
METHYLENE CHLORIDE	N.D.	5.0	N.D.	--
TRANS-1,2-DICHLOROETHENE	N.D.	5.0	N.D.	--
CIS-1,2-DICHLOROETHENE	N.D.	5.0	N.D.	--
1,1-DICHLOROETHANE	N.D.	5.0	N.D.	--
CHLOROFORM	N.D.	5.0	N.D.	--
1,1,1-TRICHLOROETHANE	N.D.	5.0	N.D.	--
CARBON TETRACHLORIDE	N.D.	5.0	N.D.	--
1,2-DICHLOROETHANE	N.D.	5.0	N.D.	--
TRICHLOROETHENE	N.D.	5.0	N.D.	120
1,2-DICHLOROPROPANE	N.D.	5.0	N.D.	--
BROMODICHLOROMETHANE	N.D.	5.0	N.D.	--
2-CHLOROETHYL VINYL ETHER	N.D.	5.0	N.D.	--
TRANS-1,3-DICHLOROPROPENE	N.D.	5.0	N.D.	--
CIS-1,3-DICHLOROPROPENE	N.D.	5.0	N.D.	--
1,1,2-TRICHLOROETHANE	N.D.	5.0	N.D.	--
TETRACHLOROETHENE	N.D.	5.0	N.D.	--
DIBROMOCHLOROMETHANE	N.D.	5.0	N.D.	--
CHLOROBENZENE	N.D.	5.0	N.D.	116
BROMOFORM	N.D.	5.0	N.D.	--
1,1,2,2-TETRACHLOROETHANE	N.D.	5.0	N.D.	--
1,3-DICHLOROBENZENE	N.D.	5.0	N.D.	--
1,4-DICHLOROBENZENE	N.D.	5.0	N.D.	--
1,2-DICHLOROBENZENE	N.D.	5.0	N.D.	--
TRICHLOROTRIFLUOROETHANE	N.D.	5.0	N.D.	--

Oleg Nemtsov

Oleg Nemtsov
Chemist

Ali Kharrazi
Organic Manager

W:OC OLEG 14.40:02

May 23, 1995

Submission #: 9505199
Page 2

ENVIRON

Atten: Kim Jolitz

Project: S.B. PHASE I SITE INVEST *Project#:* 03-3118L
Received: May 15, 1995

re: 16 samples for Total Extractable Petroleum Hydrocarbons (TEPH)

Matrix: SOIL *Extracted:* May 19, 1995
Sampled: May 15, 1995 *Run#:* 6751 *Analyzed:* May 23, 1995
Method: EPA 3550/8015M

Spl #	CLIENT SMPL ID	Kerosene (mg/Kg)	Diesel (mg/Kg)	Motor Oil (mg/Kg)
88698	B-7 9.0-9.5	N.D.	520	N.D.

Note: Reporting limit increased 50X due to dilution.
Note: Unknown hydrocarbons in the Kerosene range, conc.= 680mg/Kg.

	Kerosene	Diesel	Motor Oil
Reporting Limits	1.0	1.0	10
Blank Result	N.D.	N.D.	N.D.
Blank Spike Result (%)	--	70	--

Sirirat Chullakorn

Sirirat (Sindy) Chullakorn
Chemist

Ali Kharrazi
Organic Manager

CHROMALAB, INC.
Environmental Services (SDB)

June 5, 1995

Submission #: 9505199

ENVIRON

Atten: Kim Jolitz

Project: S.S. PHASE I SITE INVEST.
Project#: 03-3118L
Received: May 15, 1995

re: **Matrix spike** report for Total Extractable Petroleum Hydrocarbons (TEPH) ana

Matrix: SOIL
Lab Run#: 6751
Instrument: GC2-EXT-S
Method: EPA 3550/8015M
Extracted: May 19, 1995
Analyzed: May 22, 1995

Analyte	Spiked Sample Result	Spike Amt	% Spike Rec	Dup Spike Rec	Control Limits	% RPD	% RPD Lim
DIESEL	N.D. mg/Kg	6.7 mg/Kg	72.8	70.5	60-130	3.2	20

SPK1

Sample Spiked: 88655
Submission #: 9505199
Client Sample ID: B-9 @ 18.0-18.5

CHROMALAB, INC.
Environmental Services (SDB)

May 22, 1995 *Submission #:* 9505199

ENVIRON

Atten: Kim Jolitz

Project: S.S. PHASE I SITE INVEST. *Project#:* 03-3118L
Received: May 15, 1995

re: One sample for Volatile Halogenated Organics analysis.

Sample ID: **B-9 @ 18.0-18.5**
Spl#: 88655 *Matrix:* SOIL
Sampled: May 15, 1995 *Run#:* 6750 *Analyzed:* May 18, 1995
Method: EPA 8010/8260

ANALYTE	**RESULT (ug/Kg)**	**REPORTING LIMIT (ug/Kg)**	**BLANK RESULT (ug/Kg)**	**BLANK SPIKE RESULT (%)**
CHLOROMETHANE	N.D.	5.0	N.D.	--
VINYL CHLORIDE	N.D.	5.0	N.D.	--
BROMOCHLOROMETHANE	N.D.	5.0	N.D.	--
CHLOROETHANE	N.D.	5.0	N.D.	--
TRICHLOROFLUOROMETHANE	N.D.	5.0	N.D.	--
1,1-DICHLOROETHENE	N.D.	5.0	N.D.	122
METHYLENE CHLORIDE	N.D.	5.0	N.D.	--
TRANS-1,2-DICHLOROETHENE	N.D.	5.0	N.D.	--
CIS-1,2-DICHLOROETHENE	N.D.	5.0	N.D.	--
1,1-DICHLOROETHANE	N.D.	5.0	N.D.	--
CHLOROFORM	N.D.	5.0	N.D.	--
1,1,1-TRICHLOROETHANE	N.D.	5.0	N.D.	--
CARBON TETRACHLORIDE	N.D.	5.0	N.D.	--
1,2-DICHLOROETHANE	N.D.	5.0	N.D.	--
TRICHLOROETHENE	N.D.	5.0	N.D.	120
1,2-DICHLOROPROPANE	N.D.	5.0	N.D.	--
BROMODICHLOROMETHANE	N.D.	5.0	N.D.	--
2-CHLOROETHYL VINYL ETHER	N.D.	5.0	N.D.	--
TRANS-1,3-DICHLOROPROPENE	N.D.	5.0	N.D.	--
CIS-1,3-DICHLOROPROPENE	N.D.	5.0	N.D.	--
1,1,2-TRICHLOROETHANE	N.D.	5.0	N.D.	--
TETRACHLOROETHENE	N.D.	5.0	N.D.	--
DIBROMOCHLOROMETHANE	N.D.	5.0	N.D.	--
CHLOROBENZENE	N.D.	5.0	N.D.	116
BROMOFORM	N.D.	5.0	N.D.	--
1,1,2,2-TETRACHLOROETHANE	N.D.	5.0	N.D.	--
1,3-DICHLOROBENZENE	N.D.	5.0	N.D.	--
1,4-DICHLOROBENZENE	N.D.	5.0	N.D.	--
1,2-DICHLOROBENZENE	N.D.	5.0	N.D.	--
TRICHLOROTRIFLUOROETHANE	N.D.	5.0	N.D.	--

Oleg Nemtsov

Oleg Nemtsov
Chemist

Ali Kharrazi
Organic Manager

CHROMALAB, INC.
Environmental Services (SDB)

May 22, 1995 *Submission #:* 9505199

ENVIRON

Atten: Kim Jolitz

Project: S.S. PHASE I SITE INVEST. *Project#:* 03-3118L
Received: May 15, 1995

re: One sample for Volatile Halogenated Organics analysis.

Sample ID: **B-4A @ 8.0-8.5**
Spl#: 88658 *Matrix:* SOIL
Sampled: May 15, 1995 *Run#:* 6750 *Analyzed:* May 18, 1995
Method: EPA 8010/8260

ANALYTE	**RESULT (ug/Kg)**	**REPORTING LIMIT (ug/Kg)**	**BLANK RESULT (ug/Kg)**	**BLANK SPIKE RESULT (%)**
CHLOROMETHANE	N.D.	5.0	N.D.	--
VINYL CHLORIDE	N.D.	5.0	N.D.	--
BROMOCHLOROMETHANE	N.D.	5.0	N.D.	--
CHLOROETHANE	N.D.	5.0	N.D.	--
TRICHLOROFLUOROMETHANE	N.D.	5.0	N.D.	--
1,1-DICHLOROETHENE	N.D.	5.0	N.D.	122
METHYLENE CHLORIDE	N.D.	5.0	N.D.	--
TRANS-1,2-DICHLOROETHENE	N.D.	5.0	N.D.	--
CIS-1,2-DICHLOROETHENE	N.D.	5.0	N.D.	--
1,1-DICHLOROETHANE	N.D.	5.0	N.D.	--
CHLOROFORM	N.D.	5.0	N.D.	--
1,1,1-TRICHLOROETHANE	N.D.	5.0	N.D.	--
CARBON TETRACHLORIDE	N.D.	5.0	N.D.	--
1,2-DICHLOROETHANE	N.D.	5.0	N.D.	--
TRICHLOROETHENE	N.D.	5.0	N.D.	120
1,2-DICHLOROPROPANE	N.D.	5.0	N.D.	--
BROMODICHLOROMETHANE	N.D.	5.0	N.D.	--
2-CHLOROETHYL VINYL ETHER	N.D.	5.0	N.D.	--
TRANS-1,3-DICHLOROPROPENE	N.D.	5.0	N.D.	--
CIS-1,3-DICHLOROPROPENE	N.D.	5.0	N.D.	--
1,1,2-TRICHLOROETHANE	N.D.	5.0	N.D.	--
TETRACHLOROETHENE	N.D.	5.0	N.D.	--
DIBROMOCHLOROMETHANE	N.D.	5.0	N.D.	--
CHLOROBENZENE	N.D.	5.0	N.D.	116
BROMOFORM	N.D.	5.0	N.D.	--
1,1,2,2-TETRACHLOROETHANE	N.D.	5.0	N.D.	--
1,3-DICHLOROBENZENE	N.D.	5.0	N.D.	--
1,4-DICHLOROBENZENE	N.D.	5.0	N.D.	--
1,2-DICHLOROBENZENE	N.D.	5.0	N.D.	--
TRICHLOROTRIFLUOROETHANE	N.D.	5.0	N.D.	--

Oleg Nemtsov
Oleg Nemtsov
Chemist

Ali Kharrazi
Organic Manager

CHROMALAB, INC.
Environmental Services (SDB)

June 5, 1995 *Submission #:* 9505199

ENVIRON

Atten: Kim Jolitz

Project: S.S. PHASE I SITE INVEST. *Project#:* 03-3118L
Received: May 15, 1995

re: **Surrogate** report for 16 samples for Total Extractable Petroleum Hydrocarbons (TEPH) analysis.

Matrix: SOIL
Lab Run#: 6751
Method: EPA 3550/8015M

Extracted: May 19, 1995
Analyzed: May 22, 1995

Sample#	Client Sample ID	Surrogate	% Recovered
88643	B-4 @ 8.5-9.0	O-TERPHENYL	83
88645	B-5 @ 5.5-6.0	O-TERPHENYL	101
88646	B-5 @ 18.5-19.0	O-TERPHENYL	95
88647	B-5 @ 24.5-25.0	O-TERPHENYL	98
88648	B-5 @ 32.5-33.0	O-TERPHENYL	82
88649	B-6 @ 6.0-6.5	O-TERPHENYL	83
88650	B-6 @ 9.5-10.0	O-TERPHENYL	83
88651	B-6 @ 13.5-14.0	O-TERPHENYL	78
38652	B-6 @ 20.5-21.0	O-TERPHENYL	82
88653	B-8 @ 9.0-9.5	O-TERPHENYL	86
88654	B-9 @ 9.5-10.0	O-TERPHENYL	115
88655	B-9 @ 18.0-18.5	O-TERPHENYL	84
88658	B-4A @ 8.0-8.5	O-TERPHENYL	79
88659	B-4A @ 9.5-10.0	O-TERPHENYL	84
88660	B-4A @ 15.0-15.5	O-TERPHENYL	77

Sample#	QC Sample Type	Surrogate	% Recovered	
99340	*Method blank (MDB)*	O-TERPHENYL	94	
39341	*Blank Spike (BSP)*	O-TERPHENYL	93	
89342	*Matrix spike (MS)*	O-TERPHENYL	96	SPK1
89343	*Matrix spike duplicate (MSD)*	O-TERPHENYL	95	SPK2

QCSURR RUDO 05-Jun-95 08.27.36

CHROMALAB, INC.
Environmental Services (SDB)

May 23, 1995

Submission #: 9505199

ENVIRON

Atten: Kim Jolitz

Project: S.S. PHASE I SITE INVEST. *Project#:* 03-3118L
Received: May 15, 1995

re: 2 samples for Total Extractable Petroleum Hydrocarbons (TEPH)

Matrix: WATER
Run#: 6740
Extracted: May 17, 1995
Analyzed: May 20, 1995
Sampled: May 15, 1995
Method: EPA 3510/8015M

Spl #	CLIENT SMPL ID	Kerosene (ug/L)	Diesel (ug/L)	Motor Oil (ug/L)
88644	B-5	N.D.	N.D.	N.D.
88656	B-9	N.D.	N.D.	N.D.
Reporting Limits		50	50	500
Blank Result		N.D.	N.D.	N.D.
Blank Spike Result (%)		--	115	--

Sirirat Chullakorn

Sirirat (Sindy) Chullakorn
Chemist

Ali Kharrazi
Organic Manager

CHROMALAB, INC.
Environmental Services (SDB)

June 5, 1995

Submission #: 9505199

ENVIRON

Atten: Kim Jolitz

Project: S.S. PHASE I SITE INVEST. *Project#:* 03-3118L
Received: May 15, 1995

re: **Matrix spike** report for Total Extractable Petroleum Hydrocarbons (TEPH) ana

Matrix: WATER
Lab Run#: 6740 *Instrument:* GC2-EXT-A
Method: EPA 3510/8015M

Extracted: May 17, 1995
Analyzed: May 20, 1995

Analyte	Spiked Sample Result	Spike Amt	% Spike Rec	Dup Spike Rec	Control Limits	% RPD	% RPD Lim
DIESEL	N.D. ug/L	200 ug/L	110	112	60-130	1.8	20

Sample Spiked: 88644
Submission #: 9505199
Client Sample ID: B-5

SPK1

QCMSPE RUDO 05-Jun-95 08:26:33

CHROMALAB, INC.
Environmental Services (SDB)

June 5, 1995 *Submission #:* 9505199

ENVIRON

Atten: Kim Jolitz

Project: S.S. PHASE I SITE INVEST. *Project#:* 03-3118L
Received: May 15, 1995

re: **Surrogate** report for 2 samples for Total Extractable Petroleum Hydrocarbons (TEPH) analysis.

Matrix: WATER
Lab Run#: 6740
Method: EPA 3510/8015M

Extracted: May 17, 1995
Analyzed: May 20, 1995

Sample#	**Client Sample ID**	**Surrogate**	**% Recovered**
88644	B-5	O-TERPHENYL	108
88656	B-9	O-TERPHENYL	99

Sample#	**QC Sample Type**	**Surrogate**	**% Recovered**	
89259	*Method blank (MDB)*	O-TERPHENYL	123	
89260	*Blank Spike (BSP)*	O-TERPHENYL	92	
89460	*Matrix spike (MS)*	O-TERPHENYL	107	SPK1
89461	*Matrix spike duplicate (MSD)*	O-TERPHENYL	107	SPK2

QCSURR RUDO 05-Jun-95 08.27.36

CHROMALAB, INC.
Environmental Services (SDB)

June 15, 1995

Submission #: 9505205

ENVIRON
5820 Shellmound St., Suite 700
Emeryville, CA 94608

Attn: Kim Jolitz

RE: Analysis for project STANDARD BRANDS, number 03-4603B.

REPORTING INFORMATION

Samples were received cold and in good condition on May 16, 1995. They were refrigerated upon receipt and analyzed as described in the attached report. ChromaLab followed EPA or equivalent methods for all testing reported.

No discrepancies were observed or difficulties encountered with the testing.

SAMPLES TESTED IN THIS REPORT

Client Sample ID	Matrix	Date collected	Sample #
CPT-5-23-28	WATER	May 16, 1995	88750
CPT-5-35-40	WATER	May 16, 1995	88751
CPT-6-15.5-17.5	WATER	May 16, 1995	88752
CPT-6-18-23	WATER	May 16, 1995	88753
CPT-6-32-37	WATER	May 16, 1995	88754
CPT-4-30-35	WATER	May 16, 1995	88756

Jill Thomas
Quality Assurance Manager

Eric Tam
Laboratory Director

CHROMALAB, INC.

Environmental Services (SDB)

June 9, 1995 *Submission #:* 9505205

ENVIRON

Atten: Kim Jolitz

Project: STANDARD BRANDS *Project#:* 03-4603B
Received: May 16, 1995

re: 1 sample for Gasoline and BTEX analysis.

Matrix: WATER
Sampled: May 16, 1995 *Run#:* 6947 *Analyzed:* June 3, 1995
Method: EPA 5030/8015M/602/8020

Spl # CLIENT SMPL ID	Gasoline (mg/L)	Benzene (ug/L)	Toluene (ug/L)	Ethyl Benzene (ug/L)	Total Xylenes (ug/L)
88756 CPT-4-30-35	N.D.	N.D.	N.D.	N.D.	N.D.
Reporting Limits	0.05	0.5	0.5	0.5	1.0
Blank Result	N.D.	N.D.	N.D.	N.D.	N.D.
Blank Spike Result (%)	92	118	119	122	126

Billy Thach
Chemist

Ali Kharrazi
Organic Manager

CHROMALAB, INC.
Environmental Services (SDB)

June 15, 1995

Submission #: 9505205

ENVIRON

Atten: Kim Jolitz

Project: STANDARD BRANDS
Received: May 16, 1995

Project#: 03-4603B

re: **Matrix spike** report for Gasoline and BTEX analysis.

Matrix: WATER
Lab Run#: 6947 *Instrument:* GC1-
Method: EPA 5030/8015M/602/8020

Analyzed: June 3, 1995

Analyte	**Spiked Sample Result**	**Spike Amt**	**% Spike Rec**	**Dup Spike Rec**	**Control Limits**	**% RPD**	**% RPD Lim**
GASOLINE	N.D. mg/L	1.0 mg/L	92	--	80-118	N/A	N/A
BENZENE	N.D. ug/L	5.0 ug/L	123	114	80-127	7.6	20
TOLUENE	N.D. ug/L	5.0 ug/L	121	114	80-122	6.0	20
ETHYL BENZENE	N.D. ug/L	5.0 ug/L	119	111	81-119	7.0	20
XYLENES	N.D. ug/L	15 ug/L	113	117	83-125	3.5	20

Sample Spiked: 89402
Submission #: 9505285
Client Sample ID: MW-13

SPK1

CHROMALAB, INC.
Environmental Services (SDB)

June 15, 1995 *Submission #:* 9505205

ENVIRON

Atten: Kim Jolitz

Project: STANDARD BRANDS *Project#:* 03-4603B
Received: May 16, 1995

re: **Surrogate** report for 1 sample for Gasoline and BTEX analysis.

Matrix: WATER
Lab Run#: 6947 *Analyzed:* June 3, 1995
Method: EPA 5030/8015M/602/8020

Sample#	Client Sample ID	Surrogate	% Recovered
88756	CPT-4-30-35	TRIFLUOROTOLUENE	94

Sample#	QC Sample Type	Surrogate	% Recovered
90963	*Method blank (MDB)*	TRIFLUOROTOLUENE	100
90964	*Blank Spike (BSP)*	TRIFLUOROTOLUENE	94

QCSURR RUDO 15-Jun-95 07:10:47

CHROMALAB, INC.
Environmental Services (SDB)

May 17, 1995

Submission #: 9505205

ENVIRON

Atten: Kim Jolitz

Project: STANDARD BRANDS
Received: May 16, 1995

Project#: 03-4603B

re: One sample for Volatile Halogenated Organics analysis.

Sample ID: **CPT-4-30-35**
Spl#: 88756
Sampled: May 16, 1995
ethod: EPA 8010

Matrix: WATER
Run#: 6692

Analyzed: May 17, 1995

ANALYTE	**RESULT (ug/L)**	**REPORTING LIMIT (ug/L)**	**BLANK RESULT (ug/L)**	**BLANK SPIKE RESULT (%)**
CHLOROMETHANE	N.D.	0.5	N.D.	--
VINYL CHLORIDE	N.D.	0.5	N.D.	--
BROMOMETHANE	N.D.	0.5	N.D.	--
CHLOROETHANE	N.D.	0.5	N.D.	--
TRICHLOROFLUOROMETHANE	N.D.	0.5	N.D.	--
1,1-DICHLOROETHENE	N.D.	0.5	N.D.	102
ETHYLENE CHLORIDE	N.D.	0.5	N.D.	--
RANS-1,2-DICHLOROETHENE	N.D.	0.5	N.D.	--
CIS-1,2-DICHLOROETHENE	N.D.	0.5	N.D.	--
1,1-DICHLOROETHANE	N.D.	0.5	N.D.	--
CHLOROFORM	N.D.	0.5	N.D.	--
1,1,1-TRICHLOROETHANE	N.D.	0.5	N.D.	--
CARBON TETRACHLORIDE	N.D.	0.5	N.D.	--
1,2-DICHLOROETHANE	N.D.	0.5	N.D.	--
TRICHLOROETHENE	N.D.	0.5	N.D.	111
1,2-DICHLOROPROPANE	N.D.	0.5	N.D.	--
ROMODICHLOROMETHANE	N.D.	0.5	N.D.	--
-CHLOROETHYLVINYL ETHER	N.D.	0.5	N.D.	--
TRANS-1,3-DICHLOROPROPENE	N.D.	0.5	N.D.	--
CIS-1,3-DICHLOROPROPENE	N.D.	0.5	N.D.	--
1,1,2-TRICHLOROETHANE	N.D.	0.5	N.D.	--
TETRACHLOROETHENE	N.D.	0.5	N.D.	--
DIBROMOCHLOROMETHANE	N.D.	0.5	N.D.	--
CHLOROBENZENE	N.D.	0.5	N.D.	115
BROMOFORM	N.D.	0.5	N.D.	--
1,1,2,2-TETRACHLOROETHANE	N.D.	0.5	N.D.	--
1,3-DICHLOROBENZENE	N.D.	0.5	N.D.	--
1,4-DICHLOROBENZENE	N.D.	0.5	N.D.	--
1,2-DICHLOROBENZENE	N.D.	0.5	N.D.	--
TRICHLOROTRIFLUOROETHANE	N.D.	0.5	N.D.	--

Oleg Nemtsov

Oleg Nemtsov
Chemist

Ali Kharrazi
Organic Manager

CHROMALAB, INC.

Environmental Services (SDB)

May 17, 1995 *Submission #:* 9505205

ENVIRON

Atten: Kim Jolitz

Project: STANDARD BRANDS *Project#:* 03-4603B
Received: May 16, 1995

re: One sample for Volatile Halogenated Organics analysis.

Sample ID: **CPT-5-23-28**
Spl#: 88750 *Matrix:* WATER
Sampled: May 16, 1995 *Run#:* 6692 *Analyzed:* May 17, 1995
Method: EPA 8010

ANALYTE	**RESULT (ug/L)**	**REPORTING LIMIT (ug/L)**	**BLANK RESULT (ug/L)**	**BLANK SPIKE RESULT (%)**
CHLOROMETHANE	N.D.	0.5	N.D.	--
VINYL CHLORIDE	N.D.	0.5	N.D.	--
BROMOMETHANE	N.D.	0.5	N.D.	--
CHLOROETHANE	N.D.	0.5	N.D.	--
TRICHLOROFLUOROMETHANE	N.D.	0.5	N.D.	--
1,1-DICHLOROETHENE	N.D.	0.5	N.D.	102
METHYLENE CHLORIDE	N.D.	0.5	N.D.	--
TRANS-1,2-DICHLOROETHENE	N.D.	0.5	N.D.	--
CIS-1,2-DICHLOROETHENE	1.6	0.5	N.D.	--
1,1-DICHLOROETHANE	N.D.	0.5	N.D.	--
CHLOROFORM	N.D.	0.5	N.D.	--
1,1,1-TRICHLOROETHANE	N.D.	0.5	N.D.	--
CARBON TETRACHLORIDE	N.D.	0.5	N.D.	--
1,2-DICHLOROETHANE	N.D.	0.5	N.D.	--
TRICHLOROETHENE	N.D.	0.5	N.D.	111
1,2-DICHLOROPROPANE	N.D.	0.5	N.D.	--
BROMODICHLOROMETHANE	N.D.	0.5	N.D.	--
2-CHLOROETHYLVINYL ETHER	N.D.	0.5	N.D.	--
TRANS-1,3-DICHLOROPROPENE	N.D.	0.5	N.D.	--
CIS-1,3-DICHLOROPROPENE	N.D.	0.5	N.D.	--
1,1,2-TRICHLOROETHANE	N.D.	0.5	N.D.	--
TETRACHLOROETHENE	N.D.	0.5	N.D.	--
DIBROMOCHLOROMETHANE	N.D.	0.5	N.D.	--
CHLOROBENZENE	N.D.	0.5	N.D.	115
BROMOFORM	N.D.	0.5	N.D.	--
1,1,2,2-TETRACHLOROETHANE	N.D.	0.5	N.D.	--
1,3-DICHLOROBENZENE	N.D.	0.5	N.D.	--
1,4-DICHLOROBENZENE	N.D.	0.5	N.D.	--
1,2-DICHLOROBENZENE	N.D.	0.5	N.D.	--
TRICHLOROTRIFLUOROETHANE	N.D.	0.5	N.D.	--

Oleg Nemtsov

Oleg Nemtsov
Chemist

Ali Kh

Ali Kharrazi
Organic Manager

NLOC OLEG 16:37:59

CHROMALAB, INC.
Environmental Services (SDB)

May 17, 1995 *Submission #:* 9505205

ENVIRON

Atten: Kim Jolitz

Project: STANDARD BRANDS *Project#:* 03-4603B
Received: May 16, 1995

re: One sample for Volatile Halogenated Organics analysis.

Sample ID: **CPT-5-35-40**
Spl#: 88751 *Matrix:* WATER
Sampled: May 16, 1995 *Run#:* 6692 *Analyzed:* May 17, 1995
Method: EPA 8010

ANALYTE	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE RESULT (%)
CHLOROMETHANE	N.D.	0.5	N.D.	--
VINYL CHLORIDE	N.D.	0.5	N.D.	--
BROMOMETHANE	N.D.	0.5	N.D.	--
CHLOROETHANE	N.D.	0.5	N.D.	--
TRICHLOROFLUOROMETHANE	N.D.	0.5	N.D.	--
1,1-DICHLOROETHENE	N.D.	0.5	N.D.	102
METHYLENE CHLORIDE	N.D.	0.5	N.D.	--
TRANS-1,2-DICHLOROETHENE	N.D.	0.5	N.D.	--
CIS-1,2-DICHLOROETHENE	N.D.	0.5	N.D.	--
1,1-DICHLOROETHANE	N.D.	0.5	N.D.	--
CHLOROFORM	N.D.	0.5	N.D.	--
1,1,1-TRICHLOROETHANE	N.D.	0.5	N.D.	--
CARBON TETRACHLORIDE	N.D.	0.5	N.D.	--
1,2-DICHLOROETHANE	N.D.	0.5	N.D.	--
TRICHLOROETHENE	N.D.	0.5	N.D.	111
1,2-DICHLOROPROPANE	N.D.	0.5	N.D.	--
BROMODICHLOROMETHANE	N.D.	0.5	N.D.	--
-CHLOROETHYLVINYL ETHER	N.D.	0.5	N.D.	--
TRANS-1,3-DICHLOROPROPENE	N.D.	0.5	N.D.	--
CIS-1,3-DICHLOROPROPENE	N.D.	0.5	N.D.	--
1,1,2-TRICHLOROETHANE	N.D.	0.5	N.D.	--
TETRACHLOROETHENE	N.D.	0.5	N.D.	--
DIBROMOCHLOROMETHANE	N.D.	0.5	N.D.	--
CHLOROBENZENE	N.D.	0.5	N.D.	115
BROMOFORM	N.D.	0.5	N.D.	--
1,1,2,2-TETRACHLOROETHANE	N.D.	0.5	N.D.	--
1,3-DICHLOROBENZENE	N.D.	0.5	N.D.	--
1,4-DICHLOROBENZENE	N.D.	0.5	N.D.	--
1,2-DICHLOROBENZENE	N.D.	0.5	N.D.	--
TRICHLOROTRIFLUOROETHANE	N.D.	0.5	N.D.	--

Oleg Nemtsov

Oleg Nemtsov
Chemist

Ali Kharrazi
Organic Manager

CHROMALAB, INC.
Environmental Services (SDB)

May 17, 1995 *Submission #:* 9505205

ENVIRON

Atten: Kim Jolitz

Project: STANDARD BRANDS *Project#:* 03-4603B
Received: May 16, 1995

re: One sample for Volatile Halogenated Organics analysis.

Sample ID: **CPT-6-15.5-17.5**
Spl#: 88752 *Matrix:* WATER
Sampled: May 16, 1995 *Run#:* 6692 *Analyzed:* May 17, 1995
Method: EPA 8010

ANALYTE	**RESULT (ug/L)**	**REPORTING LIMIT (ug/L)**	**BLANK RESULT (ug/L)**	**BLANK SPIKE RESULT (%)**
CHLOROMETHANE	N.D.	0.5	N.D.	--
VINYL CHLORIDE	N.D.	0.5	N.D.	--
BROMOMETHANE	N.D.	0.5	N.D.	--
CHLOROETHANE	N.D.	0.5	N.D.	--
TRICHLOROFLUOROMETHANE	N.D.	0.5	N.D.	--
1,1-DICHLOROETHENE	N.D.	0.5	N.D.	102
METHYLENE CHLORIDE	N.D.	0.5	N.D.	--
TRANS-1,2-DICHLOROETHENE	N.D.	0.5	N.D.	--
CIS-1,2-DICHLOROETHENE	N.D.	0.5	N.D.	--
1,1-DICHLOROETHANE	N.D.	0.5	N.D.	--
CHLOROFORM	N.D.	0.5	N.D.	--
1,1,1-TRICHLOROETHANE	N.D.	0.5	N.D.	--
CARBON TETRACHLORIDE	N.D.	0.5	N.D.	--
1,2-DICHLOROETHANE	N.D.	0.5	N.D.	--
TRICHLOROETHENE	N.D.	0.5	N.D.	111
1,2-DICHLOROPROPANE	N.D.	0.5	N.D.	--
BROMODICHLOROMETHANE	N.D.	0.5	N.D.	--
2-CHLOROETHYLVINYL ETHER	N.D.	0.5	N.D.	--
TRANS-1,3-DICHLOROPROPENE	N.D.	0.5	N.D.	--
CIS-1,3-DICHLOROPROPENE	N.D.	0.5	N.D.	--
1,1,2-TRICHLOROETHANE	N.D.	0.5	N.D.	--
TETRACHLOROETHENE	N.D.	0.5	N.D.	--
DIBROMOCHLOROMETHANE	N.D.	0.5	N.D.	--
CHLOROBENZENE	N.D.	0.5	N.D.	115
BROMOFORM	N.D.	0.5	N.D.	--
1,1,2,2-TETRACHLOROETHANE	N.D.	0.5	N.D.	--
1,3-DICHLOROBENZENE	N.D.	0.5	N.D.	--
1,4-DICHLOROBENZENE	N.D.	0.5	N.D.	--
1,2-DICHLOROBENZENE	N.D.	0.5	N.D.	--
TRICHLOROTRIFLUOROETHANE	N.D.	0.5	N.D.	--

Oleg Nemtsov

Oleg Nemtsov
Chemist

Ali Kharrazi
Organic Manager

NQC DLEC 16:37:59

CHROMALAB, INC.
Environmental Services (SDB)

May 17, 1995 *Submission #:* 9505205

ENVIRON

Atten: Kim Jolitz

Project: STANDARD BRANDS *Project#:* 03-4603B
Received: May 16, 1995

re: One sample for Volatile Halogenated Organics analysis.

Sample ID: **CPT-6-18-23**
Spl#: 88753 *Matrix:* WATER
Sampled: May 16, 1995 *Run#:* 6692 *Analyzed:* May 17, 1995
ethod: EPA 8010

ANALYTE	**RESULT (ug/L)**	**REPORTING LIMIT (ug/L)**	**BLANK RESULT (ug/L)**	**BLANK SPIKE RESULT (%)**
CHLOROMETHANE	N.D.	0.5	N.D.	--
VINYL CHLORIDE	N.D.	0.5	N.D.	--
BROMOMETHANE	N.D.	0.5	N.D.	--
CHLOROETHANE	N.D.	0.5	N.D.	--
TRICHLOROFLUOROMETHANE	N.D.	0.5	N.D.	--
1,1-DICHLOROETHENE	N.D.	0.5	N.D.	102
ETHYLENE CHLORIDE	N.D.	0.5	N.D.	--
TRANS-1,2-DICHLOROETHENE	N.D.	0.5	N.D.	--
CIS-1,2-DICHLOROETHENE	N.D.	0.5	N.D.	--
1,1-DICHLOROETHANE	N.D.	0.5	N.D.	--
CHLOROFORM	N.D.	0.5	N.D.	--
1,1,1-TRICHLOROETHANE	N.D.	0.5	N.D.	--
CARBON TETRACHLORIDE	N.D.	0.5	N.D.	--
1,2-DICHLOROETHANE	N.D.	0.5	N.D.	--
TRICHLOROETHENE	N.D.	0.5	N.D.	111
1,2-DICHLOROPROPANE	N.D.	0.5	N.D.	--
ROMODICHLOROMETHANE	N.D.	0.5	N.D.	--
2-CHLOROETHYLVINYL ETHER	N.D.	0.5	N.D.	--
TRANS-1,3-DICHLOROPROPENE	N.D.	0.5	N.D.	--
CIS-1,3-DICHLOROPROPENE	N.D.	0.5	N.D.	--
1,1,2-TRICHLOROETHANE	N.D.	0.5	N.D.	--
TETRACHLOROETHENE	N.D.	0.5	N.D.	--
DIBROMOCHLOROMETHANE	N.D.	0.5	N.D.	--
CHLOROBENZENE	N.D.	0.5	N.D.	115
BROMOFORM	N.D.	0.5	N.D.	--
1,1,2,2-TETRACHLOROETHANE	N.D.	0.5	N.D.	--
1,3-DICHLOROBENZENE	N.D.	0.5	N.D.	--
1,4-DICHLOROBENZENE	N.D.	0.5	N.D.	--
1,2-DICHLOROBENZENE	N.D.	0.5	N.D.	--
TRICHLOROTRIFLUOROETHANE	N.D.	0.5	N.D.	--

Oleg Nemtsov
Oleg Nemtsov
Chemist

Ali Kh
Ali Kharrazi
Organic Manager

NROC OLEG 16:57:59

CHROMALAB, INC.

Environmental Services (SDB)

May 17, 1995 *Submission #:* 9505205

ENVIRON

Atten: Kim Jolitz

Project: STANDARD BRANDS *Project#:* 03-4603B
Received: May 16, 1995

re: One sample for Volatile Halogenated Organics analysis.

Sample ID: **CPT-6-32-37**
Spl#: 88754 *Matrix:* WATER
Sampled: May 16, 1995 *Run#:* 6692 *Analyzed:* May 17, 1995
Method: EPA 8010

ANALYTE	**RESULT (ug/L)**	**REPORTING LIMIT (ug/L)**	**BLANK RESULT (ug/L)**	**BLANK SPIKE RESULT (%)**
CHLOROMETHANE	N.D.	0.5	N.D.	--
VINYL CHLORIDE	N.D.	0.5	N.D.	--
BROMOMETHANE	N.D.	0.5	N.D.	--
CHLOROETHANE	N.D.	0.5	N.D.	--
TRICHLOROFLUOROMETHANE	N.D.	0.5	N.D.	--
1,1-DICHLOROETHENE	N.D.	0.5	N.D.	102
METHYLENE CHLORIDE	N.D.	0.5	N.D.	--
TRANS-1,2-DICHLOROETHENE	N.D.	0.5	N.D.	--
CIS-1,2-DICHLOROETHENE	N.D.	0.5	N.D.	--
1,1-DICHLOROETHANE	N.D.	0.5	N.D.	--
CHLOROFORM	N.D.	0.5	N.D.	--
1,1,1-TRICHLOROETHANE	N.D.	0.5	N.D.	--
CARBON TETRACHLORIDE	N.D.	0.5	N.D.	--
1,2-DICHLOROETHANE	N.D.	0.5	N.D.	--
TRICHLOROETHENE	N.D.	0.5	N.D.	111
1,2-DICHLOROPROPANE	N.D.	0.5	N.D.	--
BROMODICHLOROMETHANE	N.D.	0.5	N.D.	--
2-CHLOROETHYLVINYL ETHER	N.D.	0.5	N.D.	--
TRANS-1,3-DICHLOROPROPENE	N.D.	0.5	N.D.	--
CIS-1,3-DICHLOROPROPENE	N.D.	0.5	N.D.	--
1,1,2-TRICHLOROETHANE	N.D.	0.5	N.D.	--
TETRACHLOROETHENE	N.D.	0.5	N.D.	--
DIBROMOCHLOROMETHANE	N.D.	0.5	N.D.	--
CHLOROBENZENE	N.D.	0.5	N.D.	115
BROMOFORM	N.D.	0.5	N.D.	--
1,1,2,2-TETRACHLOROETHANE	N.D.	0.5	N.D.	--
1,3-DICHLOROBENZENE	N.D.	0.5	N.D.	--
1,4-DICHLOROBENZENE	N.D.	0.5	N.D.	--
1,2-DICHLOROBENZENE	N.D.	0.5	N.D.	--
TRICHLOROTRIFLUOROETHANE	N.D.	0.5	N.D.	--

Oleg Nemtsov
Oleg Nemtsov
Chemist

Ali Kh
Ali Kharrazi
Organic Manager

MOC OLEC 16:37.59

CHROMALAB, INC.
Environmental Services (SDB)

May 17, 1995

Submission #: 9505205

ENVIRON

Atten: Kim Jolitz

Project: STANDARD BRANDS
Received: May 16, 1995

Project#: 03-4603B

re: **Matrix spike** report for Volatile Halogenated Organics analysis.

Matrix: WATER
Lab Run#: 6692
Instrument: GC/MS-VOL-O
Analyzed: May 17, 1995
'ethod: EPA 8010

Analyte	**Spiked Sample Result**	**Spike Amt**	**% Spike Rec**	**Dup Spike Rec**	**Control Limits**	**% RPD**	**% RPD Lim**
1,1-DICHLOROETHENE	N.D. ug/L	20 ug/L	104	87.0	56-118	18	20
TRICHLOROETHENE	N.D. ug/L	20 ug/L	114	103	78-129	10	20
CHLOROBENZENE	N.D. ug/L	20 ug/L	116	101	70-120	14	20

Sample Spiked: 88751
Submission #: 9505205
Client Sample ID: CPT-5-35-40

SPK1

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CHROMALAB, INC.
Environmental Services (SDB)

May 17, 1995

Submission #: 9505205

ENVIRON

Atten: Kim Jolitz

Project: STANDARD BRANDS
Project#: 03-4603B
Received: May 16, 1995

re: **Surrogate** report for 6 samples for Volatile Halogenated Organics analysis.

Matrix: WATER
Lab Run#: 6692
Method: EPA 8010
Analyzed: May 17, 1995

Sample#	Client Sample ID	Surrogate	% Recovered
88750	CPT-5-23-28	1,4-DICHLOROBUTANE	123
88751	CPT-5-35-40	1,4-DICHLOROBUTANE	114
88752	CPT-6-15.5-17.5	1,4-DICHLOROBUTANE	115
88753	CPT-6-18-23	1,4-DICHLOROBUTANE	114
88754	CPT-6-32-37	1,4-DICHLOROBUTANE	128
88756	CPT-4-30-35	1,4-DICHLOROBUTANE	120

Sample#	QC Sample Type	Surrogate	% Recovered	
88855	*Method blank (MDB)*	1,4-DICHLOROBUTANE	119	
88856	*Blank Spike (BSP)*	1,4-DICHLOROBUTANE	117	
88857	*Matrix spike (MS)*	1,4-DICHLOROBUTANE	112	SPK1
88858	*Matrix spike duplicate (MSD)*	1,4-DICHLOROBUTANE	104	SPK2

QCSURR OLEG 17-May-95 16:39:16

CHROMALAB, INC.
Environmental Services (SDB)

May 30, 1995

Submission #: 9505199

ENVIRON

Atten: Kim Jolitz

Project: S.S. PHASE I SITE INVEST.
Project#: 03-3118L
Received: May 15, 1995

re: **Surrogate** report for 3 samples for Gasoline and BTEX analysis.

Matrix: SOIL
Lab Run#: 6778
Method: EPA 5030/8015M/8020
Analyzed: May 24, 1995

Sample#	Client Sample ID	Surrogate	% Recovered
88650	B-6 @ 9.5-10.0	TRIFLUOROTOLUENE	61
88651	B-6 @ 13.5-14.0	TRIFLUOROTOLUENE	101
88652	B-6 @ 20.5-21.0	TRIFLUOROTOLUENE	110

Sample#	QC Sample Type	Surrogate	% Recovered
89599	*Method blank (MDB)*	TRIFLUOROTOLUENE	94
89600	*Blank Spike (BSP)*	TRIFLUOROTOLUENE	97

QCSURR JACK 30-May-95 08 24 24

CHROMALAB, INC.
Environmental Services (SDB)

May 23, 1995 *Submission #:* 9505199

ENVIRON

Atten: Kim Jolitz

Project: S.S. PHASE I SITE INVEST. *Project#:* 03-3118L
Received: May 15, 1995

re: 2 samples for Gasoline and BTEX analysis.

Matrix: WATER
Sampled: May 15, 1995 *Run#:* 6758 *Analyzed:* May 23, 1995
Method: EPA 5030/8015M/602/8020

Spl #	**CLIENT SMPL ID**	**Gasoline (mg/L)**	**Benzene (ug/L)**	**Toluene (ug/L)**	**Ethyl Benzene (ug/L)**	**Total Xylenes (ug/L)**
88644	B-5	N.D.	N.D.	N.D.	N.D.	N.D.
88656	B-9	N.D.	N.D.	N.D.	N.D.	N.D.
Reporting Limits		0.05	0.5	0.5	0.5	0.5
Blank Result		N.D.	N.D.	N.D.	N.D.	N.D.
Blank Spike Result (%)		109	109	107	107	114

Jack Kelly
Chemist

Ali Kharrazi
Organic Manager

ReQC JACK 14.20:31

CHROMALAB, INC.
Environmental Services (SDB)

May 30, 1995 *Submission #:* 9505199

ENVIRON

Atten: Kim Jolitz

Project: S.S. PHASE I SITE INVEST. *Project#:* 03-3118L
Received: May 15, 1995

re: **Matrix spike** report for Gasoline and BTEX analysis.

Matrix: WATER
Lab Run#: 6758 Instrument: GC1-1 *Analyzed:* May 23, 1995
Method: EPA 5030/8015M/602/8020

Analyte	Spiked Sample Result	Spike Amt	% Spike Rec	Dup Spike Rec	Control Limits	% RPD	% RPD Lim
GASOLINE	N.D. mg/Kg	1.0 mg/Kg	109	--	80-118	N/A	N/A
BENZENE	N.D. ug/Kg	5.0 ug/Kg	115	116	80-127	0.9	20
TOLUENE	N.D. ug/Kg	5.0 ug/Kg	108	94.0	80-130	14	20
ETHYL BENZENE	N.D. ug/Kg	5.0 ug/Kg	109	108	81-119	0.9	20
XYLENES	47.0 ug/Kg	15 ug/Kg	99.0	104	83-125	4.9	20

Sample Spiked: 88639
Submission #: 9505198
Client Sample ID: SS2-1

SPK3

GCMSPK JACK 30-May-95 08:23:50

CHROMALAB, INC.
Environmental Services (SDB)

May 30, 1995 *Submission #:* 9505199

ENVIRON

Atten: Kim Jolitz

Project: S.S. PHASE I SITE INVEST. *Project#:* 03-3118L
Received: May 15, 1995

re: **Surrogate** report for 2 samples for Gasoline and BTEX analysis.

Matrix: WATER
Lab Run#: 6758 *Analyzed:* May 23, 1995
Method: EPA 5030/8015M/602/8020

Sample#	Client Sample ID	Surrogate	% Recovered
88644	B-5	TRIFLUOROTOLUENE	99
88656	B-9	TRIFLUOROTOLUENE	101

Sample#	QC Sample Type	Surrogate	% Recovered
89420	*Method blank (MDB)*	TRIFLUOROTOLUENE	99
89421	*Blank Spike (BSP)*	TRIFLUOROTOLUENE	105

QCSURR JACK 30-May-95 08 24:24

Laboratory Report for
Soil and Ground Water Grab Samples
Sampling Date: May 15, 1995

Chromalab Environmental Services
Submission Number: 9505199
Report Date: June 7, 1995

Sample Locations

B-4
B-5
B-6
B-7
B-8 (Partial Report)
B-9

CHROMALAB, INC.
SAMPLE RECEIPT CHECKLIST

Client Name ENVIRON

Date/Time Received 5/16/85 . 1700 (Date, Time)

Project ______

Received by B Morrow

Reference/Subm # 21983/9505210

Carrier name ______

Checklist completed by: Crowley 5/17/95 (Signature / Date)

Logged in by RN / 5/17/95 (Initials / Date)

Matrix Soil / H2O

Shipping container in good condition? NA ___ Yes ___ No ___

Custody seals present on shipping container? Intact ___ Broken ___ Yes ___ No ___

Custody seals on sample bottles? Intact ___ Broken ___ Yes ___ No ___

Chain of custody present? Yes ✓ No ___

Chain of custody signed when relinquished and received? Yes ✓ No ___

Chain of custody agrees with sample labels? Yes ✓ No ___

Samples in proper container/bottle? Yes ✓ No ___

Samples intact? Yes ✓ No ___

Sufficient sample volume for indicated test? Yes ✓ No ___

VOA vials have zero headspace? NA ___ Yes ___ No ✓

Trip Blank received? NA ___ Yes ___ No ✓

All samples received within holding time? Yes ✓ No ___

Container temperature? ______

pH upon receipt ______ pH adjusted ______ Check performed by: ______ NA ✓

Any NO response must be detailed in the comments section below. If items are not applicable, they should be marked NA.

Client contacted? ______ Date contacted? ______

Person contacted? ______ Contacted by? ______

Regarding? ______

Comments: ______

pH checked by chemist

Corrective Action: ______

SMPLRECD.CK

CHROMALAB, INC.
Environmental Services (SDB)

June 7, 1995

Submission #: 9505199

ENVIRON
5820 Shellmound St., Suite 700
Emeryville, CA 94608

Attn: Kim Jolitz
RE: Analysis for project S.S. PHASE I SITE INVEST., number 03-3118L.

REPORTING INFORMATION

Samples were received cold and in good condition on 05/15/95. They were refrigerated upon receipt and analyzed as described in the attached report. ChromaLab followed EPA or equivalent methods for all testing reported.

No discrepancies were observed or difficulties encountered with the testing.

SAMPLES SUBMITTED IN THIS REPORT

Client Sample ID	**Matrix**	**Date collected**	**Sample #**
B-4 @ 8.5-9.0	SOIL	May 15, 1995	88643
B-5	WATER	May 15, 1995	88644
B-5 @ 5.5-6.0	SOIL	May 15, 1995	88645
B-5 @ 18.5-19.0	SOIL	May 15, 1995	88646
B-5 @ 24.5-25.0	SOIL	May 15, 1995	88647
B-5 @ 32.5-33.0	SOIL	May 15, 1995	88648
B-6 @ 6.0-6.5	SOIL	May 15, 1995	88649
B-6 @ 9.5-10.0	SOIL	May 15, 1995	88650
B-6 @ 13.5-14.0	SOIL	May 15, 1995	88651
B-6 @ 20.5-21.0	SOIL	May 15, 1995	88652
B-8 @ 9.0-9.5	SOIL	May 15, 1995	88653
B-9 @ 9.5-10.0	SOIL	May 15, 1995	88654
B-9 @ 18.0-18.5	SOIL	May 15, 1995	88655
B-9	WATER	May 15, 1995	88656
SB051595TB	WATER	May 15, 1995	88657
B-4A @ 8.0-8.5	SOIL	May 15, 1995	88658
B-4A @ 9.5-10.0	SOIL	May 15, 1995	88659
B-4A @ 15.0-15.5	SOIL	May 15, 1995	88660
B-7 9.0-9.5	SOIL	May 15, 1995	88698

Jill Thomas
Quality Assurance Manager

Eric Tam
Laboratory Director

CHROMALAB, INC.
Environmental Services (SDB)

May 22, 1995 *Submission #:* 9505199

ENVIRON

Atten: Kim Jolitz

Project: S.S. PHASE I SITE INVEST. *Project#:* 03-3118L
Received: May 15, 1995

re: One sample for Volatile Halogenated Organics analysis.

Sample ID: **B-9**
Spl#: 88656 *Matrix:* WATER
Sampled: May 15, 1995 *Run#:* 6752 *Analyzed:* May 17, 1995
Method: EPA 8010

ANALYTE	**RESULT (ug/L)**	**REPORTING LIMIT (ug/L)**	**BLANK RESULT (ug/L)**	**BLANK SPIKE RESULT (%)**
CHLOROMETHANE	N.D.	0.5	N.D.	--
VINYL CHLORIDE	N.D.	0.5	N.D.	--
BROMOMETHANE	N.D.	0.5	N.D.	--
CHLOROETHANE	N.D.	0.5	N.D.	--
TRICHLOROFLUOROMETHANE	N.D.	0.5	N.D.	--
1,1-DICHLOROETHENE	N.D.	0.5	N.D.	102
METHYLENE CHLORIDE	N.D.	0.5	N.D.	--
TRANS-1,2-DICHLOROETHENE	N.D.	0.5	N.D.	--
CIS-1,2-DICHLOROETHENE	N.D.	0.5	N.D.	--
1,1-DICHLOROETHANE	N.D.	0.5	N.D.	--
CHLOROFORM	N.D.	0.5	N.D.	--
1,1,1-TRICHLOROETHANE	N.D.	0.5	N.D.	--
CARBON TETRACHLORIDE	N.D.	0.5	N.D.	--
1,2-DICHLOROETHANE	N.D.	0.5	N.D.	--
TRICHLOROETHENE	N.D.	0.5	N.D.	111
1,2-DICHLOROPROPANE	N.D.	0.5	N.D.	--
BROMODICHLOROMETHANE	N.D.	0.5	N.D.	--
2-CHLOROETHYLVINYL ETHER	N.D.	0.5	N.D.	--
TRANS-1,3-DICHLOROPROPENE	N.D.	0.5	N.D.	--
CIS-1,3-DICHLOROPROPENE	N.D.	0.5	N.D.	--
1,1,2-TRICHLOROETHANE	N.D.	0.5	N.D.	--
TETRACHLOROETHENE	N.D.	0.5	N.D.	--
DIBROMOCHLOROMETHANE	N.D.	0.5	N.D.	--
CHLOROBENZENE	N.D.	0.5	N.D.	115
BROMOFORM	N.D.	0.5	N.D.	--
1,1,2,2-TETRACHLOROETHANE	N.D.	0.5	N.D.	--
1,3-DICHLOROBENZENE	N.D.	0.5	N.D.	--
1,4-DICHLOROBENZENE	N.D.	0.5	N.D.	--
1,2-DICHLOROBENZENE	N.D.	0.5	N.D.	--
TRICHLOROTRIFLUOROETHANE	N.D.	0.5	N.D.	--

Oleg Nemtsov
Oleg Nemtsov
Chemist

Ali Kh
Ali Kharrazi
Organic Manager

CHROMALAB, INC.
Environmental Services (SDB)

May 22, 1995 *Submission #:* 9505199

ENVIRON

Atten: Kim Jolitz

Project: S.S. PHASE I SITE INVEST. *Project#:* 03-3118L
Received: May 15, 1995

re: One sample for Volatile Halogenated Organics analysis.

Sample ID: **B-5 @ 5.5-6.0**
Spl#: 88645 *Matrix:* SOIL
Sampled: May 15, 1995 *Run#:* 6750 *Analyzed:* May 18, 1995
Method: EPA 8010/8260

ANALYTE	**RESULT (ug/Kg)**	**REPORTING LIMIT (ug/Kg)**	**BLANK RESULT (ug/Kg)**	**BLANK SPIKE RESULT (%)**
CHLOROMETHANE	N.D.	5.0	N.D.	--
VINYL CHLORIDE	N.D.	5.0	N.D.	--
BROMOCHLOROMETHANE	N.D.	5.0	N.D.	--
CHLOROETHANE	N.D.	5.0	N.D.	--
TRICHLOROFLUOROMETHANE	N.D.	5.0	N.D.	--
1,1-DICHLOROETHENE	N.D.	5.0	N.D.	122
METHYLENE CHLORIDE	N.D.	5.0	N.D.	--
TRANS-1,2-DICHLOROETHENE	N.D.	5.0	N.D.	--
CIS-1,2-DICHLOROETHENE	N.D.	5.0	N.D.	--
1,1-DICHLOROETHANE	N.D.	5.0	N.D.	--
CHLOROFORM	N.D.	5.0	N.D.	--
1,1,1-TRICHLOROETHANE	N.D.	5.0	N.D.	--
CARBON TETRACHLORIDE	N.D.	5.0	N.D.	--
1,2-DICHLOROETHANE	N.D.	5.0	N.D.	--
TRICHLOROETHENE	N.D.	5.0	N.D.	120
1,2-DICHLOROPROPANE	N.D.	5.0	N.D.	--
BROMODICHLOROMETHANE	N.D.	5.0	N.D.	--
2-CHLOROETHYL VINYL ETHER	N.D.	5.0	N.D.	--
TRANS-1,3-DICHLOROPROPENE	N.D.	5.0	N.D.	--
CIS-1,3-DICHLOROPROPENE	N.D.	5.0	N.D.	--
1,1,2-TRICHLOROETHANE	N.D.	5.0	N.D.	--
TETRACHLOROETHENE	N.D.	5.0	N.D.	--
DIBROMOCHLOROMETHANE	N.D.	5.0	N.D.	--
CHLOROBENZENE	N.D.	5.0	N.D.	116
BROMOFORM	N.D.	5.0	N.D.	--
1,1,2,2-TETRACHLOROETHANE	N.D.	5.0	N.D.	--
1,3-DICHLOROBENZENE	N.D.	5.0	N.D.	--
1,4-DICHLOROBENZENE	N.D.	5.0	N.D.	--
1,2-DICHLOROBENZENE	N.D.	5.0	N.D.	--
TRICHLOROTRIFLUOROETHANE	N.D.	5.0	N.D.	--

Oleg Nemtsov

Oleg Nemtsov
Chemist

Ali Kharrazi
Organic Manager

CHROMALAB, INC.
Environmental Services (SDB)

May 22, 1995 *Submission #:* 9505199

ENVIRON

Atten: Kim Jolitz

Project: S.S. PHASE I SITE INVEST. *Project#:* 03-3118L
Received: May 15, 1995

re: One sample for Volatile Halogenated Organics analysis.

Sample ID: **B-5 @ 18.5-19.0**
Spl#: 88646 *Matrix:* SOIL
Sampled: May 15, 1995 *Run#:* 6750 *Analyzed:* May 18, 1995
Method: EPA 8010/8260

ANALYTE	RESULT (ug/Kg)	REPORTING LIMIT (ug/Kg)	BLANK RESULT (ug/Kg)	BLANK SPIKE RESULT (%)
CHLOROMETHANE	N.D.	5.0	N.D.	--
VINYL CHLORIDE	N.D.	5.0	N.D.	--
BROMOCHLOROMETHANE	N.D.	5.0	N.D.	--
CHLOROETHANE	N.D.	5.0	N.D.	--
TRICHLOROFLUOROMETHANE	N.D.	5.0	N.D.	--
1,1-DICHLOROETHENE	N.D.	5.0	N.D.	122
METHYLENE CHLORIDE	N.D.	5.0	N.D.	--
TRANS-1,2-DICHLOROETHENE	N.D.	5.0	N.D.	--
CIS-1,2-DICHLOROETHENE	N.D.	5.0	N.D.	--
1,1-DICHLOROETHANE	N.D.	5.0	N.D.	--
CHLOROFORM	N.D.	5.0	N.D.	--
1,1,1-TRICHLOROETHANE	N.D.	5.0	N.D.	--
CARBON TETRACHLORIDE	N.D.	5.0	N.D.	--
1,2-DICHLOROETHANE	N.D.	5.0	N.D.	--
TRICHLOROETHENE	N.D.	5.0	N.D.	120
1,2-DICHLOROPROPANE	N.D.	5.0	N.D.	--
BROMODICHLOROMETHANE	N.D.	5.0	N.D.	--
2-CHLOROETHYL VINYL ETHER	N.D.	5.0	N.D.	--
TRANS-1,3-DICHLOROPROPENE	N.D.	5.0	N.D.	--
CIS-1,3-DICHLOROPROPENE	N.D.	5.0	N.D.	--
1,1,2-TRICHLOROETHANE	N.D.	5.0	N.D.	--
TETRACHLOROETHENE	N.D.	5.0	N.D.	--
DIBROMOCHLOROMETHANE	N.D.	5.0	N.D.	--
CHLOROBENZENE	N.D.	5.0	N.D.	116
BROMOFORM	N.D.	5.0	N.D.	--
1,1,2,2-TETRACHLOROETHANE	N.D.	5.0	N.D.	--
1,3-DICHLOROBENZENE	N.D.	5.0	N.D.	--
1,4-DICHLOROBENZENE	N.D.	5.0	N.D.	--
1,2-DICHLOROBENZENE	N.D.	5.0	N.D.	--
TRICHLOROTRIFLUOROETHANE	N.D.	5.0	N.D.	--

Oleg Nemtsov

Oleg Nemtsov
Chemist

Ali Kharrazi
Organic Manager

CHROMALAB, INC.
Environmental Services (SDB)

May 22, 1995 *Submission #:* 9505199

ENVIRON

Atten: Kim Jolitz

Project: S.S. PHASE I SITE INVEST. *Project#:* 03-3118L
Received: May 15, 1995

re: One sample for Volatile Halogenated Organics analysis.

Sample ID: **B-4 @ 8.5-9.0**
Spl#: 88643 *Matrix:* SOIL
Sampled: May 15, 1995 *Run#:* 6750 *Analyzed:* May 18, 1995
Method: EPA 8010/8260

ANALYTE	RESULT (ug/Kg)	REPORTING LIMIT (ug/Kg)	BLANK RESULT (ug/Kg)	BLANK SPIKE RESULT (%)
CHLOROMETHANE	N.D.	5.0	N.D.	--
VINYL CHLORIDE	N.D.	5.0	N.D.	--
BROMOCHLOROMETHANE	N.D.	5.0	N.D.	--
CHLOROETHANE	N.D.	5.0	N.D.	--
TRICHLOROFLUOROMETHANE	N.D.	5.0	N.D.	--
1,1-DICHLOROETHENE	N.D.	5.0	N.D.	122
METHYLENE CHLORIDE	N.D.	5.0	N.D.	--
TRANS-1,2-DICHLOROETHENE	N.D.	5.0	N.D.	--
CIS-1,2-DICHLOROETHENE	N.D.	5.0	N.D.	--
1,1-DICHLOROETHANE	N.D.	5.0	N.D.	--
CHLOROFORM	N.D.	5.0	N.D.	--
1,1,1-TRICHLOROETHANE	N.D.	5.0	N.D.	--
CARBON TETRACHLORIDE	N.D.	5.0	N.D.	--
1,2-DICHLOROETHANE	N.D.	5.0	N.D.	--
TRICHLOROETHENE	15	5.0	N.D.	120
1,2-DICHLOROPROPANE	N.D.	5.0	N.D.	--
BROMODICHLOROMETHANE	N.D.	5.0	N.D.	--
2-CHLOROETHYL VINYL ETHER	N.D.	5.0	N.D.	--
TRANS-1,3-DICHLOROPROPENE	N.D.	5.0	N.D.	--
CIS-1,3-DICHLOROPROPENE	N.D.	5.0	N.D.	--
1,1,2-TRICHLOROETHANE	N.D.	5.0	N.D.	--
TETRACHLOROETHENE	N.D.	5.0	N.D.	--
DIBROMOCHLOROMETHANE	N.D.	5.0	N.D.	--
CHLOROBENZENE	N.D.	5.0	N.D.	116
BROMOFORM	N.D.	5.0	N.D.	--
1,1,2,2-TETRACHLOROETHANE	N.D.	5.0	N.D.	--
1,3-DICHLOROBENZENE	N.D.	5.0	N.D.	--
1,4-DICHLOROBENZENE	N.D.	5.0	N.D.	--
1,2-DICHLOROBENZENE	N.D.	5.0	N.D.	--
TRICHLOROTRIFLUOROETHANE	N.D.	5.0	N.D.	--

Oleg Nemtsov
Chemist

Ali Kharrazi
Organic Manager

CHROMALAB, INC.
Environmental Services (SDB)

May 22, 1995 *Submission #:* 9505199

ENVIRON

Atten: Kim Jolitz

Project: S.S. PHASE I SITE INVEST. *Project#:* 03-3118L
Received: May 15, 1995

re: One sample for Volatile Halogenated Organics analysis.

Sample ID: **B-5**
Spl#: 88644 *Matrix:* WATER
Sampled: May 15, 1995 *Run#:* 6752 *Analyzed:* May 17, 1995
Method: EPA 8010

ANALYTE	**RESULT (ug/L)**	**REPORTING LIMIT (ug/L)**	**BLANK RESULT (ug/L)**	**BLANK SPIKE RESULT (%)**
CHLOROMETHANE	N.D.	0.5	N.D.	--
VINYL CHLORIDE	N.D.	0.5	N.D.	--
BROMOMETHANE	N.D.	0.5	N.D.	--
CHLOROETHANE	N.D.	0.5	N.D.	--
TRICHLOROFLUOROMETHANE	N.D.	0.5	N.D.	--
1,1-DICHLOROETHENE	N.D.	0.5	N.D.	102
METHYLENE CHLORIDE	N.D.	0.5	N.D.	--
TRANS-1,2-DICHLOROETHENE	N.D.	0.5	N.D.	--
CIS-1,2-DICHLOROETHENE	N.D.	0.5	N.D.	--
1,1-DICHLOROETHANE	N.D.	0.5	N.D.	--
CHLOROFORM	N.D.	0.5	N.D.	--
1,1,1-TRICHLOROETHANE	N.D.	0.5	N.D.	--
CARBON TETRACHLORIDE	N.D.	0.5	N.D.	--
1,2-DICHLOROETHANE	N.D.	0.5	N.D.	--
TRICHLOROETHENE	N.D.	0.5	N.D.	111
1,2-DICHLOROPROPANE	N.D.	0.5	N.D.	--
BROMODICHLOROMETHANE	N.D.	0.5	N.D.	--
2-CHLOROETHYLVINYL ETHER	N.D.	0.5	N.D.	--
TRANS-1,3-DICHLOROPROPENE	N.D.	0.5	N.D.	--
CIS-1,3-DICHLOROPROPENE	N.D.	0.5	N.D.	--
1,1,2-TRICHLOROETHANE	N.D.	0.5	N.D.	--
TETRACHLOROETHENE	N.D.	0.5	N.D.	--
DIBROMOCHLOROMETHANE	N.D.	0.5	N.D.	--
CHLOROBENZENE	N.D.	0.5	N.D.	115
BROMOFORM	N.D.	0.5	N.D.	--
1,1,2,2-TETRACHLOROETHANE	N.D.	0.5	N.D.	--
1,3-DICHLOROBENZENE	N.D.	0.5	N.D.	--
1,4-DICHLOROBENZENE	N.D.	0.5	N.D.	--
1,2-DICHLOROBENZENE	N.D.	0.5	N.D.	--
TRICHLOROTRIFLUOROETHANE	N.D.	0.5	N.D.	--

Oleg Nemtsov

Oleg Nemtsov
Chemist

Ali Kharrazi
Organic Manager

HOC OLEG 16:13.59

CHROMALAB, INC.
Environmental Services (SDB)

May 22, 1995 *Submission #:* 9505199

ENVIRON

Atten: Kim Jolitz

Project: S.B. PHASE I SITE INVEST *Project#:* 03-3118L
Received: May 15, 1995

re: One sample for Volatile Halogenated Organics analysis.

Sample ID: **B-7 9.0-9.5**
Spl#: 88698 *Matrix:* SOIL
Sampled: May 15, 1995 *Run#:* 6750 *Analyzed:* May 18, 1995
ethod: EPA 8010/8260

ANALYTE	**RESULT (ug/Kg)**	**REPORTING LIMIT (ug/Kg)**	**BLANK RESULT (ug/Kg)**	**BLANK SPIKE RESULT (%)**
CHLOROMETHANE	N.D.	5.0	N.D.	--
VINYL CHLORIDE	N.D.	5.0	N.D.	--
BROMOCHLOROMETHANE	N.D.	5.0	N.D.	--
CHLOROETHANE	N.D.	5.0	N.D.	--
TRICHLOROFLUOROMETHANE	N.D.	5.0	N.D.	--
1,1-DICHLOROETHENE	N.D.	5.0	N.D.	122
ETHYLENE CHLORIDE	N.D.	5.0	N.D.	--
RANS-1,2-DICHLOROETHENE	N.D.	5.0	N.D.	--
CIS-1,2-DICHLOROETHENE	N.D.	5.0	N.D.	--
1,1-DICHLOROETHANE	N.D.	5.0	N.D.	--
CHLOROFORM	N.D.	5.0	N.D.	--
1,1,1-TRICHLOROETHANE	N.D.	5.0	N.D.	--
CARBON TETRACHLORIDE	N.D.	5.0	N.D.	--
1,2-DICHLOROETHANE	N.D.	5.0	N.D.	--
TRICHLOROETHENE	N.D.	5.0	N.D.	120
1,2-DICHLOROPROPANE	N.D.	5.0	N.D.	--
ROMODICHLOROMETHANE	N.D.	5.0	N.D.	--
-CHLOROETHYL VINYL ETHER	N.D.	5.0	N.D.	--
TRANS-1,3-DICHLOROPROPENE	N.D.	5.0	N.D.	--
CIS-1,3-DICHLOROPROPENE	N.D.	5.0	N.D.	--
1,1,2-TRICHLOROETHANE	N.D.	5.0	N.D.	--
TETRACHLOROETHENE	N.D.	5.0	N.D.	--
DIBROMOCHLOROMETHANE	N.D.	5.0	N.D.	--
CHLOROBENZENE	N.D.	5.0	N.D.	116
BROMOFORM	N.D.	5.0	N.D.	--
1,1,2,2-TETRACHLOROETHANE	N.D.	5.0	N.D.	--
1,3-DICHLOROBENZENE	N.D.	5.0	N.D.	--
1,4-DICHLOROBENZENE	N.D.	5.0	N.D.	--
1,2-DICHLOROBENZENE	N.D.	5.0	N.D.	--
TRICHLOROTRIFLUOROETHANE	N.D.	5.0	N.D.	--

Oleg Nemtsov

Oleg Nemtsov
Chemist

Ali

Ali Kharrazi
Organic Manager

CHROMALAB, INC.
Environmental Services (SDB)

May 22, 1995 *Submission #:* 9505199

ENVIRON

Atten: Kim Jolitz

Project: S.S. PHASE I SITE INVEST. *Project#:* 03-3118L
Received: May 15, 1995

re: **Matrix spike** report for Volatile Halogenated Organics analysis.

Matrix: SOIL
Lab Run#: 6750 *Instrument:* GC/MS-VOL-O *Analyzed:* May 18, 1995
Method: EPA 8010/8260

Analyte	Spiked Sample Result	Spike Amt	% Spike Rec	Dup Spike Rec	Control Limits	% RPD	% RPD Lim
1,1-DICHLOROETHENE	N.D. ug/Kg	20 ug/Kg	104	111	65-116	6.5	20
TRICHLOROETHENE	15 ug/Kg	20 ug/Kg	92.0	102	70-117	10	20
CHLOROBENZENE	N.D. ug/Kg	20 ug/Kg	107	106	70-120	0.9	20

Sample Spiked: 88643
Submission #: 9505199
Client Sample ID: B-4 @ 8.5-9.0

QCMSPK OLEG 22-May-95 14:42:28

CHROMALAB, INC.
Environmental Services (SDB)

June 7, 1995

ENVIRON

Submission #: 9505199

Atten: Kim Jolitz

Project: S.B. PHASE I SITE INVEST *Project#:* 03-3118L

re: **Surrogate** report for 16 samples for Volatile Halogenated Organics analysis.

Matrix: SOIL
Lab Run #: 6750
Method: EPA 8010

Analyzed: May 18, 1995

Sample#	Client Sample ID	Surrogate	% Recovered
88643	B-4 @ 8.5-9.0	1,4-DICHLOROBUTANE	123
88645	B-5 @ 5.5-6.0	1,4-DICHLOROBUTANE	119
88646	B-5 @ 18.5-19.0	1,4-DICHLOROBUTANE	119
88647	B-5 @ 24.5-25.0	1,4-DICHLOROBUTANE	120
88648	B-5 @ 32.5-33.0	1,4-DICHLOROBUTANE	96
88649	B-6 @ 6.0-6.5	1,4-DICHLOROBUTANE	116
88650	B-6 @ 9.5-10.0	1,4-DICHLOROBUTANE	122
88651	B-6 @ 13.5-14.0	1,4-DICHLOROBUTANE	119
88652	B-6 @ 20.5-21.0	1,4-DICHLOROBUTANE	115
88653	B-8 @ 9.0-9.5	1,4-DICHLOROBUTANE	127
88654	B-9 @ 9.5-10.0	1,4-DICHLOROBUTANE	118
88655	B-9 @ 18.0-18.5	1,4-DICHLOROBUTANE	119
88658	B-4A @ 8.0-8.5	1,4-DICHLOROBUTANE	105
88659	B-4A @ 9.5-10.0	1,4-DICHLOROBUTANE	122
88660	B-4A @ 15.0-15.5	1,4-DICHLOROBUTANE	116
88698	B-7 9.0-9.5	1,4-DICHLOROBUTANE	100

Sample#	QC Sample Type	Surrogate	% Recovered
89336	Method blank (MDB)	1,4-DICHLOROBUTANE	118
88337	Blank Spike (BSP)	1,4-DICHLOROBUTANE	111
88338	Matrix spike (MS)	1,4-DICHLOROBUTANE	109
88339	Matrix spike duplicate (MSD)	1,4-DICHLOROBUTANE	115

CHROMALAB, INC.

Environmental Services (SDB)

May 22, 1995 *Submission #:* 9505199

ENVIRON

Atten: Kim Jolitz

Project: S.S. PHASE I SITE INVEST. *Project#:* 03-3118L
Received: May 15, 1995

re: **Matrix spike** report for Volatile Halogenated Organics analysis.

Matrix: WATER
Lab Run#: 6752 *Instrument:* GC/MS-VOL-O *Analyzed:* May 17, 1995
Method: EPA 8010

Analyte	Spiked Sample Result	Spike Amt	% Spike Rec	Dup Spike Rec	Control Limits	% RPD	% RPD Lim
1,1-DICHLOROETHENE	N.D. ug/L	20 ug/L	81.0	87.0	56-118	7.1	20
TRICHLOROETHENE	N.D. ug/L	20 ug/L	112	114	78-129	1.8	20
CHLOROBENZENE	N.D. ug/L	20 ug/L	112	111	70-120	0.9	20

Sample Spiked: 88644
Submission #: 9505199
Client Sample ID: B-5

QCMSPK OLEG 22-May-95 16:18:01

CHROMALAB, INC.
Environmental Services (SDB)

May 22, 1995

Submission #: 9505199

ENVIRON

Atten: Kim Jolitz

Project: S.S. PHASE I SITE INVEST. *Project#:* 03-3118L
Received: May 15, 1995

re: **Surrogate** report for 2 samples for Volatile Halogenated Organics analysis.

Matrix: WATER
Lab Run#: 6752
'ethod: EPA 8010

Analyzed: May 17, 1995

Sample#	Client Sample ID	Surrogate	% Recovered
88644	B-5	1,4-DICHLOROBUTANE	124
88656	B-9	1,4-DICHLOROBUTANE	119

Sample#	QC Sample Type	Surrogate	% Recovered	
89344	*Method blank (MDB)*	1,4-DICHLOROBUTANE	119	
89345	*Blank Spike (BSP)*	1,4-DICHLOROBUTANE	117	
89346	*Matrix spike (MS)*	1,4-DICHLOROBUTANE	126	SPK1
9347	*Matrix spike duplicate (MSD)*	1,4-DICHLOROBUTANE	122	SPK2

CHROMALAB, INC.
Environmental Services (SDB)

May 23, 1995 *Submission #:* 9505199

ENVIRON

Atten: Kim Jolitz

Project: S.S. PHASE I SITE INVEST. *Project#:* 03-3118L
Received: May 15, 1995

re: 16 samples for Total Extractable Petroleum Hydrocarbons (TEPH)

Matrix: SOIL *Extracted:* May 19, 1995
Sampled: May 15, 1995 *Run#:* 6751 *Analyzed:* May 20, 1995
Method: EPA 3550/8015M

Spl #	CLIENT SMPL ID	Kerosene (mg/Kg)	Diesel (mg/Kg)	Motor Oil (mg/Kg)
88643	B-4 @ 8.5-9.0	N.D.	N.D.	N.D.
88648	B-5 @ 32.5-33.0	N.D.	N.D.	N.D.
88649	B-6 @ 6.0-6.5	N.D.	N.D.	N.D.
	Note: Unknown hydrocarbons in the Kerosene range, conc.= 34mg/Kg.			
88650	B-6 @ 9.5-10.0	N.D.	N.D.	N.D.
	Note: Unknown hydrocarbons in the Kerosene range, conc.= 17mg/Kg.			
88651	B-6 @ 13.5-14.0	N.D.	N.D.	N.D.
	Note: Unknown hydrocarbons in the Kerosene range, conc.= 27mg/Kg.			
88652	B-6 @ 20.5-21.0	N.D.	N.D.	N.D.
88653	B-8 @ 9.0-9.5	N.D.	N.D.	N.D.
88654	B-9 @ 9.5-10.0	N.D.	N.D.	N.D.
88655	B-9 @ 18.0-18.5	N.D.	N.D.	N.D.
88658	B-4A @ 8.0-8.5	N.D.	N.D.	N.D.
88659	B-4A @ 9.5-10.0	N.D.	N.D.	17
	Note: Unknown hydrocarbons in the Kerosene range, conc.= 1.3mg/Kg.			
88660	B-4A @ 15.0-15.5	N.D.	N.D.	N.D.
	Note: Unknown hydrocarbons in the Kerosene range, conc.= 18mg/Kg.			

Matrix: SOIL *Extracted:* May 19, 1995
Sampled: May 15, 1995 *Run#:* 6751 *Analyzed:* May 22, 1995
Method: EPA 3550/8015M

Spl #	CLIENT SMPL ID	Kerosene (mg/Kg)	Diesel (mg/Kg)	Motor Oil (mg/Kg)
88645	B-5 @ 5.5-6.0	N.D.	N.D.	N.D.
	Note: Reporting limit increased 20x due to dilution.			
	Note: Unknown hydrocarbons in the Kerosene range, conc.= 300mg/Kg.			
88646	B-5 @ 18.5-19.0	N.D.	N.D.	N.D.
	Note: Reporting limit 5X due to dilution.			
	Note: Unknown hydrocarbons in the Kerosene range, conc.= 120mg/Kg.			
88647	B-5 @ 24.5-25.0	N.D.	N.D.	N.D.
	Note: Unknown hydrocarbons in the Kerosene range, conc.= 8.3mg/Kg.			

Matrix: SOIL *Extracted:* May 19, 1995
Sampled: May 15, 1995 *Run#:* 6751 *Analyzed:* May 23, 1995
Method: EPA 3550/8015M

Spl #	CLIENT SMPL ID	Kerosene (mg/Kg)	Diesel (mg/Kg)	Motor Oil (mg/Kg)

CHROMALAB, INC.
SAMPLE RECEIPT CHECKLIST

Client Name ENVIRON

Date/Time Received 5/15/95 / 1700
Date / Time

Project ______

Received by B. Morrow

Reference/Subm # 21975/9505799

Carrier name ______

Checklist completed by: Conley / 5/16/95
Signature / Date

Logged in by RM 5/15/95
Initials Date

Matrix SOIL / WATER

Shipping container in good condition? NA___ Yes___ No___

Custody seals present on shipping container? Intact___ Broken___ Yes___ No___

Custody seals on sample bottles? Intact___ Broken___ Yes___ No___

Chain of custody present? Yes ✓ No___

Chain of custody signed when relinquished and received? Yes ✓ No___

* Chain of custody agrees with sample labels? Yes___ No ✓

Samples in proper container/bottle? Yes___ No___

Samples intact? Yes___ No___

Sufficient sample volume for indicated test? Yes___ No___

VOA vials have zero headspace? NA___ Yes___ No___

Trip Blank received? NA___ Yes___ No___

All samples received within holding time? Yes___ No___

Container temperature? ______

pH upon receipt ______ pH adjusted ______ Check performed by: ______ NA___

Any NO response must be detailed in the comments section below. If items are not applicable, they should be marked NA.

Client contacted? left message

Date contacted? 5/16/95

Person contacted? Kim Jolitz

Contacted by? CR

Regarding? 2 Missing + 1 extra sample

Comments: Sample ID's: B-9 @ 9.5-10.0 + B-9 @ 18.0-18.5 are on COC but do not have samples Sample ID: B7-9-9.5 have sample but not listed on COC

Corrective Action: Spoke w/ Kim Jolitz 5/16/95 @ 12:43 Samples B-9 @ 9.5-10.0 + B9 @ 18.0-18.5 will be sent in tonight + included with SUBM# 9505199. Received okay to add B7 9-9.5 to COC for 8010 + FREON 113, TEPH + G/Btex. Will receive fax stating this

197, 33'0+3-8[illegible]

ENVIRON

Counsel in Health and Environmental Science

CHAIN-of-CUSTODY FORM

21975

Sheet 1 Of 2

5820 Shellmound St., Suite 700
Emeryville, California 94608
(510) 655-7400

PROJECT NAME: S.B. Phase I Site Invest

CASE NO.: 03-3118L

CLIENT ENVIRON
DUE 0[illegible]/95
REF #[illegible]1975

CHRM # 950515[illegible]

ENVIRON SAMPLE ID.	COLLECTION DATE	COLLECTED BY (initials)	MATRIX	TOTAL NO. OF CONTAINERS	ANALYSES: 8010 Freon 113	TEPH - diesel incl. motor oil, kerosene, thinner	TPH/G + BTEX										COMMENTS
B-4 @ 8.5-9.0	5/15	KLD	soil	1	1	1	1										Compare to thinner
B-5	↓	↓	water	8	3	2	3										Level 2 report
B-5 @ 5.5-6.0			soil	1	1	1	1										Extractables = motor oil, diesel, kerosene, thinner
B-5 @ 18.5-19.0			↓	1	1	1	1										Send results to
B-5 @ 24.5-25				1	1	1	1										Kim Jolitz
B-5 @ 32.5-33				1	1	1	1										
B-6 @ 6-6.5				1	1	1	1										
B-6 @ 9.5-10				1	1	1	1										*RECEIVED at 15°C
B-6 @ 13.5-14	↓	↓	↓	1	1	1	1										
TOTAL	☒	☒	☒	16	X	X	X										

Relinquished by:	Date:	Time:	Received by:	Company:	Date:	Time:
Kimberly Jolitz	5/15/95	1700		Chromalab	5-15-95 ~~AM 700~~	1700

'77

21975

ENVIRON
Counsel in Health and Environmental Science

CHAIN-of-CUSTODY FORM

Sheet 1 Of 2
5820 Shellmound St., Suite 700
Emeryville, California 94608
(510) 655-7400

PROJECT NAME: S.B. Phase I Site Invest

CASE NO.: 03-3186

ENVIRON SAMPLE ID.	COLLECTION DATE	COLLECTED BY (initials)	MATRIX	TOTAL NO. OF CONTAINERS	ANALYSES: 8010 + FREON 113	TEPH - diesel motor oil kerosene, thinner	TPH/G + BTEX										COMMENTS
B-6 @ 20.5-21	5/15	HLD	soil	1	X	X	X										Compare to thinner
B-8 @ 9.0-9.5		KSJ		1	X	X	X										Level 2 report
B-9 @ 9.5-10.0		KSJ		1	X	X	X										Extractables=
B-9 @ 18.0-18.5		KSJ		1	X	X	X										motor oil, diesel,
B-9		KSJ	water	7	3	1	3										kerosene, thinner
SB051595TB		HLD	water	1	X	X	X										
B-4A @ 8.0-8.5	5/15	HLD	soil	1	X	X	X										Send results to
B-4A @ 9.5-10	5/15	HLD	soil	1	X	X	X										Kim Jolitz
B-4A @ 15.0-15.5	5/15	HLD	soil	1	X	X	X										*RECEIVED at 15°c
TOTAL				17	X	X	X										

Relinquished by: Kimberly Jolitz Date: 5/15/95 Time: 1200 Received by: Company: Chromalab Date: 5-15-95 Time: 1700

9505199

ENVIRON

FACSIMILE COVER LETTER

Contract Number: 03-4603B

Date: May 16, 1995

Total Number of Pages (including this cover page): 1

Confidential: Yes

To: Chris Roley

Company: Chroma

Location: Pleasanton **Fax Phone No:** 510-484-1096

From: Kim Jolitz **Extension:** 265

Time Transmitted: 12:51 pm **Operator:** kj

Comments/Special Instructions: As we discussed on the telephone this afternoon, please add the sample labeled B7 from 9.0-9.5 feet to the chain of custody for the Standard Brands Phase 1 investigation submitted on 5/15/95. The requested analyses are EPA Method 8010, TPH/gas and BETX (mod. 8015), and total extractable petroleum hydrocarbons (mod. 8015). As was mentioned on the chain we would like a comparison to thinner and a Level 2 report.

PLEASE CALL IMMEDIATELY IF THE FAX YOU RECEIVE IS INCOMPLETE OR ILLEGIBLE

A division of APBI Environmental Sciences Group, Inc.
5820 Shellmound Street, Suite 700 • Emeryville, California 94608-1954 • USA
Tel: (510) 655-7400 • Fax: (510) 655-9517

CHROMALAB, INC.

Environmental Services (SDB)

May 22, 1995 *Submission #:* 9505199

ENVIRON

Atten: Kim Jolitz

Project: S.S. PHASE I SITE INVEST. *Project#:* 03-3118L
Received: May 15, 1995

re: One sample for Volatile Halogenated Organics analysis.

Sample ID: **B-8 @ 9.0-9.5**
Spl#: 88653 *Matrix:* SOIL
Sampled: May 15, 1995 *Run#:* 6750 *Analyzed:* May 18, 1995
ethod: EPA 8010/8260

ANALYTE	RESULT (ug/Kg)	REPORTING LIMIT (ug/Kg)	BLANK RESULT (ug/Kg)	BLANK SPIKE RESULT (%)
CHLOROMETHANE	N.D.	5.0	N.D.	--
VINYL CHLORIDE	N.D.	5.0	N.D.	--
BROMOCHLOROMETHANE	N.D.	5.0	N.D.	--
CHLOROETHANE	N.D.	5.0	N.D.	--
TRICHLOROFLUOROMETHANE	N.D.	5.0	N.D.	--
1,1-DICHLOROETHENE	N.D.	5.0	N.D.	122
ETHYLENE CHLORIDE	N.D.	5.0	N.D.	--
RANS-1,2-DICHLOROETHENE	N.D.	5.0	N.D.	--
CIS-1,2-DICHLOROETHENE	N.D.	5.0	N.D.	--
1,1-DICHLOROETHANE	N.D.	5.0	N.D.	--
CHLOROFORM	N.D.	5.0	N.D.	--
1,1,1-TRICHLOROETHANE	N.D.	5.0	N.D.	--
CARBON TETRACHLORIDE	N.D.	5.0	N.D.	--
1,2-DICHLOROETHANE	N.D.	5.0	N.D.	--
TRICHLOROETHENE	N.D.	5.0	N.D.	120
1,2-DICHLOROPROPANE	N.D.	5.0	N.D.	--
ROMODICHLOROMETHANE	N.D.	5.0	N.D.	--
-CHLOROETHYL VINYL ETHER	N.D.	5.0	N.D.	--
TRANS-1,3-DICHLOROPROPENE	N.D.	5.0	N.D.	--
CIS-1,3-DICHLOROPROPENE	N.D.	5.0	N.D.	--
1,1,2-TRICHLOROETHANE	N.D.	5.0	N.D.	--
TETRACHLOROETHENE	N.D.	5.0	N.D.	--
DIBROMOCHLOROMETHANE	N.D.	5.0	N.D.	--
CHLOROBENZENE	N.D.	5.0	N.D.	116
BROMOFORM	N.D.	5.0	N.D.	--
1,1,2,2-TETRACHLOROETHANE	N.D.	5.0	N.D.	--
1,3-DICHLOROBENZENE	N.D.	5.0	N.D.	--
1,4-DICHLOROBENZENE	N.D.	5.0	N.D.	--
1,2-DICHLOROBENZENE	N.D.	5.0	N.D.	--
TRICHLOROTRIFLUOROETHANE	N.D.	5.0	N.D.	--

Oleg Nemtsov

Oleg Nemtsov
Chemist

Ali Kharrazi
Organic Manager

1220 Quarry Lane • Pleasanton, California 94566-4756
(510) 484-1919 • Facsimile (510) 484-1096
Federal ID #68-0140157

CHROMALAB, INC.
Environmental Services (SDB)

May 22, 1995 *Submission #:* 9505199

ENVIRON

Atten: Kim Jolitz

Project: S.S. PHASE I SITE INVEST. *Project#:* 03-3118L
Received: May 15, 1995

re: One sample for Volatile Halogenated Organics analysis.

Sample ID: **B-9 @ 9.5-10.0**
Spl#: 88654 *Matrix:* SOIL
Sampled: May 15, 1995 *Run#:* 6750 *Analyzed:* May 18, 1995
Method: EPA 8010/8260

ANALYTE	**RESULT (ug/Kg)**	**REPORTING LIMIT (ug/Kg)**	**BLANK RESULT (ug/Kg)**	**BLANK SPIKE RESULT (%)**
CHLOROMETHANE	N.D.	5.0	N.D.	--
VINYL CHLORIDE	N.D.	5.0	N.D.	--
BROMOCHLOROMETHANE	N.D.	5.0	N.D.	--
CHLOROETHANE	N.D.	5.0	N.D.	--
TRICHLOROFLUOROMETHANE	N.D.	5.0	N.D.	--
1,1-DICHLOROETHENE	N.D.	5.0	N.D.	122
METHYLENE CHLORIDE	N.D.	5.0	N.D.	--
TRANS-1,2-DICHLOROETHENE	N.D.	5.0	N.D.	--
CIS-1,2-DICHLOROETHENE	N.D.	5.0	N.D.	--
1,1-DICHLOROETHANE	N.D.	5.0	N.D.	--
CHLOROFORM	N.D.	5.0	N.D.	--
1,1,1-TRICHLOROETHANE	N.D.	5.0	N.D.	--
CARBON TETRACHLORIDE	N.D.	5.0	N.D.	--
1,2-DICHLOROETHANE	N.D.	5.0	N.D.	--
TRICHLOROETHENE	N.D.	5.0	N.D.	120
1,2-DICHLOROPROPANE	N.D.	5.0	N.D.	--
BROMODICHLOROMETHANE	N.D.	5.0	N.D.	--
2-CHLOROETHYL VINYL ETHER	N.D.	5.0	N.D.	--
TRANS-1,3-DICHLOROPROPENE	N.D.	5.0	N.D.	--
CIS-1,3-DICHLOROPROPENE	N.D.	5.0	N.D.	--
1,1,2-TRICHLOROETHANE	N.D.	5.0	N.D.	--
TETRACHLOROETHENE	N.D.	5.0	N.D.	--
DIBROMOCHLOROMETHANE	N.D.	5.0	N.D.	--
CHLOROBENZENE	N.D.	5.0	N.D.	116
BROMOFORM	N.D.	5.0	N.D.	--
1,1,2,2-TETRACHLOROETHANE	N.D.	5.0	N.D.	--
1,3-DICHLOROBENZENE	N.D.	5.0	N.D.	--
1,4-DICHLOROBENZENE	N.D.	5.0	N.D.	--
1,2-DICHLOROBENZENE	N.D.	5.0	N.D.	--
TRICHLOROTRIFLUOROETHANE	N.D.	5.0	N.D.	--

Oleg Nemtsov

Oleg Nemtsov
Chemist

Ali Kharrazi
Organic Manager

CHROMALAB, INC.

Environmental Services (SDB)

May 22, 1995 *Submission #:* 9505199

ENVIRON

Atten: Kim Jolitz

Project: S.S. PHASE I SITE INVEST. *Project#:* 03-3118L
Received: May 15, 1995

re: One sample for Volatile Halogenated Organics analysis.

Sample ID: **B-6 @ 13.5-14.0**
Spl#: 88651 *Matrix:* SOIL
Sampled: May 15, 1995 *Run#:* 6750 *Analyzed:* May 18, 1995
Method: EPA 8010/8260

ANALYTE	RESULT (ug/Kg)	REPORTING LIMIT (ug/Kg)	BLANK RESULT (ug/Kg)	BLANK SPIKE RESULT (%)
CHLOROMETHANE	N.D.	5.0	N.D.	--
VINYL CHLORIDE	N.D.	5.0	N.D.	--
BROMOCHLOROMETHANE	N.D.	5.0	N.D.	--
CHLOROETHANE	N.D.	5.0	N.D.	--
TRICHLOROFLUOROMETHANE	N.D.	5.0	N.D.	--
1,1-DICHLOROETHENE	N.D.	5.0	N.D.	122
METHYLENE CHLORIDE	N.D.	5.0	N.D.	--
TRANS-1,2-DICHLOROETHENE	N.D.	5.0	N.D.	--
CIS-1,2-DICHLOROETHENE	N.D.	5.0	N.D.	--
1,1-DICHLOROETHANE	N.D.	5.0	N.D.	--
CHLOROFORM	N.D.	5.0	N.D.	--
1,1,1-TRICHLOROETHANE	N.D.	5.0	N.D.	--
CARBON TETRACHLORIDE	N.D.	5.0	N.D.	--
1,2-DICHLOROETHANE	N.D.	5.0	N.D.	--
TRICHLOROETHENE	N.D.	5.0	N.D.	120
1,2-DICHLOROPROPANE	N.D.	5.0	N.D.	--
BROMODICHLOROMETHANE	N.D.	5.0	N.D.	--
-CHLOROETHYL VINYL ETHER	N.D.	5.0	N.D.	--
TRANS-1,3-DICHLOROPROPENE	N.D.	5.0	N.D.	--
CIS-1,3-DICHLOROPROPENE	N.D.	5.0	N.D.	--
1,1,2-TRICHLOROETHANE	N.D.	5.0	N.D.	--
TETRACHLOROETHENE	N.D.	5.0	N.D.	--
DIBROMOCHLOROMETHANE	N.D.	5.0	N.D.	--
CHLOROBENZENE	N.D.	5.0	N.D.	116
BROMOFORM	N.D.	5.0	N.D.	--
1,1,2,2-TETRACHLOROETHANE	N.D.	5.0	N.D.	--
1,3-DICHLOROBENZENE	N.D.	5.0	N.D.	--
1,4-DICHLOROBENZENE	N.D.	5.0	N.D.	--
1,2-DICHLOROBENZENE	N.D.	5.0	N.D.	--
TRICHLOROTRIFLUOROETHANE	N.D.	5.0	N.D.	--

Oleg Nemtsov

Oleg Nemtsov
Chemist

Ali Kharrazi
Organic Manager

CHROMALAB, INC.
Environmental Services (SDB)

May 22, 1995 *Submission #:* 9505199

ENVIRON

Atten: Kim Jolitz

Project: S.S. PHASE I SITE INVEST. *Project#:* 03-3118L
Received: May 15, 1995

re: One sample for Volatile Halogenated Organics analysis.

Sample ID: **B-6 @ 20.5-21.0**
Spl#: 88652 *Matrix:* SOIL
Sampled: May 15, 1995 *Run#:* 6750 *Analyzed:* May 18, 1995
Method: EPA 8010/8260

ANALYTE	**RESULT (ug/Kg)**	**REPORTING LIMIT (ug/Kg)**	**BLANK RESULT (ug/Kg)**	**BLANK SPIKE RESULT (%)**
CHLOROMETHANE	N.D.	5.0	N.D.	--
VINYL CHLORIDE	N.D.	5.0	N.D.	--
BROMOCHLOROMETHANE	N.D.	5.0	N.D.	--
CHLOROETHANE	N.D.	5.0	N.D.	--
TRICHLOROFLUOROMETHANE	N.D.	5.0	N.D.	--
1,1-DICHLOROETHENE	N.D.	5.0	N.D.	122
METHYLENE CHLORIDE	N.D.	5.0	N.D.	--
TRANS-1,2-DICHLOROETHENE	N.D.	5.0	N.D.	--
CIS-1,2-DICHLOROETHENE	N.D.	5.0	N.D.	--
1,1-DICHLOROETHANE	N.D.	5.0	N.D.	--
CHLOROFORM	N.D.	5.0	N.D.	--
1,1,1-TRICHLOROETHANE	N.D.	5.0	N.D.	--
CARBON TETRACHLORIDE	N.D.	5.0	N.D.	--
1,2-DICHLOROETHANE	N.D.	5.0	N.D.	--
TRICHLOROETHENE	N.D.	5.0	N.D.	120
1,2-DICHLOROPROPANE	N.D.	5.0	N.D.	--
BROMODICHLOROMETHANE	N.D.	5.0	N.D.	--
2-CHLOROETHYL VINYL ETHER	N.D.	5.0	N.D.	--
TRANS-1,3-DICHLOROPROPENE	N.D.	5.0	N.D.	--
CIS-1,3-DICHLOROPROPENE	N.D.	5.0	N.D.	--
1,1,2-TRICHLOROETHANE	N.D.	5.0	N.D.	--
TETRACHLOROETHENE	N.D.	5.0	N.D.	--
DIBROMOCHLOROMETHANE	N.D.	5.0	N.D.	--
CHLOROBENZENE	N.D.	5.0	N.D.	116
BROMOFORM	N.D.	5.0	N.D.	--
1,1,2,2-TETRACHLOROETHANE	N.D.	5.0	N.D.	--
1,3-DICHLOROBENZENE	N.D.	5.0	N.D.	--
1,4-DICHLOROBENZENE	N.D.	5.0	N.D.	--
1,2-DICHLOROBENZENE	N.D.	5.0	N.D.	--
TRICHLOROTRIFLUOROETHANE	N.D.	5.0	N.D.	--

Oleg Nemtsov

Oleg Nemtsov
Chemist

Ali

Ali Kharrazi
Organic Manager

CHROMALAB, INC.
Environmental Services (SDB)

May 22, 1995 *Submission #:* 9505199

ENVIRON

Atten: Kim Jolitz

Project: S.S. PHASE I SITE INVEST. *Project#:* 03-3118L
Received: May 15, 1995

re: One sample for Volatile Halogenated Organics analysis.

Sample ID: **B-6 @ 6.0-6.5**
Spl#: 88649 *Matrix:* SOIL
Sampled: May 15, 1995 *Run#:* 6750 *Analyzed:* May 18, 1995
ethod: EPA 8010/8260

ANALYTE	RESULT (ug/Kg)	REPORTING LIMIT (ug/Kg)	BLANK RESULT (ug/Kg)	BLANK SPIKE RESULT (%)
CHLOROMETHANE	N.D.	5.0	N.D.	--
VINYL CHLORIDE	N.D.	5.0	N.D.	--
BROMOCHLOROMETHANE	N.D.	5.0	N.D.	--
CHLOROETHANE	N.D.	5.0	N.D.	--
TRICHLOROFLUOROMETHANE	N.D.	5.0	N.D.	--
1,1-DICHLOROETHENE	N.D.	5.0	N.D.	122
ETHYLENE CHLORIDE	N.D.	5.0	N.D.	--
TRANS-1,2-DICHLOROETHENE	N.D.	5.0	N.D.	--
CIS-1,2-DICHLOROETHENE	N.D.	5.0	N.D.	--
1,1-DICHLOROETHANE	N.D.	5.0	N.D.	--
CHLOROFORM	N.D.	5.0	N.D.	--
1,1,1-TRICHLOROETHANE	N.D.	5.0	N.D.	--
CARBON TETRACHLORIDE	N.D.	5.0	N.D.	--
1,2-DICHLOROETHANE	N.D.	5.0	N.D.	--
TRICHLOROETHENE	N.D.	5.0	N.D.	120
1,2-DICHLOROPROPANE	N.D.	5.0	N.D.	--
ROMODICHLOROMETHANE	N.D.	5.0	N.D.	--
2-CHLOROETHYL VINYL ETHER	N.D.	5.0	N.D.	--
TRANS-1,3-DICHLOROPROPENE	N.D.	5.0	N.D.	--
CIS-1,3-DICHLOROPROPENE	N.D.	5.0	N.D.	--
1,1,2-TRICHLOROETHANE	N.D.	5.0	N.D.	--
TETRACHLOROETHENE	N.D.	5.0	N.D.	--
DIBROMOCHLOROMETHANE	N.D.	5.0	N.D.	--
CHLOROBENZENE	N.D.	5.0	N.D.	116
BROMOFORM	N.D.	5.0	N.D.	--
1,1,2,2-TETRACHLOROETHANE	N.D.	5.0	N.D.	--
1,3-DICHLOROBENZENE	N.D.	5.0	N.D.	--
1,4-DICHLOROBENZENE	N.D.	5.0	N.D.	--
1,2-DICHLOROBENZENE	N.D.	5.0	N.D.	--
TRICHLOROTRIFLUOROETHANE	N.D.	5.0	N.D.	--

Oleg Nemtsov
Chemist

Ali Kharrazi
Organic Manager

1220 Quarry Lane • Pleasanton, California 94566-4756
(510) 484-1919 • Facsimile (510) 484-1096
Federal ID #68-0140157

CHROMALAB, INC.
Environmental Services (SDB)

May 22, 1995

Submission #: 9505199

ENVIRON

Atten: Kim Jolitz

Project: S.S. PHASE I SITE INVEST. *Project#:* 03-3118L
Received: May 15, 1995

re: One sample for Volatile Halogenated Organics analysis.

Sample ID: **B-6 @ 9.5-10.0**
Spl#: 88650 *Matrix:* SOIL
Sampled: May 15, 1995 *Run#:* 6750 *Analyzed:* May 18, 1995
Method: EPA 8010/8260

ANALYTE	RESULT (ug/Kg)	REPORTING LIMIT (ug/Kg)	BLANK RESULT (ug/Kg)	BLANK SPIKE RESULT (%)
CHLOROMETHANE	N.D.	5.0	N.D.	--
VINYL CHLORIDE	N.D.	5.0	N.D.	--
BROMOCHLOROMETHANE	N.D.	5.0	N.D.	--
CHLOROETHANE	N.D.	5.0	N.D.	--
TRICHLOROFLUOROMETHANE	N.D.	5.0	N.D.	--
1,1-DICHLOROETHENE	N.D.	5.0	N.D.	122
METHYLENE CHLORIDE	N.D.	5.0	N.D.	--
TRANS-1,2-DICHLOROETHENE	N.D.	5.0	N.D.	--
CIS-1,2-DICHLOROETHENE	N.D.	5.0	N.D.	--
1,1-DICHLOROETHANE	N.D.	5.0	N.D.	--
CHLOROFORM	N.D.	5.0	N.D.	--
1,1,1-TRICHLOROETHANE	N.D.	5.0	N.D.	--
CARBON TETRACHLORIDE	N.D.	5.0	N.D.	--
1,2-DICHLOROETHANE	N.D.	5.0	N.D.	--
TRICHLOROETHENE	N.D.	5.0	N.D.	120
1,2-DICHLOROPROPANE	N.D.	5.0	N.D.	--
BROMODICHLOROMETHANE	N.D.	5.0	N.D.	--
2-CHLOROETHYL VINYL ETHER	N.D.	5.0	N.D.	--
TRANS-1,3-DICHLOROPROPENE	N.D.	5.0	N.D.	--
CIS-1,3-DICHLOROPROPENE	N.D.	5.0	N.D.	--
1,1,2-TRICHLOROETHANE	N.D.	5.0	N.D.	--
TETRACHLOROETHENE	N.D.	5.0	N.D.	--
DIBROMOCHLOROMETHANE	N.D.	5.0	N.D.	--
CHLOROBENZENE	N.D.	5.0	N.D.	116
BROMOFORM	N.D.	5.0	N.D.	--
1,1,2,2-TETRACHLOROETHANE	N.D.	5.0	N.D.	--
1,3-DICHLOROBENZENE	N.D.	5.0	N.D.	--
1,4-DICHLOROBENZENE	N.D.	5.0	N.D.	--
1,2-DICHLOROBENZENE	N.D.	5.0	N.D.	--
TRICHLOROTRIFLUOROETHANE	N.D.	5.0	N.D.	--

Oleg Nemtsov

Oleg Nemtsov
Chemist

Ali Kharrazi
Organic Manager

CHROMALAB, INC.
Environmental Services (SDB)

May 22, 1995 *Submission #:* 9505199

ENVIRON

Atten: Kim Jolitz

Project: S.S. PHASE I SITE INVEST. *Project#:* 03-3118L
Received: May 15, 1995

re: One sample for Volatile Halogenated Organics analysis.

Sample ID: **B-5 @ 24.5-25.0**
Spl#: 88647 *Matrix:* SOIL
Sampled: May 15, 1995 *Run#:* 6750 *Analyzed:* May 18, 1995
Method: EPA 8010/8260

ANALYTE	RESULT (ug/Kg)	REPORTING LIMIT (ug/Kg)	BLANK RESULT (ug/Kg)	BLANK SPIKE RESULT (%)
CHLOROMETHANE	N.D.	5.0	N.D.	--
VINYL CHLORIDE	N.D.	5.0	N.D.	--
BROMOCHLOROMETHANE	N.D.	5.0	N.D.	--
CHLOROETHANE	N.D.	5.0	N.D.	--
TRICHLOROFLUOROMETHANE	N.D.	5.0	N.D.	--
1,1-DICHLOROETHENE	N.D.	5.0	N.D.	122
METHYLENE CHLORIDE	N.D.	5.0	N.D.	--
TRANS-1,2-DICHLOROETHENE	N.D.	5.0	N.D.	--
CIS-1,2-DICHLOROETHENE	N.D.	5.0	N.D.	--
1,1-DICHLOROETHANE	N.D.	5.0	N.D.	--
CHLOROFORM	N.D.	5.0	N.D.	--
1,1,1-TRICHLOROETHANE	N.D.	5.0	N.D.	--
CARBON TETRACHLORIDE	N.D.	5.0	N.D.	--
1,2-DICHLOROETHANE	N.D.	5.0	N.D.	--
TRICHLOROETHENE	N.D.	5.0	N.D.	120
1,2-DICHLOROPROPANE	N.D.	5.0	N.D.	--
BROMODICHLOROMETHANE	N.D.	5.0	N.D.	--
2-CHLOROETHYL VINYL ETHER	N.D.	5.0	N.D.	--
TRANS-1,3-DICHLOROPROPENE	N.D.	5.0	N.D.	--
CIS-1,3-DICHLOROPROPENE	N.D.	5.0	N.D.	--
1,1,2-TRICHLOROETHANE	N.D.	5.0	N.D.	--
TETRACHLOROETHENE	N.D.	5.0	N.D.	--
DIBROMOCHLOROMETHANE	N.D.	5.0	N.D.	--
CHLOROBENZENE	N.D.	5.0	N.D.	116
BROMOFORM	N.D.	5.0	N.D.	--
1,1,2,2-TETRACHLOROETHANE	N.D.	5.0	N.D.	--
1,3-DICHLOROBENZENE	N.D.	5.0	N.D.	--
1,4-DICHLOROBENZENE	N.D.	5.0	N.D.	--
1,2-DICHLOROBENZENE	N.D.	5.0	N.D.	--
TRICHLOROTRIFLUOROETHANE	N.D.	5.0	N.D.	--

Oleg Nemtsov
Oleg Nemtsov
Chemist

Ali Kh
Ali Kharrazi
Organic Manager

CHROMALAB, INC.

Environmental Services (SDB)

May 22, 1995 *Submission #:* 9505199

ENVIRON

Atten: Kim Jolitz

Project: S.S. PHASE I SITE INVEST. *Project#:* 03-3118L
Received: May 15, 1995

re: One sample for Volatile Halogenated Organics analysis.

Sample ID: **B-5 @ 32.5-33.0**
Spl#: 88648 *Matrix:* SOIL
Sampled: May 15, 1995 *Run#:* 6750 *Analyzed:* May 18, 1995
Method: EPA 8010/8260

ANALYTE	**RESULT (ug/Kg)**	**REPORTING LIMIT (ug/Kg)**	**BLANK RESULT (ug/Kg)**	**BLANK SPIKE RESULT (%)**
CHLOROMETHANE	N.D.	5.0	N.D.	--
VINYL CHLORIDE	N.D.	5.0	N.D.	--
BROMOCHLOROMETHANE	N.D.	5.0	N.D.	--
CHLOROETHANE	N.D.	5.0	N.D.	--
TRICHLOROFLUOROMETHANE	N.D.	5.0	N.D.	--
1,1-DICHLOROETHENE	N.D.	5.0	N.D.	122
METHYLENE CHLORIDE	N.D.	5.0	N.D.	--
TRANS-1,2-DICHLOROETHENE	N.D.	5.0	N.D.	--
CIS-1,2-DICHLOROETHENE	N.D.	5.0	N.D.	--
1,1-DICHLOROETHANE	N.D.	5.0	N.D.	--
CHLOROFORM	N.D.	5.0	N.D.	--
1,1,1-TRICHLOROETHANE	N.D.	5.0	N.D.	--
CARBON TETRACHLORIDE	N.D.	5.0	N.D.	--
1,2-DICHLOROETHANE	N.D.	5.0	N.D.	--
TRICHLOROETHENE	N.D.	5.0	N.D.	120
1,2-DICHLOROPROPANE	N.D.	5.0	N.D.	--
BROMODICHLOROMETHANE	N.D.	5.0	N.D.	--
2-CHLOROETHYL VINYL ETHER	N.D.	5.0	N.D.	--
TRANS-1,3-DICHLOROPROPENE	N.D.	5.0	N.D.	--
CIS-1,3-DICHLOROPROPENE	N.D.	5.0	N.D.	--
1,1,2-TRICHLOROETHANE	N.D.	5.0	N.D.	--
TETRACHLOROETHENE	N.D.	5.0	N.D.	--
DIBROMOCHLOROMETHANE	N.D.	5.0	N.D.	--
CHLOROBENZENE	N.D.	5.0	N.D.	116
BROMOFORM	N.D.	5.0	N.D.	--
1,1,2,2-TETRACHLOROETHANE	N.D.	5.0	N.D.	--
1,3-DICHLOROBENZENE	N.D.	5.0	N.D.	--
1,4-DICHLOROBENZENE	N.D.	5.0	N.D.	--
1,2-DICHLOROBENZENE	N.D.	5.0	N.D.	--
TRICHLOROTRIFLUOROETHANE	N.D.	5.0	N.D.	--

Oleg Nemtsov

Oleg Nemtsov
Chemist

Ali Kharrazi
Organic Manager

Laboratory Report for
Soil and Ground Water Grab Samples
Sampling Date: May 16, 1995

Chromalab Environmental Services
Submission Number: 9505210
Report Date: June 5, 1995

<u>Sample Locations</u>
B-1
B-8 (Partial Report)
CPT-5 (Partial Report)
CPT-6 (Partial Report)

CHROMALAB, INC.
Environmental Services (SDB)

June 5, 1995 Submission #: 9505210

ENVIRON
5820 Shellmound St., Suite 700
Emeryville, CA 94608

Attn: Kim Jolitz
RE: Analysis for project STANDARD BRANDS PHASE I, number 03-4603B.

REPORTING INFORMATION

Samples were received cold and in good condition on 05/16/95. They were refrigerated upon receipt and analyzed as described in the attached report. ChromaLab followed EPA or equivalent methods for all testing reported.

No discrepancies were observed or difficulties encountered with the testing.

SAMPLES SUBMITTED IN THIS REPORT

Client Sample ID	Matrix	Date collected	Sample #
B-1 @ 10.5-11	SOIL	May 16, 1995	88764
B-8A @ 18-18.5	SOIL	May 16, 1995	88765
B-10A @ 2.5-3.0	SOIL	May 16, 1995	88766
B-1	WATER	May 16, 1995	88767
B-8	WATER	May 16, 1995	88768
SB051695TB	WATER	May 16, 1995	88769
CPT-5-23-28	WATER	May 16, 1995	88770
CPT-5-35-40	WATER	May 16, 1995	88771
CPT-6-15.5-17.5	WATER	May 16, 1995	88772
CPT-6-18-23	WATER	May 16, 1995	88773
CPT-6-32-37	WATER	May 16, 1995	88774

Jill Thomas
Quality Assurance Manager

Eric Tam
Laboratory Director

CHROMALAB, INC.
Environmental Services (SDB)

RECEIVED
JUN - 6 1995
[illegible]ON

May 31, 1995

Submission #: 9505210

ENVIRON

Atten: Kim Jolitz

Project: STANDARD BRANDS PHASE I *Project#:* 03-4603B
Received: May 16, 1995

re: 8 samples for Gasoline and BTEX analysis.

Matrix: WATER
Sampled: May 16, 1995 *Run#:* 6800 *Analyzed:* May 25, 1995
Method: EPA 5030/8015M/602/8020

Spl #	CLIENT SMPL ID	Gasoline (mg/L)	Benzene (ug/L)	Toluene (ug/L)	Ethyl Benzene (ug/L)	Total Xylenes (ug/L)
88767	B-1	N.D.	N.D.	N.D.	N.D.	N.D.
88768	B-8	N.D.	N.D.	N.D.	N.D.	N.D.
88769	SB051695TB	N.D.	N.D.	N.D.	N.D.	N.D.

Matrix: WATER
Sampled: May 16, 1995 *Run#:* 6825 *Analyzed:* May 25, 1995
Method: EPA 5030/8015M/602/8020

Spl #	CLIENT SMPL ID	Gasoline (mg/L)	Benzene (ug/L)	Toluene (ug/L)	Ethyl Benzene (ug/L)	Total Xylenes (ug/L)
88770	CPT-5-23-28	N.D.	N.D.	N.D.	N.D.	N.D.
88771	CPT-5-35-40	N.D.	N.D.	N.D.	N.D.	N.D.
88772	CPT-6-15.5-17.5	N.D.	N.D.	N.D.	N.D.	N.D.
88773	CPT-6-18-23	N.D.	N.D.	N.D.	N.D.	N.D.
88774	CPT-6-32-37	N.D.	N.D.	N.D.	N.D.	N.D.
Reporting Limits		0.05	0.5	0.5	0.5	0.5
Blank Result		N.D.	N.D.	N.D.	N.D.	N.D.
Blank Spike Result (%)		94	106	107	110	111

Jack Kelly
Chemist

Ali Kharrazi
Organic Manager

N:QC JACK 14 58:02

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Federal ID #68-0140157

CHROMALAB, INC.
Environmental Services (SDB)

May 25, 1995

Submission #: 9505210

ENVIRON

Atten: Kim Jolitz

Project: STANDARD BRANDS PHASE I
Project#: 03-4603B
Received: May 16, 1995

re: 2 samples for Gasoline and BTEX analysis.

Matrix: SOIL
Sampled: May 16, 1995
Run#: 6799
Analyzed: May 25, 1995
Method: EPA 5030/8015M/8020

Spl #	CLIENT SMPL ID	Gasoline (mg/Kg)	Benzene (ug/Kg)	Toluene (ug/Kg)	Ethyl Benzene (ug/Kg)	Total Xylenes (ug/Kg)
88764	B-1 @ 10.5-11	N.D.	N.D.	N.D.	N.D.	N.D.
88765	B-8A @ 18-18.5	N.D.	N.D.	N.D.	N.D.	N.D.
Reporting Limits		1.0	5.0	5.0	5.0	5.0
Blank Result		N.D.	N.D.	N.D.	N.D.	N.D.
Blank Spike Result (%)		91	115	109	111	110

Jack Kelly
Chemist

Ali Kharrazi
Organic Manager

CHROMALAB, INC.
Environmental Services (SDB)

May 23, 1995 *Submission #:* 9505210

ENVIRON

Atten: Kim Jolitz

Project: STANDARD BRANDS PHASE I *Project#:* 03-4603B
Received: May 16, 1995

re: 7 samples for Total Extractable Petroleum Hydrocarbons (TEPH)

Matrix: WATER *Extracted:* May 21, 1995
Sampled: May 16, 1995 *Run#:* 6775 *Analyzed:* May 22, 1995
Method: EPA 3510/8015M

Spl #	CLIENT SMPL ID	Kerosene (ug/L)	Diesel (ug/L)	Motor Oil (ug/L)
88767	B-1	N.D.	N.D.	N.D.
88768	B-8	N.D.	N.D.	N.D.
88770	CPT-5-23-28	N.D.	N.D.	N.D.
88771	CPT-5-35-40	N.D.	N.D.	N.D.
88772	CPT-6-15.5-17.5	N.D.	N.D.	N.D.
88773	CPT-6-18-23	N.D.	N.D.	N.D.
88774	CPT-6-32-37	N.D.	N.D.	N.D.

Note: Compounds in the Diesel range do not match any of our petroleum hydrocarbon standard profiles. Compared to our Diesel standard, amount is 60 ug/L.

	Kerosene	Diesel	Motor Oil
Reporting Limits	50	50	500
Blank Result	N.D.	N.D.	N.D.
Blank Spike Result (%)	--	66	--

Sirirat Chullakorn

Sirirat (Sindy) Chullakorn
Chemist

Ali Kharrazi
Organic Manager

CHROMALAB, INC.
Environmental Services (SDB)

May 23, 1995 *Submission #:* 9505210

ENVIRON

Atten: Kim Jolitz

Project: STANDARD BRANDS PHASE I *Project#:* 03-4603B
Received: May 16, 1995

re: 3 samples for Total Extractable Petroleum Hydrocarbons (TEPH)

Sampled: May 16, 1995 *Matrix:* SOIL *Extracted:* May 22, 1995
Method: EPA 3550/8015M *Run#:* 6763 *Analyzed:* May 23, 1995

Spl #	CLIENT SMPL ID	Kerosene (mg/Kg)	Diesel (mg/Kg)	Motor Oil (mg/Kg)
88764	B-1 @ 10.5-11	N.D.	N.D.	N.D.
88765	B-8A @ 18-18.5	N.D.	N.D.	N.D.
88766	B-10A @ 2.5-3.0	N.D.	N.D.	180

Note: Compounds in the Diesel range do not match any of our petroleum hydrocarbon standard profiles. Compared to our Diesel standard, amount is 2.9 mg/Kg.

Reporting Limits	1.0	1.0	10
lank Result	N.D.	N.D.	N.D.
Blank Spike Result (%)	--	113	--

Sirirat Chullakorn
Sirirat (Sindy) Chullakorn
Chemist

Ali-
Ali Kharrazi
Organic Manager

CHROMALAB, INC.
Environmental Services (SDB)

May 23, 1995

Submission #: 9505210

ENVIRON

Atten: Kim Jolitz

Project: STANDARD BRANDS PHASE I *Project#:* 03-4603B
Received: May 16, 1995

re: One sample for Volatile Halogenated Organics analysis.

Sample ID: **B-1 @ 10.5-11**
Spl#: 88764 *Matrix:* SOIL
Sampled: May 16, 1995 *Run#:* 6761 *Analyzed:* May 22, 1995
Method: EPA 8010/8260

ANALYTE	**RESULT (ug/Kg)**	**REPORTING LIMIT (ug/Kg)**	**BLANK RESULT (ug/Kg)**	**BLANK SPIKE RESULT (%)**
CHLOROMETHANE	N.D.	5.0	N.D.	--
VINYL CHLORIDE	N.D.	5.0	N.D.	--
BROMOCHLOROMETHANE	N.D.	5.0	N.D.	--
CHLOROETHANE	N.D.	5.0	N.D.	--
TRICHLOROFLUOROMETHANE	N.D.	5.0	N.D.	--
1,1-DICHLOROETHENE	N.D.	5.0	N.D.	102
METHYLENE CHLORIDE	N.D.	5.0	N.D.	--
TRANS-1,2-DICHLOROETHENE	N.D.	5.0	N.D.	--
CIS-1,2-DICHLOROETHENE	N.D.	5.0	N.D.	--
1,1-DICHLOROETHANE	N.D.	5.0	N.D.	--
CHLOROFORM	N.D.	5.0	N.D.	--
1,1,1-TRICHLOROETHANE	N.D.	5.0	N.D.	--
CARBON TETRACHLORIDE	N.D.	5.0	N.D.	--
1,2-DICHLOROETHANE	N.D.	5.0	N.D.	--
TRICHLOROETHENE	N.D.	5.0	N.D.	111
1,2-DICHLOROPROPANE	N.D.	5.0	N.D.	--
BROMODICHLOROMETHANE	N.D.	5.0	N.D.	--
2-CHLOROETHYL VINYL ETHER	N.D.	5.0	N.D.	--
TRANS-1,3-DICHLOROPROPENE	N.D.	5.0	N.D.	--
CIS-1,3-DICHLOROPROPENE	N.D.	5.0	N.D.	--
1,1,2-TRICHLOROETHANE	N.D.	5.0	N.D.	--
TETRACHLOROETHENE	N.D.	5.0	N.D.	--
DIBROMOCHLOROMETHANE	N.D.	5.0	N.D.	--
CHLOROBENZENE	N.D.	5.0	N.D.	107
BROMOFORM	N.D.	5.0	N.D.	--
1,1,2,2-TETRACHLOROETHANE	N.D.	5.0	N.D.	--
1,3-DICHLOROBENZENE	N.D.	5.0	N.D.	--
1,4-DICHLOROBENZENE	N.D.	5.0	N.D.	--
1,2-DICHLOROBENZENE	N.D.	5.0	N.D.	--
TRICHLOROTRIFLUOROETHANE	N.D.	5.0	N.D.	--

Oleg Nemtsov
Oleg Nemtsov
Chemist

Ali Kh
Ali Kharrazi
Organic Manager

CHROMALAB, INC.
Environmental Services (SDB)

May 23, 1995 *Submission #:* 9505210

ENVIRON

Atten: Kim Jolitz

Project: STANDARD BRANDS PHASE I *Project#:* 03-4603B
Received: May 16, 1995

re: One sample for Volatile Halogenated Organics analysis.

Sample ID: **B-8A @ 18-18.5**
Spl#: 88765 *Matrix:* SOIL
Sampled: May 16, 1995 *Run#:* 6761 *Analyzed:* May 22, 1995
Method: EPA 8010/8260

ANALYTE	RESULT (ug/Kg)	REPORTING LIMIT (ug/Kg)	BLANK RESULT (ug/Kg)	BLANK SPIKE RESULT (%)
CHLOROMETHANE	N.D.	5.0	N.D.	--
VINYL CHLORIDE	N.D.	5.0	N.D.	--
BROMOCHLOROMETHANE	N.D.	5.0	N.D.	--
CHLOROETHANE	N.D.	5.0	N.D.	--
TRICHLOROFLUOROMETHANE	N.D.	5.0	N.D.	--
1,1-DICHLOROETHENE	N.D.	5.0	N.D.	102
METHYLENE CHLORIDE	N.D.	5.0	N.D.	--
TRANS-1,2-DICHLOROETHENE	N.D.	5.0	N.D.	--
CIS-1,2-DICHLOROETHENE	N.D.	5.0	N.D.	--
1,1-DICHLOROETHANE	N.D.	5.0	N.D.	--
CHLOROFORM	N.D.	5.0	N.D.	--
1,1,1-TRICHLOROETHANE	N.D.	5.0	N.D.	--
CARBON TETRACHLORIDE	N.D.	5.0	N.D.	--
1,2-DICHLOROETHANE	N.D.	5.0	N.D.	--
TRICHLOROETHENE	N.D.	5.0	N.D.	111
1,2-DICHLOROPROPANE	N.D.	5.0	N.D.	--
BROMODICHLOROMETHANE	N.D.	5.0	N.D.	--
-CHLOROETHYL VINYL ETHER	N.D.	5.0	N.D.	--
TRANS-1,3-DICHLOROPROPENE	N.D.	5.0	N.D.	--
CIS-1,3-DICHLOROPROPENE	N.D.	5.0	N.D.	--
1,1,2-TRICHLOROETHANE	N.D.	5.0	N.D.	--
TETRACHLOROETHENE	N.D.	5.0	N.D.	--
DIBROMOCHLOROMETHANE	N.D.	5.0	N.D.	--
CHLOROBENZENE	N.D.	5.0	N.D.	107
BROMOFORM	N.D.	5.0	N.D.	--
1,1,2,2-TETRACHLOROETHANE	N.D.	5.0	N.D.	--
1,3-DICHLOROBENZENE	N.D.	5.0	N.D.	--
1,4-DICHLOROBENZENE	N.D.	5.0	N.D.	--
1,2-DICHLOROBENZENE	N.D.	5.0	N.D.	--
TRICHLOROTRIFLUOROETHANE	N.D.	5.0	N.D.	--

Oleg Nemtsov
Oleg Nemtsov
Chemist

Ali Kharrazi
Organic Manager

CHROMALAB, INC.
Environmental Services (SDB)

May 23, 1995

Submission #: 9505210

ENVIRON

Atten: Kim Jolitz

Project: STANDARD BRANDS PHASE I *Project#:* 03-4603B
Received: May 16, 1995

re: One sample for Volatile Halogenated Organics analysis.

Sample ID: **B-1**
Spl#: 88767 *Matrix:* WATER
Sampled: May 16, 1995 *Run#:* 6765 *Analyzed:* May 17, 1995
Method: EPA 8010

ANALYTE	**RESULT (ug/L)**	**REPORTING LIMIT (ug/L)**	**BLANK RESULT (ug/L)**	**BLANK SPIKE RESULT (%)**
CHLOROMETHANE	N.D.	0.5	N.D.	--
VINYL CHLORIDE	N.D.	0.5	N.D.	--
BROMOMETHANE	N.D.	0.5	N.D.	--
CHLOROETHANE	N.D.	0.5	N.D.	--
TRICHLOROFLUOROMETHANE	N.D.	0.5	N.D.	--
1,1-DICHLOROETHENE	N.D.	0.5	N.D.	102
METHYLENE CHLORIDE	N.D.	0.5	N.D.	--
TRANS-1,2-DICHLOROETHENE	N.D.	0.5	N.D.	--
CIS-1,2-DICHLOROETHENE	N.D.	0.5	N.D.	--
1,1-DICHLOROETHANE	N.D.	0.5	N.D.	--
CHLOROFORM	N.D.	0.5	N.D.	--
1,1,1-TRICHLOROETHANE	N.D.	0.5	N.D.	--
CARBON TETRACHLORIDE	N.D.	0.5	N.D.	--
1,2-DICHLOROETHANE	N.D.	0.5	N.D.	--
TRICHLOROETHENE	0.9	0.5	N.D.	111
1,2-DICHLOROPROPANE	N.D.	0.5	N.D.	--
BROMODICHLOROMETHANE	N.D.	0.5	N.D.	--
2-CHLOROETHYLVINYL ETHER	N.D.	0.5	N.D.	--
TRANS-1,3-DICHLOROPROPENE	N.D.	0.5	N.D.	--
CIS-1,3-DICHLOROPROPENE	N.D.	0.5	N.D.	--
1,1,2-TRICHLOROETHANE	N.D.	0.5	N.D.	--
TETRACHLOROETHENE	N.D.	0.5	N.D.	--
DIBROMOCHLOROMETHANE	N.D.	0.5	N.D.	--
CHLOROBENZENE	N.D.	0.5	N.D.	115
BROMOFORM	N.D.	0.5	N.D.	--
1,1,2,2-TETRACHLOROETHANE	N.D.	0.5	N.D.	--
1,3-DICHLOROBENZENE	N.D.	0.5	N.D.	--
1,4-DICHLOROBENZENE	N.D.	0.5	N.D.	--
1,2-DICHLOROBENZENE	N.D.	0.5	N.D.	--
TRICHLOROTRIFLUOROETHANE	N.D.	0.5	N.D.	--

Oleg Nemtsov

Oleg Nemtsov
Chemist

Ali Kh

Ali Kharrazi
Organic Manager

NtQC OLEG 13.16:52

CHROMALAB, INC.
Environmental Services (SDB)

May 23, 1995

Submission #: 9505210

ENVIRON

Atten: Kim Jolitz

Project: STANDARD BRANDS PHASE I *Project#:* 03-4603B
Received: May 16, 1995

re: One sample for Volatile Halogenated Organics analysis.

Sample ID: **B-8**
Spl#: 88768 *Matrix:* WATER
Sampled: May 16, 1995 *Run#:* 6765 *Analyzed:* May 17, 1995
Method: EPA 8010

ANALYTE	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE RESULT (%)
CHLOROMETHANE	N.D.	0.5	N.D.	--
VINYL CHLORIDE	N.D.	0.5	N.D.	--
BROMOMETHANE	N.D.	0.5	N.D.	--
CHLOROETHANE	N.D.	0.5	N.D.	--
TRICHLOROFLUOROMETHANE	N.D.	0.5	N.D.	--
1,1-DICHLOROETHENE	N.D.	0.5	N.D.	102
METHYLENE CHLORIDE	N.D.	0.5	N.D.	--
TRANS-1,2-DICHLOROETHENE	N.D.	0.5	N.D.	--
CIS-1,2-DICHLOROETHENE	N.D.	0.5	N.D.	--
1,1-DICHLOROETHANE	N.D.	0.5	N.D.	--
CHLOROFORM	N.D.	0.5	N.D.	--
1,1,1-TRICHLOROETHANE	N.D.	0.5	N.D..	--
CARBON TETRACHLORIDE	N.D.	0.5	N.D.	--
1,2-DICHLOROETHANE	N.D.	0.5	N.D.	--
TRICHLOROETHENE	0.9	0.5	N.D.	111
1,2-DICHLOROPROPANE	N.D.	0.5	N.D.	--
BROMODICHLOROMETHANE	N.D.	0.5	N.D.	--
-CHLOROETHYLVINYL ETHER	N.D.	0.5	N.D.	--
TRANS-1,3-DICHLOROPROPENE	N.D.	0.5	N.D.	--
CIS-1,3-DICHLOROPROPENE	N.D.	0.5	N.D.	--
1,1,2-TRICHLOROETHANE	N.D.	0.5	N.D.	--
TETRACHLOROETHENE	N.D.	0.5	N.D.	--
DIBROMOCHLOROMETHANE	N.D.	0.5	N.D.	--
CHLOROBENZENE	N.D.	0.5	N.D.	115
BROMOFORM	N.D.	0.5	N.D.	--
1,1,2,2-TETRACHLOROETHANE	N.D.	0.5	N.D.	--
1,3-DICHLOROBENZENE	N.D.	0.5	N.D.	--
1,4-DICHLOROBENZENE	N.D.	0.5	N.D.	--
1,2-DICHLOROBENZENE	N.D.	0.5	N.D.	--
TRICHLOROTRIFLUOROETHANE	N.D.	0.5	N.D.	--

Oleg Nemtsov

Oleg Nemtsov
Chemist

Ali Kharrazi
Organic Manager

CHROMALAB, INC.
Environmental Services (SDB)

May 23, 1995 *Submission #:* 9505210

ENVIRON

Atten: Kim Jolitz

Project: STANDARD BRANDS PHASE I *Project#:* 03-4603B
Received: May 16, 1995

re: One sample for Volatile Halogenated Organics analysis.

Sample ID: **SB051695TB**
Spl#: 88769 *Matrix:* WATER
Sampled: May 16, 1995 *Run#:* 6765 *Analyzed:* May 17, 1995
Method: EPA 8010

ANALYTE	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE RESULT (%)
CHLOROMETHANE	N.D.	0.5	N.D.	--
VINYL CHLORIDE	N.D.	0.5	N.D.	--
BROMOMETHANE	N.D.	0.5	N.D.	--
CHLOROETHANE	N.D.	0.5	N.D.	--
TRICHLOROFLUOROMETHANE	N.D.	0.5	N.D.	--
1,1-DICHLOROETHENE	N.D.	0.5	N.D.	102
METHYLENE CHLORIDE	N.D.	0.5	N.D.	--
TRANS-1,2-DICHLOROETHENE	N.D.	0.5	N.D.	--
CIS-1,2-DICHLOROETHENE	N.D.	0.5	N.D.	--
1,1-DICHLOROETHANE	N.D.	0.5	N.D.	--
CHLOROFORM	N.D.	0.5	N.D.	--
1,1,1-TRICHLOROETHANE	N.D.	0.5	N.D.	--
CARBON TETRACHLORIDE	N.D.	0.5	N.D.	--
1,2-DICHLOROETHANE	N.D.	0.5	N.D.	--
TRICHLOROETHENE	N.D.	0.5	N.D.	111
1,2-DICHLOROPROPANE	N.D.	0.5	N.D.	--
BROMODICHLOROMETHANE	N.D.	0.5	N.D.	--
2-CHLOROETHYLVINYL ETHER	N.D.	0.5	N.D.	--
TRANS-1,3-DICHLOROPROPENE	N.D.	0.5	N.D.	--
CIS-1,3-DICHLOROPROPENE	N.D.	0.5	N.D.	--
1,1,2-TRICHLOROETHANE	N.D.	0.5	N.D.	--
TETRACHLOROETHENE	N.D.	0.5	N.D.	--
DIBROMOCHLOROMETHANE	N.D.	0.5	N.D.	--
CHLOROBENZENE	N.D.	0.5	N.D.	115
BROMOFORM	N.D.	0.5	N.D.	--
1,1,2,2-TETRACHLOROETHANE	N.D.	0.5	N.D.	--
1,3-DICHLOROBENZENE	N.D.	0.5	N.D.	--
1,4-DICHLOROBENZENE	N.D.	0.5	N.D.	--
1,2-DICHLOROBENZENE	N.D.	0.5	N.D.	--
TRICHLOROTRIFLUOROETHANE	N.D.	0.5	N.D.	--

Oleg Nemtsov

Oleg Nemtsov
Chemist

Ali Kharrazi
Organic Manager

RQC OLEG 13:16:52

CHROMALAB, INC.
Environmental Services (SDB)

June 5, 1995

Submission #: 9505210

ENVIRON

Atten: Kim Jolitz

Project: STANDARD BRANDS PHASE I *Project#:* 03-4603B
Received: May 16, 1995

re: **Blank spike and duplicate** report for 7 samples for Total Extractable Petroleu Hydrocarbons (TEPH) analysis.

Matrix: WATER
Lab Run#: 6775
ethod: EPA 3510/8015M

Extracted: May 21, 1995
Analyzed: May 22, 1995

Analyte	**Spike Amt**	**% Spike Rec**	**Dup Spike Rec**	**Control Limits**	**% RPD**	**% RPD Lim**
DIESEL	200 ug/L	66.0	67.5	60-130	2.2	20

Reagent spike sample #:89539
Duplicate spike sample #:89538

CHROMALAB, INC.
Environmental Services (SDB)

June 20, 1995 *Submission #:* 9505210

ENVIRON

Atten: Kim Jolitz

Project: STANDARD BRANDS PHASE I *Project#:* 03-4603B
Received: May 16, 1995

re: **Surrogate** report for 7 samples for Total Extractable Petroleum Hydrocarbons (TEPH) analysis.

Matrix: WATER
Lab Run#: 6775
Method: EPA 3510/8015M

Extracted: May 21, 1995
Analyzed: May 23, 1995

Sample#	Client Sample ID	Surrogate	% Recovered
88767	B-1	O-TERPHENYL	100
88768	B-8	O-TERPHENYL	100
88770	CPT-5-23-28	O-TERPHENYL	61
88771	CPT-5-35-40	O-TERPHENYL	75
88772	CPT-6-15.5-17.5	O-TERPHENYL	74
88773	CPT-6-18-23	O-TERPHENYL	67
88774	CPT-6-32-37	O-TERPHENYL	86

Sample#	QC Sample Type	Surrogate	% Recovered
89537	*Method blank (MDB)*	O-TERPHENYL	97
89538	*Blank Spike (BSP)*	O-TERPHENYL	98
89539	*Blank Spike Duplicate (BSD)*	O-TERPHENYL	96

QCSURR RUDO 20-Jun-95 08:26:17

CHROMALAB, INC.
Environmental Services (SDB)

June 5, 1995 *Submission #:* 9505210

ENVIRON

Atten: Kim Jolitz

Project: STANDARD BRANDS PHASE I *Project#:* 03-4603B
Received: May 16, 1995

re: **Matrix spike** report for Total Extractable Petroleum Hydrocarbons (TEPH) ana

Matrix: SOIL *Extracted:* May 22, 1995
Lab Run#: 6763 *Instrument:* GC2-EXT-S *Analyzed:* May 23, 1995
Method: EPA 3550/8015M

Analyte	Spiked Sample Result	Spike Amt	% Spike Rec	Dup Spike Rec	Control Limits	% RPD	% RPD Lim
DIESEL	N.D. mg/Kg	6.7 mg/Kg	103	103	60-130	0.0	20

Sample Spiked: 88764
Submission #: 9505210
Client Sample ID: B-1 @ 10.5-11

CHROMALAB, INC.

Environmental Services (SDB)

June 5, 1995

Submission #: 9505210

ENVIRON

Atten: Kim Jolitz

Project: STANDARD BRANDS PHASE I
Project#: 03-4603B
Received: May 16, 1995

re: **Surrogate** report for 3 samples for Total Extractable Petroleum Hydrocarbons (TEPH) analysis.

Matrix: SOIL
Lab Run#: 6763
Method: EPA 3550/8015M

Extracted: May 22, 1995
Analyzed: May 23, 1995

Sample#	Client Sample ID	Surrogate	% Recovered
88764	B-1 @ 10.5-11	O-TERPHENYL	83
88765	B-8A @ 18-18.5	O-TERPHENYL	87
88766	B-10A @ 2.5-3.0	O-TERPHENYL	89

Sample#	QC Sample Type	Surrogate	% Recovered	
89467	*Method blank (MDB)*	O-TERPHENYL	96	
89468	*Blank Spike (BSP)*	O-TERPHENYL	102	
89469	*Matrix spike (MS)*	O-TERPHENYL	90	SPK1
89470	*Matrix spike duplicate (MSD)*	O-TERPHENYL	103	SPK2

QCSURR EXCEL\AUDO 05-Jun-95 12:05 35

CHROMALAB, INC.
Environmental Services (SDB)

May 23, 1995 *Submission #:* 9505210

ENVIRON

Atten: Kim Jolitz

Project: STANDARD BRANDS PHASE I *Project#:* 03-4603B
Received: May 16, 1995

re: **Matrix spike** report for Volatile Halogenated Organics analysis.

Matrix: SOIL
Lab Run#: 6761 *Instrument:* GC/MS-VOL-O *Analyzed:* May 22, 1995
Method: EPA 8010/8260

Analyte	Spiked Sample Result	Spike Amt	% Spike Rec	Dup Spike Rec	Control Limits	% RPD	% RPD Lim
1,1-DICHLOROETHENE	N.D. ug/Kg	20 ug/Kg	93.0	88.0	65-116	5.5	20
TRICHLOROETHENE	N.D. ug/Kg	20 ug/Kg	104	106	70-117	1.9	20
CHLOROBENZENE	N.D. ug/Kg	20 ug/Kg	101	100	70-120	1.0	20

Sample Spiked: 88764
Submission #: 9505210
Client Sample ID: B-1 @ 10.5-11

QCMSPK OLEG 23-May-95 11:18:31

CHROMALAB, INC.
Environmental Services (SDB)

June 20, 1995

Submission #: 9505210

ENVIRON

Atten: Kim Jolitz

Project: STANDARD BRANDS PHASE I
Project#: 03-4603B
Received: May 16, 1995

re: **Surrogate** report for 2 samples for Volatile Halogenated Organics analysis.

Matrix: SOIL
Lab Run#: 6761
Method: EPA 8010/8260
Analyzed: May 22, 1995

Sample#	**Client Sample ID**	**Surrogate**	**% Recovered**
88764	B-1 @ 10.5-11	1,4-DICHLOROBUTANE	100
88765	B-8A @ 18-18.5	1,4-DICHLOROBUTANE	114

Sample#	**QC Sample Type**	**Surrogate**	**% Recovered**	
89451	*Method blank (MDB)*	1,4-DICHLOROBUTANE	116	
89452	*Blank Spike (BSP)*	1,4-DICHLOROBUTANE	107	
89453	*Matrix spike (MS)*	1,4-DICHLOROBUTANE	107	SPK1
89454	*Matrix spike duplicate (MSD)*	1,4-DICHLOROBUTANE	103	SPK2

QCSURR RUDO 20-Jun-95 08:36:17

1220 Quarry Lane • Pleasanton, California 94566-4756
(510) 484-1919 • Facsimile (510) 484-1096
Federal ID #68-0140157

CHROMALAB, INC.
Environmental Services (SDB)

June 5, 1995 *Submission #:* 9505210

ENVIRON

Atten: Kim Jolitz

Project: STANDARD BRANDS PHASE I *Project#:* 03-4603B
Received: May 16, 1995

re: **Blank spike and duplicate** report for 3 samples for Volatile Halogenated Organics analysis.

Matrix: WATER
Lab Run#: 6765 *Analyzed:* May 17, 1995
ethod: EPA 8010

Analyte	Spike Amt	% Spike Rec	Dup Spike Rec	Control Limits	% RPD	% RPD Lim
1,1-DICHLOROETHENE	20 ug/L	102.0	0.0	56-118	N/A	20
TRICHLOROETHENE	20 ug/L	111.0	0.0	78-129	N/A	20
CHLOROBENZENE	20 ug/L	115.0	0.0	70-120	N/A	20

Reagent spike sample #: 0
Duplicate spike sample #:89478

QCMSPK RUDO 14 17.32

CHROMALAB, INC.
Environmental Services (SDB)

June 5, 1995 *Submission #:* 9505210

ENVIRON

Atten: Kim Jolitz

Project: STANDARD BRANDS PHASE I *Project#:* 03-4603B
Received: May 16, 1995

re: **Surrogate** report for 3 samples for Volatile Halogenated Organics analysis.

Matrix: WATER
Lab Run#: 6765 *Analyzed:* May 17, 1995
Method: EPA 8010

Sample#	Client Sample ID	Surrogate	% Recovered
88767	B-1	1,4-DICHLOROBUTANE	126
88768	B-8	1,4-DICHLOROBUTANE	120
88769	SB051695TB	1,4-DICHLOROBUTANE	124

Sample#	QC Sample Type	Surrogate	% Recovered
89477	*Method blank (MDB)*	1,4-DICHLOROBUTANE	119
89478	*Blank Spike (BSP)*	1,4-DICHLOROBUTANE	117

CHROMALAB, INC.
Environmental Services (SDB)

June 5, 1995

Submission #: 9505210

ENVIRON

Atten: Kim Jolitz

Project: STANDARD BRANDS PHASE I *Project#:* 03-4603B
Received: May 16, 1995

re: **Matrix spike** report for Gasoline and BTEX analysis.

Matrix: SOIL
Lab Run#: 6799 *Instrument:* GC1-2 *Analyzed:* May 25, 1995
Method: EPA 5030/8015M/8020

Analyte	Spiked Sample Result	Spike Amt	% Spike Rec	Dup Spike Rec	Control Limits	% RPD	% RPD Lim
GASOLINE	N.D. mg/Kg	5.0 mg/Kg	91	--	80-118	N/A	N/A
BENZENE	N.D. ug/Kg	25 ug/Kg	124	126	80-127	1.6	20
TOLUENE	N.D. ug/Kg	25 ug/Kg	121	124	80-130	2.4	20
ETHYL BENZENE	N.D. ug/Kg	25 ug/Kg	121*	125 *	81-119	3.3	20
XYLENES	N.D. ug/Kg	50 ug/Kg	118	122	83-125	3.3	20

Sample Spiked: 88917
Submission #: 9505222
Client Sample ID: B-2 @ 6.0-6.5

SPK1

* Although the spike recoveries for ethyl benzene is greater than the upper control limit, the precision was verified by the RPD.

QCMSPK EXCEL\RUDO 05-Jun-95 12:04

CHROMALAB, INC.

Environmental Services (SDB)

June 5, 1995

Submission #: 9505210

ENVIRON

Atten: Kim Jolitz

Project: STANDARD BRANDS PHASE I *Project#:* 03-4603B
Received: May 16, 1995

re: **Surrogate** report for 2 samples for Gasoline and BTEX analysis.

Matrix: SOIL
Lab Run#: 6799
Method: EPA 5030/8015M/8020

Analyzed: May 25, 1995

Sample#	**Client Sample ID**	**Surrogate**	**% Recovered**
88764	B-1 @ 10.5-11	TRIFLUOROTOLUENE	100
88765	B-8A @ 18-18.5	TRIFLUOROTOLUENE	100

Sample#	**QC Sample Type**	**Surrogate**	**% Recovered**	
89872	*Method blank (MDB)*	TRIFLUOROTOLUENE	90	
89873	*Blank Spike (BSP)*	TRIFLUOROTOLUENE	84	
89875	*Matrix spike (MS)*	TRIFLUOROTOLUENE	97	SPK1
89876	*Matrix spike duplicate (MSD)*	TRIFLUOROTOLUENE	96	SPK2

QCSURR EXCEL\RUDO 06-Jun-95 12:06:35

CHROMALAB, INC.
Environmental Services (SDB)

June 5, 1995 *Submission #:* 9505210

ENVIRON

Atten: Kim Jolitz

Project: STANDARD BRANDS PHASE I *Project#:* 03-4603B
Received: May 16, 1995

re: **Matrix spike** report for Gasoline and BTEX analysis.

Matrix: WATER
Lab Run#: 6800 *Instrument:* GC1-4 *Analyzed:* May 25, 1995
Method: EPA 5030/8015M/602/8020

Analyte	Spiked Sample Result	Spike Amt	% Spike Rec	Dup Spike Rec	Control Limits	% RPD	% RPD Lim
GASOLINE	N.D. mg/L	1.0 mg/L	89	--	80-118	N/A	N/A

SPK1

Sample Spiked: 88767
Submission #: 9505210
Client Sample ID: B-1

CHROMALAB, INC.
Environmental Services (SDB)

June 5, 1995 *Submission #:* 9505210

ENVIRON

Atten: Kim Jolitz

Project: STANDARD BRANDS PHASE I *Project#:* 03-4603B
Received: May 16, 1995

re: **Surrogate** report for 3 samples for Gasoline and BTEX analysis.

Matrix: WATER
Lab Run#: 6800 *Analyzed:* May 25, 1995
Method: EPA 5030/8015M/602/8020

Sample#	Client Sample ID	Surrogate	% Recovered
88767	B-1	TRIFLUOROTOLUENE	109
88768	B-8	TRIFLUOROTOLUENE	106
88769	SB051695TB	TRIFLUOROTOLUENE	110

Sample#	QC Sample Type	Surrogate	% Recovered
89877	*Method blank (MDB)*	TRIFLUOROTOLUENE	97
89878	*Blank Spike (BSP)*	TRIFLUOROTOLUENE	96

QCSURR EXCEL\RUDO 05-Jun-95 12:05:35

CHROMALAB, INC.
Environmental Services (SDB)

June 5, 1995 *Submission #:* 9505210

ENVIRON

Atten: Kim Jolitz

Project: STANDARD BRANDS PHASE I *Project#:* 03-4603B
Received: May 16, 1995

re: **Blank spike and duplicate** report for 8 samples for Gasoline and BTEX analysis continued.

Matrix: WATER *Extracted:* May 21, 1995
Lab Run#: 6825 *Analyzed:* May 22, 1995
ethod: EPA 5030/8015M/602/8020

Analyte	**Spike Amt**	**% Spike Rec**	**Dup Spike Rec**	**Control Limits**	**% RPD**	**% RPD Lim**
BENZENE	5.0 ug/L	106.0	0.0	80-127	N/A	20
TOLUENE	5.0 ug/L	107.0	0.0	80-122	N/A	20
ETHYL BENZENE	5.0 ug/L	110.0	0.0	81-119	N/A	20
XYLENES	15 ug/L	111.0	0.0	83-125	N/A	20

Reagent spike sample #:89982
Duplicate spike sample #:89981

CHROMALAB, INC.

Environmental Services (SDB)

June 5, 1995 *Submission #:* 9505210

ENVIRON

Atten: Kim Jolitz

Project: STANDARD BRANDS PHASE I *Project#:* 03-4603B
Received: May 16, 1995

re: **Surrogate** report for 5 samples for Gasoline and BTEX analysis.

Matrix: WATER
Lab Run#: 6825 *Analyzed:* May 25, 1995
Method: EPA 5030/8015M/602/8020

Sample#	**Client Sample ID**	**Surrogate**	**% Recovered**
88770	CPT-5-23-28	TRIFLUOROTOLUENE	102
88771	CPT-5-35-40	TRIFLUOROTOLUENE	97
88772	CPT-6-15.5-17.5	TRIFLUOROTOLUENE	89
88773	CPT-6-18-23	TRIFLUOROTOLUENE	79
88774	CPT-6-32-37	TRIFLUOROTOLUENE	91

Sample#	**QC Sample Type**	**Surrogate**	**% Recovered**
89980	*Method blank (MDB)*	TRIFLUOROTOLUENE	105
89981	*Blank Spike (BSP)*	TRIFLUOROTOLUENE	107

QCSURR EXCEL\RUDO 05-Jun-95 12:05:35

2.-13.46 85, 44

ENVIRON
Counsel in Health and Environmental Science

CHAIN-of-CUSTODY FORM

21°) Sheet 1 Of 2

5820 Shellmound St., Suite 700
Emeryville, California 94608
(510) 655-7400

PROJECT NAME: Standard Brands Phase I Site Investigation
CASE NO.: 03-4603B

ENVIRON SAMPLE ID.	COLLECTION DATE	COLLECTED BY (initials)	MATRIX	TOTAL NO. OF CONTAINERS	ANALYSES: 8010 + Freon 113	TEPH - motor oil, diesel, kerosene, thinner	TPH/G + BTEX		COMMENTS
✓ B-1 @ 10.5-11	5/16	HLD	Soil	1	X	X	X		TEPH / TPH — EPA 8015
✓ B-8A @ 8.5	5/16	HLD	Soil	1	X	X	X		modified
✓ B-10A @ 2.5-3	5/16	HLD	Soil	1		X			standard turnaround
~~B-10A @ 11.5-12~~	~~5/16~~	~~HLD~~	~~Soil~~	~~1~~					time
✓ B-9	5/15	HLD	soil	1	X	X	X	) Collected 5/15/95 on	Please send the
✓ B-9 @ 18-18.5	5/15	HLD	soil	1	X	X	X	& logged for 9505199	results attention
✓ B-1	5/16	HLD	water	7	X	X	X		Kim Jolitz
✓ B-8	5/16	HLD	water	7	X	X	X	) preserved w/HCL	
✓ SB051695TB	5/16	HLD	water	2	X		X		
TOTAL	☒	☒	☒	21	7	7	7		

Relinquished by:	Date:	Time:	Received by:	Company:	Date:	Time:
Heidi Duffenbach	5/16/95	1700		5-16-95 Chromalab	5-16-95	1700

9505210

ENVIRON

Counsel in Health and Environmental Science

21983

Sheet 2 Of 2

5820 Shellmound St., Suite 700
Emeryville, California 94608
(510) 655-7400

CHAIN-of-CUSTODY FORM

PROJECT NAME: STANDARD BRANDS

CASE NO.: 03-4603B

ENVIRON SAMPLE ID.	COLLECTION DATE	COLLECTED BY (initials)	MATRIX	TOTAL NO. OF CONTAINERS	ANALYSES: TPH-diesel, motor oil, kerosene, thinner	TPH/Gas + BTEX											COMMENTS
CPT-5-23-28	5/16/95	PC	WATER	4	1	3											Compare to thinner
CPT-5-35-40	5/16/95	P.C.	water	4	1	3											Level 2 report
CPT-6-15.5-17.5	5/16/95	P.C.	WATER	4	1	3											
CPT-6-18-23	5/16/95	P.C.	water	4	1	3											RESULTS TO
CPT-6-32-37	5/14/95	P.C.	water	4	1	3											KIM SOLITZ
																	STANDARD TAT
TOTAL	☒	☒	☒	20													

Relinquished by:	Date:	Time:	Received by:	Company:	Date:	Time:
Paul Chung	5/16/95	1700		Chromalab	5-16-95	1700

Laboratory Report for
Soil and Ground Water Grab Samples
Sampling Date: May 17, 1995

Chromalab Environmental Services
Submission Number: 9505222
Report Date: June 15, 1995

Sample Locations
B-2
B-3
B-11
CPT-1
CPT-2
CPT-3
CPT-4 (Partial Report)

CHROMALAB, INC.
Environmental Services (SDB)

RECEIVED
JUN 28 1995
ENVIRON

June 15, 1995

Submission #: 9505222

ENVIRON
5820 Shellmound St., Suite 700
Emeryville, CA 94608

Attn: Kim Jolitz

RE: Analysis for project STANDARD BRANDS, number 03-4603B.

REPORTING INFORMATION

Samples were received cold and in good condition on May 17, 1995. They were refrigerated upon receipt and analyzed as described in the attached report. ChromaLab followed EPA or equivalent methods for all testing reported.

No discrepancies were observed or difficulties encountered with the testing.

SAMPLES TESTED IN THIS REPORT

Client Sample ID	Matrix	Date collected	Sample #
CPT-4-46.5-51.5	WATER	May 17, 1995	88907
CPT-1-30-3.5	WATER	May 17, 1995	88908
CPT-2-31-36	WATER	May 17, 1995	88909
CPT-3-31-36	WATER	May 17, 1995	88910
CPT-3D-31-36	WATER	May 17, 1995	88911
B-2	WATER	May 17, 1995	88912
B-3	WATER	May 17, 1995	88913
B-11	WATER	May 17, 1995	88914
B-11D	WATER	May 17, 1995	88915
SB051795TB	WATER	May 17, 1995	88916
B-2 @ 6.0-6.5	SOIL	May 17, 1995	88917
B-3 @ 6.0-6.5	SOIL	May 17, 1995	88918
B-11 @ 4.5-5.0	SOIL	May 17, 1995	88919

Jill Thomas
Quality Assurance Manager

Eric Tam
Laboratory Director

CHROMALAB, INC.

Environmental Services (SDB)

May 24, 1995

Submission #: 9505222

ENVIRON

Atten: Kim Jolitz

Project: STANDARD BRANDS
Received: May 17, 1995

Project#: 03-4603B

re: One sample for Volatile Halogenated Organics analysis.

Sample ID: CPT-4-46.5-51.5
Spl#: 88907
Matrix: WATER
Sampled: May 17, 1995
Run#: 6790
Analyzed: May 19, 1995
Method: EPA 8010

ANALYTE	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE RESULT (%)
CHLOROMETHANE	N.D.	0.5	N.D.	--
VINYL CHLORIDE	N.D.	0.5	N.D.	--
BROMOMETHANE	N.D.	0.5	N.D.	--
CHLOROETHANE	N.D.	0.5	N.D.	--
TRICHLOROFLUOROMETHANE	N.D.	0.5	N.D.	--
1,1-DICHLOROETHENE	N.D.	0.5	N.D.	115
METHYLENE CHLORIDE	N.D.	0.5	N.D.	--
TRANS-1,2-DICHLOROETHENE	N.D.	0.5	N.D.	--
CIS-1,2-DICHLOROETHENE	N.D.	0.5	N.D.	--
1,1-DICHLOROETHANE	N.D.	0.5	N.D.	--
CHLOROFORM	N.D.	0.5	N.D.	--
1,1,1-TRICHLOROETHANE	N.D.	0.5	N.D.	--
CARBON TETRACHLORIDE	N.D.	0.5	N.D.	--
1,2-DICHLOROETHANE	N.D.	0.5	N.D.	--
TRICHLOROETHENE	N.D.	0.5	N.D.	112
1,2-DICHLOROPROPANE	N.D.	0.5	N.D.	--
BROMODICHLOROMETHANE	N.D.	0.5	N.D.	--
2-CHLOROETHYLVINYL ETHER	N.D.	0.5	N.D.	--
TRANS-1,3-DICHLOROPROPENE	N.D.	0.5	N.D.	--
CIS-1,3-DICHLOROPROPENE	N.D.	0.5	N.D.	--
1,1,2-TRICHLOROETHANE	N.D.	0.5	N.D.	--
TETRACHLOROETHENE	N.D.	0.5	N.D.	--
DIBROMOCHLOROMETHANE	N.D.	0.5	N.D.	--
CHLOROBENZENE	N.D.	0.5	N.D.	111
BROMOFORM	N.D.	0.5	N.D.	--
1,1,2,2-TETRACHLOROETHANE	N.D.	0.5	N.D.	--
1,3-DICHLOROBENZENE	N.D.	0.5	N.D.	--
1,4-DICHLOROBENZENE	N.D.	0.5	N.D.	--
1,2-DICHLOROBENZENE	N.D.	0.5	N.D.	--
TRICHLOROTRIFLUOROETHANE	N.D.	0.5	N.D.	--

Oleg Nemtsov

Oleg Nemtsov
Chemist

Ali Kharrazi
Organic Manager

CHROMALAB, INC.

Environmental Services (SDB)

May 24, 1995

Submission #: 9505222

ENVIRON

Atten: Kim Jolitz

Project: STANDARD BRANDS
Received: May 17, 1995

Project#: 03-4603B

re: One sample for Volatile Halogenated Organics analysis.

Sample ID: CPT-1-30-3.5
Spl#: 88908
Matrix: WATER
Sampled: May 17, 1995
Run#: 6790
Analyzed: May 19, 1995
Method: EPA 8010

ANALYTE	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE RESULT (%)
CHLOROMETHANE	N.D.	0.5	N.D.	--
VINYL CHLORIDE	N.D.	0.5	N.D.	--
BROMOMETHANE	N.D.	0.5	N.D.	--
CHLOROETHANE	N.D.	0.5	N.D.	--
TRICHLOROFLUOROMETHANE	N.D.	0.5	N.D.	--
1,1-DICHLOROETHENE	N.D.	0.5	N.D.	115
METHYLENE CHLORIDE	N.D.	0.5	N.D.	--
TRANS-1,2-DICHLOROETHENE	N.D.	0.5	N.D.	--
CIS-1,2-DICHLOROETHENE	N.D.	0.5	N.D.	--
1,1-DICHLOROETHANE	N.D.	0.5	N.D.	--
CHLOROFORM	N.D.	0.5	N.D.	--
1,1,1-TRICHLOROETHANE	N.D.	0.5	N.D.	--
CARBON TETRACHLORIDE	N.D.	0.5	N.D.	--
1,2-DICHLOROETHANE	N.D.	0.5	N.D.	--
TRICHLOROETHENE	N.D.	0.5	N.D.	112
1,2-DICHLOROPROPANE	N.D.	0.5	N.D.	--
BROMODICHLOROMETHANE	N.D.	0.5	N.D.	--
2-CHLOROETHYLVINYL ETHER	N.D.	0.5	N.D.	--
TRANS-1,3-DICHLOROPROPENE	N.D.	0.5	N.D.	--
CIS-1,3-DICHLOROPROPENE	N.D.	0.5	N.D.	--
1,1,2-TRICHLOROETHANE	N.D.	0.5	N.D.	--
TETRACHLOROETHENE	N.D.	0.5	N.D.	--
DIBROMOCHLOROMETHANE	N.D.	0.5	N.D.	--
CHLOROBENZENE	N.D.	0.5	N.D.	111
BROMOFORM	N.D.	0.5	N.D.	--
1,1,2,2-TETRACHLOROETHANE	N.D.	0.5	N.D.	--
1,3-DICHLOROBENZENE	N.D.	0.5	N.D.	--
1,4-DICHLOROBENZENE	N.D.	0.5	N.D.	--
1,2-DICHLOROBENZENE	N.D.	0.5	N.D.	--
TRICHLOROTRIFLUOROETHANE	N.D.	0.5	N.D.	--

Oleg Nemtsov

Oleg Nemtsov
Chemist

Ali Kh

Ali Kharrazi
Organic Manager

HVOC OLEG 14 42:58

CHROMALAB, INC.
Environmental Services (SDB)

May 24, 1995 *Submission #:* 9505222

ENVIRON

Atten: Kim Jolitz

Project: STANDARD BRANDS *Project#:* 03-4603B
Received: May 17, 1995

re: One sample for Volatile Halogenated Organics analysis.

Sample ID: CPT-2-31-36
Spl#: 88909 *Matrix:* WATER
Sampled: May 17, 1995 *Run#:* 6790 *Analyzed:* May 19, 1995
Method: EPA 8010

ANALYTE	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE RESULT (%)
CHLOROMETHANE	N.D.	0.5	N.D.	--
VINYL CHLORIDE	N.D.	0.5	N.D.	--
BROMOMETHANE	N.D.	0.5	N.D.	--
CHLOROETHANE	N.D.	0.5	N.D.	--
TRICHLOROFLUOROMETHANE	N.D.	0.5	N.D.	--
1,1-DICHLOROETHENE	N.D.	0.5	N.D.	115
METHYLENE CHLORIDE	N.D.	0.5	N.D.	--
TRANS-1,2-DICHLOROETHENE	N.D.	0.5	N.D.	--
CIS-1,2-DICHLOROETHENE	N.D.	0.5	N.D.	--
1,1-DICHLOROETHANE	N.D.	0.5	N.D.	--
CHLOROFORM	N.D.	0.5	N.D.	--
1,1,1-TRICHLOROETHANE	N.D.	0.5	N.D.	--
CARBON TETRACHLORIDE	N.D.	0.5	N.D.	--
1,2-DICHLOROETHANE	N.D.	0.5	N.D.	--
TRICHLOROETHENE	N.D.	0.5	N.D.	112
1,2-DICHLOROPROPANE	N.D.	0.5	N.D.	--
BROMODICHLOROMETHANE	N.D.	0.5	N.D.	--
2-CHLOROETHYLVINYL ETHER	N.D.	0.5	N.D.	--
TRANS-1,3-DICHLOROPROPENE	N.D.	0.5	N.D.	--
CIS-1,3-DICHLOROPROPENE	N.D.	0.5	N.D.	--
1,1,2-TRICHLOROETHANE	N.D.	0.5	N.D.	--
TETRACHLOROETHENE	N.D.	0.5	N.D.	--
DIBROMOCHLOROMETHANE	N.D.	0.5	N.D.	--
CHLOROBENZENE	N.D.	0.5	N.D.	111
BROMOFORM	N.D.	0.5	N.D.	--
1,1,2,2-TETRACHLOROETHANE	N.D.	0.5	N.D.	--
1,3-DICHLOROBENZENE	N.D.	0.5	N.D.	--
1,4-DICHLOROBENZENE	N.D.	0.5	N.D.	--
1,2-DICHLOROBENZENE	N.D.	0.5	N.D.	--
TRICHLOROTRIFLUOROETHANE	N.D.	0.5	N.D.	--

Oleg Nemtsov
Oleg Nemtsov
Chemist

Ali Kh
Ali Kharrazi
Organic Manager

CHROMALAB, INC.

Environmental Services (SDB)

May 24, 1995

Submission #: 9505222

ENVIRON

Atten: Kim Jolitz

Project: STANDARD BRANDS
Received: May 17, 1995

Project#: 03-4603B

re: One sample for Volatile Halogenated Organics analysis.

Sample ID: CPT-3-31-36
Spl#: 88910
Sampled: May 17, 1995
Method: EPA 8010

Matrix: WATER
Run#: 6790

Analyzed: May 19, 1995

ANALYTE	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE RESULT (%)
CHLOROMETHANE	N.D.	0.5	N.D.	--
VINYL CHLORIDE	N.D.	0.5	N.D.	--
BROMOMETHANE	N.D.	0.5	N.D.	--
CHLOROETHANE	N.D.	0.5	N.D.	--
TRICHLOROFLUOROMETHANE	N.D.	0.5	N.D.	--
1,1-DICHLOROETHENE	N.D.	0.5	N.D.	115
METHYLENE CHLORIDE	N.D.	0.5	N.D.	--
TRANS-1,2-DICHLOROETHENE	N.D.	0.5	N.D.	--
CIS-1,2-DICHLOROETHENE	N.D.	0.5	N.D.	--
1,1-DICHLOROETHANE	N.D.	0.5	N.D.	--
CHLOROFORM	N.D.	0.5	N.D.	--
1,1,1-TRICHLOROETHANE	N.D.	0.5	N.D.	--
CARBON TETRACHLORIDE	N.D.	0.5	N.D.	--
1,2-DICHLOROETHANE	N.D.	0.5	N.D.	--
TRICHLOROETHENE	N.D.	0.5	N.D.	112
1,2-DICHLOROPROPANE	N.D.	0.5	N.D.	--
BROMODICHLOROMETHANE	N.D.	0.5	N.D.	--
2-CHLOROETHYLVINYL ETHER	N.D.	0.5	N.D.	--
TRANS-1,3-DICHLOROPROPENE	N.D.	0.5	N.D.	--
CIS-1,3-DICHLOROPROPENE	N.D.	0.5	N.D.	--
1,1,2-TRICHLOROETHANE	N.D.	0.5	N.D.	--
TETRACHLOROETHENE	N.D.	0.5	N.D.	--
DIBROMOCHLOROMETHANE	N.D.	0.5	N.D.	--
CHLOROBENZENE	N.D.	0.5	N.D.	111
BROMOFORM	N.D.	0.5	N.D.	--
1,1,2,2-TETRACHLOROETHANE	N.D.	0.5	N.D.	--
1,3-DICHLOROBENZENE	N.D.	0.5	N.D.	--
1,4-DICHLOROBENZENE	N.D.	0.5	N.D.	--
1,2-DICHLOROBENZENE	N.D.	0.5	N.D.	--
TRICHLOROTRIFLUOROETHANE	N.D.	0.5	N.D.	--

Oleg Nemtsov

Oleg Nemtsov
Chemist

Ali Kh

Ali Kharrazi
Organic Manager

1220 Quarry Lane • Pleasanton, California 94566-4756
(510) 484-1919 • Facsimile (510) 484-1096
Federal ID #68-0140157

CHROMALAB, INC.

Environmental Services (SDB)

May 24, 1995

Submission #: 9505222

ENVIRON

Atten: Kim Jolitz

Project: STANDARD BRANDS

Project#: 03-4603B

Received: May 17, 1995

re: One sample for Volatile Halogenated Organics analysis.

Sample ID: **CPT-3D-31-36**
Spl#: 88911
Matrix: WATER
Sampled: May 17, 1995
Run#: 6790
Analyzed: May 19, 1995
Method: EPA 8010

ANALYTE	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE RESULT (%)
CHLOROMETHANE	N.D.	0.5	N.D.	--
VINYL CHLORIDE	N.D.	0.5	N.D.	--
BROMOMETHANE	N.D.	0.5	N.D.	--
CHLOROETHANE	N.D.	0.5	N.D.	--
TRICHLOROFLUOROMETHANE	N.D.	0.5	N.D.	--
1,1-DICHLOROETHENE	N.D.	0.5	N.D.	115
METHYLENE CHLORIDE	N.D.	0.5	N.D.	--
TRANS-1,2-DICHLOROETHENE	N.D.	0.5	N.D.	--
CIS-1,2-DICHLOROETHENE	N.D.	0.5	N.D.	--
1,1-DICHLOROETHANE	N.D.	0.5	N.D.	--
CHLOROFORM	N.D.	0.5	N.D.	--
1,1,1-TRICHLOROETHANE	N.D.	0.5	N.D.	--
CARBON TETRACHLORIDE	N.D.	0.5	N.D.	--
1,2-DICHLOROETHANE	N.D.	0.5	N.D.	--
TRICHLOROETHENE	N.D.	0.5	N.D.	112
1,2-DICHLOROPROPANE	N.D.	0.5	N.D.	--
BROMODICHLOROMETHANE	N.D.	0.5	N.D.	--
2-CHLOROETHYLVINYL ETHER	N.D.	0.5	N.D.	--
TRANS-1,3-DICHLOROPROPENE	N.D.	0.5	N.D.	--
CIS-1,3-DICHLOROPROPENE	N.D.	0.5	N.D.	--
1,1,2-TRICHLOROETHANE	N.D.	0.5	N.D.	--
TETRACHLOROETHENE	N.D.	0.5	N.D.	--
DIBROMOCHLOROMETHANE	N.D.	0.5	N.D.	--
CHLOROBENZENE	N.D.	0.5	N.D.	111
BROMOFORM	N.D.	0.5	N.D.	--
1,1,2,2-TETRACHLOROETHANE	N.D.	0.5	N.D.	--
1,3-DICHLOROBENZENE	N.D.	0.5	N.D.	--
1,4-DICHLOROBENZENE	N.D.	0.5	N.D.	--
1,2-DICHLOROBENZENE	N.D.	0.5	N.D.	--
TRICHLOROTRIFLUOROETHANE	N.D.	0.5	N.D.	--

Oleg Nemtsov

Oleg Nemtsov
Chemist

Ali Kh

Ali Kharrazi
Organic Manager

CHROMALAB, INC.

Environmental Services (SDB)

May 24, 1995

Submission #: 9505222

ENVIRON

Atten: Kim Jolitz

Project: STANDARD BRANDS
Received: May 17, 1995

Project#: 03-4603B

re: One sample for Volatile Halogenated Organics analysis.

Sample ID: B-2
Spl#: 88912
Sampled: May 17, 1995
Method: EPA 8010

Matrix: WATER
Run#: 6790

Analyzed: May 19, 1995

ANALYTE	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE RESULT (%)
CHLOROMETHANE	N.D.	0.5	N.D.	--
VINYL CHLORIDE	N.D.	0.5	N.D.	--
BROMOMETHANE	N.D.	0.5	N.D.	--
CHLOROETHANE	N.D.	0.5	N.D.	--
TRICHLOROFLUOROMETHANE	N.D.	0.5	N.D.	--
1,1-DICHLOROETHENE	N.D.	0.5	N.D.	115
METHYLENE CHLORIDE	N.D.	0.5	N.D.	--
TRANS-1,2-DICHLOROETHENE	N.D.	0.5	N.D.	--
CIS-1,2-DICHLOROETHENE	N.D.	0.5	N.D.	--
1,1-DICHLOROETHANE	N.D.	0.5	N.D.	--
CHLOROFORM	N.D.	0.5	N.D.	--
1,1,1-TRICHLOROETHANE	N.D.	0.5	N.D.	--
CARBON TETRACHLORIDE	N.D.	0.5	N.D.	--
1,2-DICHLOROETHANE	N.D.	0.5	N.D.	--
TRICHLOROETHENE	N.D.	0.5	N.D.	112
1,2-DICHLOROPROPANE	N.D.	0.5	N.D.	--
BROMODICHLOROMETHANE	N.D.	0.5	N.D.	--
2-CHLOROETHYLVINYL ETHER	N.D.	0.5	N.D.	--
TRANS-1,3-DICHLOROPROPENE	N.D.	0.5	N.D.	--
CIS-1,3-DICHLOROPROPENE	N.D.	0.5	N.D.	--
1,1,2-TRICHLOROETHANE	N.D.	0.5	N.D.	--
TETRACHLOROETHENE	N.D.	0.5	N.D.	--
DIBROMOCHLOROMETHANE	N.D.	0.5	N.D.	--
CHLOROBENZENE	N.D.	0.5	N.D.	--
BROMOFORM	N.D.	0.5	N.D.	111
1,1,2,2-TETRACHLOROETHANE	N.D.	0.5	N.D.	--
1,3-DICHLOROBENZENE	N.D.	0.5	N.D.	--
1,4-DICHLOROBENZENE	N.D.	0.5	N.D.	--
1,2-DICHLOROBENZENE	N.D.	0.5	N.D.	--
TRICHLOROTRIFLUOROETHANE	N.D.	0.5	N.D.	--

Oleg Nemtsov

Oleg Nemtsov
Chemist

Ali Kharrazi
Organic Manager

CHROMALAB, INC.
Environmental Services (SDB)

June 5, 1995 *Submission #:* 9505222

ENVIRON

Atten: Kim Jolitz

Project: STANDARD BRANDS *Project#:* 03-4603B
Received: May 17, 1995

re: One sample for Volatile Halogenated Organics analysis.

Sample ID: B-3
Spl#: 88913 *Matrix:* WATER
Sampled: May 17, 1995 *Run#:* 6969 *Analyzed:* May 31, 1995
Method: EPA 8010

ANALYTE	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE RESULT (%)
CHLOROMETHANE	N.D.	0.5	N.D.	--
VINYL CHLORIDE	N.D.	0.5	N.D.	--
BROMOMETHANE	N.D.	0.5	N.D.	--
CHLOROETHANE	N.D.	0.5	N.D.	--
TRICHLOROFLUOROMETHANE	N.D.	0.5	N.D.	--
1,1-DICHLOROETHENE	N.D.	0.5	N.D.	89
METHYLENE CHLORIDE	N.D.	0.5	N.D.	--
TRANS-1,2-DICHLOROETHENE	N.D.	0.5	N.D.	--
CIS-1,2-DICHLOROETHENE	N.D.	0.5	N.D.	--
1,1-DICHLOROETHANE	N.D.	0.5	N.D.	--
CHLOROFORM	N.D.	0.5	N.D.	--
1,1,1-TRICHLOROETHANE	N.D.	0.5	N.D.	--
CARBON TETRACHLORIDE	N.D.	0.5	N.D.	--
1,2-DICHLOROETHANE	N.D.	0.5	N.D.	--
TRICHLOROETHENE	N.D.	0.5	N.D.	91
1,2-DICHLOROPROPANE	N.D.	0.5	N.D.	--
BROMODICHLOROMETHANE	N.D.	0.5	N.D.	--
2-CHLOROETHYLVINYL ETHER	N.D.	0.5	N.D.	--
TRANS-1,3-DICHLOROPROPENE	N.D.	0.5	N.D.	--
CIS-1,3-DICHLOROPROPENE	N.D.	0.5	N.D.	--
1,1,2-TRICHLOROETHANE	N.D.	0.5	N.D.	--
TETRACHLOROETHENE	N.D.	0.5	N.D.	--
DIBROMOCHLOROMETHANE	N.D.	0.5	N.D.	--
CHLOROBENZENE	N.D.	0.5	N.D.	90
BROMOFORM	N.D.	0.5	N.D.	--
1,1,2,2-TETRACHLOROETHANE	N.D.	0.5	N.D.	--
1,3-DICHLOROBENZENE	N.D.	0.5	N.D.	--
1,4-DICHLOROBENZENE	N.D.	0.5	N.D.	--
1,2-DICHLOROBENZENE	N.D.	0.5	N.D.	--
TRICHLOROTRIFLUOROETHANE	N.D.	0.5	N.D.	--

Aaron McMichael
Aaron McMichael
Chemist

Ali Kharrazi
Organic Manager

1220 Quarry Lane • Pleasanton, California 94566-4756
(510) 484-1919 • Facsimile (510) 484-1096
Federal ID #68-0140157

CHROMALAB, INC.
Environmental Services (SDB)

June 5, 1995

Submission #: 9505222

ENVIRON

Atten: Kim Jolitz

Project: STANDARD BRANDS
Received: May 17, 1995

Project#: 03-4603B

re: One sample for Volatile Halogenated Organics analysis.

Sample ID: B-11
Spl#: 88914
Sampled: May 17, 1995
Method: EPA 8010

Matrix: WATER
Run#: 6969

Analyzed: May 31, 1995

ANALYTE	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE RESULT (%)
CHLOROMETHANE	N.D.	0.5	N.D.	--
VINYL CHLORIDE	N.D.	0.5	N.D.	--
BROMOMETHANE	N.D.	0.5	N.D.	--
CHLOROETHANE	N.D.	0.5	N.D.	--
TRICHLOROFLUOROMETHANE	N.D.	0.5	N.D.	--
1,1-DICHLOROETHENE	N.D.	0.5	N.D.	89
METHYLENE CHLORIDE	N.D.	0.5	N.D.	--
TRANS-1,2-DICHLOROETHENE	N.D.	0.5	N.D.	--
CIS-1,2-DICHLOROETHENE	N.D.	0.5	N.D.	--
1,1-DICHLOROETHANE	N.D.	0.5	N.D.	--
CHLOROFORM	N.D.	0.5	N.D.	--
1,1,1-TRICHLOROETHANE	N.D.	0.5	N.D.	--
CARBON TETRACHLORIDE	N.D.	0.5	N.D.	--
1,2-DICHLOROETHANE	N.D.	0.5	N.D.	--
TRICHLOROETHENE	N.D.	0.5	N.D.	91
1,2-DICHLOROPROPANE	N.D.	0.5	N.D.	--
BROMODICHLOROMETHANE	N.D.	0.5	N.D.	--
2-CHLOROETHYLVINYL ETHER	N.D.	0.5	N.D.	--
TRANS-1,3-DICHLOROPROPENE	N.D.	0.5	N.D.	--
CIS-1,3-DICHLOROPROPENE	N.D.	0.5	N.D.	--
1,1,2-TRICHLOROETHANE	N.D.	0.5	N.D.	--
TETRACHLOROETHENE	N.D.	0.5	N.D.	--
DIBROMOCHLOROMETHANE	N.D.	0.5	N.D.	--
CHLOROBENZENE	N.D.	0.5	N.D.	--
BROMOFORM	N.D.	0.5	N.D.	90
1,1,2,2-TETRACHLOROETHANE	N.D.	0.5	N.D.	--
1,3-DICHLOROBENZENE	N.D.	0.5	N.D.	--
1,4-DICHLOROBENZENE	N.D.	0.5	N.D.	--
1,2-DICHLOROBENZENE	N.D.	0.5	N.D.	--
TRICHLOROTRIFLUOROETHANE	N.D.	0.5	N.D.	--

Aaron McMichael

Aaron McMichael
Chemist

Ali Kharrazi
Organic Manager

CHROMALAB, INC.
Environmental Services (SDB)

June 5, 1995 *Submission #:* 9505222

ENVIRON

Atten: Kim Jolitz

Project: STANDARD BRANDS *Project#:* 03-4603B
Received: May 17, 1995

re: One sample for Volatile Halogenated Organics analysis.

Sample ID: B-11D
Spl#: 88915 *Matrix:* WATER
Sampled: May 17, 1995 *Run#:* 6969 *Analyzed:* May 31, 1995
Method: EPA 8010

ANALYTE	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE RESULT (%)
CHLOROMETHANE	N.D.	0.5	N.D.	--
VINYL CHLORIDE	N.D.	0.5	N.D.	--
BROMOMETHANE	N.D.	0.5	N.D.	--
CHLOROETHANE	N.D.	0.5	N.D.	--
TRICHLOROFLUOROMETHANE	N.D.	0.5	N.D.	--
1,1-DICHLOROETHENE	N.D.	0.5	N.D.	89
METHYLENE CHLORIDE	N.D.	0.5	N.D.	--
TRANS-1,2-DICHLOROETHENE	N.D.	0.5	N.D.	--
CIS-1,2-DICHLOROETHENE	N.D.	0.5	N.D.	--
1,1-DICHLOROETHANE	N.D.	0.5	N.D.	--
CHLOROFORM	N.D.	0.5	N.D.	--
1,1,1-TRICHLOROETHANE	N.D.	0.5	N.D.	--
CARBON TETRACHLORIDE	N.D.	0.5	N.D.	--
1,2-DICHLOROETHANE	N.D.	0.5	N.D.	--
TRICHLOROETHENE	N.D.	0.5	N.D.	91
1,2-DICHLOROPROPANE	N.D.	0.5	N.D.	--
BROMODICHLOROMETHANE	N.D.	0.5	N.D.	--
2-CHLOROETHYLVINYL ETHER	N.D.	0.5	N.D.	--
TRANS-1,3-DICHLOROPROPENE	N.D.	0.5	N.D.	--
CIS-1,3-DICHLOROPROPENE	N.D.	0.5	N.D.	--
1,1,2-TRICHLOROETHANE	N.D.	0.5	N.D.	--
TETRACHLOROETHENE	N.D.	0.5	N.D.	--
DIBROMOCHLOROMETHANE	N.D.	0.5	N.D.	--
CHLOROBENZENE	N.D.	0.5	N.D.	90
BROMOFORM	N.D.	0.5	N.D.	--
1,1,2,2-TETRACHLOROETHANE	N.D.	0.5	N.D.	--
1,3-DICHLOROBENZENE	N.D.	0.5	N.D.	--
1,4-DICHLOROBENZENE	N.D.	0.5	N.D.	--
1,2-DICHLOROBENZENE	N.D.	0.5	N.D.	--
TRICHLOROTRIFLUOROETHANE	N.D.	0.5	N.D.	--

Aaron McMichael
Aaron McMichael
Chemist

Ali
Ali Kharrazi
Organic Manager

CHROMALAB, INC.
Environmental Services (SDB)

May 24, 1995

Submission #: 9505222

ENVIRON

Atten: Kim Jolitz

Project: STANDARD BRANDS *Project#:* 03-4603B
Received: May 17, 1995

re: One sample for Volatile Halogenated Organics analysis.

Sample ID: **SB051795TB**
Spl#: 88916 *Matrix:* WATER
Sampled: May 17, 1995 *Run#:* 6791 *Analyzed:* May 22, 1995
Method: EPA 8010

ANALYTE	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE RESULT (%)
CHLOROMETHANE	N.D.	0.5	N.D.	--
VINYL CHLORIDE	N.D.	0.5	N.D.	--
BROMOMETHANE	N.D.	0.5	N.D.	--
CHLOROETHANE	N.D.	0.5	N.D.	--
TRICHLOROFLUOROMETHANE	N.D.	0.5	N.D.	--
1,1-DICHLOROETHENE	N.D.	0.5	N.D.	102
METHYLENE CHLORIDE	N.D.	0.5	N.D.	--
TRANS-1,2-DICHLOROETHENE	N.D.	0.5	N.D.	--
CIS-1,2-DICHLOROETHENE	N.D.	0.5	N.D.	--
1,1-DICHLOROETHANE	N.D.	0.5	N.D.	--
CHLOROFORM	N.D.	0.5	N.D.	--
1,1,1-TRICHLOROETHANE	N.D.	0.5	N.D.	--
CARBON TETRACHLORIDE	N.D.	0.5	N.D.	--
1,2-DICHLOROETHANE	N.D.	0.5	N.D.	--
TRICHLOROETHENE	N.D.	0.5	N.D.	111
1,2-DICHLOROPROPANE	N.D.	0.5	N.D.	--
BROMODICHLOROMETHANE	N.D.	0.5	N.D.	--
2-CHLOROETHYLVINYL ETHER	N.D.	0.5	N.D.	--
TRANS-1,3-DICHLOROPROPENE	N.D.	0.5	N.D.	--
CIS-1,3-DICHLOROPROPENE	N.D.	0.5	N.D.	--
1,1,2-TRICHLOROETHANE	N.D.	0.5	N.D.	--
TETRACHLOROETHENE	N.D.	0.5	N.D.	--
DIBROMOCHLOROMETHANE	N.D.	0.5	N.D.	--
CHLOROBENZENE	N.D.	0.5	N.D.	107
BROMOFORM	N.D.	0.5	N.D.	--
1,1,2,2-TETRACHLOROETHANE	N.D.	0.5	N.D.	--
1,3-DICHLOROBENZENE	N.D.	0.5	N.D.	--
1,4-DICHLOROBENZENE	N.D.	0.5	N.D.	--
1,2-DICHLOROBENZENE	N.D.	0.5	N.D.	--
TRICHLOROTRIFLUOROETHANE	N.D.	0.5	N.D.	--

Oleg Nemtsov
Oleg Nemtsov
Chemist

Ali Kharrazi
Organic Manager

CHROMALAB, INC.
Environmental Services (SDB)

May 24, 1995 *Submission #:* 9505222

ENVIRON

Atten: Kim Jolitz

Project: STANDARD BRANDS *Project#:* 03-4603B
Received: May 17, 1995

re: One sample for Volatile Halogenated Organics analysis.

Sample ID: **B-2 @ 6.0-6.5**
Spl#: 88917 *Matrix:* SOIL
Sampled: May 17, 1995 *Run#:* 6791 *Analyzed:* May 22, 1995
Method: EPA 8010/8260

ANALYTE	RESULT (ug/Kg)	REPORTING LIMIT (ug/Kg)	BLANK RESULT (ug/Kg)	BLANK SPIKE RESULT (%)
CHLOROMETHANE	N.D.	5.0	N.D.	--
VINYL CHLORIDE	N.D.	5.0	N.D.	--
BROMOCHLOROMETHANE	N.D.	5.0	N.D.	--
CHLOROETHANE	N.D.	5.0	N.D.	--
TRICHLOROFLUOROMETHANE	N.D.	5.0	N.D.	--
1,1-DICHLOROETHENE	N.D.	5.0	N.D.	102
METHYLENE CHLORIDE	N.D.	5.0	N.D.	--
TRANS-1,2-DICHLOROETHENE	N.D.	5.0	N.D.	--
CIS-1,2-DICHLOROETHENE	N.D.	5.0	N.D.	--
1,1-DICHLOROETHANE	N.D.	5.0	N.D.	--
CHLOROFORM	N.D.	5.0	N.D.	--
1,1,1-TRICHLOROETHANE	N.D.	5.0	N.D.	--
CARBON TETRACHLORIDE	N.D.	5.0	N.D.	--
1,2-DICHLOROETHANE	N.D.	5.0	N.D.	--
TRICHLOROETHENE	N.D.	5.0	N.D.	111
1,2-DICHLOROPROPANE	N.D.	5.0	N.D.	--
BROMODICHLOROMETHANE	N.D.	5.0	N.D.	--
2-CHLOROETHYL VINYL ETHER	N.D.	5.0	N.D.	--
TRANS-1,3-DICHLOROPROPENE	N.D.	5.0	N.D.	--
CIS-1,3-DICHLOROPROPENE	N.D.	5.0	N.D.	--
1,1,2-TRICHLOROETHANE	N.D.	5.0	N.D.	--
TETRACHLOROETHENE	N.D.	5.0	N.D.	--
DIBROMOCHLOROMETHANE	N.D.	5.0	N.D.	--
CHLOROBENZENE	N.D.	5.0	N.D.	107
BROMOFORM	N.D.	5.0	N.D.	--
1,1,2,2-TETRACHLOROETHANE	N.D.	5.0	N.D.	--
1,3-DICHLOROBENZENE	N.D.	5.0	N.D.	--
1,4-DICHLOROBENZENE	N.D.	5.0	N.D.	--
1,2-DICHLOROBENZENE	N.D.	5.0	N.D.	--
TRICHLOROTRIFLUOROETHANE	N.D.	5.0	N.D.	--

Oleg Nemtsov

Oleg Nemtsov
Chemist

Ali Kharrazi
Organic Manager

CHROMALAB, INC.

Environmental Services (SDB)

June 5, 1995 *Submission #:* 9505222

ENVIRON

Atten: Kim Jolitz

Project: STANDARD BRANDS *Project#:* 03-4603B
Received: May 17, 1995

re: One sample for Volatile Halogenated Organics analysis.

Sample ID: B-3 @ 6.0-6.5
Spl#: 88918 *Matrix:* SOIL
Sampled: May 17, 1995 *Run#:* 6971 *Analyzed:* May 31, 1995
Method: EPA 8010/8260 BY 8260

ANALYTE	RESULT (ug/Kg)	REPORTING LIMIT (ug/Kg)	BLANK RESULT (ug/Kg)	BLANK SPIKE RESULT (%)
CHLOROMETHANE	N.D.	5.0	N.D.	--
VINYL CHLORIDE	N.D.	5.0	N.D.	--
BROMOCHLOROMETHANE	N.D.	5.0	N.D.	--
CHLOROETHANE	N.D.	5.0	N.D.	--
TRICHLOROFLUOROMETHANE	N.D.	5.0	N.D.	--
1,1-DICHLOROETHENE	N.D.	5.0	N.D.	124
METHYLENE CHLORIDE	N.D.	5.0	N.D.	--
TRANS-1,2-DICHLOROETHENE	N.D.	5.0	N.D.	--
CIS-1,2-DICHLOROETHENE	N.D.	5.0	N.D.	--
1,1-DICHLOROETHANE	N.D.	5.0	N.D.	--
CHLOROFORM	N.D.	5.0	N.D.	--
1,1,1-TRICHLOROETHANE	N.D.	5.0	N.D.	--
CARBON TETRACHLORIDE	N.D.	5.0	N.D.	--
1,2-DICHLOROETHANE	N.D.	5.0	N.D.	--
TRICHLOROETHENE	N.D.	5.0	N.D.	94
1,2-DICHLOROPROPANE	N.D.	5.0	N.D.	--
BROMODICHLOROMETHANE	N.D.	5.0	N.D.	--
2-CHLOROETHYL VINYL ETHER	N.D.	5.0	N.D.	--
TRANS-1,3-DICHLOROPROPENE	N.D.	5.0	N.D.	--
CIS-1,3-DICHLOROPROPENE	N.D.	5.0	N.D.	--
1,1,2-TRICHLOROETHANE	N.D.	5.0	N.D.	--
TETRACHLOROETHENE	N.D.	5.0	N.D.	--
DIBROMOCHLOROMETHANE	N.D.	5.0	N.D.	--
CHLOROBENZENE	N.D.	5.0	N.D.	97
BROMOFORM	N.D.	5.0	N.D.	--
1,1,2,2-TETRACHLOROETHANE	N.D.	5.0	N.D.	--
1,3-DICHLOROBENZENE	N.D.	5.0	N.D.	--
1,4-DICHLOROBENZENE	N.D.	5.0	N.D.	--
1,2-DICHLOROBENZENE	N.D.	5.0	N.D.	--
TRICHLOROTRIFLUOROETHANE	N.D.	5.0	N.D.	--

Aaron McMichael
Aaron McMichael
Chemist

Ali Kharrazi
Organic Manager

RCOC AARON 19:39:46

CHROMALAB, INC.
Environmental Services (SDB)

June 5, 1995

Submission #: 9505222

ENVIRON

Atten: Kim Jolitz

Project: STANDARD BRANDS
Received: May 17, 1995

Project#: 03-4603B

re: One sample for Volatile Halogenated Organics analysis.

Sample ID: B-11 @ 4.5-5.0
Spl#: 88919
Matrix: SOIL
Sampled: May 17, 1995
Run#: 6971
Analyzed: May 31, 1995
Method: EPA 8010/8260 BY 8260

ANALYTE	RESULT (ug/Kg)	REPORTING LIMIT (ug/Kg)	BLANK RESULT (ug/Kg)	BLANK SPIKE RESULT (%)
CHLOROMETHANE	N.D.	5.0	N.D.	--
VINYL CHLORIDE	N.D.	5.0	N.D.	--
BROMOCHLOROMETHANE	N.D.	5.0	N.D.	--
CHLOROETHANE	N.D.	5.0	N.D.	--
TRICHLOROFLUOROMETHANE	N.D.	5.0	N.D.	--
1,1-DICHLOROETHENE	N.D.	5.0	N.D.	124
METHYLENE CHLORIDE	N.D.	5.0	N.D.	--
TRANS-1,2-DICHLOROETHENE	N.D.	5.0	N.D.	--
CIS-1,2-DICHLOROETHENE	N.D.	5.0	N.D.	--
1,1-DICHLOROETHANE	N.D.	5.0	N.D.	--
CHLOROFORM	N.D.	5.0	N.D.	--
1,1,1-TRICHLOROETHANE	N.D.	5.0	N.D.	--
CARBON TETRACHLORIDE	N.D.	5.0	N.D.	--
1,2-DICHLOROETHANE	N.D.	5.0	N.D.	--
TRICHLOROETHENE	N.D.	5.0	N.D.	94
1,2-DICHLOROPROPANE	N.D.	5.0	N.D.	--
BROMODICHLOROMETHANE	N.D.	5.0	N.D.	--
2-CHLOROETHYL VINYL ETHER	N.D.	5.0	N.D.	--
TRANS-1,3-DICHLOROPROPENE	N.D.	5.0	N.D.	--
CIS-1,3-DICHLOROPROPENE	N.D.	5.0	N.D.	--
1,1,2-TRICHLOROETHANE	N.D.	5.0	N.D.	--
TETRACHLOROETHENE	N.D.	5.0	N.D.	--
DIBROMOCHLOROMETHANE	N.D.	5.0	N.D.	--
CHLOROBENZENE	N.D.	5.0	N.D.	97
BROMOFORM	N.D.	5.0	N.D.	--
1,1,2,2-TETRACHLOROETHANE	N.D.	5.0	N.D.	--
1,3-DICHLOROBENZENE	N.D.	5.0	N.D.	--
1,4-DICHLOROBENZENE	N.D.	5.0	N.D.	--
1,2-DICHLOROBENZENE	N.D.	5.0	N.D.	--
TRICHLOROTRIFLUOROETHANE	N.D.	5.0	N.D.	--

Aaron McMichael
Aaron McMichael
Chemist

Ali Kh
Ali Kharrazi
Organic Manager

NOC AARON 19:39:46

CHROMALAB, INC.
Environmental Services (SDB)

May 24, 1995

Submission #: 9505222

ENVIRON

Atten: Kim Jolitz

Project: STANDARD BRANDS *Project#:* 03-4603B
Received: May 17, 1995

re: **Matrix spike** report for Volatile Halogenated Organics analysis.

Matrix: WATER
Lab Run#: 6790 *Instrument:* GC/MS-VOL-O *Analyzed:* May 19, 1995
Method: EPA 8010

Analyte	Spiked Sample Result	Spike Amt.	% Spike Rec	Dup Spike Rec	Control Limits	% RPD	% RPD Lim
1,1-DICHLOROETHENE	N.D. ug/L	20 ug/L	85.0	74.0	56-118	14	20
TRICHLOROETHENE	N.D. ug/L	20 ug/L	109	105	78-129	3.7	20
CHLOROBENZENE	N.D. ug/L	20 ug/L	102	103	70-120	1.0	20

SPK1

Sample Spiked: 88907
Submission #: 9505222
Client Sample ID: CPT-4-46.5-51.5

QCMSPK OLEG 24-May-95 14 44 18

CHROMALAB, INC.

Environmental Services (SDB)

May 24, 1995

Submission #: 9505222

ENVIRON

Atten: Kim Jolitz

Project: STANDARD BRANDS
Received: May 17, 1995
Project#: 03-4603B

re: **Surrogate** report for 6 samples for Volatile Halogenated Organics analysis.

Matrix: WATER
Lab Run#: 6790
Method: EPA 8010
Analyzed: May 19, 1995

Sample#	Client Sample ID	Surrogate	% Recovered
88907	CPT-4-46.5-51.5	1,4-DICHLOROBUTANE	88
88908	CPT-1-30-3.5	1,4-DICHLOROBUTANE	114
88909	CPT-2-31-36	1,4-DICHLOROBUTANE	111
88910	CPT-3-31-36	1,4-DICHLOROBUTANE	111
88911	CPT-3D-31-36	1,4-DICHLOROBUTANE	118
88912	B-2	1,4-DICHLOROBUTANE	114

Sample#	QC Sample Type	Surrogate	% Recovered	
89674	*Method blank (MDB)*	1,4-DICHLOROBUTANE	106	
89675	*Blank Spike (BSP)*	1,4-DICHLOROBUTANE	106	
89676	*Matrix spike (MS)*	1,4-DICHLOROBUTANE	111	SPK1
89677	*Matrix spike duplicate (MSD)*	1,4-DICHLOROBUTANE	113	SPK2

QCSURR OLEG 24-May-95 14 44 44

CHROMALAB, INC.
Environmental Services (SDB)

June 5, 1995

Submission #: 9505222

ENVIRON

Atten: Kim Jolitz

Project: STANDARD BRANDS *Project#:* 03-4603B
Received: May 17, 1995

re: **Matrix spike** report for Volatile Halogenated Organics analysis.

Matrix: SOIL
Lab Run#: 6971 *Instrument:* GC/MS-VOL-A *Analyzed:* May 31, 1995
Method: EPA 8010/8260

Analyte	Spiked Sample Result	Spike Amt	% Spike Rec	Dup Spike Rec	Control Limits	% RPD	% RPD Lim
1,1-DICHLOROETHENE	N.D. ug/Kg	20 ug/Kg	121*	125*	65-116	3.3	20
TRICHLOROETHENE	N.D. ug/Kg	20 ug/Kg	82.0	91.0	70-117	10	20
CHLOROBENZENE	N.D. ug/Kg	20 ug/Kg	90.0	93.0	70-120	3.3	20

Sample Spiked: 88919
Submission #: 9505222
Client Sample ID: B-11 @ 4.5-5.0

SPK1

* Although the spike recoveries are outside the control limits, the precision is verified by the RPD.

QCMSPK AAPCN 05-Jun-95 19:41:12

CHROMALAB, INC.

Environmental Services (SDB)

June 20, 1995 *Submission #:* 9505222

ENVIRON

Atten: Kim Jolitz

Project: STANDARD BRANDS *Project#:* 03-4603B
Received: May 17, 1995

re: **Surrogate** report for 2 samples for Volatile Halogenated Organics analysis.

Matrix: SOIL
Lab Run#: 6971 *Analyzed:* May 31, 1995
Method: EPA 8010/8260

Sample#	Client Sample ID	Surrogate	% Recovered	
88918	B-3 @ 6.0-6.5	4-BROMOFLUOROBENZENE	89	
88918	B-3 @ 6.0-6.5	1,2-DICHLOROETHANE - D4	105	
88918	B-3 @ 6.0-6.5	TOLUENE - D8	93	
88919	B-11 @ 4.5-5.0	4-BROMOFLUOROBENZENE	86	
88919	B-11 @ 4.5-5.0	1,2-DICHLOROETHANE - D4	106	
88919	B-11 @ 4.5-5.0	TOLUENE - D8	94	
91065	*Method blank (MDB)*	4-BROMOFLUOROBENZENE	92	
91065	*Method blank (MDB)*	1,2-DICHLOROETHANE - D4	104	
91065	*Method blank (MDB)*	TOLUENE - D8	93	
91066	*Blank Spike (BSP)*	4-BROMOFLUOROBENZENE	93	
91066	*Blank Spike (BSP)*	1,2-DICHLOROETHANE - D4	103	
91066	*Blank Spike (BSP)*	TOLUENE - D8	92	
91068	*Matrix spike (MS)*	4-BROMOFLUOROBENZENE	89	SPK1
91068	*Matrix spike (MS)*	1,2-DICHLOROETHANE - D4	107	SPK1
91068	*Matrix spike (MS)*	TOLUENE - D8	92	SPK1
91070	*Matrix spike duplicate (MSD)*	4-BROMOFLUOROBENZENE	90	SPK2
91070	*Matrix spike duplicate (MSD)*	1,2-DICHLOROETHANE - D4	105	SPK2
91070	*Matrix spike duplicate (MSD)*	TOLUENE - D8	92	SPK2

QCSURR RUDO 20-Jun-95 08 38:56

CHROMALAB, INC.
Environmental Services (SDB)

June 3, 1995 *Submission #:* 9505222

ENVIRON

Atten: Kim Jolitz

Project: STANDARD BRANDS *Project#:* 03-4603B
Received: May 17, 1995

re: 2 samples for Gasoline and BTEX analysis.

Matrix: SOIL
Sampled: May 17, 1995 *Run#:* 6900 *Analyzed:* June 1, 1995
Method: EPA 5030/8015M/8020

Spl # CLIENT SMPL ID	Gasoline (mg/Kg)	Benzene (ug/Kg)	Toluene (ug/Kg)	Ethyl Benzene (ug/Kg)	Total Xylenes (ug/Kg)
88918 B-3 @ 6.0-6.5	N.D.	N.D.	N.D.	N.D.	N.D.
88919 B-11 @ 4.5-5.0	N.D.	N.D.	N.D.	N.D.	N.D.
Reporting Limits	1.0	5.0	5.0	5.0	5.0
Blank Result	N.D.	N.D.	N.D.	N.D.	N.D.
Blank Spike Result (%)	93	103	102	104	106

Jack Kelly
Chemist

Ali Kharrazi
Organic Manager

N-OC JACK 10-27 15

CHROMALAB, INC.
Environmental Services (SDB)

June 23, 1995

Submission #: 9505222
Revision to report dated
May 30, 1995

ENVIRON

Atten: Kim Jolitz

Project: STANDARD BRANDS *Project#:* 03-4603B
Received: May 17, 1995

re: 10 samples for Gasoline and BTEX analysis.

Matrix: WATER
Sampled: May 17, 1995 *Run:* 6824-J *Analyzed:* May 25, 1995
Method: EPA 5030/8015M/602/8020

Spl #	CLIENT SMPL ID	Gasoline (mg/L)	Benzene (ug/L)	Toluene (ug/L)	Ethyl Benzene (ug/L)	Total Xylenes (ug/L)
88907	CPT-4-46.5-51.5	N.D.	N.D.	N.D.	N.D.	4.7
88912	B-2	N.D.	N.D.	N.D.	N.D.	N.D.
88916	SB051795TB	N.D.	N.D.	N.D.	N.D.	N.D.

Matrix: WATER
Sampled: May 17, 1995 *Run:* 6860-J *Analyzed:* May 30, 1995
Method: EPA 5030/8015M/602/8020

Spl #	CLIENT SMPL ID	Gasoline (mg/L)	Benzene (ug/L)	Toluene (ug/L)	Ethyl Benzene (ug/L)	Total Xylenes (ug/L)
88908	CPT-1-30-3.5	N.D.	N.D.	N.D.	N.D.	N.D.
88909	CPT-2-31-36	N.D.	N.D.	N.D.	N.D.	N.D.
88910	CPT-3-31-36	N.D.	N.D.	N.D.	N.D.	N.D.
88911	CPT-3D-31-36	N.D.	N.D.	N.D.	N.D.	N.D.

Matrix: WATER
Sampled: May 17, 1995 *Run:* 6882-J *Analyzed:* May 31, 1995
Method: EPA 5030/8015M/602/8020

Spl #	CLIENT SMPL ID	Gasoline (mg/L)	Benzene (ug/L)	Toluene (ug/L)	Ethyl Benzene (ug/L)	Total Xylenes (ug/L)
88913	B-3	N.D.	N.D.	N.D.	N.D.	N.D.
88914	B-11	N.D.	N.D.	N.D.	N.D.	N.D.
	Note: Detection Limit: Ethyl Benzene = 2ug/l & Xylenes = 15ug/l					
88915	B-11D	N.D.	N.D.	N.D.	N.D.	N.D.
	Note: Detection Limit: Ethyl benzene = 2 ug/l & Xylenes = 15 ug/l					
	Note: Compounds in the Gasoline range do not match any of our petroleum hydrocarbon standard profiles. Compared to our Gasoline standard, amount is 2.9 mg/L.					

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June 23, 1995

Submission #: 9505222
Page 2
Revision to report dated
dated May 30, 1995

ENVIRON

Atten: Kim Jolitz

Project: STANDARD BRANDS
Received: May 17, 1995

Project#: 03-4603B

re: 10 samples for Gasoline and BTEX analysis, continued.

Matrix: WATER
Sampled: May 17, 1995
Run: 6882-J
Analyzed: May 31, 1995
Method: EPA 5030/8015M/602/8020

Spl # CLIENT SMPL ID	Gasoline (mg/L)	Benzene (ug/L)	Toluene (ug/L)	Ethyl Benzene (ug/L)	Total Xylenes (ug/L)
Reporting Limits	0.05	0.5	0.5	0.5	0.5
Blank Result	N.D.	N.D.	N.D.	N.D.	N.D.
Blank Spike Result (%)	85	106	102	99	99

Billy Thach
Chemist

Ali Kharrazi
Organic Manager

CHROMALAB, INC.
Environmental Services (SDB)

June 6, 1995 *Submission #:* 9505222

ENVIRON

Atten: Kim Jolitz

Project: STANDARD BRANDS *Project#:* 03-4603B
Received: May 17, 1995

re: **Matrix spike** report for Gasoline and BTEX analysis.

Matrix: WATER
Lab Run#: 6860 *Instrument:* GC1-2 *Analyzed:* May 30, 1995
Method: EPA 5030/8015M/602/8020

Analyte	Spiked Sample Result	Spike Amt	% Spike Rec	Dup Spike Rec	Control Limits	% RPD	% RPD Lim
GASOLINE	N.D. mg/L	1.0 mg/L	95	--	80-118	N/A	N/A
BENZENE	N.D. ug/L	5.0 ug/L	135	124	80-127	8.5	20
TOLUENE	N.D. ug/L	5.0 ug/L	131	120	80-122	8.8	20
ETHYL BENZENE	N.D. ug/L	5.0 ug/L	126	111	81-119	13	20
XYLENES	N.D. ug/L	15 ug/L	123	111	83-125	10	20

Sample Spiked: 88908
Submission #: 9505222
Client Sample ID: CPT-1-30-3.5

SPK1

* Although some spike recoveries are outside the control limits, the precision was verified by the RPD.

CCMSPK EXCEL RLDO 06-Jun-95 12:19

CHROMALAB, INC.

Environmental Services (SDB)

June 6, 1995 *Submission #:* 9505222

ENVIRON

Atten: Kim Jolitz

Project: STANDARD BRANDS *Project#:* 03-4603B
Received: May 17, 1995

re: **Surrogate** report for 4 samples for Gasoline and BTEX analysis.

Matrix: WATER
Lab Run#: 6860 *Analyzed:* May 30, 1995
Method: EPA 5030/8015M/602/8020

Sample#	Client Sample ID	Surrogate	% Recovered
88908	CPT-1-30-3.5	TRIFLUOROTOLUENE	94
88909	CPT-2-31-36	TRIFLUOROTOLUENE	92
88910	CPT-3-31-36	TRIFLUOROTOLUENE	90
88911	CPT-3D-31-36	TRIFLUOROTOLUENE	96

Sample#	QC Sample Type	Surrogate	% Recovered	
90355	*Method blank (MDB)*	TRIFLUOROTOLUENE	94	
90356	*Blank Spike (BSP)*	TRIFLUOROTOLUENE	73	
90358	*Matrix spike (MS)*	TRIFLUOROTOLUENE	95	SPK1
90359	*Matrix spike duplicate (MSD)*	TRIFLUOROTOLUENE	83	SPK2

QCSURR EXCEL RUDO 06-Jun-95 12:17:44

CHROMALAB, INC.
Environmental Services (SDB)

May 25, 1995 *Submission #:* 9505222

ENVIRON

Atten: Kim Jolitz

Project: STANDARD BRANDS *Project#:* 03-4603B
Received: May 17, 1995

re: **Matrix spike** report for Gasoline and BTEX analysis.

Matrix: SOIL
Lab Run#: 6799 *Instrument:* GC1-2 *Analyzed:* May 25, 1995
Method: EPA 5030/8015M/8020

Analyte	Spiked Sample Result	Spike Amt	% Spike Rec	Dup Spike Rec	Control Limits	% RPD	% RPD Lim
GASOLINE	N.D. mg/Kg	5.0 mg/Kg	91	--	80-118	N/A	N/A
BENZENE	N.D. ug/Kg	25 ug/Kg	124	126	80-127	1.6	20
TOLUENE	N.D. ug/Kg	25 ug/Kg	121	124	80-130	2.4	20
ETHYL BENZENE	N.D. ug/Kg	25 ug/Kg	121*	125*	81-119	3.3	20
XYLENES	N.D. ug/Kg	50 ug/Kg	118	122	83-125	3.3	20

Sample Spiked: 88917
Submission #: 9505222
Client Sample ID: B-2 @ 6.0-6.5

SPK1

* Although matrix spike recoveries are greater than the upper control limit, the precision is verified by the RPD.

CHROMALAB, INC.

Environmental Services (SDB)

May 25, 1995 *Submission #:* 9505222

ENVIRON

Atten: Kim Jolitz

Project: STANDARD BRANDS *Project#:* 03-4603B
Received: May 17, 1995

re: **Surrogate** report for 1 sample for Gasoline and BTEX analysis.

Matrix: SOIL
Lab Run#: 6799 *Analyzed:* May 25, 1995
Method: EPA 5030/8015M/8020

Sample#	Client Sample ID	Surrogate	% Recovered
88917	B-2 @ 6.0-6.5	TRIFLUOROTOLUENE	102

Sample#	QC Sample Type	Surrogate	% Recovered	
89872	*Method blank (MDB)*	TRIFLUOROTOLUENE	90	
89873	*Blank Spike (BSP)*	TRIFLUOROTOLUENE	84	
89875	*Matrix spike (MS)*	TRIFLUOROTOLUENE	97	SPK1
89876	*Matrix spike duplicate (MSD)*	TRIFLUOROTOLUENE	96	SPK2

QCSURR JACK 25-May-95 15 27 29

CHROMALAB, INC.
Environmental Services (SDB)

June 3, 1995 *Submission #:* 9505222

ENVIRON

Atten: Kim Jolitz

Project: STANDARD BRANDS *Project#:* 03-4603B
Received: May 17, 1995

re: **Matrix spike** report for Gasoline and BTEX analysis.

Matrix: SOIL
Lab Run#: 6900 *Instrument:* GC1-4 *Analyzed:* June 1, 1995
Method: EPA 5030/8015M/8020

Analyte	Spiked Sample Result	Spike Amt	% Spike Rec	Dup Spike Rec	Control Limits	% RPD	% RPD Lim
GASOLINE	N.D. mg/Kg	5.0 mg/Kg	93	--	80-118	N/A	N/A
BENZENE	N.D. ug/Kg	25 ug/Kg	109	108	80-127	0.9	20
TOLUENE	N.D. ug/Kg	25 ug/Kg	107	106	80-130	0.9	20
ETHYL BENZENE	N.D. ug/Kg	25 ug/Kg	106	105	81-119	0.9	20
XYLENES	N.D. ug/Kg	50 ug/Kg	107	106	83-125	0.9	20

Sample Spiked: 88918
Submission #: 9505222
Client Sample ID: B-3 @ 6.0-6.5

SPK1

QCMSPK JACK 03-Jun-95 10:27:29

CHROMALAB, INC.

Environmental Services (SDB)

June 3, 1995

Submission #: 9505222

ENVIRON

Atten: Kim Jolitz

Project: STANDARD BRANDS
Received: May 17, 1995

Project#: 03-4603B

re: **Surrogate** report for 2 samples for Gasoline and BTEX analysis.

Matrix: SOIL
Lab Run#: 6900
Method: EPA 5030/8015M/8020

Analyzed: June 1, 1995

Sample#	Client Sample ID	Surrogate	% Recovered
88918	B-3 @ 6.0-6.5	TRIFLUOROTOLUENE	123
88919	B-11 @ 4.5-5.0	TRIFLUOROTOLUENE	113

Sample#	QC Sample Type	Surrogate	% Recovered	
90638	*Method blank (MDB)*	TRIFLUOROTOLUENE	109	
90639	*Blank Spike (BSP)*	TRIFLUOROTOLUENE	109	
90641	*Matrix spike (MS)*	TRIFLUOROTOLUENE	111	SPK1
90642	*Matrix spike duplicate (MSD)*	TRIFLUOROTOLUENE	112	SPK2

QCSURR JACK 03-Jun-95 10:27:40

CHROMALAB, INC.
Environmental Services (SDB)

June 6, 1995

Submission #: 9505222

ENVIRON

Atten: Kim Jolitz

Project: STANDARD BRANDS
Received: May 17, 1995

Project#: 03-4603B

re: **Surrogate** report for 3 samples for Gasoline and BTEX analysis.

Matrix: WATER
Lab Run#: 6882
Method: EPA 5030/8015M/602/8020

Analyzed: May 31, 1995

Sample#	Client Sample ID	Surrogate	% Recovered
88913	B-3	TRIFLUOROTOLUENE	86
88914	B-11	TRIFLUOROTOLUENE	38
88915	B-11D	TRIFLUOROTOLUENE	75

Sample#	QC Sample Type	Surrogate	% Recovered
90542	*Method blank (MDB)*	TRIFLUOROTOLUENE	86
90544	*Blank Spike (BSP)*	TRIFLUOROTOLUENE	85

QCSURR EXCEL RUDQ 06-Jun-95 12:17 44

CHROMALAB, INC.

Environmental Services (SDB)

June 6, 1995

Submission #: 9505222

ENVIRON

Atten: Kim Jolitz

Project: STANDARD BRANDS

Project#: 03-4603B

Received: May 17, 1995

re: **Surrogate** report for 3 samples for Gasoline and BTEX analysis.

Matrix: WATER

Lab Run#: 6824

Analyzed: May 25, 1995

Method: EPA 5030/8015M/602/8020

Sample#	Client Sample ID	Surrogate	% Recovered
88907	CPT-4-46.5-51.5	TRIFLUOROTOLUENE	73
88912	B-2	TRIFLUOROTOLUENE	96
88916	SB051795TB	TRIFLUOROTOLUENE	91

Sample#	QC Sample Type	Surrogate	% Recovered
89971	*Method blank (MDB)*	TRIFLUOROTOLUENE	95
89972	*Blank Spike (BSP)*	TRIFLUOROTOLUENE	97

QCSURR EXCEL RUDO 06-Jun-95 12:17:44

CHROMALAB, INC.
Environmental Services (SDB)

June 6, 1995

Submission #: 9505222

ENVIRON

Atten: Kim Jolitz

Project: STANDARD BRANDS
Project#: 03-4603B
Received: May 17, 1995

re: **Blank spike and duplicate** report for 8 samples for Total Extractable Petroleu Hydrocarbons (TEPH) analysis, continued.

Matrix: WATER
Lab Run#: 6924
Method: EPA 3510/8015M

Extracted: May 31, 1995
Analyzed: June 5, 1995

Analyte	Spike Amt	% Spike Rec	Dup Spike Rec	Control Limits	% RPD	% RPD Lim
DIESEL	200 ug/L	67.8	70.2	60-130	3.5	20

Reagent spike sample #:90748
Duplicate spike sample #:90747

CHROMALAB, INC.
Environmental Services (SDB)

June 5, 1995 *Submission #:* 9505222

ENVIRON

Atten: Kim Jolitz

Project: STANDARD BRANDS *Project#:* 03-4603B
Received: May 17, 1995

re: 2 samples for Total Extractable Petroleum Hydrocarbons (TEPH)

Matrix: SOIL *Extracted:* May 31, 1995
Sampled: May 17, 1995 *Run#:* 6911 *Analyzed:* June 3, 1995
Method: EPA 3550/8015M

Spl # CLIENT SMPL ID	Kerosene (mg/Kg)	Diesel (mg/Kg)	Motor Oil (mg/Kg)
88918 B-3 @ 6.0-6.5	N.D.	N.D.	N.D.
88919 B-11 @ 4.5-5.0	N.D.	N.D.	N.D.
Reporting Limits	1.0	1.0	10
Blank Result	N.D.	N.D.	N.D.
Blank Spike Result (%)	--	71	--

Sirirat Chullakorn

Sirirat (Sindy) Chullakorn
Chemist

Ali Kharrazi
Organic Manager

CHROMALAB, INC.
Environmental Services (SDB)

May 24, 1995 *Submission #:* 9505222

ENVIRON

Atten: Kim Jolitz

Project: STANDARD BRANDS *Project#:* 03-4603B
Received: May 17, 1995

re: 6 samples for Total Extractable Petroleum Hydrocarbons (TEPH)

Matrix: WATER *Extracted:* May 23, 1995
Sampled: May 17, 1995 *Run#:* 6788 *Analyzed:* May 24, 1995
Method: EPA 3510/8015M

Spl #	CLIENT SMPL ID	Kerosene (ug/L)	Diesel (ug/L)	Motor Oil (ug/L)
88907	CPT-4-46.5-51.5	N.D.	N.D.	N.D.
88908	CPT-1-30-3.5	N.D.	N.D.	N.D.
88909	CPT-2-31-36	N.D.	N.D.	N.D.
88910	CPT-3-31-36	N.D.	N.D.	N.D.
88911	CPT-3D-31-36	N.D.	N.D.	N.D.
88912	B-2	N.D.	N.D.	N.D.
Reporting Limits		50	50	500
Blank Result		N.D.	N.D.	N.D.
Blank Spike Result (%)		--	87	--

Sirirat Chullakorn

Sirirat (Sindy) Chullakorn
Chemist

Ali Kharrazi
Organic Manager

1220 Quarry Lane • Pleasanton, California 94566-4756
(510) 484-1919 • Facsimile (510) 484-1096
Federal ID #68-0140157

N-QC SIRIRAT 13 52 25

CHROMALAB, INC.
Environmental Services (SDB)

June 20, 1995

Submission #: 9505222

ENVIRON

Atten: Kim Jolitz

Project: STANDARD BRANDS *Project#:* 03-4603B
Received: May 17, 1995

re: **Surrogate** report for 2 samples for Total Extractable Petroleum Hydrocarbons (TEPH) analysis.

Matrix: WATER
Lab Run#: 6924
Method: EPA 3510/8015M

Extracted: May 31, 1995
Analyzed: June 1, 1995

Sample#	Client Sample ID	Surrogate	% Recovered
88913	B-3	O-TERPHENYL	73
88914	B-11	O-TERPHENYL	94

Sample#	QC Sample Type	Surrogate	% Recovered
90746	*Method blank (MDB)*	O-TERPHENYL	94
90747	*Blank Spike (BSP)*	O-TERPHENYL	84
90748	*Blank Spike Duplicate (BSD)*	O-TERPHENYL	77

QCSURR #UDO 20-Jun-95 08:18:56

CHROMALAB, INC.
Environmental Services (SDB)

June 6, 1995

Submission #: 9505222

ENVIRON

Atten: Kim Jolitz

Project: STANDARD BRANDS
Project#: 03-4603B
Received: May 17, 1995

re: **Blank spike and duplicate** report for 8 samples for Total Extractable Petrole Hydrocarbons (TEPH) analysis.

Matrix: WATER
Lab Run#: 6788
Method: EPA 3510/8015M
Extracted: May 23, 1995
Analyzed: May 24, 1995

Analyte	Spike Amt	% Spike Rec	Dup Spike Rec	Control Limits	% RPD	% RPD Lim
DIESEL	200 ug/L	86.9	94.3	60-130	8.2	20

Reagent spike sample #:89671
Duplicate spike sample #:89670

CHROMALAB, INC.
Environmental Services (SDB)

June 20, 1995 *Submission #:* 9505222

ENVIRON

Atten: Kim Jolitz

Project: STANDARD BRANDS *Project#:* 03-4603B
Received: May 17, 1995

re: **Surrogate** report for 6 samples for Total Extractable Petroleum Hydrocarbons (TEPH) analysis.

Matrix: WATER *Extracted:* May 23, 1995
Lab Run#: 6788 *Analyzed:* May 24, 1995
Method: EPA 3510/8015M

Sample#	Client Sample ID	Surrogate	% Recovered
88907	CPT-4-46.5-51.5	O-TERPHENYL	121
88908	CPT-1-30-3.5	O-TERPHENYL	128
88909	CPT-2-31-36	O-TERPHENYL	125
88910	CPT-3-31-36	O-TERPHENYL	132
88911	CPT-3D-31-36	O-TERPHENYL	118
88912	B-2	O-TERPHENYL	129

Sample#	QC Sample Type	Surrogate	% Recovered
89669	*Method blank (MDB)*	O-TERPHENYL	105
89670	*Blank Spike (BSP)*	O-TERPHENYL	108
89671	*Blank Spike Duplicate (BSD)*	O-TERPHENYL	109

QCSURR RUDO 20-Jun-95 08 38 56

CHROMALAB, INC.
Environmental Services (SDB)

June 6, 1995

Submission #: 9505222

ENVIRON

Atten: Kim Jolitz

Project: STANDARD BRANDS
Received: May 17, 1995
Project#: 03-4603B

re: **Matrix spike** report for Total Extractable Petroleum Hydrocarbons (TEPH) ana

Matrix: SOIL
Lab Run#: 6764 *Instrument:* GC2-EXT-S
Method: EPA 3550/8015M
Extracted: May 22, 1995
Analyzed: May 23, 1995

Analyte	Spiked Sample Result	Spike Amt	% Spike Rec	Dup Spike Rec	Control Limits	% RPD	% RPD Lim
DIESEL	N.D. mg/Kg	6.7 mg/Kg	99.4	108	60-130	8.3	20

Sample Spiked: 88917
Submission #: 9505222
Client Sample ID: B-2 @ 6.0-6.5

SPK1

CCMSPK EXCEL RUDO 06-Jun-95 12:16

CHROMALAB, INC.
Environmental Services (SDB)

June 6, 1995 *Submission #:* 9505222

ENVIRON

Atten: Kim Jolitz

Project: STANDARD BRANDS *Project#:* 03-4603B
Received: May 17, 1995

re: **Surrogate** report for 1 sample for Total Extractable Petroleum Hydrocarbons (TEPH) analysis.

Matrix: SOIL
Lab Run#: 6764
Method: EPA 3550/8015M

Extracted: May 22, 1995
Analyzed: May 23, 1995

Sample#	Client Sample ID	Surrogate	% Recovered
88917	B-2 @ 6.0-6.5	O-TERPHENYL	123

Sample#	QC Sample Type	Surrogate	% Recovered	
89471	Method blank (MDB)	O-TERPHENYL	93	
89472	Blank Spike (BSP)	O-TERPHENYL	118	
89474	Matrix spike (MS)	O-TERPHENYL	124	SPK1
89475	Matrix spike duplicate (MSD)	O-TERPHENYL	119	SPK2

QCSURR EXCEL\RUDO 08-Jun-95 12.17.44

CHROMALAB, INC.

Environmental Services (SDB)

June 6, 1995 *Submission #:* 9505222

ENVIRON

Atten: Kim Jolitz

Project: STANDARD BRANDS *Project#:* 03-4603B
Received: May 17, 1995

re: **Matrix spike** report for Total Extractable Petroleum Hydrocarbons (TEPH) ana

Matrix: SOIL *Extracted:* May 31, 1995
Lab Run#: 6911 *Instrument:* GC2-EXT-S *Analyzed:* June 1, 1995
Method: EPA 3550/8015M

Analyte	Spiked Sample Result	Spike Amt	% Spike Rec	Dup Spike Rec	Control Limits	% RPD	% RPD Lim
DIESEL	N.D. mg/Kg	6.7 mg/Kg	72.9	77.9	60-130	6.6	20

Sample Spiked: 88919
Submission #: 9505222
Client Sample ID: B-11 @ 4.5-5.0

SPK1

QCMSPK EXCEL AUDO 06-Jun-95 12 1a

CHROMALAB, INC.

Environmental Services (SDB)

June 6, 1995 *Submission #:* 9505222

ENVIRON

Atten: Kim Jolitz

Project: STANDARD BRANDS *Project#:* 03-4603B
Received: May 17, 1995

re: **Surrogate** report for 2 samples for Total Extractable Petroleum Hydrocarbons (TEPH) analysis.

Matrix: SOIL *Extracted:* May 31, 1995
Lab Run#: 6911 *Analyzed:* June 1, 1995
Method: EPA 3550/8015M

Sample#	Client Sample ID	Surrogate	% Recovered
88918	B-3 @ 6.0-6.5	O-TERPHENYL	87
88919	B-11 @ 4.5-5.0	O-TERPHENYL	91

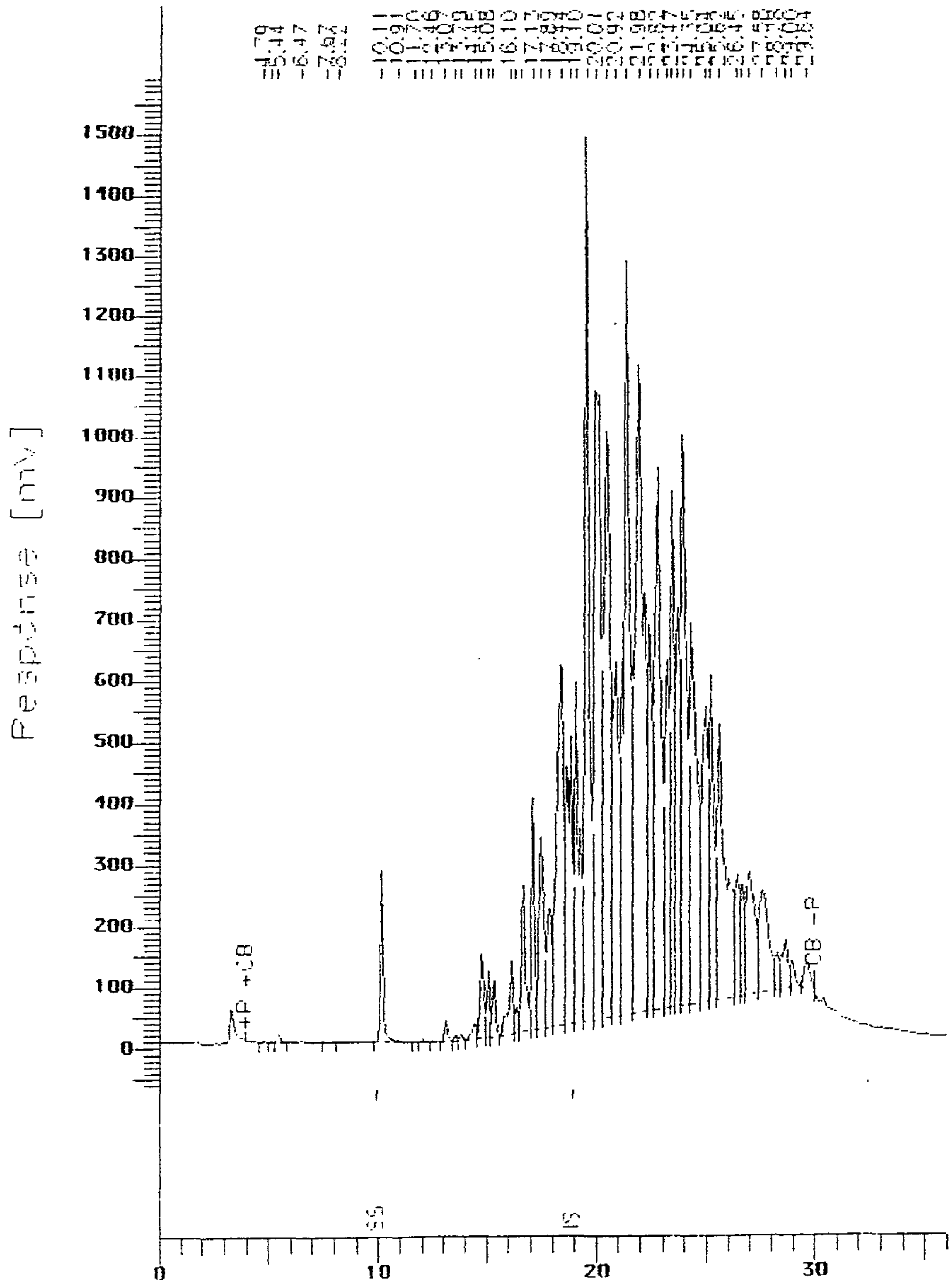
Sample#	QC Sample Type	Surrogate	% Recovered	
90672	*Method blank (MDB)*	O-TERPHENYL	94	
90673	*Blank Spike (BSP)*	O-TERPHENYL	--	
90674	*Matrix spike (MS)*	O-TERPHENYL	90	SPK1
90675	*Matrix spike duplicate (MSD)*	O-TERPHENYL	95	SPK2

QCSURR EXCEL'RUDO 06-Jun-95 12 17 44

Gasoline Chromatogram

Sample Name : 950222/CPT-4-46.5
FileName : d:\3400-2\2g52529.raw
Method : 2BTEX03.ins
Start Time : 0.00 min
End Time : 36.00 min
Scale Factor: 1
Plot Offset: -70 mV

Sample #: 88907
Page 1 of 1
Date : 5/26/95 02:54 PM
Time of Injection: 5/26/95 02:16 PM
Low Point : -69.74 mV
High Point : 1593.00 mV
Plot Scale: 1663 mV



CHROMALAB, INC.
SAMPLE RECEIPT CHECKLIST

Client Name ENVIRON

Date/Time Received 5/17/95 1650
Date Time

Project

Received by D Solis

Reference/Subm # 22000/9505222

Carrier name

Checklist completed by: 5/19/95
Signature / Date

Logged in by TA 5/17/95
Initials / Date

Matrix H2O

Shipping container in good condition? NA____ Yes____ No____

Custody seals present on shipping container? Intact____ Broken____ Yes____ No____

Custody seals on sample bottles? Intact____ Broken____ Yes____ No____

Chain of custody present? Yes ✓ No____

Chain of custody signed when relinquished and received? Yes ✓ No____

Chain of custody agrees with sample labels? Yes ✓ No____

Samples in proper container/bottle? Yes ✓ No____

Samples intact? Yes ✓ No____

Sufficient sample volume for indicated test? Yes ✓ No____

VOA vials have zero headspace? NA____ Yes ✓ No____

Trip Blank received? NA____ Yes____ No ✓

All samples received within holding time? Yes ✓ No____

Container temperature?____

pH upon receipt ____ pH adjusted____ Check performed by:____ NA____

Any NO response must be detailed in the comments section below. If items are not applicable, they should be marked NA.

Client contacted?

Date contacted?

Person contacted?

Contacted by?

Regarding?

Comments:

Corrective Action:

Sheet 1 Of 2

ENVIRON

Counsel in Health and Environmental Science

CH

5820 Shellmound St., Suite 700
Emeryville, California 94608
(510) 655-7400

PROJECT NAME: Standard Brands

CASE NO.: 03-4603B

ENVIRON SAMPLE ID.	COLLECTION DATE	COLLECTED BY (initials)	MATRIX	TOTAL NO. OF CONTAINERS	ANALYSES: VOCs (8010) + Freon 113	TEPH (8015m)	TPH/gas + BTEX										COMMENTS
✓CPT-4[illegible]-46.5-51.5	5/17/95	P.C.	water	7	3 ✓	1.	3 ✓										STANDARD TAT
✓CPT-1-30-35	5/17/95	P.C.	water	7	3 ✓	1 ✓	3 ✓										Level 2 Report
✓CPT-2-31-36	5/17/95	P.C.	water	7	3 ✓	1	3 ✓										Please send
✓CPT-3-31-36	5/17/95	P.C.	water	7	3 ✓	1 ✓	3 ✓										results to
✓CPT-3D-31-36	5/17/95	P.C.	WATER	7	3	1	3										Kim Jolite
TOTAL	☒	☒	☒														

Relinquished by:	Date:	Time:	Received by:	Company:	Date:	Time:
Paul Chung	5/17/95	1650		CHROMALAB	5/17/95	16:50

ENVIRON
Counsel in Health and Environmental Science

CHAIN-of-CUSTODY FORM

Sheet 2 of 2
5820 Shellmound St., Suite 700
Emeryville, California 94608
(510) 655-7400

PROJECT NAME: Standard Brands Phase I Site Investigation
CASE NO.: 03-4603B

ENVIRON SAMPLE ID.	COLLECTION DATE	COLLECTED BY (initials)	MATRIX	TOTAL NO. OF CONTAINERS	ANALYSES: 8010 + Freon 113	TEPH - diesel, motor oil, Kerosene, thinner	TPH/G + BTEX									
✓B-2	5-17	HLD	water	7	X	X	X									
✓B-3	5-17	HLD	water	7	X	X	X									
✓B-11	5-17	HLD	water	6	X	X	X									
✓B-11D	5-17	HLD	water	4	X		X									
✓B-2 @ 6.0-6.5	5-17	HLD	soil	1	X	X	X									
✓B-3 @ 6.0-6.5	5-17	HLD	soil	1	X	X	X									
B-11 @ 4.5-5.0	5-17	HLD	soil	1	X	X	X									
✓SB051795TB	5-17	HLD	water	2	X		X									
TOTAL	☒	☒	☒													

COMMENTS
Standard turn-around
TEPH / TPH/G ~~+BTEX~~ by EPA 8015 modified

Please send results attention Kim Jolitz

Level II Report

Relinquished by:	Date:	Time:	Received by:	Company:	Date:	Time:
Heidi Dieffenbach	5-17-95	1650		CHROMALAB	5/17/95	16:48

ENVIRON

Facsimile Cover Letter

Contract Number: 03-4603B (Standard Brands Phase 1 site investigation)

Date: May 26, 1995

Subject: Clearance to test samples.

Confidential: No

Total No. of Pages (including cover page): 2

Done 5/30

Add to 9505222

HOLD TIME up 5/31

To: Gary Cook

Company: Chromalab

Location: 1220 Quarry Lane, Pleasanton, CA **Fax No.:** 510-484-1096

From: Jake Russin & Kim Jolitz **Extension:** 247

Time Transmitted: 5:02 pm **Operator:**

Comments/Instructions: Please proceed with the analyses of samples from our borings B-3 and B-11. Our reason to hold these analyses has been cleared. A copy of the chain of custody form is attached.

Please call immediately if the fax you receive is incomplete or illegible.

A division of APBI Environmental Sciences Group, Inc.
Marketplace Tower • 5820 Shellmound Street • Suite 700 • Emeryville, California 94608 • USA
Tel: (510) 655-7400 • Fax: (510) 655-9517

ENVIRON
Counsel in Health and Environmental Science

CHAIN-of-CUSTODY FORM

Sheet — Of

5820 Shellmound St., Suite 700
Emeryville, California 94608
(510) 655-7400

PROJECT NAME: Standard Brands Phase I Site Investigation
CASE NO.: 03-4603B

ENVIRON SAMPLE ID.	COLLECTION DATE	COLLECTED BY (Initials)	MATRIX	TOTAL NO. OF CONTAINERS	ANALYSES: 8010 + Freon 113	TEPH - diesel motor oil kerosene thinner	TPH/G + BTEX								
B-2 ✓	5-17	HLD	water	7	X	X	X								
B-3	5-17	HLD	water	7	X	X	X								
B-11	5-17	HLD	water	~~[illegible]~~ 6	X	X	X								
B-11 D	5-17	HLD	water	4	X		X								
B-2 @ 6.0-6.5	5-17	HLD	soil	1	X	X	X								
B-3 @ 6.0-6.5	5-17	HLD	soil	1	X	X	X								
B-11 @ 4.5-5.0	5-17	HLD	soil	1	X	X	X								
SB051795TB	5-17	HLD	water	2	X		X								
TOTAL	☒	☒	☒												

COMMENTS

Standard turn-around
TEPH / TPH/G ~~+BTEX~~ by EPA 8015 modified

Please send results attention Kim Jolitz

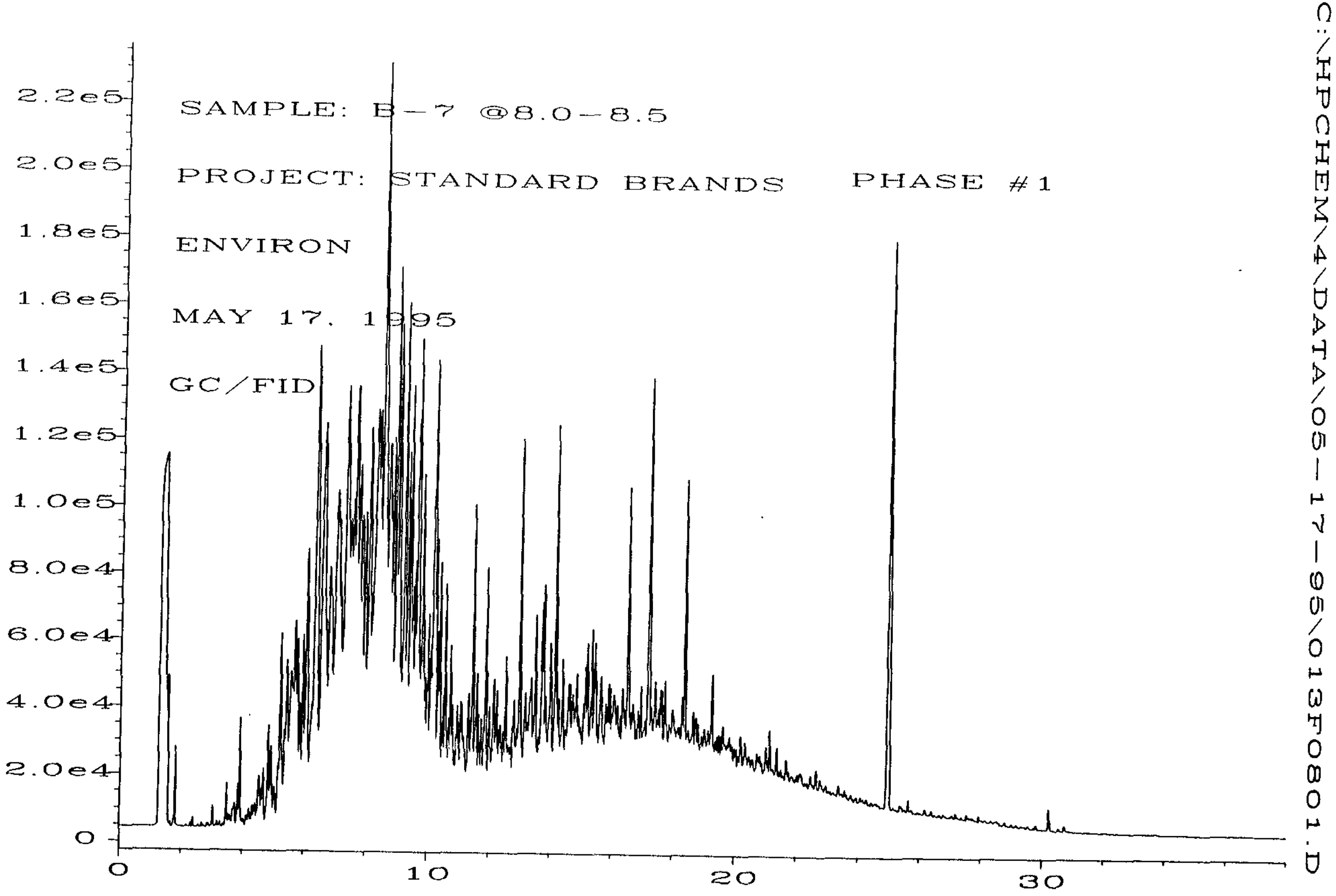
Level II Report

Relinquished by:	Date:	Time:	Received by:	Company:	Date:	Time:
Heidi Dohlenbach	5-17-95	1650		CHROMALAB	5/17/95	16:45

Laboratory Report for
Hydrocarbon Fuel Scan of Soil Samples
Sampling Date: May 15, 1995

Friedman and Bruya, Inc.
Report Date: May 19, 1995

Sample Locations
B-4
B-5
B-7
B-9


SAMPLE: B-7 @8.0-8.5
PROJECT: STANDARD BRANDS PHASE #1
ENVIRON
MAY 17, 1995
GC/FID
2.2e5
2.0e5
1.8e5
1.6e5
1.4e5
1.2e5
1.0e5
8.0e4
6.0e4
4.0e4
2.0e4
0
0
10
20
30
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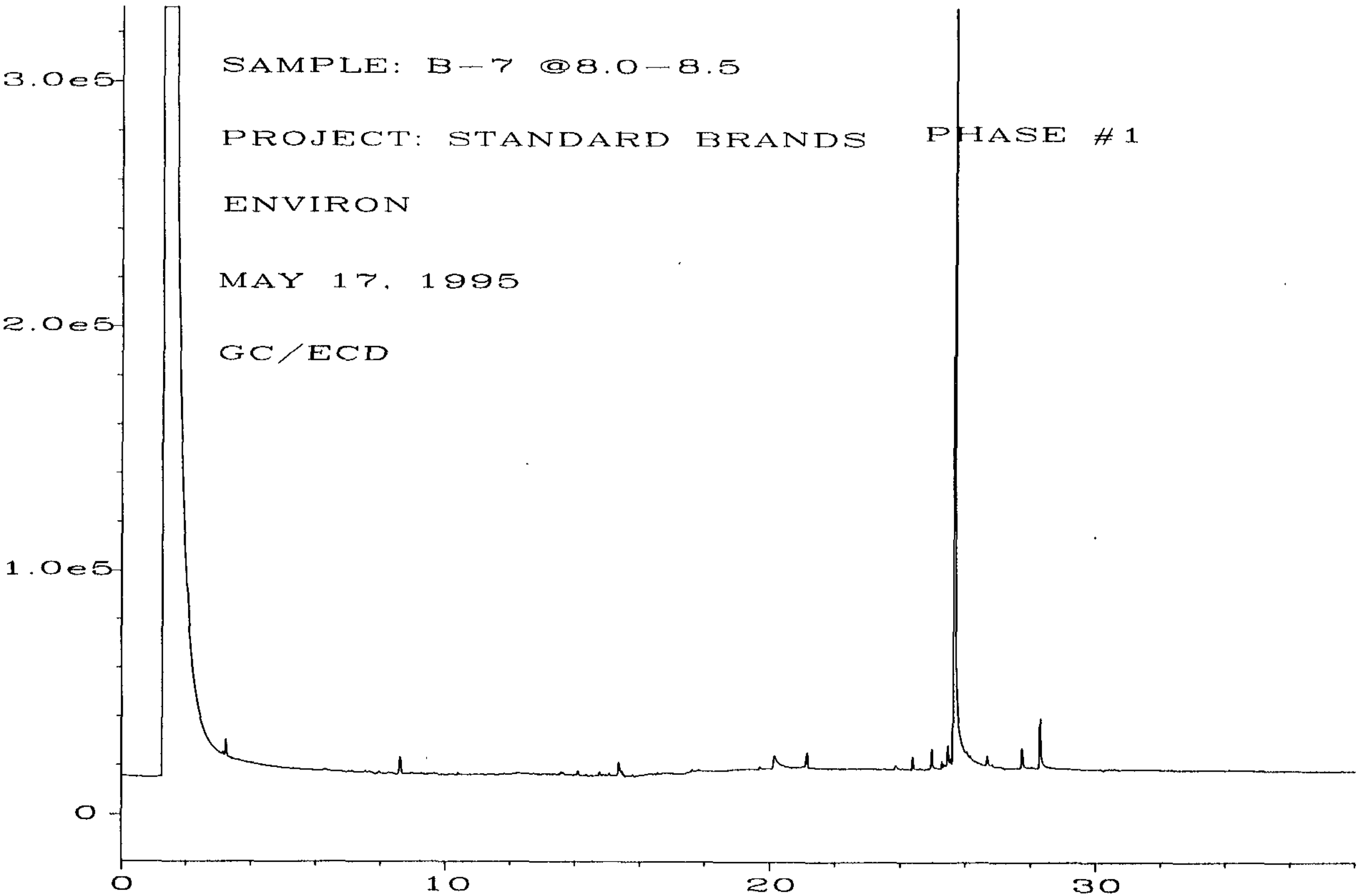

SAMPLE: B-7 @8.0-8.5

PROJECT: STANDARD BRANDS PHASE #1

ENVIRON

MAY 17, 1995

GC/ECD

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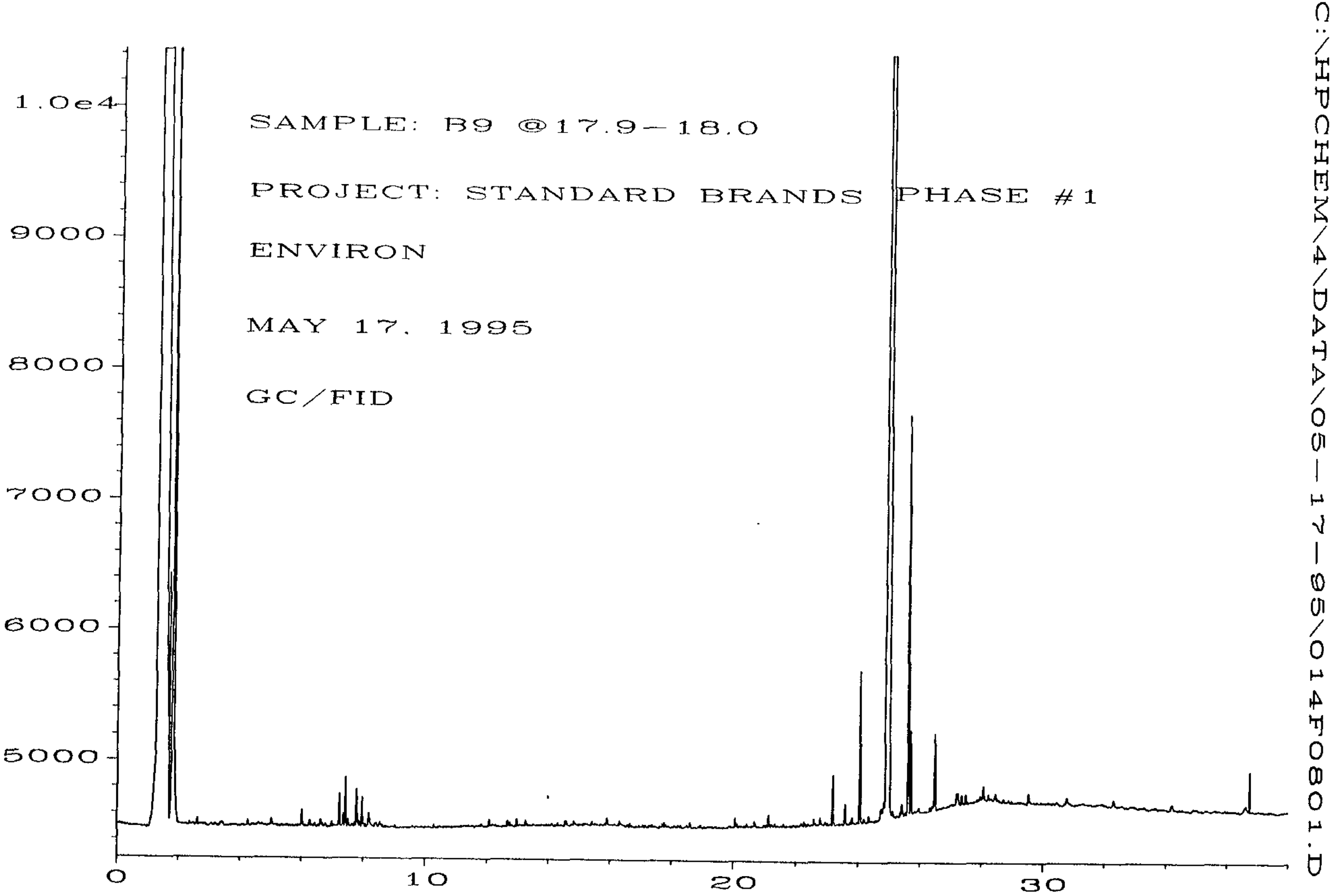

SAMPLE: B9 @17.9-18.0

PROJECT: STANDARD BRANDS PHASE #1

ENVIRON

MAY 17, 1995

GC/FID

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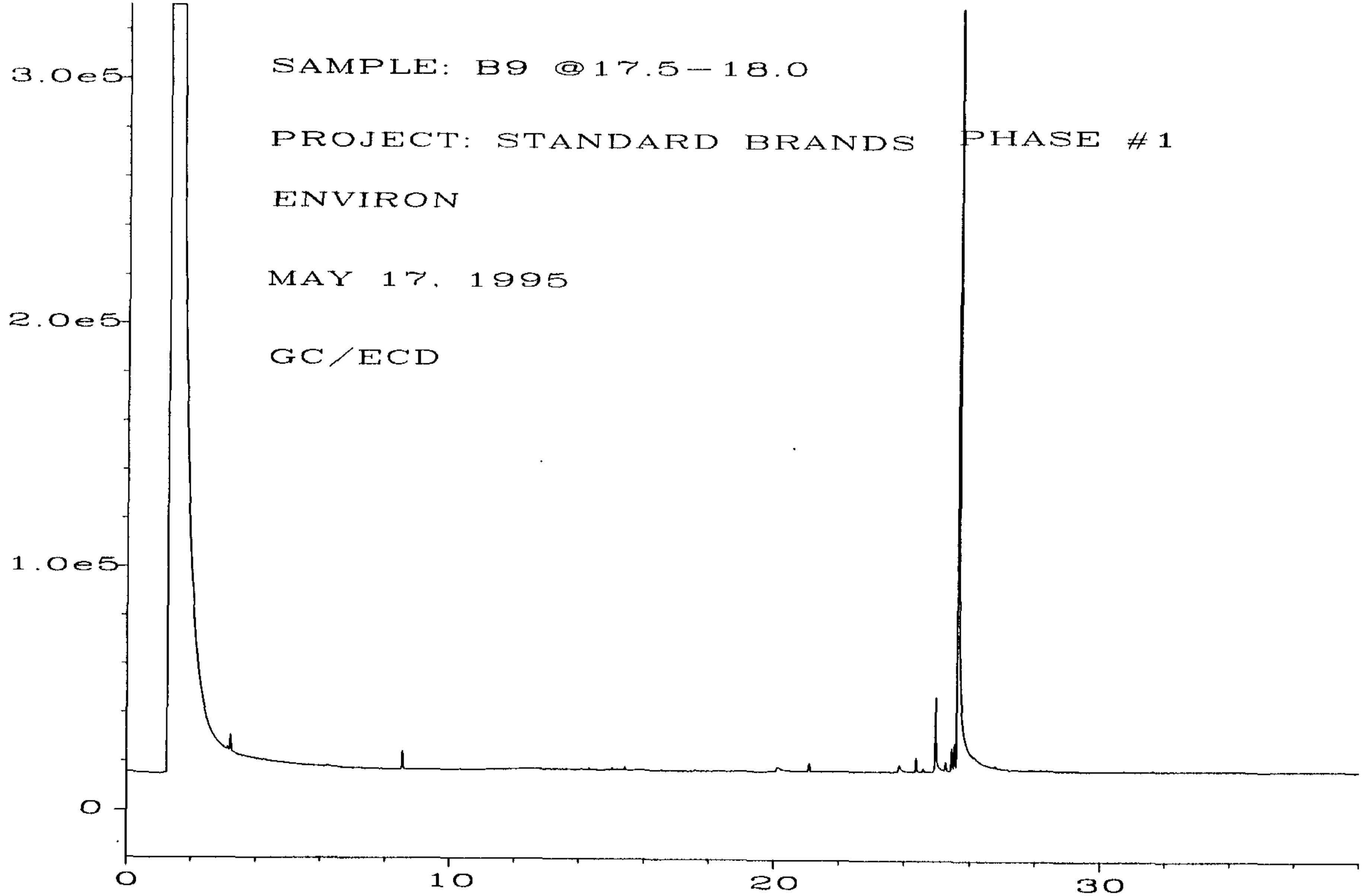

SAMPLE: B9 @17.5-18.0

PROJECT: STANDARD BRANDS PHASE #1

ENVIRON

MAY 17, 1995

GC/ECD

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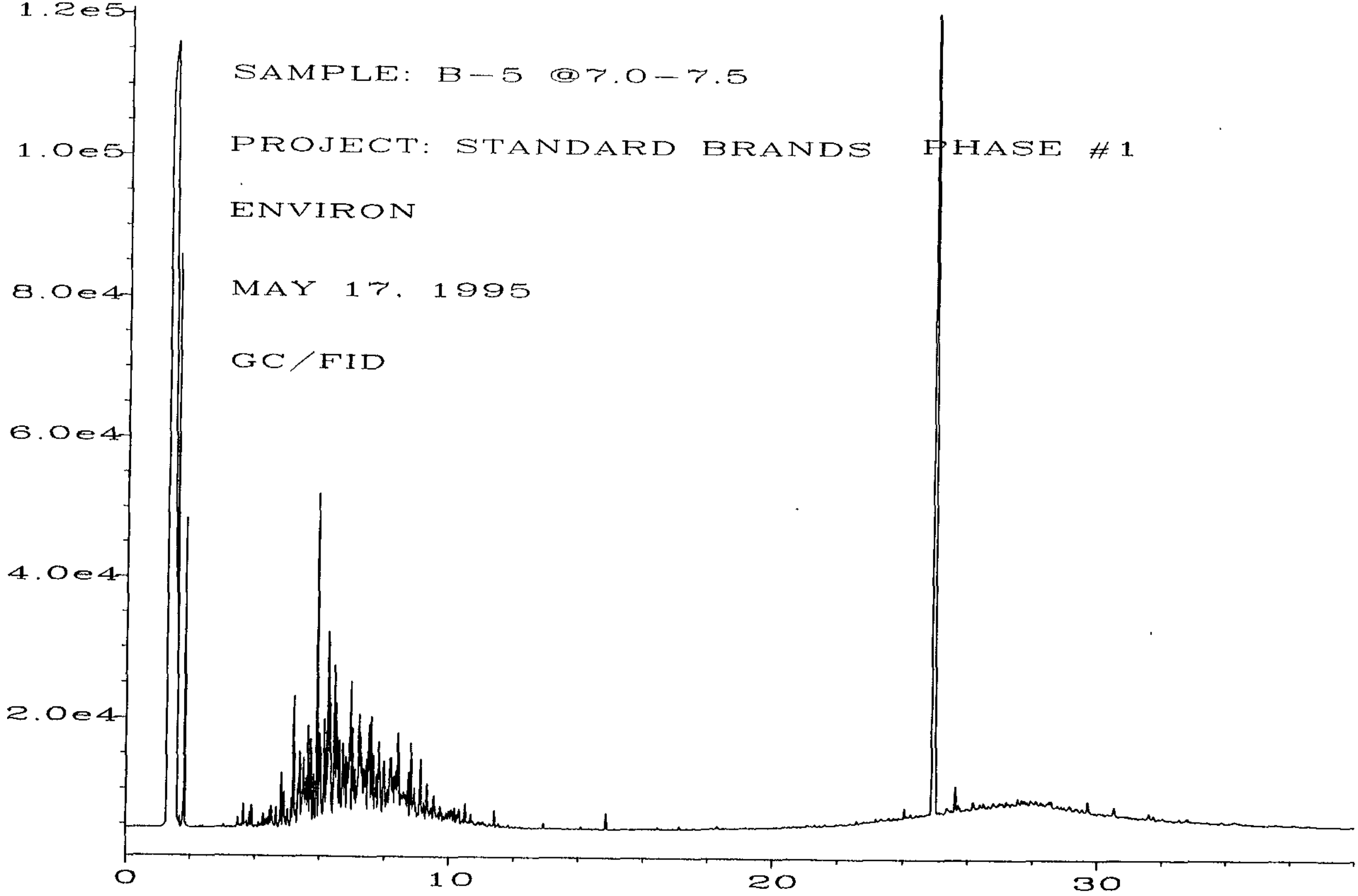

SAMPLE: B-5 @7.0-7.5

PROJECT: STANDARD BRANDS PHASE #1

ENVIRON

MAY 17, 1995

GC/FID

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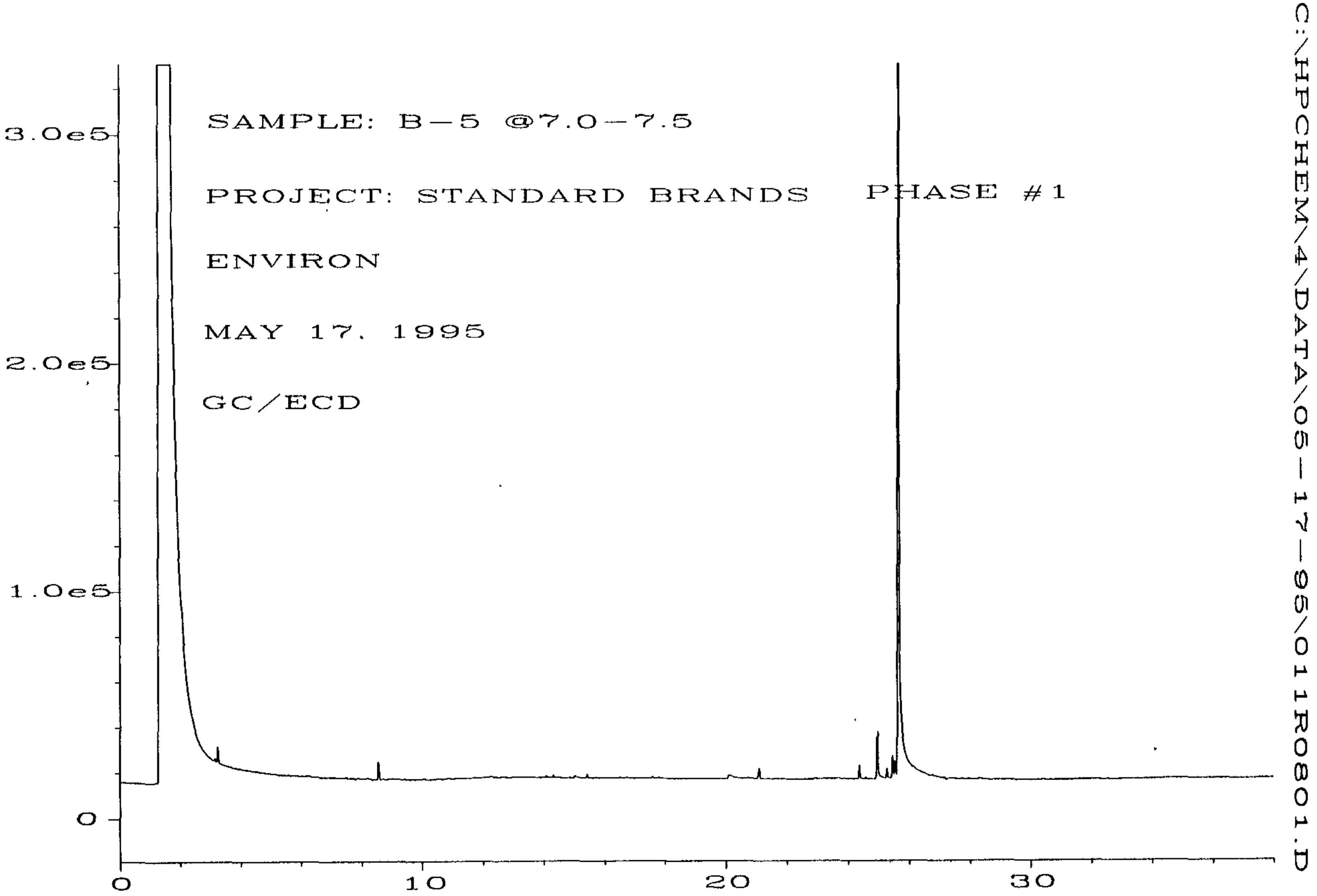
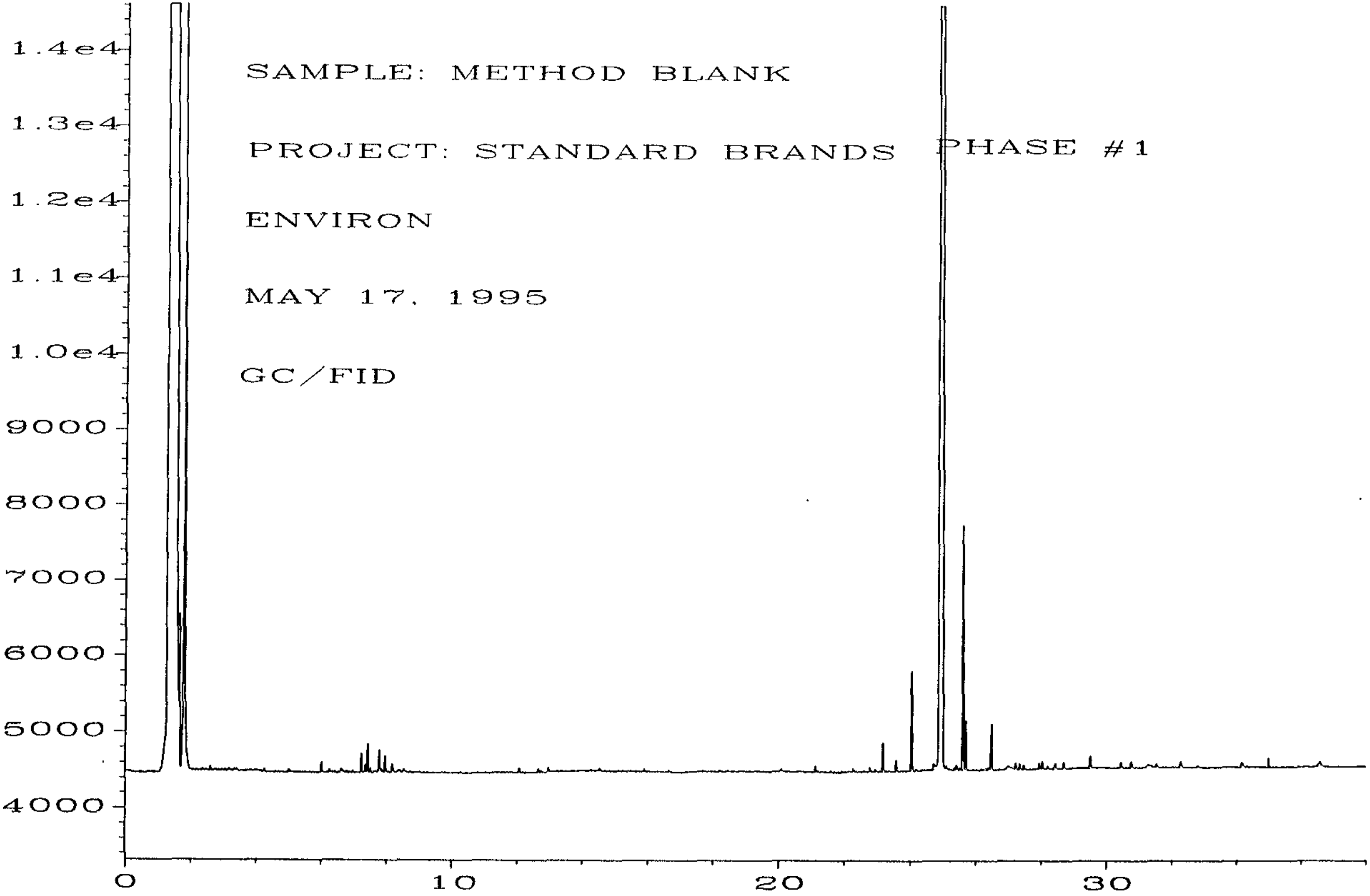

SAMPLE: B-5 @7.0-7.5
PROJECT: STANDARD BRANDS PHASE #1
ENVIRON
MAY 17, 1995
GC/ECD
3.0e5
2.0e5
1.0e5
0
0
10
20
30
C:\HPCHEM\4\DATA\05-17-95\011R0801.D

Laboratory Report for
Ground Water Grab Sample
Sampling Date: May 18, 1995

Chromalab Environmental Services
Submission Number: 9505246
Report Date: June 5, 1995

<u>Sample Location</u>
CPT-8



SAMPLE: METHOD BLANK

PROJECT: STANDARD BRANDS PHASE #1

ENVIRON

MAY 17, 1995

GC/FID

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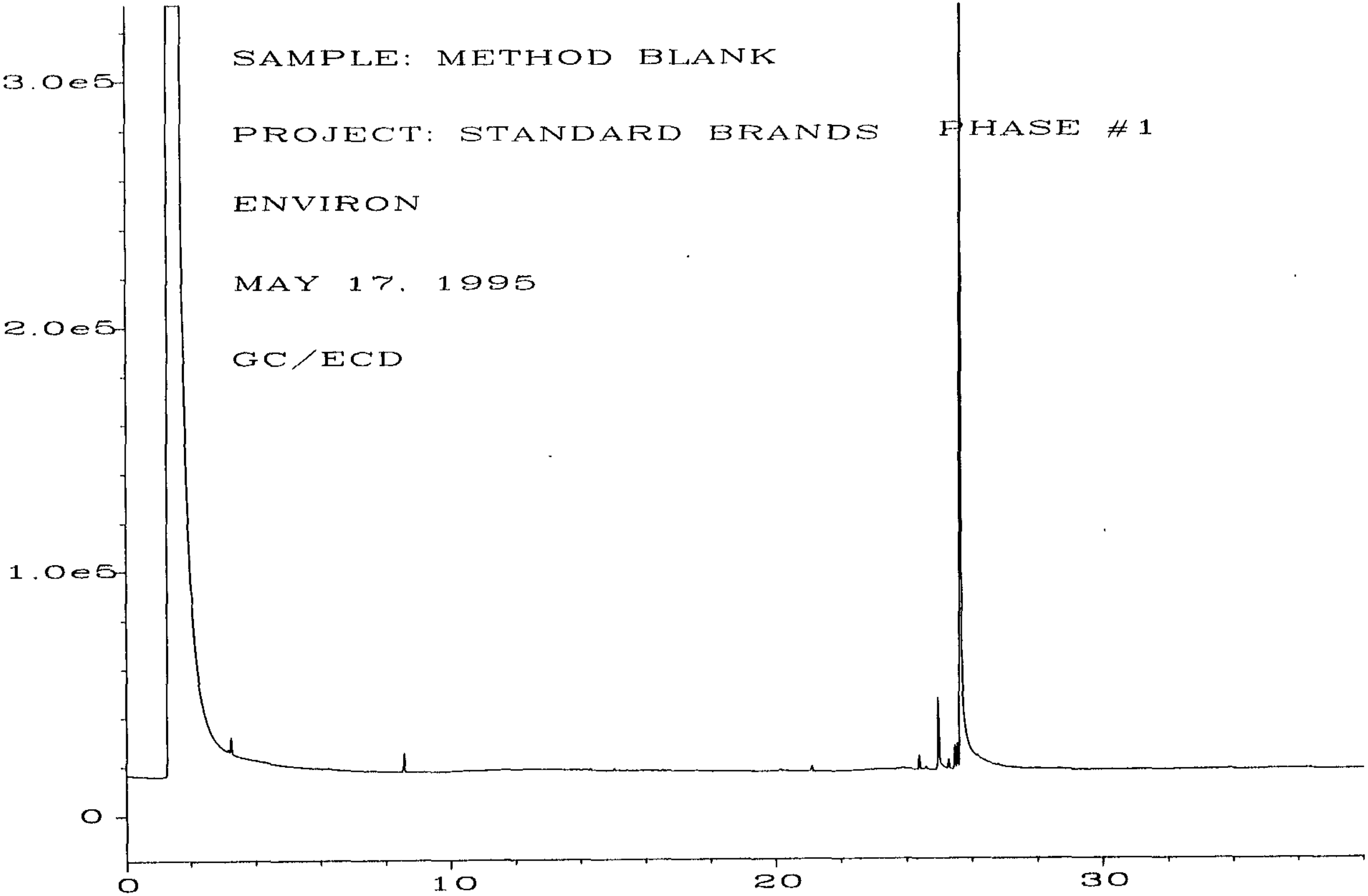

SAMPLE: METHOD BLANK

PROJECT: STANDARD BRANDS PHASE #1

ENVIRON

MAY 17, 1995

GC/ECD

C:\HPCHEM\4\DATA\05-17-95\009R0801.D

CHROMALAB, INC.

Environmental Services (SDB)

June 5, 1995 Submission #: 9505246

ENVIRON
5820 Shellmound St., Suite 700
Emeryville, CA 94608

Attn: Kim Jolitz
RE: Analysis for project STANDARD BRANDS, number 03-4603B.

REPORTING INFORMATION

Samples were received cold and in good condition on 05/18/95. They were refrigerated upon receipt and analyzed as described in the attached report. ChromaLab followed EPA or equivalent methods for all testing reported.

No discrepancies were observed or difficulties encountered with the testing.

SAMPLES SUBMITTED IN THIS REPORT

Client Sample ID	Matrix	Date collected	Sample #
CPT-8-8-13	WATER	May 18, 1995	89105
SB051895TB	WATER	May 18, 1995	89106

Jill Thomas
Quality Assurance Manager

Eric Tam
Laboratory Director

CHROMALAB, INC.

Environmental Services (SDB)

May 25, 1995 *Submission #:* 9505246

ENVIRON

Atten: Kim Jolitz

Project: STANDARD BRANDS *Project#:* 03-4603B
Received: May 18, 1995

re: One sample for Volatile Halogenated Organics analysis.

Sample ID: **CPT-8-8-13**
Spl#: 89105 *Matrix:* WATER
Sampled: May 18, 1995 *Run#:* 6802 *Analyzed:* May 23, 1995
Method: EPA 8010

ANALYTE	**RESULT (ug/L)**	**REPORTING LIMIT (ug/L)**	**BLANK RESULT (ug/L)**	**BLANK SPIKE RESULT (%)**
CHLOROMETHANE	N.D.	0.5	N.D.	--
VINYL CHLORIDE	N.D.	0.5	N.D.	--
BROMOMETHANE	N.D.	0.5	N.D.	--
CHLOROETHANE	N.D.	0.5	N.D.	--
TRICHLOROFLUOROMETHANE	N.D.	0.5	N.D.	--
1,1-DICHLOROETHENE	N.D.	0.5	N.D.	104
METHYLENE CHLORIDE	N.D.	0.5	N.D.	--
TRANS-1,2-DICHLOROETHENE	N.D.	0.5	N.D.	--
CIS-1,2-DICHLOROETHENE	N.D.	0.5	N.D.	--
1,1-DICHLOROETHANE	N.D.	0.5	N.D.	--
CHLOROFORM	N.D.	0.5	N.D.	--
1,1,1-TRICHLOROETHANE	N.D.	0.5	N.D.	--
CARBON TETRACHLORIDE	N.D.	0.5	N.D.	--
1,2-DICHLOROETHANE	N.D.	0.5	N.D.	--
TRICHLOROETHENE	N.D.	0.5	N.D.	109
1,2-DICHLOROPROPANE	N.D.	0.5	N.D.	--
BROMODICHLOROMETHANE	N.D.	0.5	N.D.	--
2-CHLOROETHYLVINYL ETHER	N.D.	0.5	N.D.	--
TRANS-1,3-DICHLOROPROPENE	N.D.	0.5	N.D.	--
CIS-1,3-DICHLOROPROPENE	N.D.	0.5	N.D.	--
1,1,2-TRICHLOROETHANE	N.D.	0.5	N.D.	--
TETRACHLOROETHENE	N.D.	0.5	N.D.	--
DIBROMOCHLOROMETHANE	N.D.	0.5	N.D.	--
CHLOROBENZENE	N.D.	0.5	N.D.	101
BROMOFORM	N.D.	0.5	N.D.	--
1,1,2,2-TETRACHLOROETHANE	N.D.	0.5	N.D.	--
1,3-DICHLOROBENZENE	N.D.	0.5	N.D.	--
1,4-DICHLOROBENZENE	N.D.	0.5	N.D.	--
1,2-DICHLOROBENZENE	N.D.	0.5	N.D.	--
TRICHLOROTRIFLUOROETHANE	N.D.	0.5	N.D.	--

Oleg Nemtsov
Oleg Nemtsov
Chemist

Ali K
Ali Kharrazi
Organic Manager

NOC OLEG 09:51:53

CHROMALAB, INC.
Environmental Services (SDB)

May 25, 1995

Submission #: 9505246

ENVIRON

Atten: Kim Jolitz

Project: STANDARD BRANDS
Project#: 03-4603B
Received: May 18, 1995

re: One sample for Volatile Halogenated Organics analysis.

Sample ID: **SB051895TB**
Spl#: 89106
Matrix: WATER
Sampled: May 18, 1995
Run#: 6802
Analyzed: May 23, 1995
Method: EPA 8010

ANALYTE	**RESULT (ug/L)**	**REPORTING LIMIT (ug/L)**	**BLANK RESULT (ug/L)**	**BLANK SPIKE RESULT (%)**
CHLOROMETHANE	N.D.	0.5	N.D.	--
VINYL CHLORIDE	N.D.	0.5	N.D.	--
BROMOMETHANE	N.D.	0.5	N.D.	--
CHLOROETHANE	N.D.	0.5	N.D.	--
TRICHLOROFLUOROMETHANE	N.D.	0.5	N.D.	--
1,1-DICHLOROETHENE	N.D.	0.5	N.D.	104
METHYLENE CHLORIDE	N.D.	0.5	N.D.	--
TRANS-1,2-DICHLOROETHENE	N.D.	0.5	N.D.	--
CIS-1,2-DICHLOROETHENE	N.D.	0.5	N.D.	--
1,1-DICHLOROETHANE	N.D.	0.5	N.D.	--
CHLOROFORM	N.D.	0.5	N.D.	--
1,1,1-TRICHLOROETHANE	N.D.	0.5	N.D.	--
CARBON TETRACHLORIDE	N.D.	0.5	N.D.	--
1,2-DICHLOROETHANE	N.D.	0.5	N.D.	--
TRICHLOROETHENE	N.D.	0.5	N.D.	109
1,2-DICHLOROPROPANE	N.D.	0.5	N.D.	--
BROMODICHLOROMETHANE	N.D.	0.5	N.D.	--
2-CHLOROETHYLVINYL ETHER	N.D.	0.5	N.D.	--
TRANS-1,3-DICHLOROPROPENE	N.D.	0.5	N.D.	--
CIS-1,3-DICHLOROPROPENE	N.D.	0.5	N.D.	--
1,1,2-TRICHLOROETHANE	N.D.	0.5	N.D.	--
TETRACHLOROETHENE	N.D.	0.5	N.D.	--
DIBROMOCHLOROMETHANE	N.D.	0.5	N.D.	--
CHLOROBENZENE	N.D.	0.5	N.D.	101
BROMOFORM	N.D.	0.5	N.D.	--
1,1,2,2-TETRACHLOROETHANE	N.D.	0.5	N.D.	--
1,3-DICHLOROBENZENE	N.D.	0.5	N.D.	--
1,4-DICHLOROBENZENE	N.D.	0.5	N.D.	--
1,2-DICHLOROBENZENE	N.D.	0.5	N.D.	--
TRICHLOROTRIFLUOROETHANE	N.D.	0.5	N.D.	--

Oleg Nemtsov

Oleg Nemtsov
Chemist

Ali Kharrazi
Organic Manager

CHROMALAB, INC.
Environmental Services (SDB)

May 25, 1995

Submission #: 9505246

ENVIRON

Atten: Kim Jolitz

Project: STANDARD BRANDS *Project#:* 03-4603B
Received: May 18, 1995

re: **Matrix spike** report for Volatile Halogenated Organics analysis.

Matrix: WATER
Lab Run#: 6802 *Instrument:* GC/MS-VOL-O *Analyzed:* May 23, 1995
Method: EPA 8010

Analyte	Spiked Sample Result	Spike Amt	% Spike Rec	Dup Spike Rec	Control Limits	% RPD	% RPD Lim
1,1-DICHLOROETHENE	N.D. ug/L	20 ug/L	70.0	88.0	56-118	23*	20
TRICHLOROETHENE	N.D. ug/L	20 ug/L	101	99.0	78-129	2.0	20
CHLOROBENZENE	N.D. ug/L	20 ug/L	98.0	99.0	70-120	1.0	20

Sample Spiked: 89105
Submission #: 9505246
Client Sample ID: CPT-8-8-13

* All other QC data for the batch is within acceptable limits.

QCMSPK OLEQ 25-May-95 08:52:21

CHROMALAB, INC.
SAMPLE RECEIPT CHECKLIST

Client Name ENVIRON

Date/Time Received 5/18/95 – 1616
Date / Time

Project ___

Received by P Solis

Reference/Subm # 22021/9505246

Carrier name ___

Checklist completed by: 5/19/95
Signature / Date

Logged in by TA 5/18/95
Initials / Date

Matrix H2O

Shipping container in good condition? NA___ Yes___ No___

Custody seals present on shipping container? Intact___ Broken___ Yes___ No___

Custody seals on sample bottles? Intact___ Broken___ Yes___ No___

Chain of custody present? Yes ✓ No___

Chain of custody signed when relinquished and received? Yes ✓ No___

Chain of custody agrees with sample labels? Yes ✓ No___

Samples in proper container/bottle? Yes ✓ No___

Samples intact? Yes ✓ No___

Sufficient sample volume for indicated test? Yes ✓ No___

VOA vials have zero headspace? NA___ Yes ✓ No___

Trip Blank received? NA___ Yes ✓ No ✓

All samples received within holding time? Yes ✓ No___

Container temperature? 8°C

pH upon receipt ___ pH adjusted ___ Check performed by: ___ NA___

Any NO response must be detailed in the comments section below. If items are not applicable, they should be marked NA.

Client contacted? ___ Date contacted? ___

Person contacted? ___ Contacted by? ___

Regarding? ___

Comments: ___

Corrective Action: ___

CHROMALAB, INC.

Environmental Services (SDB)

June 15, 1995 *Submission #:* 9505246

ENVIRON

Atten: Kim Jolitz

Project: STANDARD BRANDS *Project#:* 03-4603B
Received: May 18, 1995

re: **Surrogate** report for 2 samples for Gasoline and BTEX analysis.

Matrix: WATER
Lab Run#: 6861 *Analyzed:* May 30, 1995
Method: EPA 5030/8015M/602/8020

Sample#	Client Sample ID	Surrogate	% Recovered
89105	CPT-8-8-13	TRIFLUOROTOLUENE	117
89106	SB051895TB	TRIFLUOROTOLUENE	102

Sample#	QC Sample Type	Surrogate	% Recovered
90366	*Method blank (MDB)*	TRIFLUOROTOLUENE	98
90368	*Blank Spike (BSP)*	TRIFLUOROTOLUENE	76

QCSURR GARY 15-Jun-95 17:00:34

2461851105-851106

ENVIRON

Counsel in Health and Environmental Science

22021

RM

Sheet Of

5820 Shellmound St., Suite 700
Emeryville, California 94608
(510) 655-7400

PROJECT NAME: Standard Brands

CASE NO.: 03-4603B

ENVIRON SAMPLE ID.	COLLECTION DATE	COLLECTED BY (Initials)	MATRIX	TOTAL NO. OF CONTAINERS	ANALYSES: 8010 + Freon 113	TEPH	TPH/gas + BTEX										COMMENTS
CPT-8-8-13	5/18/95	P.C.	water	7	X	X	X										Standard TAT
SB051895TB	5/18/95	PC	water	3	X		X										Level II Report
																	Results to
																	Kim Jolitz
																	* RECEIVED at 8°c
TOTAL	☒	☒	☒														

Relinquished by:	Date:	Time:	Received by:	Company:	Date:	Time:
Paul Chiang	5/18/95	16:16	Peter Ader	CHROMALAB	5/18/95	16:16

CHROMALAB, INC.
Environmental Services (SDB)

June 1, 1995 *Submission #:* 9505246

ENVIRON

Atten: Kim Jolitz

Project: STANDARD BRANDS *Project#:* 03-4603B
Received: May 18, 1995

re: 2 samples for Gasoline and BTEX analysis.

Matrix: WATER
Sampled: May 18, 1995 *Run#:* 6861 *Analyzed:* May 30, 1995
Method: EPA 5030/8015M/602/8020

Spl # CLIENT SMPL ID	**Gasoline (mg/L)**	**Benzene (ug/L)**	**Toluene (ug/L)**	**Ethyl Benzene (ug/L)**	**Total Xylenes (ug/L)**
89105 CPT-8-8-13	4.2	N.D.	1.1	N.D.	N.D.
89106 SB051895TB	N.D.	N.D.	N.D.	N.D.	N.D.
Reporting Limits	0.05	0.5	0.5	0.5	0.5
Blank Result	N.D.	N.D.	N.D.	N.D.	N.D.
Blank Spike Result (%)	84	95	93	93	99

Jack Kelly
Chemist

Ali Kharrazi
Organic Manager

CHROMALAB, INC.
Environmental Services (SDB)

June 5, 1995 *Submission #:* 9505246

ENVIRON

Atten: Kim Jolitz

Project: STANDARD BRANDS *Project#:* 03-4603B
Received: May 18, 1995

re: **Blank spike and duplicate** report for 2 samples for Gasoline and BTEX analysis

Matrix: WATER *Extracted:* May 23, 1995
Lab Run#: 6861 *Analyzed:* May 25, 1995
Method: EPA 5030/8015M/602/8080

Analyte	**Spike Amt**	**% Spike Rec**	**Dup Spike Rec**	**Control Limits**	**% RPD**	**% RPD Lim**
BENZENE	5.0 ug/L	95.0	0.0	80-127	N/A	20
TOLUENE	5.0 ug/L	93.0	0.0	80-122	N/A	20
ETHYL BENZENE	5.0 ug/L	93.0	0.0	81-119	N/A	20
XYLENES	15 ug/L	99.0	0.0	83-125	N/A	20

Reagent spike sample #:90370
Duplicate spike sample #:90368

QCMSPK EXCEL\RUDO 12 18:43

CHROMALAB, INC.
Environmental Services (SDB)

May 25, 1995

Submission #: 9505246

ENVIRON

Atten: Kim Jolitz

Project: STANDARD BRANDS
Received: May 18, 1995

Project#: 03-4603B

re: **Surrogate** report for 2 samples for Volatile Halogenated Organics analysis.

Matrix: WATER
Lab Run#: 6802
Method: EPA 8010

Analyzed: May 23, 1995

Sample#	**Client Sample ID**	**Surrogate**	**% Recovered**
89105	CPT-8-8-13	1,4-DICHLOROBUTANE	107
89106	SB051895TB	1,4-DICHLOROBUTANE	107

Sample#	**QC Sample Type**	**Surrogate**	**% Recovered**	
89886	*Method blank (MDB)*	1,4-DICHLOROBUTANE	115	
89887	*Blank Spike (BSP)*	1,4-DICHLOROBUTANE	101	
89888	*Matrix spike (MS)*	1,4-DICHLOROBUTANE	111	SPK1
89889	*Matrix spike duplicate (MSD)*	1,4-DICHLOROBUTANE	114	SPK2

QCSURR OLEG 25-May-95 08:52:29

CHROMALAB, INC.
Environmental Services (SDB)

May 25, 1995 *Submission #:* 9505246

ENVIRON

Atten: Kim Jolitz

Project: STANDARD BRANDS *Project#:* 03-4603B
Received: May 18, 1995

re: 1 sample for Total Extractable Petroleum Hydrocarbons (TEPH)

Sampled: May 18, 1995
Method: EPA 3510/8015M
Matrix: WATER
Run#: 6788
Extracted: May 23, 1995
Analyzed: May 25, 1995

Spl # CLIENT SMPL ID	**Kerosene (ug/L)**	**Diesel (ug/L)**	**Motor Oil (ug/L)**
89105 CPT-8-8-13	N.D.	N.D.	N.D.

Note: Unknown hydrocarbons in the Kerosene range were found, conc.= 2500 ug/L.

Note: Compounds in the Diesel range do not match any of our petroleum hydrocarbon standard profiles. Compared to our Diesel standard, amount is 1400 ug/L.

Reporting Limits	50	50	500
Blank Result	N.D.	N.D.	N.D.
Blank Spike Result (%)	--	87	--

Sirirat Chullakorn

Sirirat (Sindy) Chullakorn
Chemist

Ali Kh

Ali Kharrazi
Organic Manager

CHROMALAB, INC.

Environmental Services (SDB)

June 5, 1995

Submission #: 9505246

ENVIRON

Atten: Kim Jolitz

Project: STANDARD BRANDS
Received: May 18, 1995

Project#: 03-4603B

re: **Blank spike and duplicate** report for 1 sample for Total Extractable Petroleum Hydrocarbons (TEPH) analysis.

Matrix: WATER
Lab Run#: 6788
ethod: EPA 3510/8015M

Extracted: May 23, 1995
Analyzed: May 25, 1995

Analyte	Spike Amt	% Spike Rec	Dup Spike Rec	Control Limits	% RPD	% RPD Lim
DIESEL	200 ug/L	86.9	94.3	60-130	8.2	20

Reagent spike sample #:89671
Duplicate spike sample #:89670

QCMSPK EXCEL\RUDO 12 18:43

CHROMALAB, INC.

Environmental Services (SDB)

June 15, 1995

Submission #: 9505246

ENVIRON

Atten: Kim Jolitz

Project: STANDARD BRANDS
Received: May 18, 1995

Project#: 03-4603B

re: **Surrogate** report for 1 sample for Total Extractable Petroleum Hydrocarbons (TEPH) analysis.

Matrix: WATER
Lab Run#: 6788
Method: EPA 3510/8015M

Extracted: May 23, 1995
Analyzed: May 24, 1995

Sample#	Client Sample ID	Surrogate	% Recovered
89105	CPT-8-8-13	O-TERPHENYL	107

Sample#	QC Sample Type	Surrogate	% Recovered
89669	*Method blank (MDB)*	O-TERPHENYL	105
89670	*Blank Spike (BSP)*	O-TERPHENYL	108
89671	*Blank Spike Duplicate (BSD)*	O-TERPHENYL	109

QCSURR GARY 15-Jun-95 17:00:34

Laboratory Report for
Ground Water Grab Sample
Sampling Date: June 9, 1995

Chromalab Environmental Services
Submission Number: 9506125
Report Date: June 19, 1995

<u>Sample Location</u>
CPT-4R

CHROMALAB, INC.
Environmental Services (SDB)

RECEIVED
JUL 21 1995
ENVIRON

July 19, 1995

Submission #: 9506125

ENVIRON
5820 Shellmound St., Suite 700
Emeryville, CA 94608

Attn: Kim Jolitz

RE: Analysis for project STANDARD BRANDS PHASE 2, number 03-4603D.

REPORTING INFORMATION

Samples were received cold and in good condition on June 9, 1995. They were refrigerated upon receipt and analyzed as described in the attached report. ChromaLab followed EPA or equivalent methods for all testing reported.

No discrepancies were observed or difficulties encountered with the testing.

Please call us if you have questions regarding them.

SAMPLES SUBMITTED IN THIS REPORT

Client Sample ID	Matrix	Date collected	Sample #
CPT-4-46.5-49.5	WATER	June 9, 1995	91791
SB060995TB	WATER	June 9, 1995	91792

Jill Thomas
Quality Assurance Manager

Eric Tam
Laboratory Director

1220 Quarry Lane • Pleasanton, California 94566-4756
(510) 484-1919 • Facsimile (510) 484-1096
Federal ID #68-0140157

CHROMALAB, INC.
Environmental Services (SDB)

RECEIVED
JUN 23 1995
ENVIRON

June 16, 1995 *Submission #:* 9506125

ENVIRON

Atten: Kim Jolitz

Project: STANDARD BRANDS PHASE 2 *Project#:* 03-4603D
Received: June 9, 1995

re: 2 samples for Gasoline and BTEX analysis.

Matrix: WATER
Sampled: June 9, 1995 *Run:* 7188-B *Analyzed:* June 15, 1995
Method: EPA 5030/8015M/602/8020

Spl # CLIENT SMPL ID	**Gasoline (mg/L)**	**Benzene (ug/L)**	**Toluene (ug/L)**	**Ethyl Benzene (ug/L)**	**Total Xylenes (ug/L)**
91791 CPT-4-46.5-49.5	N.D.	N.D.	N.D.	N.D.	N.D.
91792 SB060995TB	N.D.	N.D.	N.D.	N.D.	N.D.
Reporting Limits	0.05	0.5	0.5	0.5	0.5
Blank Result	N.D.	N.D.	N.D.	N.D.	N.D.
Blank Spike Result (%)	86	110	109	111	111

Billy Thach
Chemist

Ali Kharrazi
Organic Manager

CHROMALAB, INC.
Environmental Services (SDB)

July 19, 1995 *Submission #:* 9506125

ENVIRON

Atten: Kim Jolitz

Project: STANDARD BRANDS PHASE 2 *Project#:* 03-4603D
Received: June 9, 1995

re: **Matrix spike** report for Gasoline and BTEX analysis.

Matrix: WATER
Lab Run#: 7188 *Instrument:* GC1-4 *Analyzed:* June 15, 1995
Method: EPA 5030/8015M/602/8020

Analyte	Spiked Sample Result	Spike Amt	% Spike Rec	Dup Spike Rec	Control Limits	% RPD	% RPD Lim
GASOLINE	N.D. mg/L	1.0 mg/L	86	--	80-118	N/A	N/A
BENZENE	N.D. ug/L	20 ug/L	95.0	88.0	80-127	7.7	20
TOLUENE	N.D. ug/L	20 ug/L	95.0	88.0	80-122	7.7	20
ETHYL BENZENE	N.D. ug/L	20 ug/L	95.0	88.0	81-119	7.7	20
XYLENES	N.D. ug/L	60 ug/L	93.0	87.0	83-125	6.7	20

Sample Spiked: 91803
Submission #: 9506127
Client Sample ID: FS22-5

SPK1

CHROMALAB, INC.
Environmental Services (SDB)

July 19, 1995 *Submission #:* 9506125

ENVIRON

Atten: Kim Jolitz

Project: STANDARD BRANDS PHASE 2 *Project#:* 03-4603D
Received: June 9, 1995

re: **Surrogate** report for 2 samples for Gasoline and BTEX analysis.

Matrix: WATER
Lab Run#: 7188 *Analyzed:* June 15, 1995
Method: EPA 5030/8015M/602/8020

Sample#	Client Sample ID	Surrogate	% Recovered
91791	CPT-4-46.5-49.5	TRIFLUOROTOLUENE	96
91792	SB060995TB	TRIFLUOROTOLUENE	111

Sample#	QC Sample Type	Surrogate	% Recovered
92590	*Method blank (MDB)*	TRIFLUOROTOLUENE	101
92588	*Blank Spike (BSP)*	TRIFLUOROTOLUENE	106

QCSURR JACK 19-Jul-95 11:18:33

.25. 7 - 5. 19

ENVIRON

Counsel in Health and Environmental Science

22 362

DY FORM

Sheet , Of 1

5820 Shellmound St., Suite 700
Emeryville, California 94608
(510) 655-7400

PROJECT NAME: STD BRANDS PHASE 2 REMEDIAL DESIGN

CASE NO.: 03-4603D

HOLD ON 8010 + Freon 113 AND TEPH ANALYSES

ENVIRON SAMPLE ID.	COLLECTION DATE	COLLECTED BY (Initials)	MATRIX	TOTAL NO. OF CONTAINERS	ANALYSES: 8010 + Freon 113 HO	TPH/G + BETX	TEPH HOLD										COMMENTS
CPT-4-46.5-49.5	6/8/95	KJ/JR	WATER	7	X	X	X										PLEASE COMPARE
SB060995TB	6/8/95	KJ	WATER	6	X	X											TO PREVIOUS RESULTS
																	& FRIEDMAN-BRUYA
																	PROVIDED MATERIAL
																	STANDARD TURN
																	AROUND TIME
																	RESULTS: KIM JOLTZ
TOTAL	☒	☒	☒	[illegible]	[illegible]	3	1										

13 KJ   9 KJ

Relinquished by: Date: 6/9/95   Time: 1008

Received by: Company: Date: 6-9-95   Time: 10:08 am

Relinquished by: ______ Date: ______ Time: ______ Received by: ______ Company: ______ Date: ______ Time: ______

Relinquished by: ______ Date: ______ Time: ______ Received by: ______ Company: ______ Date: ______ Time: ______

Laboratory Report for
Monitoring Well Water Samples
Sampling Date: June 15, 1995

Chromalab Environmental Services
Submission Number: 9506215
Report Date: June 23, 1995

<u>Sample Locations</u>
MW1
MW2
MW3
MW4
MW5

CHROMALAB, INC.
Environmental Services (SDB)

RECEIVED
AUG 1 5 1995
ENVIRON

Date Revised: August 9, 1995

ENVIRON *Submission #:* 9506215

Atten: Kim Jolitz

Project: STANDARD BRANDS PHASE II *Project#:* 03-4603D

REPORTING INFORMATION

Samples were received cold and in good condition on **June 15, 1995**. They were refrigerated on receipt, and analyzed on the date shown on the attached report. ChromaLab followed EPA or equivalent methods for all analyses reported.

For samples MW1 061595 and MW2 the initially reported BTEX surrogate recoveries were from the first run. The report has been revised to show the results of the reanalysis.

No difficulties were encountered with the analysis.

Jill Thomas
Quality Assurance Manager

Eric Tam
Laboratory Director

CHROMALAB, INC.
Environmental Services (SDB)

June 22, 1995 *Submission #:* 9506215

ENVIRON

Atten: Kim Jolitz

Project: STANDARD BRANDS PHASE II *Project#:* 03-4603D
Received: June 15, 1995

re: One sample for Volatile Halogenated Organics analysis.

Sample ID: **MW1 061595**
Spl#: 92713 *Matrix:* WATER
Sampled: June 15, 1995 *Run:* 7295-O *Analyzed:* June 20, 1995
Method: EPA 8010

ANALYTE	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE RESULT (%)
CHLOROMETHANE	N.D.	0.5	N.D.	--
VINYL CHLORIDE	N.D.	0.5	N.D.	--
BROMOMETHANE	N.D.	0.5	N.D.	--
CHLOROETHANE	N.D.	0.5	N.D.	--
TRICHLOROFLUOROMETHANE	N.D.	0.5	N.D.	--
1,1-DICHLOROETHENE	N.D.	0.5	N.D.	95
METHYLENE CHLORIDE	N.D.	0.5	N.D.	--
TRANS-1,2-DICHLOROETHENE	N.D.	0.5	N.D.	--
CIS-1,2-DICHLOROETHENE	N.D.	0.5	N.D.	--
1,1-DICHLOROETHANE	N.D.	0.5	N.D.	--
CHLOROFORM	N.D.	0.5	N.D.	--
1,1,1-TRICHLOROETHANE	N.D.	0.5	N.D.	--
CARBON TETRACHLORIDE	N.D.	0.5	N.D.	--
1,2-DICHLOROETHANE	N.D.	0.5	N.D.	--
TRICHLOROETHENE	N.D.	0.5	N.D.	115
1,2-DICHLOROPROPANE	N.D.	0.5	N.D.	--
BROMODICHLOROMETHANE	N.D.	0.5	N.D.	--
2-CHLOROETHYLVINYL ETHER	N.D.	0.5	N.D.	--
TRANS-1,3-DICHLOROPROPENE	N.D.	0.5	N.D.	--
CIS-1,3-DICHLOROPROPENE	N.D.	0.5	N.D.	--
1,1,2-TRICHLOROETHANE	N.D.	0.5	N.D.	--
TETRACHLOROETHENE	N.D.	0.5	N.D.	--
DIBROMOCHLOROMETHANE	N.D.	0.5	N.D.	--
CHLOROBENZENE	N.D.	0.5	N.D.	108
BROMOFORM	N.D.	0.5	N.D.	--
1,1,2,2-TETRACHLOROETHANE	N.D.	0.5	N.D.	--
1,3-DICHLOROBENZENE	N.D.	0.5	N.D.	--
1,4-DICHLOROBENZENE	N.D.	0.5	N.D.	--
1,2-DICHLOROBENZENE	N.D.	0.5	N.D.	--
TRICHLOROTRIFLUOROETHANE	N.D.	0.5	N.D.	--

Oleg Nemtsov

Oleg Nemtsov
Chemist

Ali Kharrazi
Organic Manager

CHROMALAB, INC.
Environmental Services (SDB)

Revised from August 8, 1995

August 9, 1995

Submission #: 9506215

ENVIRON

Atten: Kim Jolitz

Project: STANDARD BRANDS PHASE II *Project#:* 03-4603D
Received: June 15, 1995

re: **Surrogate** report for 7 samples for Gasoline and BTEX analysis.

Matrix: WATER
Lab Run#: 7244 *Analyzed:* June 19, 1995
Method: EPA 5030/8015M/602/8020

Sample#	Client Sample ID	Surrogate	% Recovered
92713	MW1 061595	TRIFLUOROTOLUENE	105
92714	MW2 061595	TRIFLUOROTOLUENE	106
92715	MW3 061595	TRIFLUOROTOLUENE	99
92716	MW3 061595D	TRIFLUOROTOLUENE	105
92717	MW4 061595	TRIFLUOROTOLUENE	105
92718	MW5 061595	TRIFLUOROTOLUENE	100
92719	MWTB 061595	TRIFLUOROTOLUENE	103

Sample#	QC Sample Type	Surrogate	% Recovered	
93019	*Method blank (MDB)*	TRIFLUOROTOLUENE	106	
93021	*Blank Spike (BSP)*	TRIFLUOROTOLUENE	98	
93023	*Matrix spike (MS)*	TRIFLUOROTOLUENE	98	SPK1
93024	*Matrix spike duplicate (MSD)*	TRIFLUOROTOLUENE	100	SPK2

QCSURR BILLY 09-Aug-95 15 13 17

CHROMALAB, INC.
Environmental Services (SDB)

June 22, 1995 *Submission #:* 9506215

ENVIRON

Atten: Kim Jolitz

Project: STANDARD BRANDS PHASE II *Project#:* 03-4603D
Received: June 15, 1995

re: One sample for Volatile Halogenated Organics analysis.

Sample ID: **MW2 061595**
Spl#: 92714 *Matrix:* WATER
Sampled: June 15, 1995 *Run:* 7295-O *Analyzed:* June 20, 1995
ethod: EPA 8010

ANALYTE	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE RESULT (%)
CHLOROMETHANE	N.D.	0.5	N.D.	--
VINYL CHLORIDE	N.D.	0.5	N.D.	--
BROMOMETHANE	N.D.	0.5	N.D.	--
CHLOROETHANE	N.D.	0.5	N.D.	--
TRICHLOROFLUOROMETHANE	N.D.	0.5	N.D.	--
1,1-DICHLOROETHENE	N.D.	0.5	N.D.	95
ETHYLENE CHLORIDE	N.D.	0.5	N.D.	--
TRANS-1,2-DICHLOROETHENE	N.D.	0.5	N.D.	--
CIS-1,2-DICHLOROETHENE	N.D.	0.5	N.D.	--
1,1-DICHLOROETHANE	N.D.	0.5	N.D.	--
CHLOROFORM	N.D.	0.5	N.D.	--
1,1,1-TRICHLOROETHANE	N.D.	0.5	N.D.	--
CARBON TETRACHLORIDE	N.D.	0.5	N.D.	--
1,2-DICHLOROETHANE	N.D.	0.5	N.D.	--
TRICHLOROETHENE	N.D.	0.5	N.D.	115
1,2-DICHLOROPROPANE	N.D.	0.5	N.D.	--
BROMODICHLOROMETHANE	N.D.	0.5	N.D.	--
2-CHLOROETHYLVINYL ETHER	N.D.	0.5	N.D.	--
TRANS-1,3-DICHLOROPROPENE	N.D.	0.5	N.D.	--
CIS-1,3-DICHLOROPROPENE	N.D.	0.5	N.D.	--
1,1,2-TRICHLOROETHANE	N.D.	0.5	N.D.	--
TETRACHLOROETHENE	N.D.	0.5	N.D.	--
DIBROMOCHLOROMETHANE	N.D.	0.5	N.D.	--
CHLOROBENZENE	N.D.	0.5	N.D.	108
BROMOFORM	N.D.	0.5	N.D.	--
1,1,2,2-TETRACHLOROETHANE	N.D.	0.5	N.D.	--
1,3-DICHLOROBENZENE	N.D.	0.5	N.D.	--
1,4-DICHLOROBENZENE	N.D.	0.5	N.D.	--
1,2-DICHLOROBENZENE	N.D.	0.5	N.D.	--
TRICHLOROTRIFLUOROETHANE	N.D.	0.5	N.D.	--

Oleg Nemtsov

Oleg Nemtsov
Chemist

Ali Kharrazi
Organic Manager

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Federal ID #68-0140157

CHROMALAB, INC.

Environmental Services (SDB)

June 22, 1995 *Submission #:* 9506215

ENVIRON

Atten: Kim Jolitz

Project: STANDARD BRANDS PHASE II *Project#:* 03-4603D
Received: June 15, 1995

re: One sample for Volatile Halogenated Organics analysis.

Sample ID: **MW3 061595**
Spl#: 92715 *Matrix:* WATER
Sampled: June 15, 1995 *Run:* 7295-O *Analyzed:* June 20, 1995
Method: EPA 8010

ANALYTE	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE RESULT (%)
CHLOROMETHANE	N.D.	0.5	N.D.	--
VINYL CHLORIDE	N.D.	0.5	N.D.	--
BROMOMETHANE	N.D.	0.5	N.D.	--
CHLOROETHANE	N.D.	0.5	N.D.	--
TRICHLOROFLUOROMETHANE	N.D.	0.5	N.D.	--
1,1-DICHLOROETHENE	N.D.	0.5	N.D.	95
METHYLENE CHLORIDE	N.D.	0.5	N.D.	--
TRANS-1,2-DICHLOROETHENE	0.9	0.5	N.D.	--
CIS-1,2-DICHLOROETHENE	1.9	0.5	N.D.	--
1,1-DICHLOROETHANE	N.D.	0.5	N.D.	--
CHLOROFORM	N.D.	0.5	N.D.	--
1,1,1-TRICHLOROETHANE	N.D.	0.5	N.D.	--
CARBON TETRACHLORIDE	N.D.	0.5	N.D.	--
1,2-DICHLOROETHANE	N.D.	0.5	N.D.	--
TRICHLOROETHENE	1.7	0.5	N.D.	115
1,2-DICHLOROPROPANE	N.D.	0.5	N.D.	--
BROMODICHLOROMETHANE	N.D.	0.5	N.D.	--
2-CHLOROETHYLVINYL ETHER	N.D.	0.5	N.D.	--
TRANS-1,3-DICHLOROPROPENE	N.D.	0.5	N.D.	--
CIS-1,3-DICHLOROPROPENE	N.D.	0.5	N.D.	--
1,1,2-TRICHLOROETHANE	N.D.	0.5	N.D.	--
TETRACHLOROETHENE	N.D.	0.5	N.D.	--
DIBROMOCHLOROMETHANE	N.D.	0.5	N.D.	--
CHLOROBENZENE	N.D.	0.5	N.D.	108
BROMOFORM	N.D.	0.5	N.D.	--
1,1,2,2-TETRACHLOROETHANE	N.D.	0.5	N.D.	--
1,3-DICHLOROBENZENE	N.D.	0.5	N.D.	--
1,4-DICHLOROBENZENE	N.D.	0.5	N.D.	--
1,2-DICHLOROBENZENE	N.D.	0.5	N.D.	--
TRICHLOROTRIFLUOROETHANE	N.D.	0.5	N.D.	--

Oleg Nemtsov

Oleg Nemtsov
Chemist

Ali Kharrazi
Organic Manager

06 22 510 655 9517 N OC OLEG 14 08 40

CHROMALAB, INC.

Environmental Services (SDB)

June 22, 1995 *Submission #:* 9506215

ENVIRON

Atten: Kim Jolitz

Project: STANDARD BRANDS PHASE II *Project#:* 03-4603D
Received: June 15, 1995

re: One sample for Volatile Halogenated Organics analysis.

Sample ID: **MW5 061595**
Spl#: 92718 *Matrix:* WATER
Sampled: June 15, 1995 *Run:* 7295-O *Analyzed:* June 20, 1995
ethod: EPA 8010

ANALYTE	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE RESULT (%)
CHLOROMETHANE	N.D.	0.5	N.D.	--
VINYL CHLORIDE	N.D.	0.5	N.D.	--
BROMOMETHANE	N.D.	0.5	N.D.	--
CHLOROETHANE	N.D.	0.5	N.D.	--
TRICHLOROFLUOROMETHANE	N.D.	0.5	N.D.	--
1,1-DICHLOROETHENE	N.D.	0.5	N.D.	95
ETHYLENE CHLORIDE	N.D.	0.5	N.D.	--
TRANS-1,2-DICHLOROETHENE	N.D.	0.5	N.D.	--
CIS-1,2-DICHLOROETHENE	N.D.	0.5	N.D.	--
1,1-DICHLOROETHANE	N.D.	0.5	N.D.	--
CHLOROFORM	N.D.	0.5	N.D.	--
1,1,1-TRICHLOROETHANE	N.D.	0.5	N.D.	--
CARBON TETRACHLORIDE	N.D.	0.5	N.D.	--
1,2-DICHLOROETHANE	N.D.	0.5	N.D.	--
TRICHLOROETHENE	N.D.	0.5	N.D.	115
1,2-DICHLOROPROPANE	N.D.	0.5	N.D.	--
BROMODICHLOROMETHANE	N.D.	0.5	N.D.	--
2-CHLOROETHYLVINYL ETHER	N.D.	0.5	N.D.	--
TRANS-1,3-DICHLOROPROPENE	N.D.	0.5	N.D.	--
CIS-1,3-DICHLOROPROPENE	N.D.	0.5	N.D.	--
1,1,2-TRICHLOROETHANE	N.D.	0.5	N.D.	--
TETRACHLOROETHENE	N.D.	0.5	N.D.	--
DIBROMOCHLOROMETHANE	N.D.	0.5	N.D.	--
CHLOROBENZENE	N.D.	0.5	N.D.	108
BROMOFORM	N.D.	0.5	N.D.	--
1,1,2,2-TETRACHLOROETHANE	N.D.	0.5	N.D.	--
1,3-DICHLOROBENZENE	N.D.	0.5	N.D.	--
1,4-DICHLOROBENZENE	N.D.	0.5	N.D.	--
1,2-DICHLOROBENZENE	N.D.	0.5	N.D.	--
TRICHLOROTRIFLUOROETHANE	N.D.	0.5	N.D.	--

Oleg Nemtsov

Oleg Nemtsov
Chemist

Ali Kharrazi
Organic Manager

CHROMALAB, INC.
Environmental Services (SDB)

June 22, 1995 *Submission #:* 9506215

ENVIRON

Atten: Kim Jolitz

Project: STANDARD BRANDS PHASE II *Project#:* 03-4603D
Received: June 15, 1995

re: One sample for Volatile Halogenated Organics analysis.

Sample ID: **MWTB 061595**
Spl#: 92719 *Matrix:* WATER
Sampled: June 15, 1995 *Run:* 7295-O *Analyzed:* June 20, 1995
Method: EPA 8010

ANALYTE	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE RESULT (%)
CHLOROMETHANE	N.D.	0.5	N.D.	--
VINYL CHLORIDE	N.D.	0.5	N.D.	--
BROMOMETHANE	N.D.	0.5	N.D.	--
CHLOROETHANE	N.D.	0.5	N.D.	--
TRICHLOROFLUOROMETHANE	N.D.	0.5	N.D.	--
1,1-DICHLOROETHENE	N.D.	0.5	N.D.	95
METHYLENE CHLORIDE	N.D.	0.5	N.D.	--
TRANS-1,2-DICHLOROETHENE	N.D.	0.5	N.D.	--
CIS-1,2-DICHLOROETHENE	N.D.	0.5	N.D.	--
1,1-DICHLOROETHANE	N.D.	0.5	N.D.	--
CHLOROFORM	N.D.	0.5	N.D.	--
1,1,1-TRICHLOROETHANE	N.D.	0.5	N.D.	--
CARBON TETRACHLORIDE	N.D..	0.5	N.D.	--
1,2-DICHLOROETHANE	N.D.	0.5	N.D.	--
TRICHLOROETHENE	N.D.	0.5	N.D.	115
1,2-DICHLOROPROPANE	N.D.	0.5	N.D.	--
BROMODICHLOROMETHANE	N.D.	0.5	N.D.	--
2-CHLOROETHYLVINYL ETHER	N.D.	0.5	N.D.	--
TRANS-1,3-DICHLOROPROPENE	N.D.	0.5	N.D.	--
CIS-1,3-DICHLOROPROPENE	N.D.	0.5	N.D.	--
1,1,2-TRICHLOROETHANE	N.D.	0.5	N.D.	--
TETRACHLOROETHENE	N.D.	0.5	N.D.	--
DIBROMOCHLOROMETHANE	N.D.	0.5	N.D.	--
CHLOROBENZENE	N.D.	0.5	N.D.	108
BROMOFORM	N.D.	0.5	N.D.	--
1,1,2,2-TETRACHLOROETHANE	N.D.	0.5	N.D.	--
1,3-DICHLOROBENZENE	N.D.	0.5	N.D.	--
1,4-DICHLOROBENZENE	N.D.	0.5	N.D.	--
1,2-DICHLOROBENZENE	N.D.	0.5	N.D.	--
TRICHLOROTRIFLUOROETHANE	N.D.	0.5	N.D.	--

Oleg Nemtsov

Oleg Nemtsov
Chemist

Ali Kharrazi
Organic Manager

CHROMALAB, INC.
Environmental Services (SDB)

July 31, 1995

ENVIRON *Submission #:* 9506215

Atten: Kim Jolitz

Project: STANDARD BRANDS PHASE II *Project#:* 03-4603D
Received: June 15, 1995

re: **Blank spike** report for 7 samples for Volatile Halogenated Organics analysis.

Matrix: WATER
Lab Run#: 7295 *Analyzed:* June 20, 1995
Method: EPA 8010

Analyte	Spike Amt	% Spike Rec	Control Limits
CHLOROBENZENE	100 ug/L	95	78-129
1,1-DICHLOROTHENE	100 ug/L	108	56-118
TRICHLOROETHENE	100 ug/L	115	70-120

Spike blank sample #: 93396

CHROMALAB, INC.

Environmental Services (SDB)

June 29, 1995 *Submission #:* 9506215

ENVIRON

Atten: Kim Jolitz

Project: STANDARD BRANDS PHASE II *Project#:* 03-4603D
Received: June 15, 1995

re: **Surrogate** report for 7 samples for Volatile Halogenated Organics analysis.

Matrix: WATER
Lab Run#: 7295 *Analyzed:* June 20, 1995
Method: EPA 8010

Sample#	Client Sample ID	Surrogate	% Recovered
92713	MW1 061595	1,4-DICHLOROBUTANE	101
92714	MW2 061595	1,4-DICHLOROBUTANE	98
92715	MW3 061595	1,4-DICHLOROBUTANE	96
92716	MW3 061595D	1,4-DICHLOROBUTANE	105
92717	MW4 061595	1,4-DICHLOROBUTANE	101
92718	MW5 061595	1,4-DICHLOROBUTANE	101
92719	MWTB 061595	1,4-DICHLOROBUTANE	100

Sample#	QC Sample Type	Surrogate	% Recovered
93395	*Method blank (MDB)*	1,4-DICHLOROBUTANE	103
93396	*Blank Spike (BSP)*	1,4-DICHLOROBUTANE	100

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CHROMALAB, INC.

Environmental Services (SDB)

June 22, 1995 *Submission #:* 9506215

ENVIRON

Atten: Kim Jolitz

Project: STANDARD BRANDS PHASE II *Project#:* 03-4603D
Received: June 15, 1995

re: One sample for Volatile Halogenated Organics analysis.

Sample ID: **MW3 061595D**
Spl#: 92716 *Matrix:* WATER
Sampled: June 15, 1995 *Run:* 7295-O *Analyzed:* June 20, 1995
Method: EPA 8010

ANALYTE	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE RESULT (%)
CHLOROMETHANE	N.D.	0.5	N.D.	--
VINYL CHLORIDE	N.D.	0.5	N.D.	--
BROMOMETHANE	N.D.	0.5	N.D.	--
CHLOROETHANE	N.D.	0.5	N.D.	--
TRICHLOROFLUOROMETHANE	N.D.	0.5	N.D.	--
1,1-DICHLOROETHENE	N.D.	0.5	N.D.	95
METHYLENE CHLORIDE	N.D.	0.5	N.D.	--
TRANS-1,2-DICHLOROETHENE	0.7	0.5	N.D.	--
CIS-1,2-DICHLOROETHENE	1.3	0.5	N.D.	--
1,1-DICHLOROETHANE	N.D.	0.5	N.D.	--
CHLOROFORM	N.D.	0.5	N.D.	--
1,1,1-TRICHLOROETHANE	N.D.	0.5	N.D.	--
CARBON TETRACHLORIDE	N.D.	0.5	N.D.	--
1,2-DICHLOROETHANE	N.D.	0.5	N.D.	--
TRICHLOROETHENE	0.9	0.5	N.D.	115
1,2-DICHLOROPROPANE	N.D.	0.5	N.D.	--
ROMODICHLOROMETHANE	N.D.	0.5	N.D.	--
2-CHLOROETHYLVINYL ETHER	N.D.	0.5	N.D.	--
TRANS-1,3-DICHLOROPROPENE	N.D.	0.5	N.D.	--
CIS-1,3-DICHLOROPROPENE	N.D.	0.5	N.D.	--
1,1,2-TRICHLOROETHANE	N.D.	0.5	N.D.	--
TETRACHLOROETHENE	N.D.	0.5	N.D.	--
DIBROMOCHLOROMETHANE	N.D.	0.5	N.D.	--
CHLOROBENZENE	N.D.	0.5	N.D.	108
BROMOFORM	N.D.	0.5	N.D.	--
1,1,2,2-TETRACHLOROETHANE	N.D.	0.5	N.D.	--
1,3-DICHLOROBENZENE	N.D.	0.5	N.D.	--
1,4-DICHLOROBENZENE	N.D.	0.5	N.D.	--
1,2-DICHLOROBENZENE	N.D.	0.5	N.D.	--
TRICHLOROTRIFLUOROETHANE	N.D.	0.5	N.D.	--

Oleg Nemtsov

Oleg Nemtsov
Chemist

Ali Kharrazi
Organic Manager

06'22 510 655 9517 NOC OLEG 14:08 40

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CHROMALAB, INC.
Environmental Services (SDB)

June 22, 1995 *Submission #:* 9506215

ENVIRON

Atten: Kim Jolitz

Project: STANDARD BRANDS PHASE II *Project#:* 03-4603D
Received: June 15, 1995

re: One sample for Volatile Halogenated Organics analysis.

Sample ID: **MW4 061595**
Spl#: 92717 *Matrix:* WATER
Sampled: June 15, 1995 *Run:* 7295-O *Analyzed:* June 20, 1995
Method: EPA 8010

ANALYTE	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE RESULT (%)
CHLOROMETHANE	N.D.	0.5	N.D.	--
VINYL CHLORIDE	N.D.	0.5	N.D.	--
BROMOMETHANE	N.D.	0.5	N.D.	--
CHLOROETHANE	N.D.	0.5	N.D.	--
TRICHLOROFLUOROMETHANE	N.D.	0.5	N.D.	--
1,1-DICHLOROETHENE	N.D.	0.5	N.D.	95
METHYLENE CHLORIDE	N.D.	0.5	N.D.	--
TRANS-1,2-DICHLOROETHENE	N.D.	0.5	N.D.	--
CIS-1,2-DICHLOROETHENE	N.D.	0.5	N.D.	--
1,1-DICHLOROETHANE	N.D.	0.5	N.D.	--
CHLOROFORM	N.D.	0.5	N.D.	--
1,1,1-TRICHLOROETHANE	N.D.	0.5	N.D.	--
CARBON TETRACHLORIDE	N.D.	0.5	N.D.	--
1,2-DICHLOROETHANE	N.D.	0.5	N.D.	--
TRICHLOROETHENE	N.D.	0.5	N.D.	115
1,2-DICHLOROPROPANE	N.D.	0.5	N.D.	--
BROMODICHLOROMETHANE	N.D.	0.5	N.D.	--
2-CHLOROETHYLVINYL ETHER	N.D.	0.5	N.D.	--
TRANS-1,3-DICHLOROPROPENE	N.D.	0.5	N.D.	--
CIS-1,3-DICHLOROPROPENE	N.D.	0.5	N.D.	--
1,1,2-TRICHLOROETHANE	N.D.	0.5	N.D.	--
TETRACHLOROETHENE	N.D.	0.5	N.D.	--
DIBROMOCHLOROMETHANE	N.D.	0.5	N.D.	--
CHLOROBENZENE	N.D.	0.5	N.D.	108
BROMOFORM	N.D.	0.5	N.D.	--
1,1,2,2-TETRACHLOROETHANE	N.D.	0.5	N.D.	--
1,3-DICHLOROBENZENE	N.D.	0.5	N.D.	--
1,4-DICHLOROBENZENE	N.D.	0.5	N.D.	--
1,2-DICHLOROBENZENE	N.D.	0.5	N.D.	--
TRICHLOROTRIFLUOROETHANE	N.D.	0.5	N.D.	--

Oleg Nemtsov

Oleg Nemtsov
Chemist

Ali Kharrazi
Organic Manager

CHROMALAB, INC.

Environmental Services (SDB)

June 23, 1995 *Submission #:* 9506215

ENVIRON

Atten: Kim Jolitz

Project: STANDARD BRANDS PHASE II *Project#:* 03-4603D
Received: June 15, 1995

re: 6 samples for Total Extractable Petroleum Hydrocarbons (TEPH)

Matrix: WATER *Extracted:* June 19, 1995
Sampled: June 15, 1995 *Run:* 7294-D *Analyzed:* June 22, 1995
Method: EPA 3510/8015M

Spl #	CLIENT SMPL ID	Kerosene (ug/L)	Diesel (ug/L)	Motor Oil (ug/L)
92713	MW1 061595	N.D.	N.D.	N.D.
92714	MW2 061595	N.D.	N.D.	N.D.
92715	MW3 061595	N.D.	800	N.D.
	Note: HYDROCARBON IN KEROSENE RANGE. CONC.=3800 µg/L REPORTING LIMITS RAISED BY 2X DUE TO DILUTION			
92716	MW3 061595D	N.D.	440	N.D.
	Note: HYDROCARBON IN KEROSENE RANGE. CONC.=2570 µg/L REPORTING LIMITS RAISED BY 2X DUE TO DILUTION			
2717	MW4 061595	N.D.	N.D.	N.D.
92718	MW5 061595	N.D.	N.D.	N.D.
Reporting Limits		50	50	500
Blank Result		N.D.	N.D.	N.D.
Blank Spike Result (%)		--	73	--

Alex Tam
Chemist

Ali Kharrazi
Organic Manager

CHROMALAB, INC.
Environmental Services (SDB)

June 23, 1995 *Submission #:* 9506215

ENVIRON

Atten: Kim Jolitz

Project: STANDARD BRANDS PHASE II *Project#:* 03-4603D
Received: June 15, 1995

re: **Blank spike and duplicate** report for 6 samples for Total Extractable Petrole
Hydrocarbons (TEPH) analysis.

Matrix: WATER *Extracted:* June 19, 1995
Lab Run#: 7294 *Analyzed:* June 22, 1995
Method: EPA 3510/8015M

Analyte	Spike Amt	% Spike Rec	Dup Spike Rec	Control Limits	% RPD	% RPD Lim
DIESEL	200 ug/L	72.9	73.2	60-130	0.4	20

Reagent spike sample #:93394
Duplicate spike sample #:93393

CCMSPK YT 08 12 30

CHROMALAB, INC.
Environmental Services (SDB)

June 23, 1995 *Submission #:* 9506215

ENVIRON

Atten: Kim Jolitz

Project: STANDARD BRANDS PHASE II *Project#:* 03-4603D
Received: June 15, 1995

re: **Surrogate** report for 6 samples for Total Extractable Petroleum Hydrocarbons (TEPH) analysis.

Matrix: WATER *Extracted:* June 19, 1995
Lab Run#: 7294 *Analyzed:* June 20, 1995
ethod: EPA 3510/8015M

Sample#	Client Sample ID	Surrogate	% Recovered
92713	MW1 061595	O-TERPHENYL	91
92714	MW2 061595	O-TERPHENYL	97
92715	MW3 061595	O-TERPHENYL	100
92716	MW3 061595D	O-TERPHENYL	67
92717	MW4 061595	O-TERPHENYL	72
92718	MW5 061595	O-TERPHENYL	71

ample#	QC Sample Type	Surrogate	% Recovered
93392	*Method blank (MDB)*	O-TERPHENYL	93
93393	*Blank Spike (BSP)*	O-TERPHENYL	102
93394	*Blank Spike Duplicate (BSD)*	O-TERPHENYL	99

QCSURR YT 23-Jun-95 08 12 18

CHROMALAB, INC.

Environmental Services (SDB)

June 23, 1995 *Submission #:* 9506215

ENVIRON

Atten: Kim Jolitz

Project: STANDARD BRANDS PHASE II *Project#:* 03-4603D
Received: June 15, 1995

re: 7 samples for Gasoline and BTEX analysis.

Matrix: WATER
Sampled: June 15, 1995 *Run:* 7244-J *Analyzed:* June 19, 1995
Method: EPA 5030/8015M/602/8020

Spl # CLIENT SMPL ID	Gasoline (mg/L)	Benzene (ug/L)	Toluene (ug/L)	Ethyl Benzene (ug/L)	Total Xylenes (ug/L)
92713 MW1 061595	N.D.	N.D.	N.D.	5.1	22
92714 MW2 061595	N.D.	N.D.	N.D.	N.D.	N.D.
92715 MW3 061595	N.D.	N.D.	N.D.	0.8	3.8
92716 MW3 061595D	N.D.	N.D.	1.7	1.2	6.4
92717 MW4 061595	N.D.	N.D.	N.D.	N.D.	N.D.
92718 MW5 061595	N.D.	N.D.	N.D.	N.D.	N.D.
92719 MWTB 061595	N.D.	N.D.	N.D.	N.D.	N.D.
Reporting Limits	0.05	0.5	0.5	0.5	0.5
Blank Result	N.D.	N.D.	N.D.	N.D.	N.D.
Blank Spike Result (%)	93	108	106	107	108

Billy Thach
Chemist

Ali Kharrazi
Organic Manager

151 127113 - 92717

ENVIRON
Counsel in Health and Environmental Science

CHAIN-

Sheet Of 1

5820 Shellmound St., Suite 700
Emeryville, California 94608
(510) 655-7400

PROJECT NAME: STANDARD BRANDS PHASE II

CASE NO.: 03-4603D

ENVIRON SAMPLE ID.	COLLECTION DATE	COLLECTED BY (initials)	MATRIX	TOTAL NO. OF CONTAINERS	ANALYSES: 8010 + FREON 113	TEPH (UNPRESERVED)	TPHG/BETX										COMMENTS
MW1061595	6/15/95	JR	WATER	6	2	2	2										Please Compare to
MW2061595	6/15/95	JR	WATER	6	2	2	2										previous results and
MW3061595	6/15/95	JR	WATER	3	1	1	1										Friedman-&-Bruya-
MW3061595D	6/15/95	JR	WATER	3	1	1	1										provided materials.
MW4061595	6/15/95	JR	WATER	6	2	2	2										Level 2 report.
MW5061595	6/15/95	JR	WATER	6	2	2	2										Standard turn-around
MW TB061595	6/15/95	JR	WATER	4	2	–	2										time.
																	Results to Kim Jolitz.
TOTAL				34	12	10	12										

Relinquished by:	Date:	Time:	Received by:	Company:	Date:	Time:
JACOB RUSSEN	6/15/95	1545		Chromalab	6-15-95	1559

CHROMALAB, INC.
SAMPLE RECEIPT CHECKLIST

Client Name ENVIRON

Project ________

Reference/Subm # 22461/9506215

Checklist completed by: ________ / 6/19/95
Signature / Date

Date/Time Received 6/15/95 / 1551
Date / Time

Received by B Monroe

Carrier name ________

Logged in by CK / 6/16/95
Initials / Date

Matrix H2O

Shipping container in good condition? NA____ Yes____ No____

Custody seals present on shipping container? Intact____ Broken____ Yes____ No____

Custody seals on sample bottles? Intact____ Broken____ Yes____ No____

Chain of custody present? Yes ✓ No____

Chain of custody signed when relinquished and received? Yes ✓ No____

Chain of custody agrees with sample labels? Yes ✓ No____

Samples in proper container/bottle? Yes ✓ No____

Samples intact? Yes ✓ No____

Sufficient sample volume for indicated test? Yes ✓ No____

VOA vials have zero headspace? NA____ Yes ✓ No____

Trip Blank received? NA____ Yes ✓ No____

All samples received within holding time? Yes ✓ No____

Container temperature? ________

pH upon receipt ________ pH adjusted <2 Check performed by: ________ NA____

Any NO response must be detailed in the comments section below. If items are n applicable, they should be marked NA.

Client contacted? ________ Date contacted? ________

Person contacted? ________ Contacted by? ________

Regarding? ________

Comments: ________

Corrective Action: ________

SMPLRECD.CK

CHROMALAB, INC.
Environmental Services (SDB)

July 31, 1995

ENVIRON

Submission #: 9506215

Atten: Kim Jolitz

Project: STANDARD BRANDS PHASE II *Project#:* 03-4603D
Received: June 15, 1995

re: **Blank spike** report for 7 samples for Gasoline and BTEX analysis.

Matrix: WATER
Lab Run#: 7244
Method: EPA 5030/8015M/602/8020

Analyzed: June 19, 1995

Analyte	Spike Amt	% Spike Rec	Control Limits
GASOLINE	1.0 mg/L	93	80-118
BENZENE	20 ug/L	108	80-127
TOLUENE	20 ug/L	106	80-122
ETHYL BENZENE	20 ug/L	107	81-119
XYLENES	60 ug/L	108	83-125

Spike blank sample#: 93021

CHROMALAB, INC.
Environmental Services (SDB)

Revised from August 8, 1995

August 9, 1995

Submission #: 9506215

ENVIRON

Atten: Kim Jolitz

Project: STANDARD BRANDS PHASE II *Project#:* 03-4603D
Received: June 15, 1995

re: **Matrix spike** report for Gasoline and BTEX analysis.

Matrix: WATER
Lab Run#: 7244 *Instrument:* GC1-4 *Analyzed:* June 19, 1995
Method: EPA 5030/8015M/602/8020

Analyte	Spiked Sample Result	Spike Amt	% Spike Rec	Dup Spike Rec	Control Limits	% RPD	% RPD Lim
GASOLINE	N.D. mg/L	0.50 mg/L	93	--	80-118	N/A	N/A
BENZENE	N.D. ug/L	20 ug/L	108	109	80-127	0.9	20
TOLUENE	N.D. ug/L	20 ug/L	106	107	80-122	0.9	20
ETHYL BENZENE	5.1 ug/L	20 ug/L	109	110	81-119	0.9	20
XYLENES	22 ug/L	60 ug/L	109	110	83-125	0.9	20

SPK1

Sample Spiked: 92713
Submission #: 9506215
Client Sample ID: MW1 061595

Laboratory Correspondence regarding:
Categorization of Previously Unidentified Hydrocarbons

Chromalab Environemental Services, Inc.
Correspondence Date: June 15, 1995

ENVIRON

Counsel in Health and Environmental Science

CHAIN-of-CUSTODY FORM

BHB BO

05.19.95

Sheet 1 Of 1

5820 Shellmound St., Suite 700
Emeryville, California 94608
(510) 655-7400

PROJECT NAME: Standard Brands Phase I Site Investigation

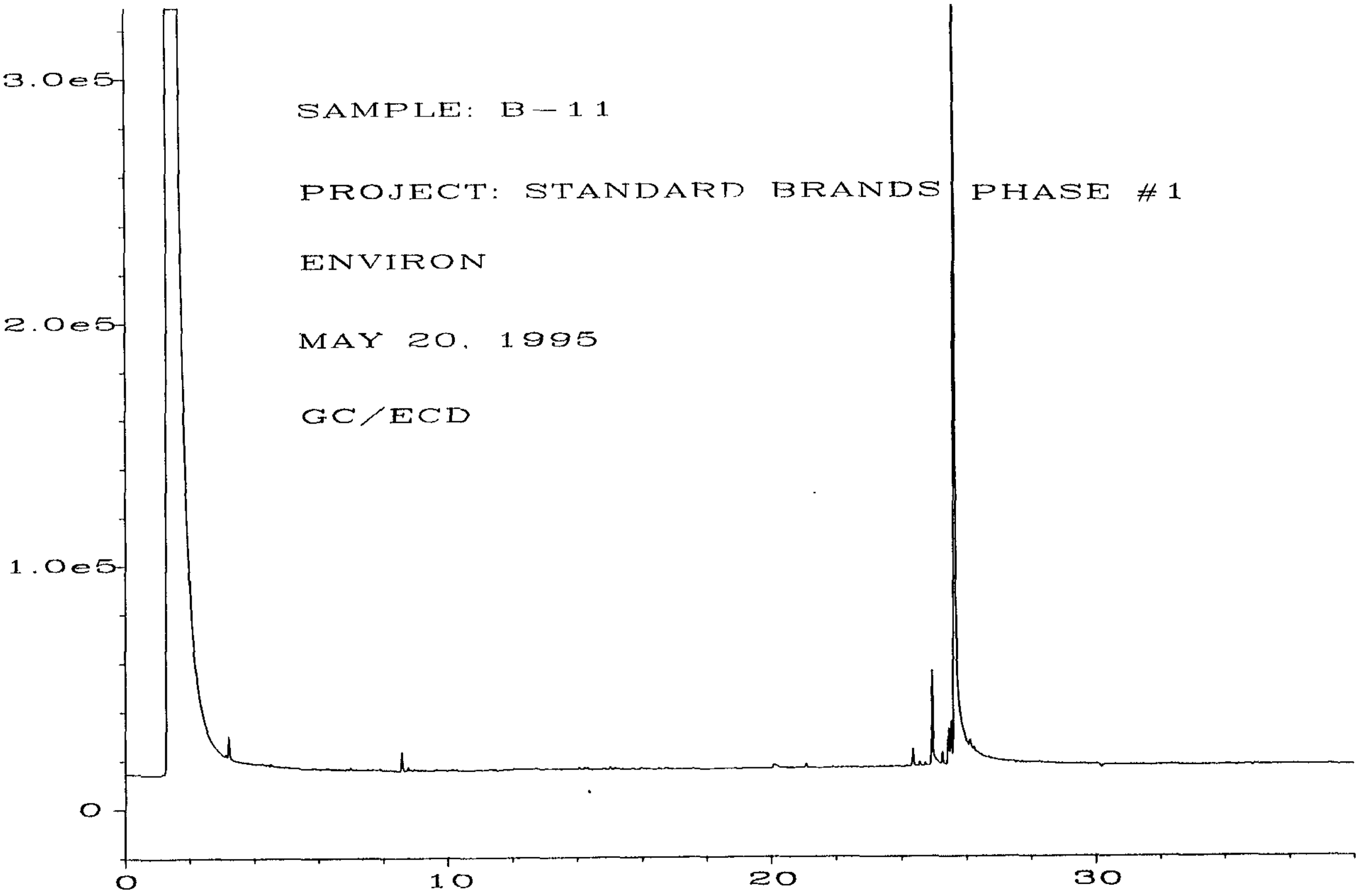
CASE NO.: 03-4603B

9:44

ENVIRON SAMPLE ID.	COLLECTION DATE	COLLECTED BY (initials)	MATRIX	TOTAL NO. OF CONTAINERS	ANALYSES: Hydrocarbon Fuel Scan			COMMENTS
B-2 @ 10-10.5	5/17	HLD	soil	1	X		59294	Please send results
B-11 @ 10.5 -11	5/17	HLD	soil	1	X	Note collected 5/17/95	59295	attention Kim
B-11	5/17	HLD	water	4	X		59296-59299	Jolitz
TOTAL				6	X			

FEDEX PRIORITY

Relinquished by:	Date:	Time:	Received by:	Company:	Date:	Time:
Heidi Dieffenbach	5-18-95	1500	Cathy Riggs	AASI	5.19.95	9:36



SAMPLE: B-11

PROJECT: STANDARD BRANDS PHASE #1

ENVIRON

MAY 20, 1995

GC/ECD

Sig. 2 in C:\HPCHEM\4\DATA\05-20-95\012R0801.D

CHROMALAB, INC.
Environmental Services (SDB)

June 15, 1995

Ms. Kim Jolitz, Mr. David Harnish
ENVIRON
5820 Shellmound St., Suite 700
Emeryville, CA 94608

re: Standard Brands Emeryville 9505199, 9505210, 9505222, and 9505246

Dear ENVIRON:

We have analyzed a series of samples at Standard Brands Emeryville, your Project number 03-4603B. In several of the samples, we have found and reported hydrocarbons in the Kerosene range. In others, we have found hydrocarbons in the diesel and in the motor oil ranges.

Categorizing the hydrocarbons
In order to categorize the hydrocarbons found in this investigation, we have reviewed the chromatograms of these hydrocarbons, and identified them as "Hydrocarbon #1", #2, etc. The second page of this letter describes these hydrocarbons, and sample chromatograms are attached.

Comparing the hydrocarbons to those found by Friedman Bruya
Friedman Bruya laboratories of Seattle, Washington, has analyzed samples from the same site, identifying material in the kerosene range as "Mineral Spirits or Stoddard Solvents."

In order to compare our findings with Friedman Bruya, they have sent a sample of Mineral Spirits that they used to identify the hydrocarbon.

We have analyzed the Mineral Spirits and find that it exhibits the same characteristic hydrocarbon pattern as many of the samples we analyzed. They are identified as Hydrocarbon #1 in the report attached. See our chromatograms attached.

Therefore, we and Frieman Bruya find the same hydrocarbons at the Standard Brands Emeryville site, identified as Mineral Spirits.

Please call if you have any questions.

Sincerely,

Gary Cook

Gary Cook
Director, Business Development

Jill Thomas
Quality Assurance Manager

1220 Quarry Lane • Pleasanton, California 94566-4756
(510) 484-1919 • Facsimile (510) 484-1096
Federal ID #68-0140157

CHROMALAB, INC.
Environmental Services (SDB)

Ms. Kim Jolitz and Mr. David Harnish
ENVIRON
June 15, 1995
page 2

9505222

Hydrocarbons found at Standard Brands, Emeryville

		Hydrocarbon Number			
Lab#	**Environ Sample ID**	**#1**	**#2**	**#3**	**#4**
88645	B-5@5.5-6.0	300 mg/Kg			
88646	B-5@18.5-19.0	120 mg/Kg			
88647	B-5@24.5-25.0	8.3 mg/Kg			
88649	B-6@6.0-6.5	34 mg/Kg			
88650	B-6@9.5-10.0	17 mg/Kg			
88651	B-6@13.5-14.0	27 mg/Kg			
88659	B-4A@9.5-10.0	1.3 mg/Kg			
88660	B-4A@15.0-15.5	18 mg/Kg			
88698	B-7@9.0-9.5		680 mg/Kg		
88914	B-11	10000 µg/L			
88915	B-11D	*			
89105	CPT-8-8-13	2500 µg/L			1400 µg/L

Note: Gas/BTEX tests confirm the presence of the material in each of the above instances. TEPH results are reported for this work, as the material found is best reported by this method.

88766	B-10A			2.9 mg/Kg	
88774	CPT-6-32-37				60 ug/L
88907	CPT-4-46.5-51.5	Hydrocarbon #1 was observed in the Gas/BTEX test in one sample. It was not observed in the corresponding container by TEPH analysis, nor could its presence be confirmed by GC/MS. THis conclusion was confirmed by resample and reanalysis.			

#1 Mineral Spirits or Stoddard Solvent nC8-nC13 with max at nC10
#2 Similar to Mineral Spirits, with similar range of hydrocarbons to 31, nc8-nC13 but the max is slightly heavier at nC11
#3 Diesel range material nC13 to nC26, without distinguishing Diesel peaks. No distinct maximum.
#4 Hydrocarbon in diesel range, from nC13 to nC26, without distinguishing diesel peaks. Max at nC15 contains a few distinct peaks.

* TEPH was not requested for this sample. The result using Gas/BTEX method is reported in lieu of the TEPH method. M:/9505222.en2

Laboratory Report for
Hydrocarbon Fuel Scan of
Soil and Ground Water Grab Samples
Sampling Date: May 17, 1995

Friedman and Bruya, Inc.
Report Date: May 31, 1995

<u>Sample Locations</u>

B-2

B-11

ENVIRON

Counsel in Health and Environmental Science

CHAIN-of-CUSTODY FORM

BTB AO
05.17.95
9:39

Sheet 1 of 1

5820 Shellmound St., Suite 700
Emeryville, California 94608
(510) 655-7400

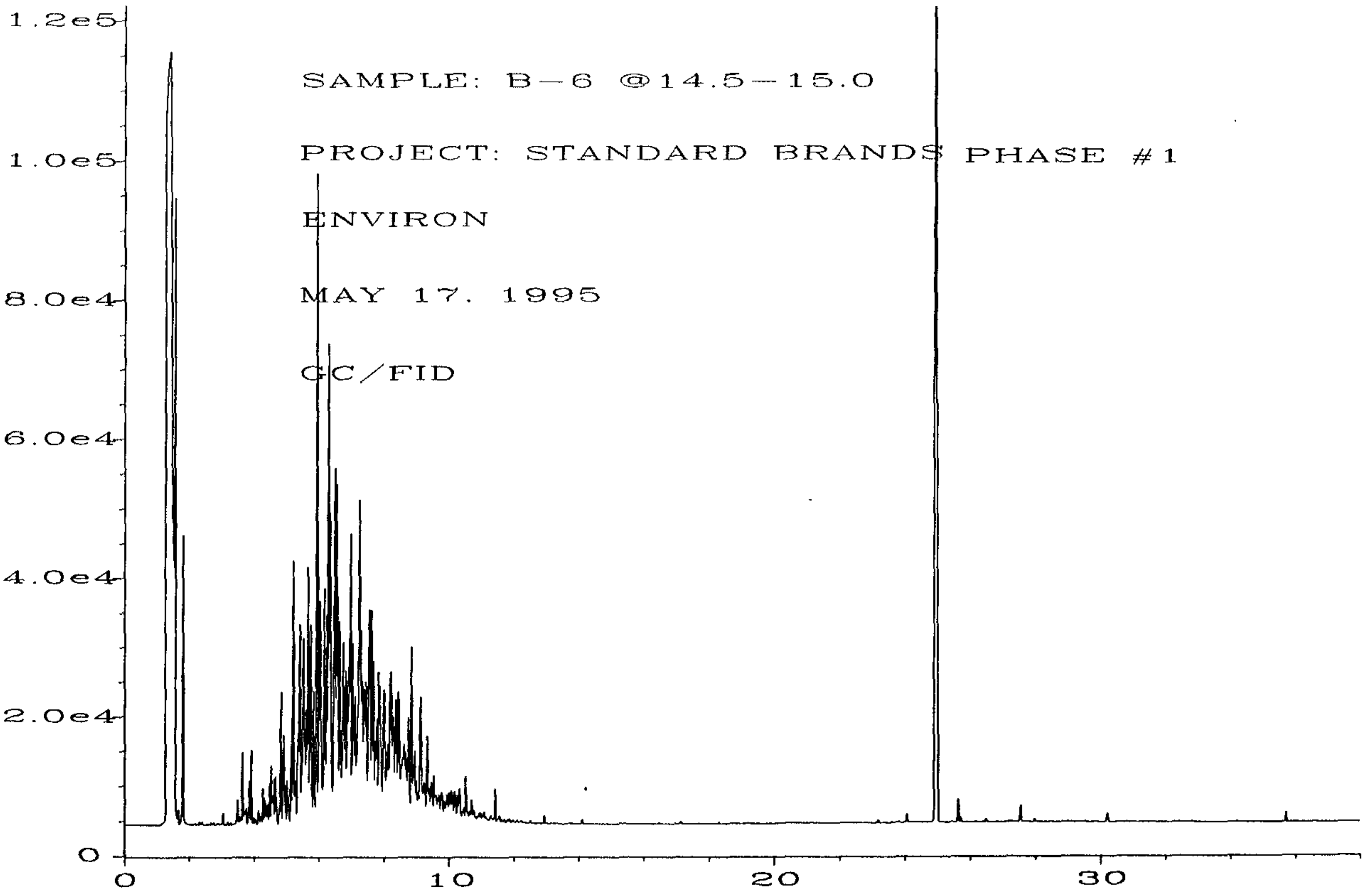
PROJECT NAME: Standard Brands Phase I

CASE NO.: 03-4603B

ENVIRON SAMPLE ID.	COLLECTION DATE	COLLECTED BY (Initials)	MATRIX	TOTAL NO. OF CONTAINERS	ANALYSES: HYDROCARBON FUEL SCAN		COMMENTS
B-6 @ 14.5-15.0	5/15/95	HD	SOIL	1	X	59232	PLEASE SEND
B-5 @ 7.0-7.5	↓	HD	↓	1	X	59233	RESULTS TO
B-4A @ 14.5-15.0	↓	HD	↓	1	X	59234	ATTN OF
B-7 @ 8.0-8.5	↓	HD	↓	1	X	59235	KIM JOLITZ
B9 @ 17.5-18	5/15/95	KJ	SOIL	1	X	59236	
TOTAL	☒	☒	☒	5			

FEDEX

Relinquished by:
Date: 5/16/95
Time:
Received by: Cathy Riggs
Company: THBF
Date: 5.17.95
Time: 9:23



SAMPLE: B-6 @14.5-15.0

PROJECT: STANDARD BRANDS PHASE #1

ENVIRON

MAY 17. 1995

GC/FID

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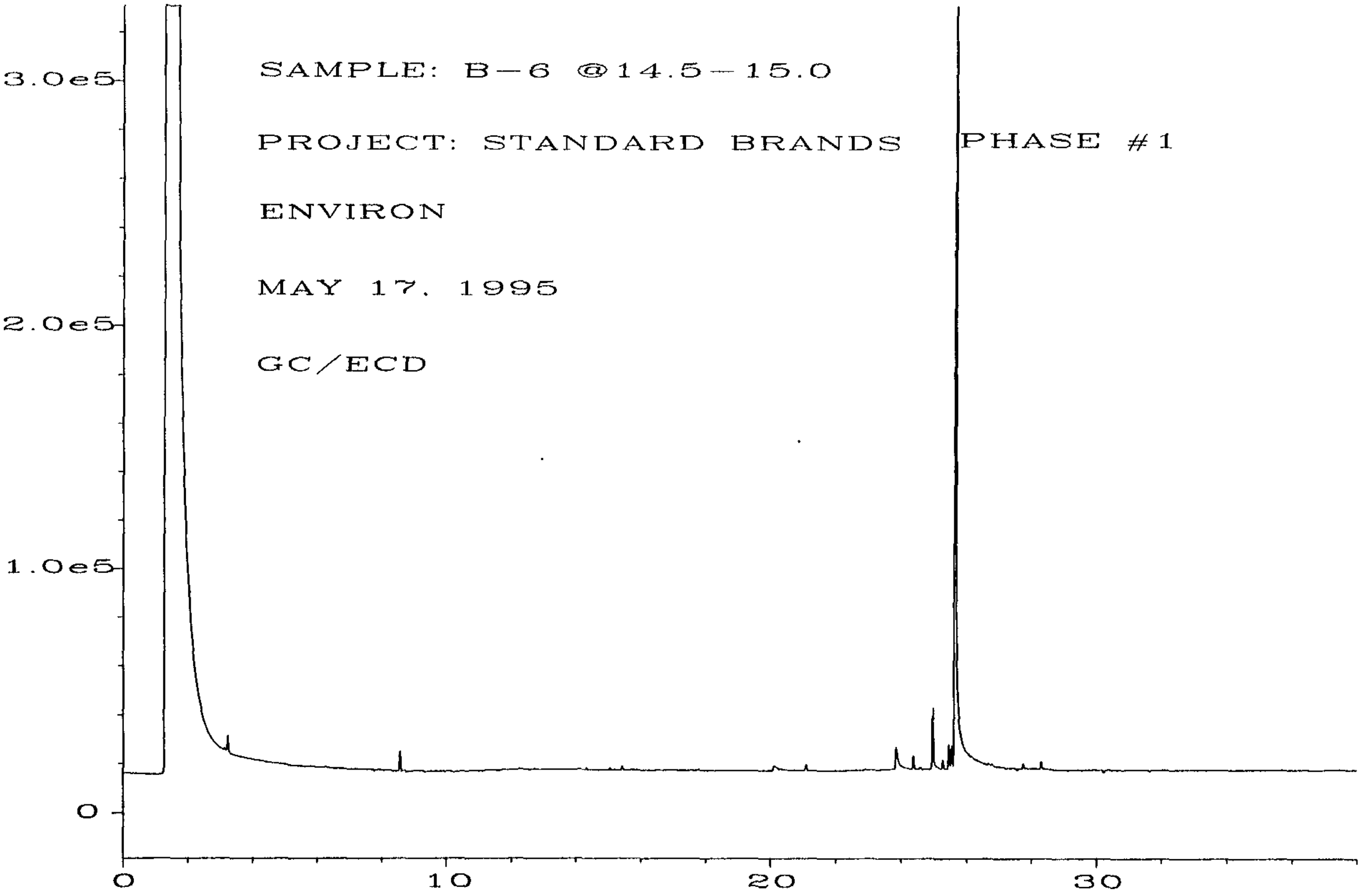

SAMPLE: B-6 @14.5-15.0

PROJECT: STANDARD BRANDS PHASE #1

ENVIRON

MAY 17, 1995

GC/ECD

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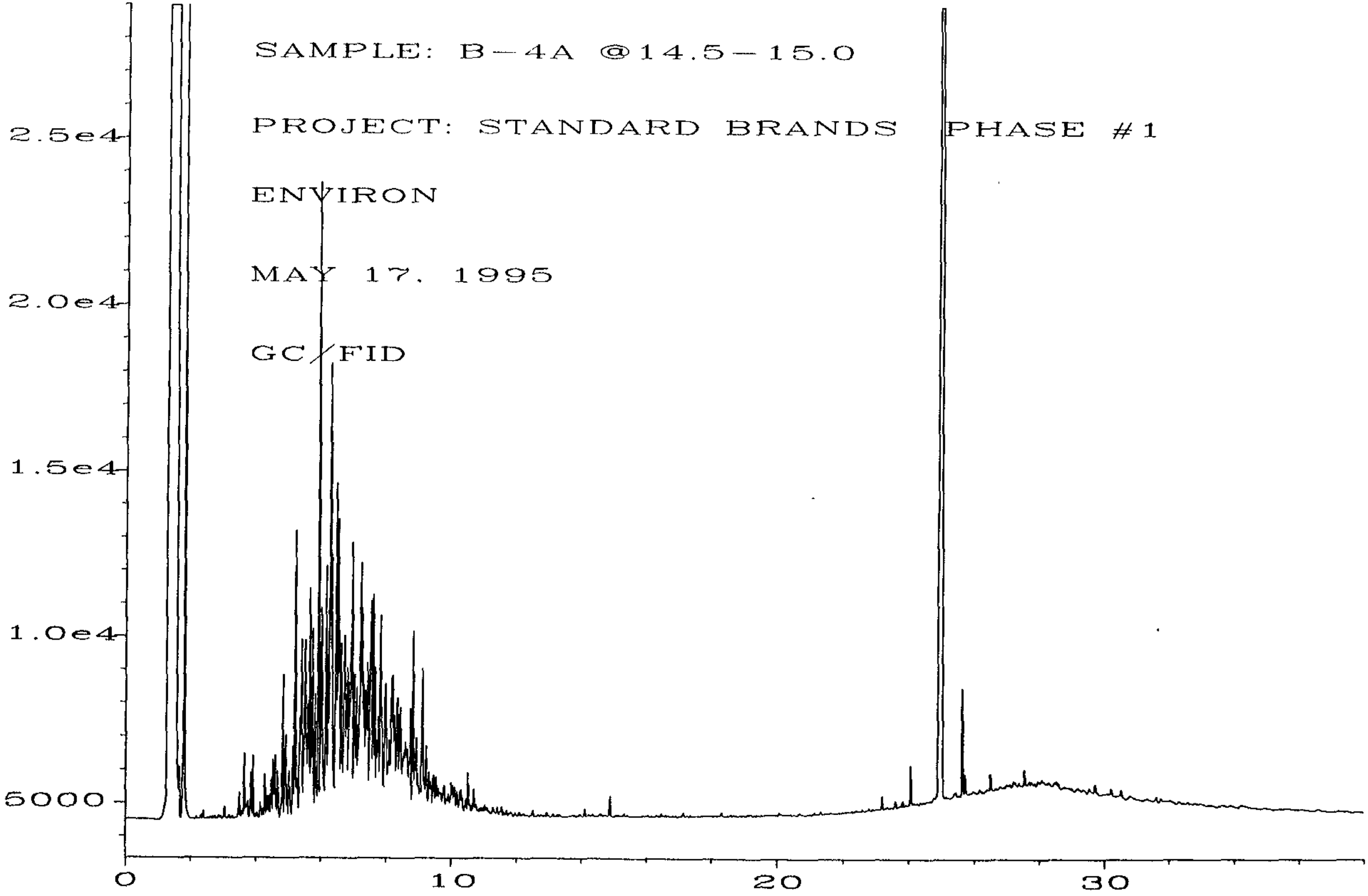

SAMPLE: B-4A @14.5-15.0

PROJECT: STANDARD BRANDS PHASE #1

ENVIRON

MAY 17, 1995

GC/FID

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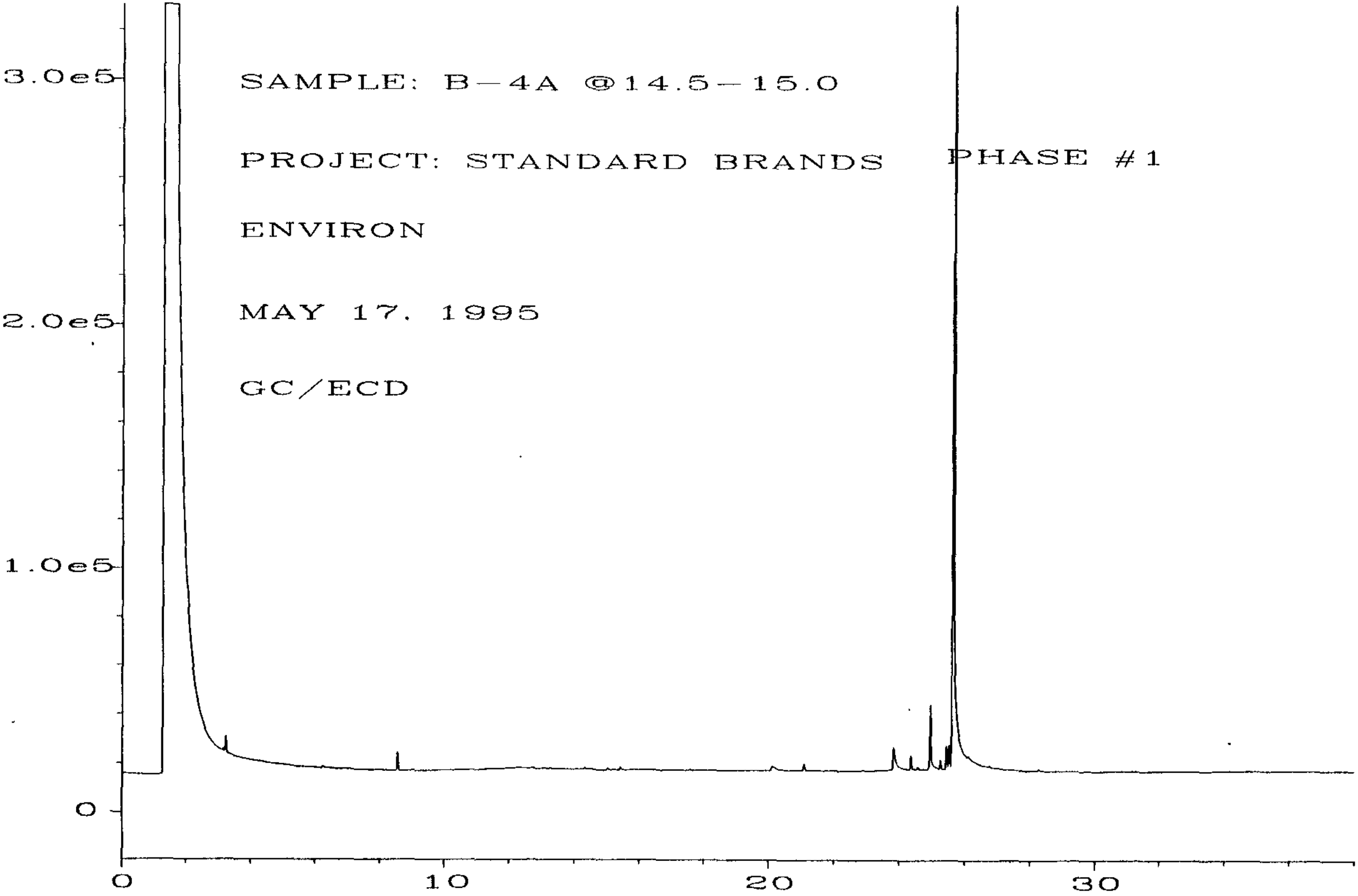


SAMPLE: B-4A @14.5-15.0

PROJECT: STANDARD BRANDS PHASE #1

ENVIRON

MAY 17. 1995

GC/ECD

C:\HPCHEM\4\DATA\05-17-95\012R0801.D

ENVIRON
Counsel in Health and Environmental Science

CHAIN-of-CUSTODY FORM

BAB BO
05.18.95
9 50

Sheet 1 of 1
5820 Shellmound S   uite 700
Emeryville, California 94608
(510) 655-7400

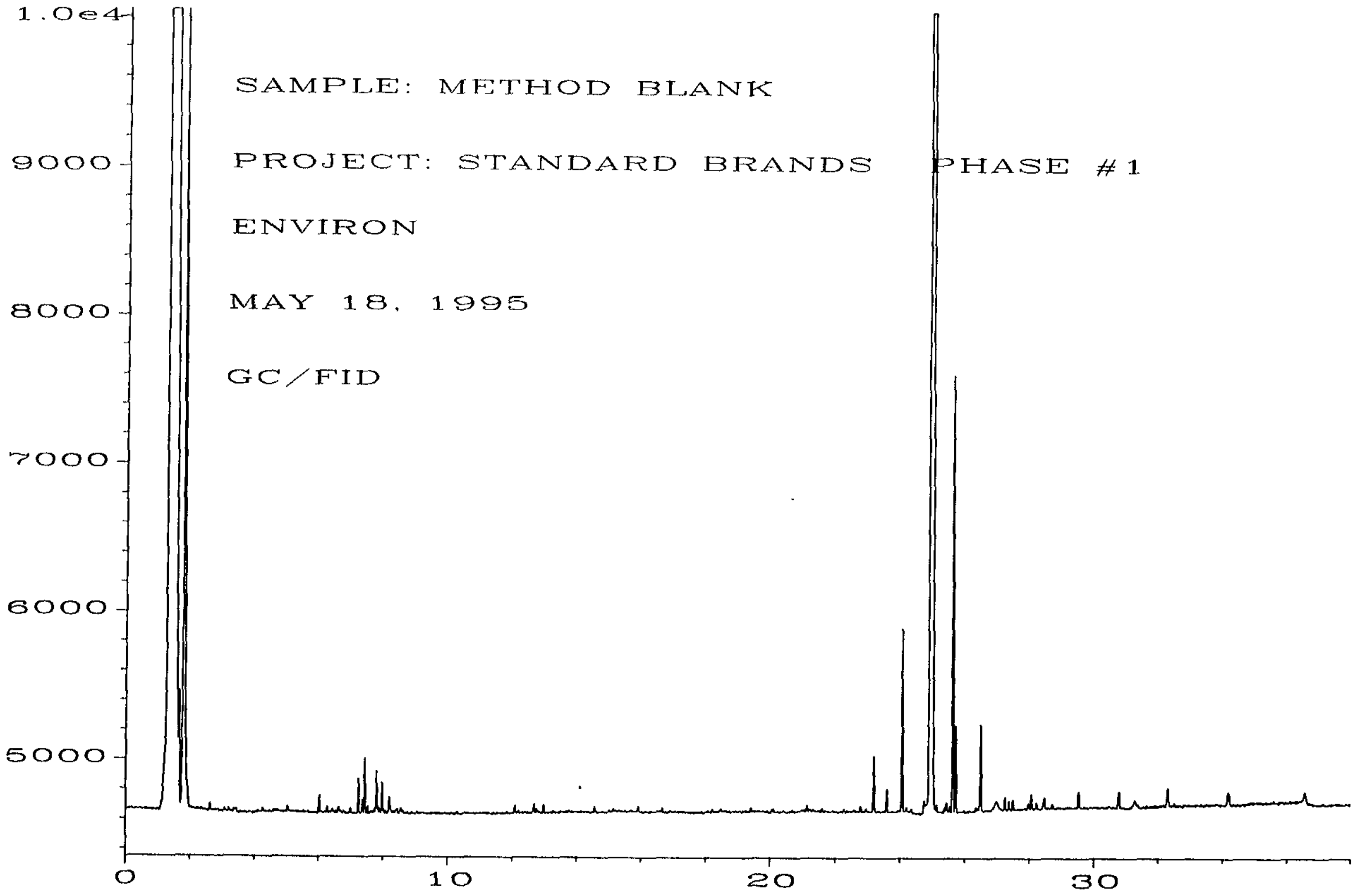
PROJECT NAME: Standard Brands-Phase 1

CASE NO.: 03-4603B

ENVIRON SAMPLE ID.	COLLECTION DATE	COLLECTED BY (initials)	MATRIX	TOTAL NO. OF CONTAINERS	ANALYSES: HYDROCARBON FUEL SCAN												COMMENTS
B-10A @ 11-11.5	5/16/95	HD	SOIL	1	X			59272									PLEASE SEND
B-10A @ 11.5-12.0	5/16/95	HD	SOIL	1	X			59273									RESULTS TO
																	ATTN OF
																	KIM JOLITZ
																	(510)655-7400
TOTAL	☒	☒	☒	2	X												

FEDERAL EXPRESS

Relinquished by:	Date:	Time:	Received by:	Company:	Date:	Time:
Kimberly Jolitz	5/17/95		Cathy Riggs	7+BF	05.18.95	9:37



SAMPLE: METHOD BLANK

PROJECT: STANDARD BRANDS PHASE #1

ENVIRON

MAY 18, 1995

GC/FID

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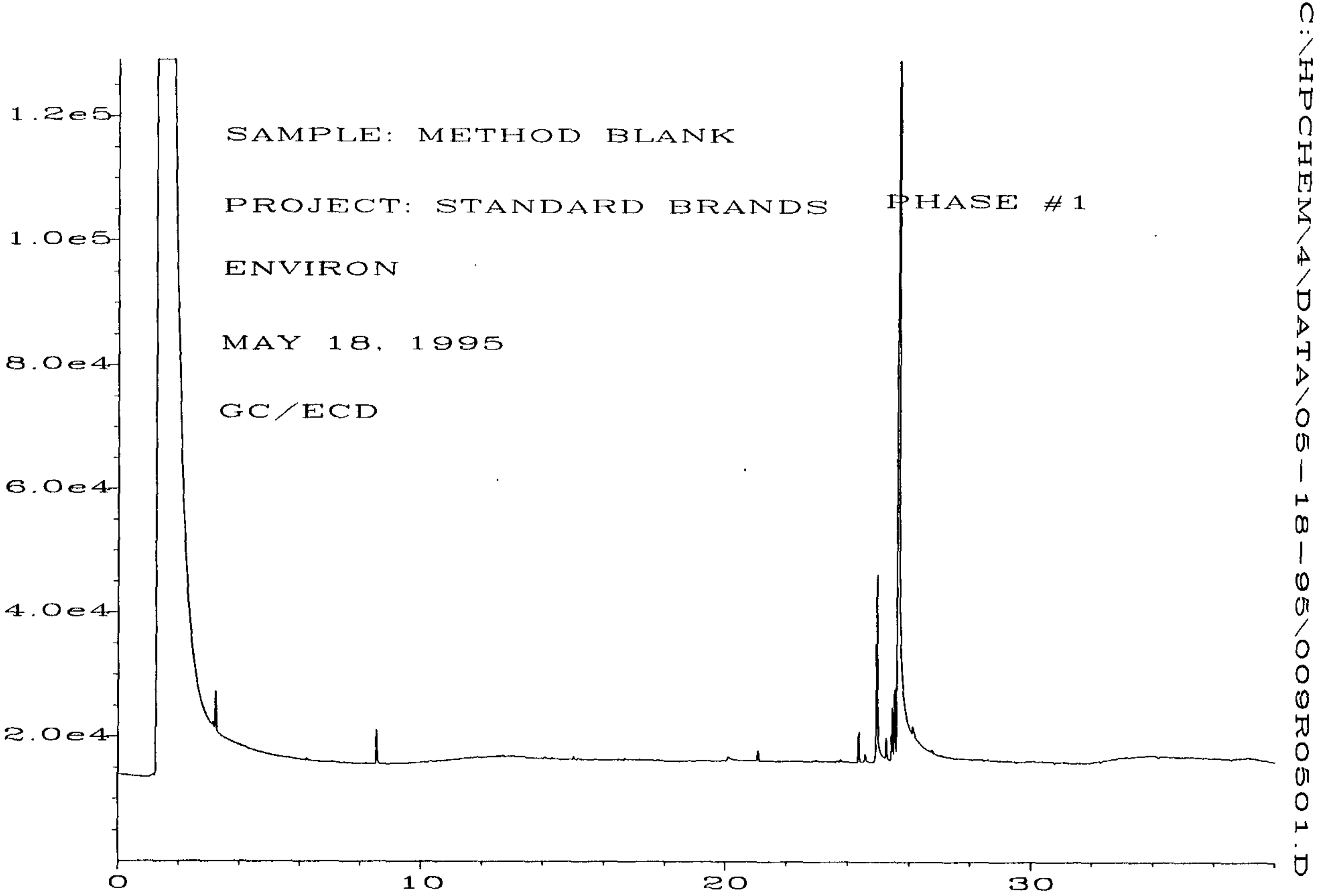

SAMPLE: METHOD BLANK

PROJECT: STANDARD BRANDS PHASE #1

ENVIRON

MAY 18, 1995

GC/ECD

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FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Andrew John Friedman
James E. Bruya, Ph.D.
(206) 285-8282

3012 16th Avenue West
Seattle, WA 98119-2029
FAX: (206) 283-5044

May 30, 1995

RECEIVED
JUN - 5 1995
ENVIRON

Kim Jolitz, Project Leader
ENVIRON
5820 Shellmound Street, Suite 700
Emeryville, CA 94608

Dear Ms. Jolitz:

Enclosed are the results from the additional testing of material submitted on May 18, 1995 from your #034603B, Standard Brands-Phase 1 project.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Bradley T Benson

Bradley T. Benson
Chemist

sao
Enclosures

EN10530R

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

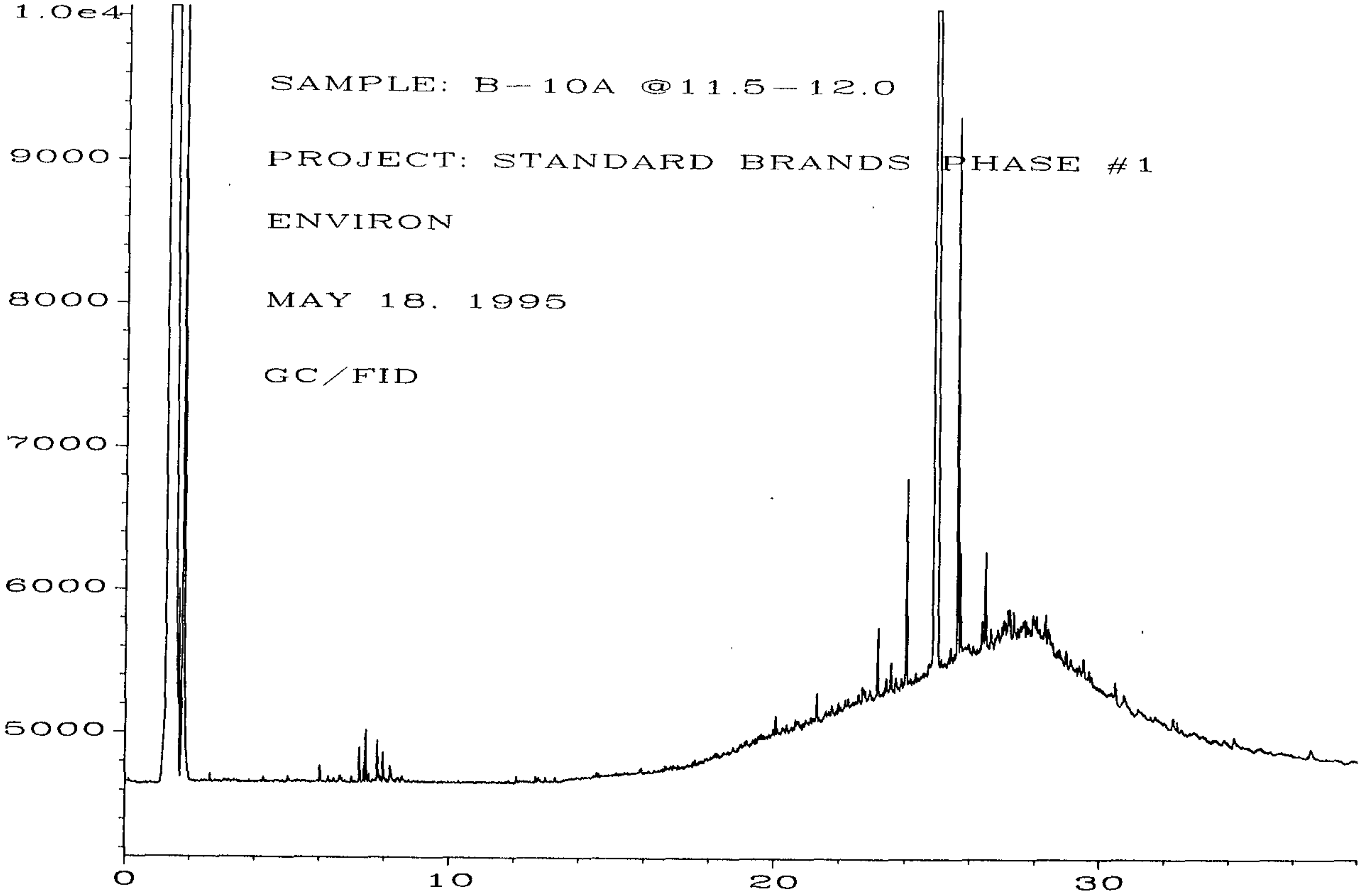
Date of Report: May 30, 1995
Date Received: May 18, 1995
Project: #034603B, Standard Brands-Phase 1
Date Samples Extracted: May 24, 1995

RESULTS FROM THE ANALYSIS OF THE SOIL SAMPLE FOR PCB AS AROCHLOR 1254 BY GC/ECD (MODIFIED 8080)

Samples Processed Using Method 3550 per California LUFT Guidelines

Results Reported as µg/g (ppm)

Sample ID	PCB	Surrogate Standard (% Recovery)
B-10A @ 11.5-12.0	<0.1	80%
Quality Assurance		
Blank	<0.1	107%
B-10A @ 11.5-12.0 (Duplicate)	<0.1	83%
B-10A @ 11.5-12.0 (Matrix Spike) % Recovery	82%	79%
B-10A @ 11.5-12.0 (Matrix Spike Duplicate) % Recovery	81%	78%
Spike Blank % Recovery	106%	90%
Spike Level	0.67	



SAMPLE: B-10A @11.5-12.0

PROJECT: STANDARD BRANDS PHASE #1

ENVIRON

MAY 18. 1995

GC/FID

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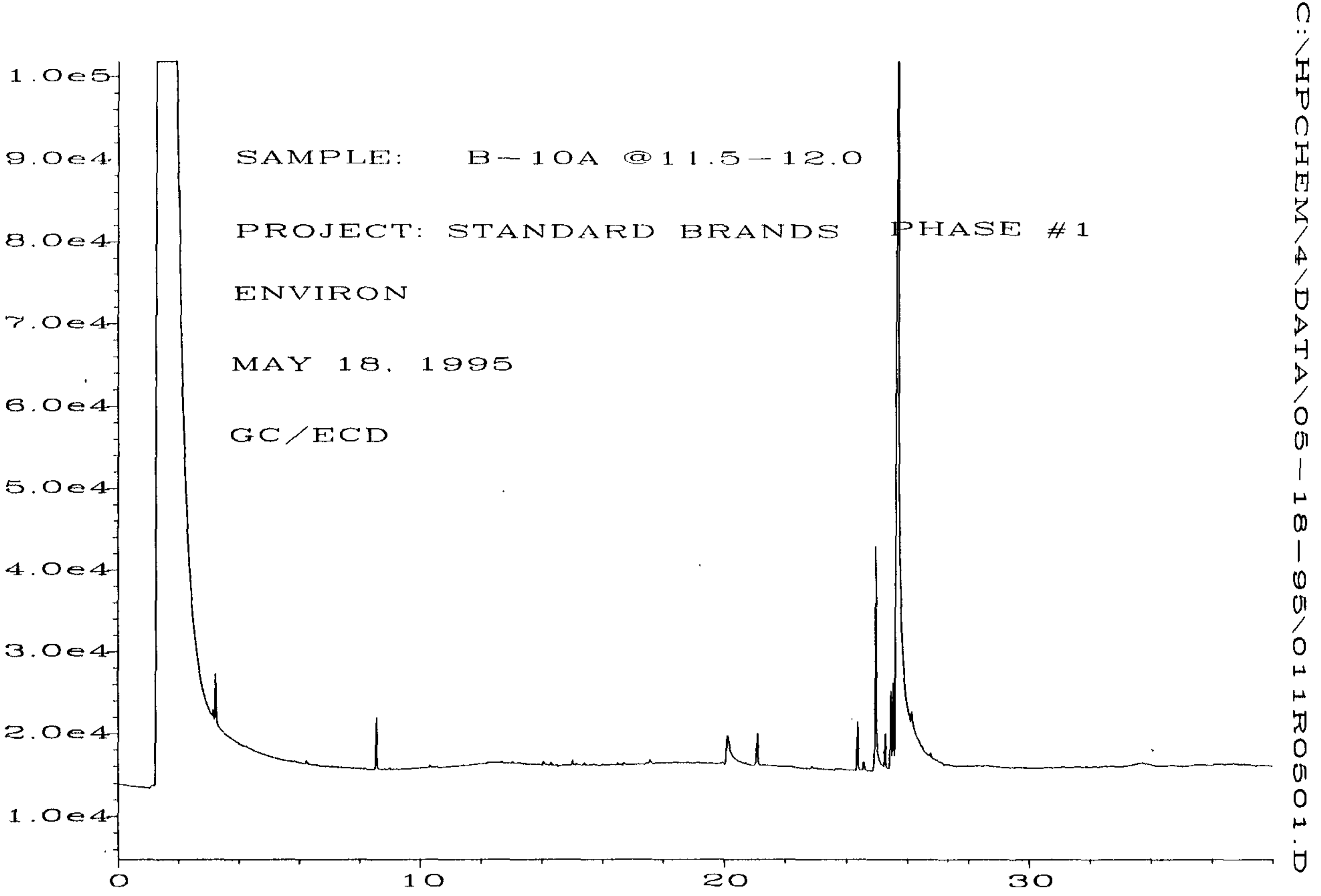


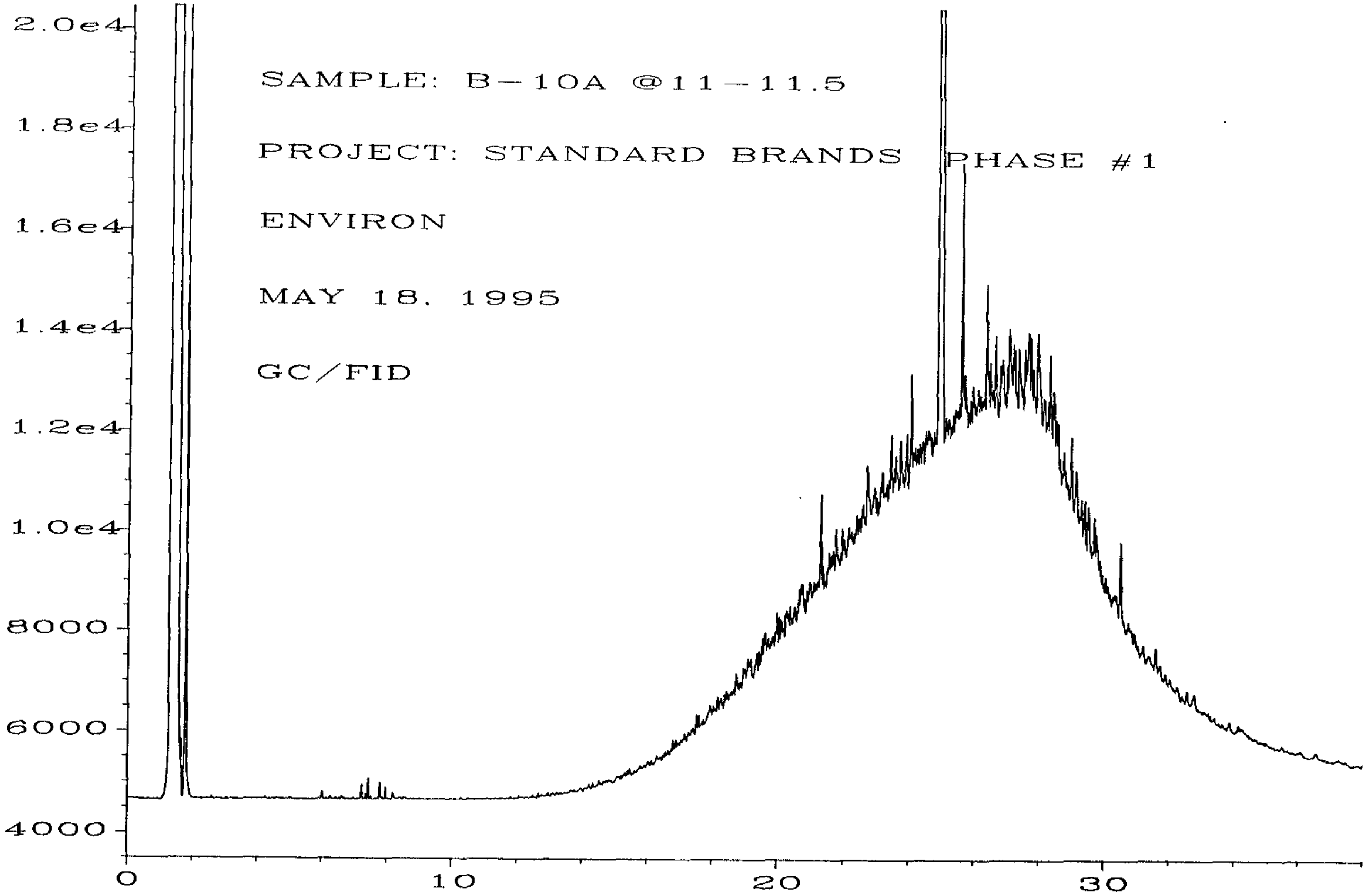
SAMPLE: B-10A @11.5-12.0

PROJECT: STANDARD BRANDS PHASE #1

ENVIRON

MAY 18, 1995

GC/ECD



SAMPLE: B-10A @11-11.5

PROJECT: STANDARD BRANDS PHASE #1

ENVIRON

MAY 18, 1995

GC/FID

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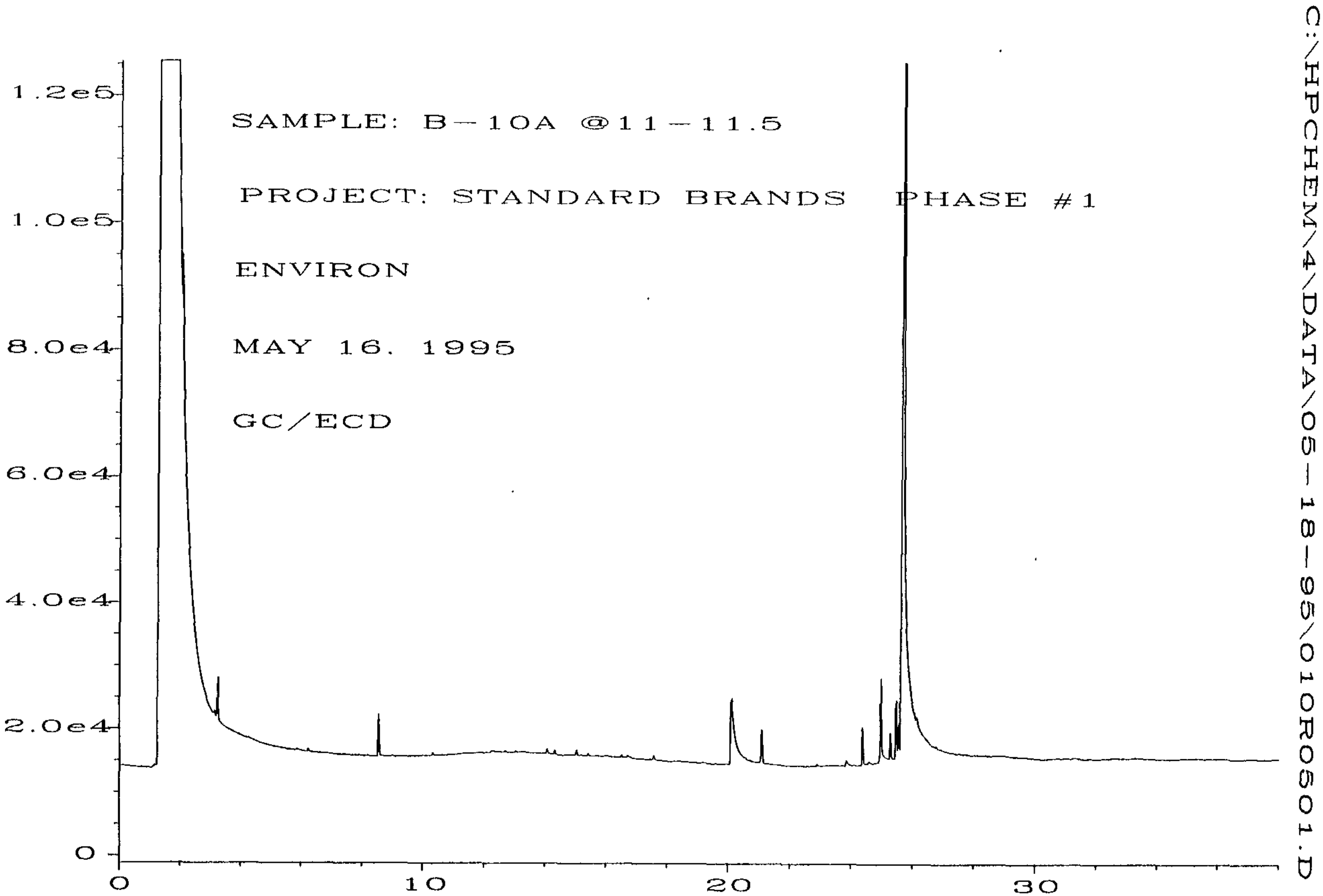


SAMPLE: B-10A @11-11.5

PROJECT: STANDARD BRANDS PHASE #1

ENVIRON

MAY 16, 1995

GC/ECD

C:\HPCHEM\4\DATA\05-18-95\010R0501.D

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Andrew John Friedman
James E. Bruya, Ph.D.
(206) 285-8282

3012 16th Avenue West
Seattle, WA 98119-2029
FAX: (206) 283-5044

RECEIVED
MAY 3 1 1995
ENVIRON

May 24, 1995

Kim Jolitz, Project Leader
ENVIRON
5820 Shellmound Street, Suite 700
Emeryville, CA 94608

Dear Ms. Jolitz:

Enclosed are the results from the testing of material submitted on May 18, 1995 from your project #034603B, Standard Brands-Phase 1.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Bradley T Benson

Bradley T. Benson
Chemist

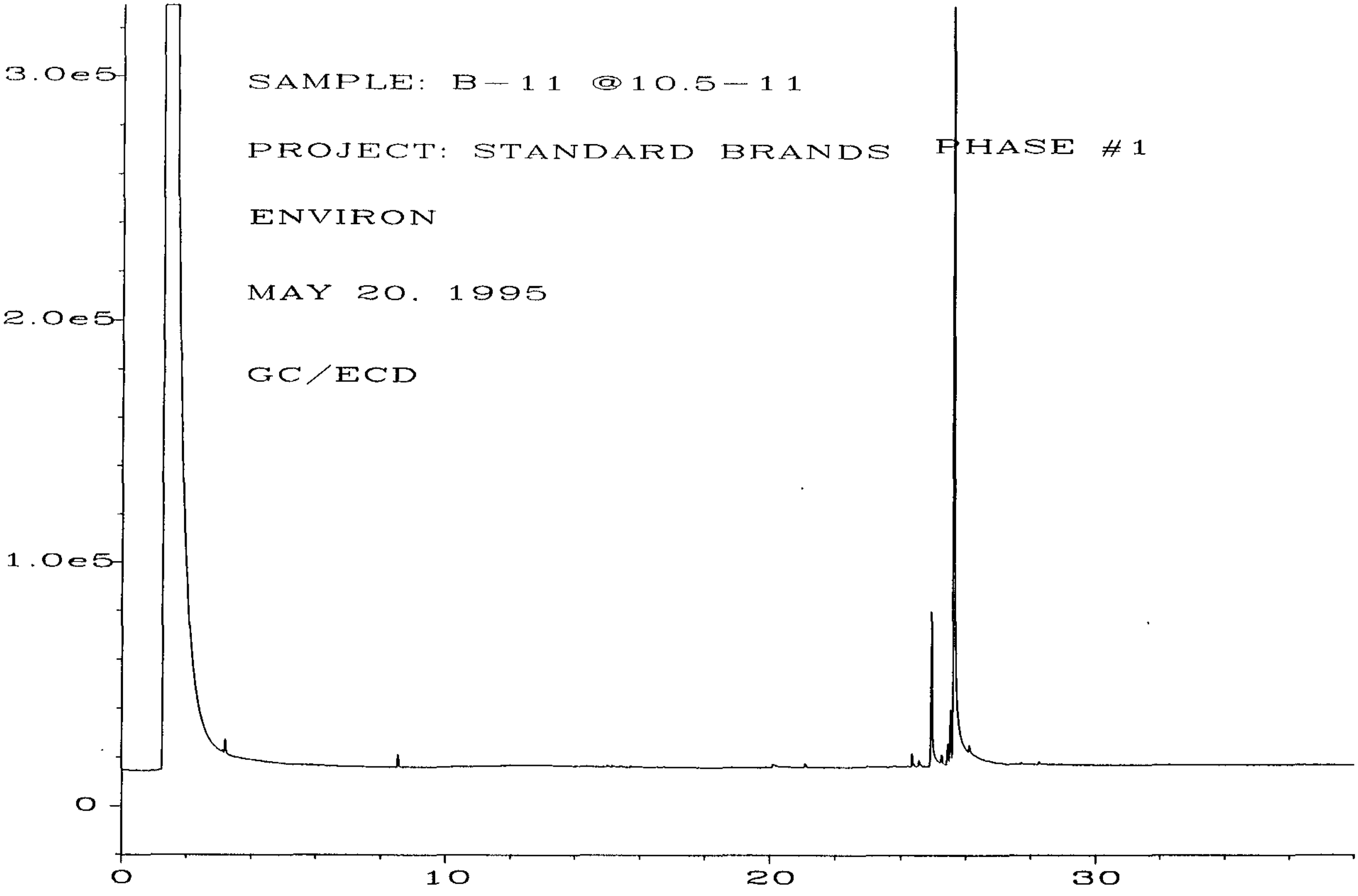
jdp
Enclosures

FRIEDMAN & BRUYA, INC.
ENVIRONMENTAL CHEMISTS

Date of Report: May 24, 1995
Date Received: May 18, 1995
Project: #034603B, Standard Brands-Phase 1

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR FINGERPRINT CHARACTERIZATION BY CAPILLARY GAS CHROMATOGRAPHY USING A FLAME IONIZATION DETECTOR (FID) AND ELECTRON CAPTURE DETECTOR (ECD)

Sample ID	GC Characterization
B-10A @ 11-11.5	The GC trace using the flame ionization detector (FID) showed the presence of high boiling compounds. The patterns displayed by these peaks are indicative of motor oil or degraded Bunker C. The high boiling compounds appeared as a regular pattern of peaks eluting from $n\text{-C}_{14}$ to beyond $n\text{-C}_{32}$ showing a maximum near $n\text{-C}_{28}$. The large peak seen near 25 minutes on the GC/FID trace is pentacosane, added as a quality assurance check for this GC analysis. There is a second internal standard peak seen on the GC/ECD trace at about 26 minutes which is dibutyl chlorendate.
B-10A @ 11.5-12.0	The GC trace using the flame ionization detector (FID) showed the presence of high boiling compounds. The patterns displayed by these peaks are indicative of motor oil or degraded Bunker C. The high boiling compounds appeared as a regular pattern of peaks eluting from $n\text{-C}_{14}$ to beyond $n\text{-C}_{32}$ showing a maximum near $n\text{-C}_{28}$. The large peak seen near 25 minutes on the GC/FID trace is pentacosane, added as a quality assurance check for this GC analysis. There is a second internal standard peak seen on the GC/ECD trace at about 26 minutes which is dibutyl chlorendate.



SAMPLE: B-11 @10.5-11

PROJECT: STANDARD BRANDS PHASE #1

ENVIRON

MAY 20. 1995

GC/ECD

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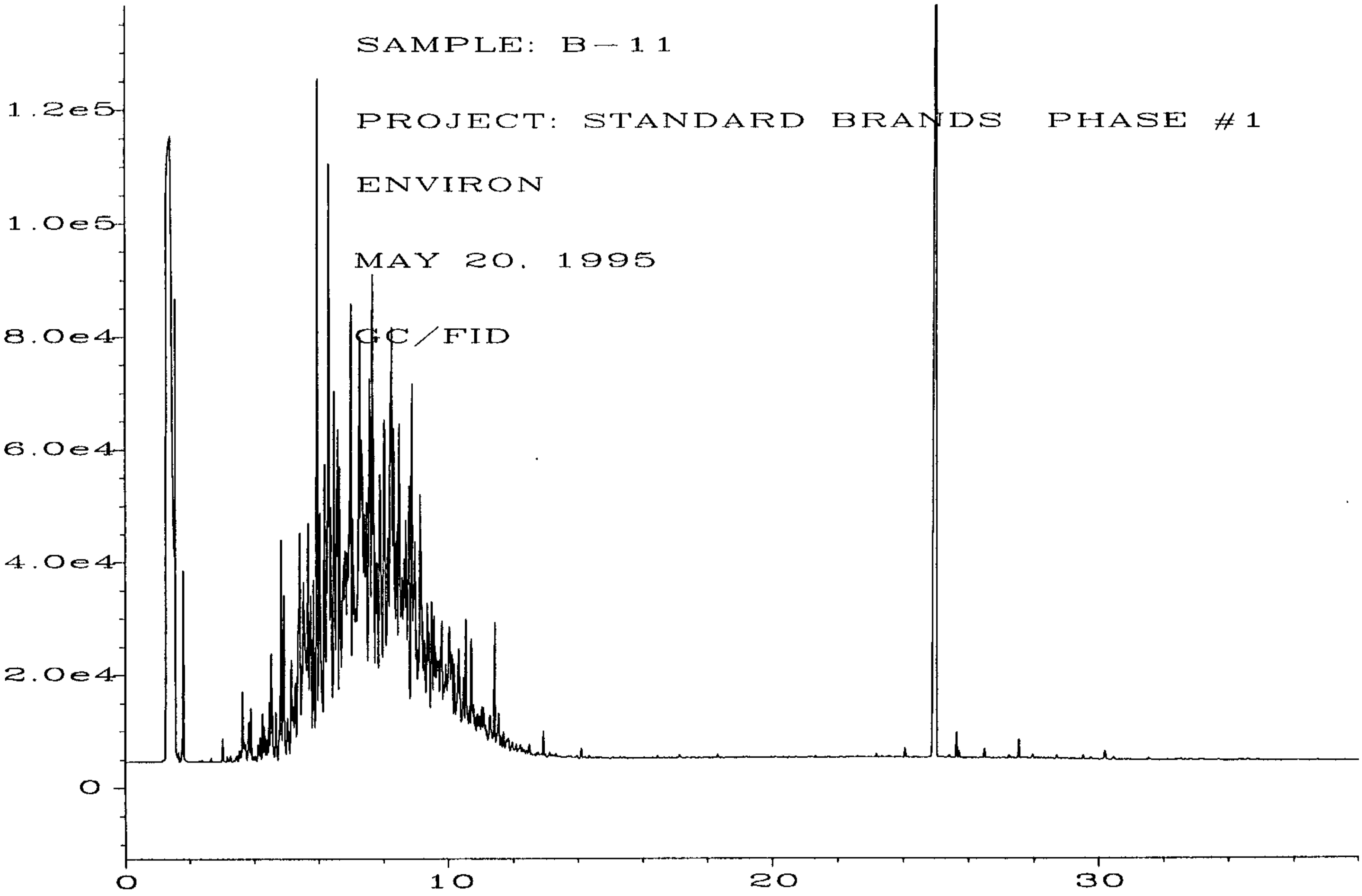

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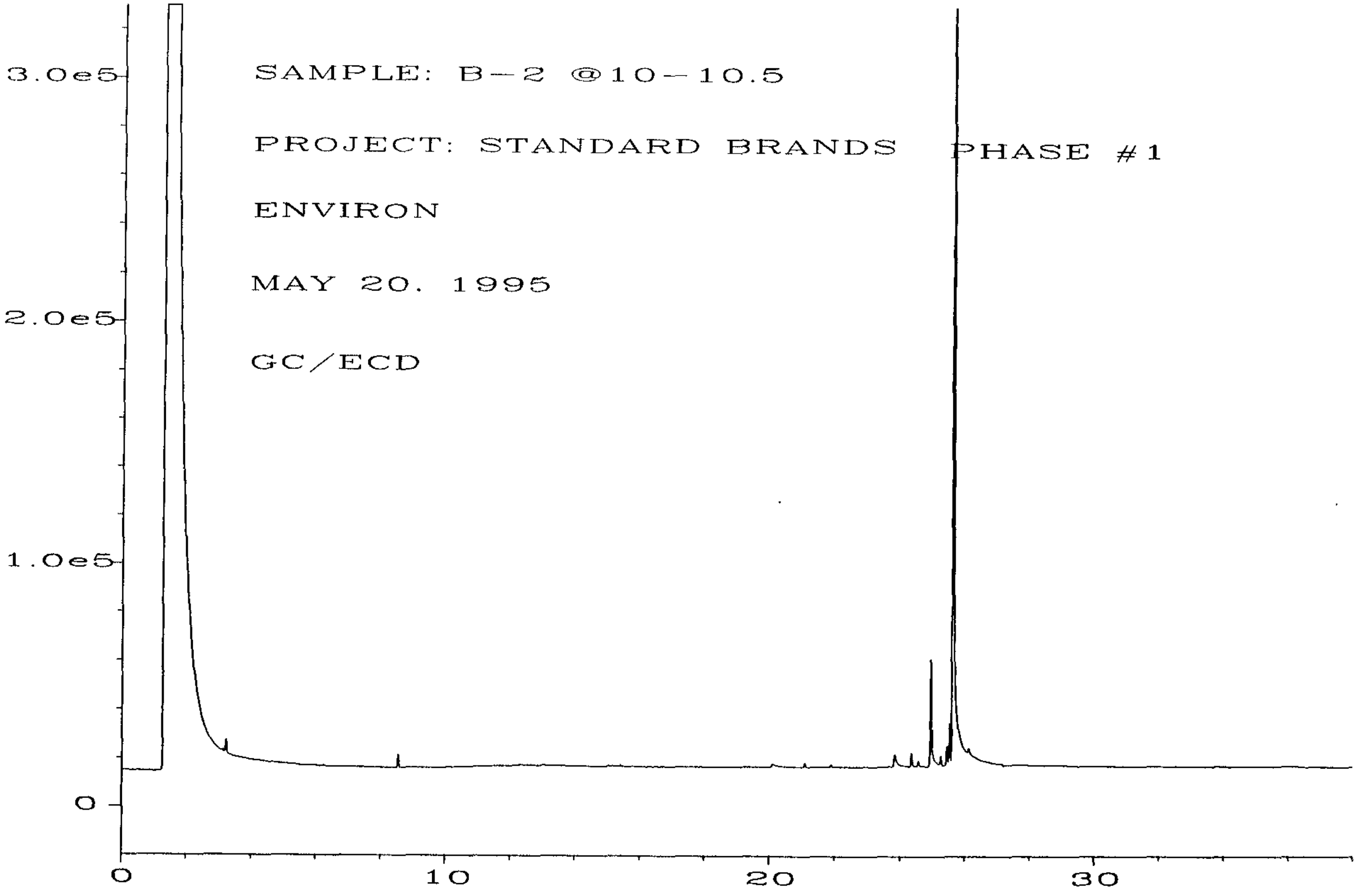


SAMPLE: B-2 @10-10.5

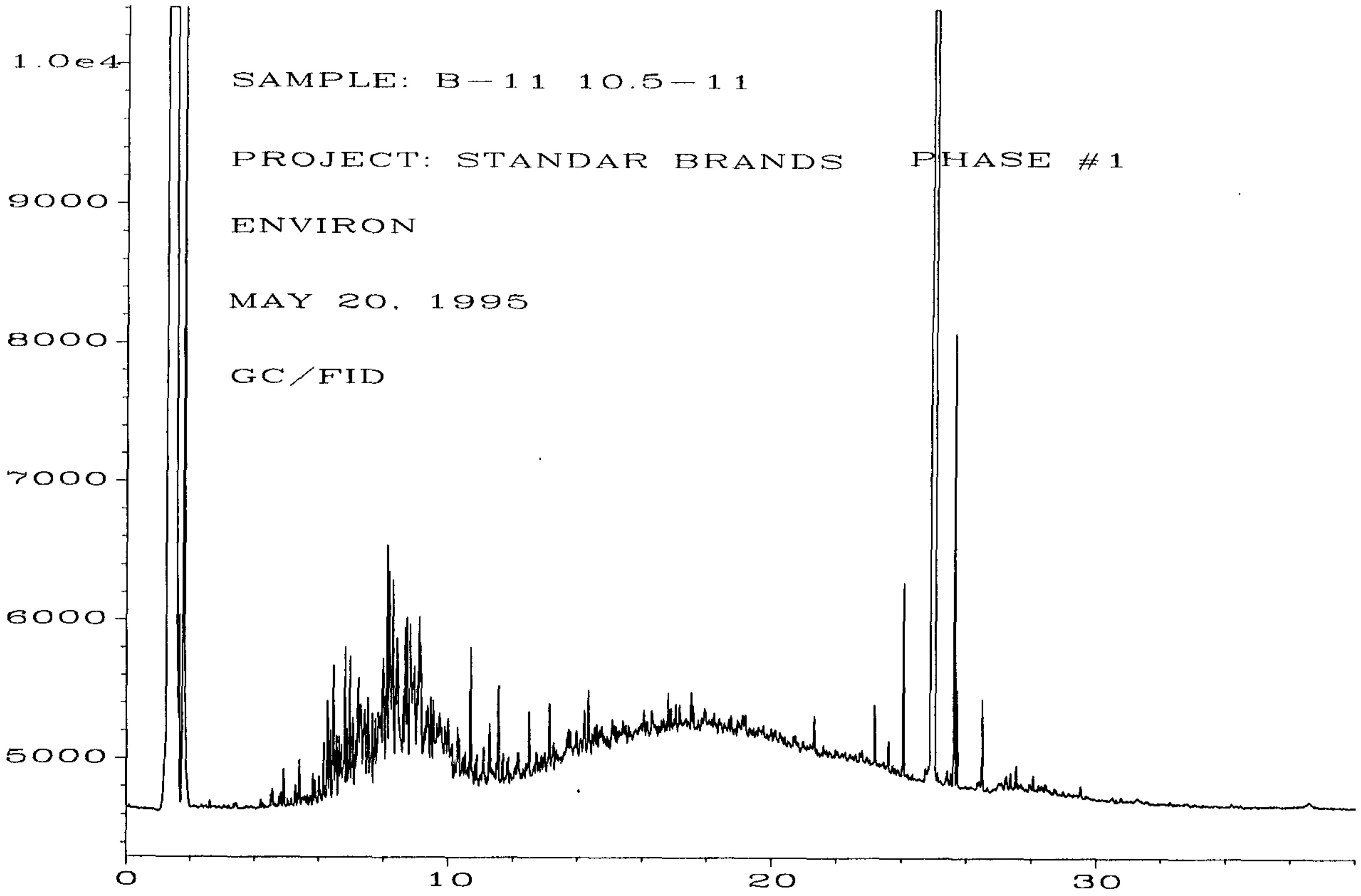
PROJECT: STANDARD BRANDS PHASE #1

ENVIRON

MAY 20. 1995

GC/ECD

Sig. 2 in C:\HPCHEM\4\DATA\05-20-95\010R0801.D



SAMPLE: B-11 10.5-11

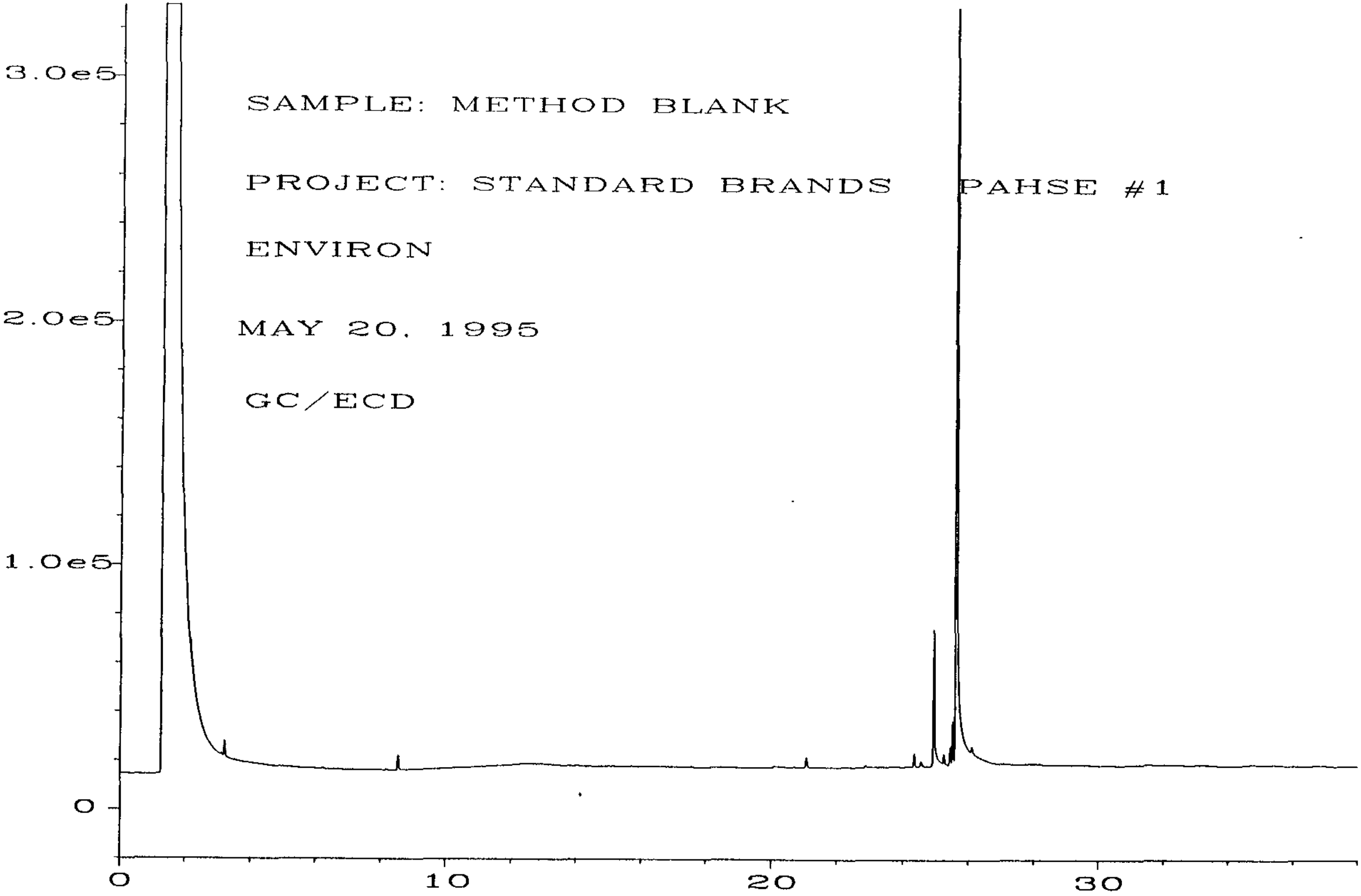
PROJECT: STANDAR BRANDS PHASE #1

ENVIRON

MAY 20, 1995

GC/FID

Sig. 1 in C:\HPCHEM\4\DATA\05-20-95\011F0801.D



SAMPLE: METHOD BLANK

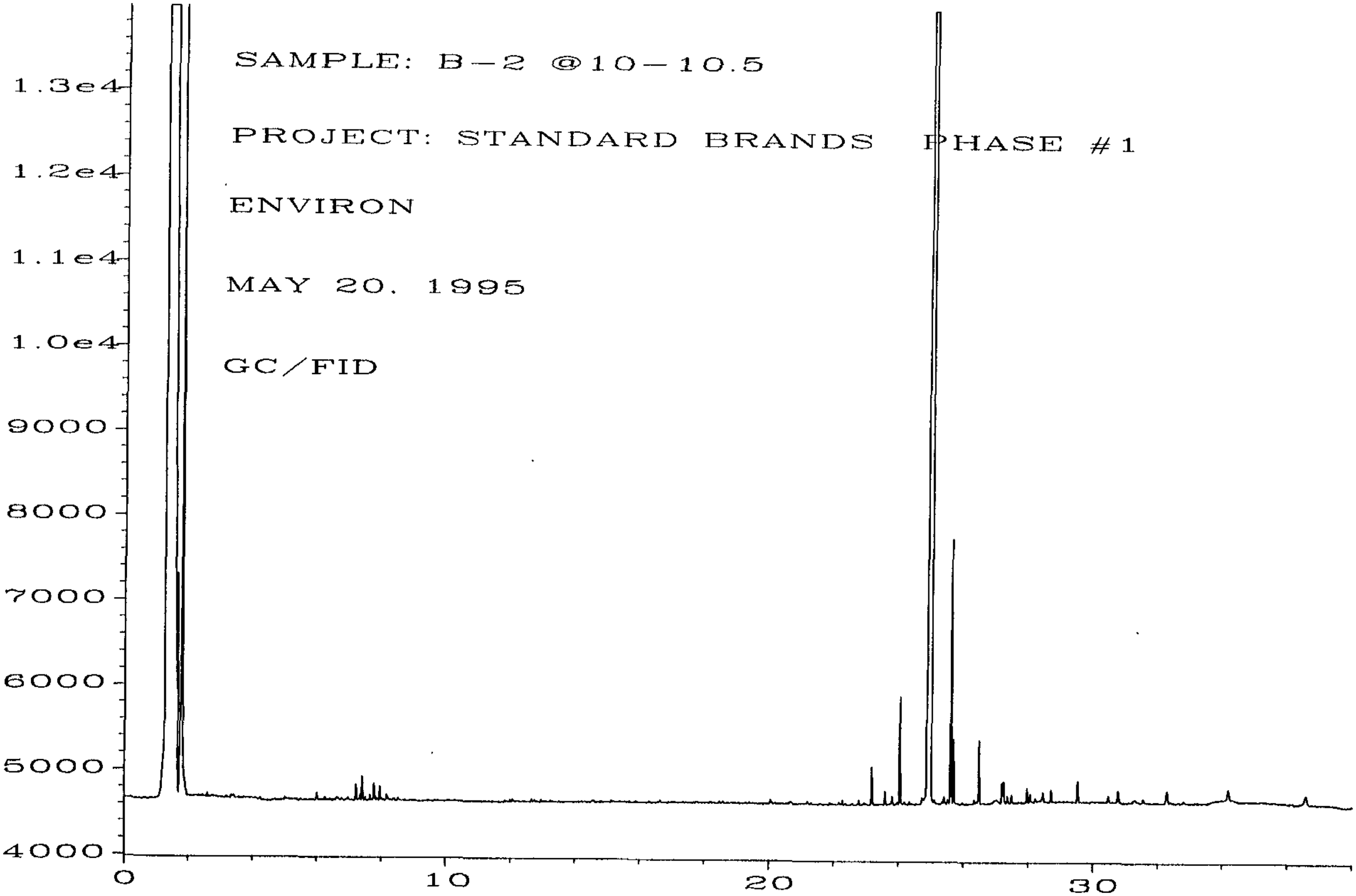
PROJECT: STANDARD BRANDS PAHSE #1

ENVIRON

MAY 20, 1995

GC/ECD

Sig. 2 in C:\HPCHEM\4\DATA\05-20-95\023R1001.D



SAMPLE: B-2 @10-10.5

PROJECT: STANDARD BRANDS PHASE #1

ENVIRON

MAY 20, 1995

GC/FID

Sig. 1 in C:\HPCHEM\4\DATA\05-20-95\010F0801.D

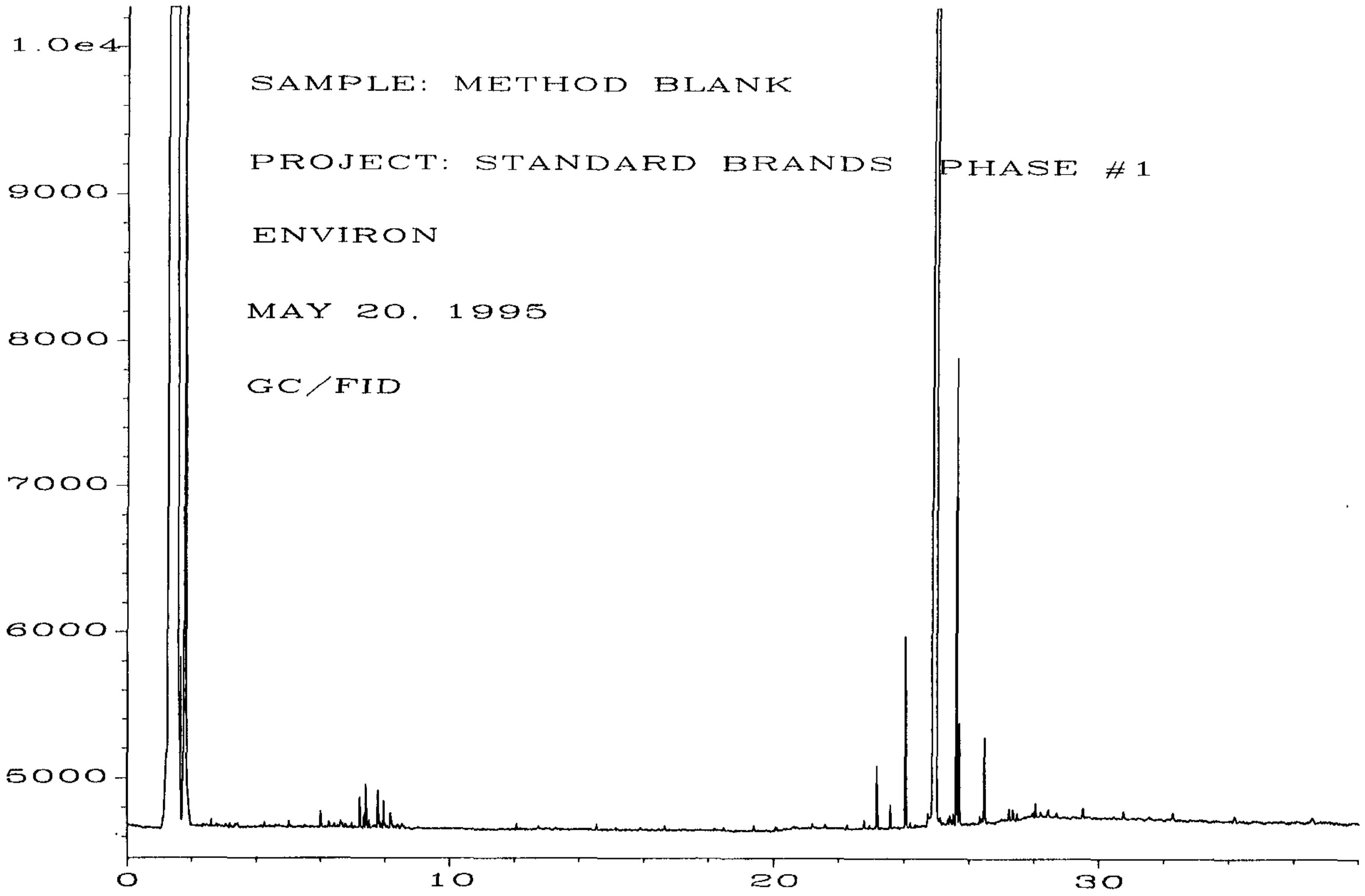
FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: May 31, 1995
Date Received: May 19, 1995
Project: #03-4603B, Standard Brands Phase I Site Investigation
Date Samples Extracted: May 19, 1995

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR FINGERPRINT CHARACTERIZATION BY CAPILLARY GAS CHROMATOGRAPHY USING A FLAME IONIZATION DETECTOR (FID)

Sample ID	GC Characterization
B-11	The GC trace using the flame ionization detector (FID) showed the presence of low boiling compounds. The patterns displayed by these peaks are indicative of mineral spirits or Stoddard solvent. The low boiling compounds appeared as a regular pattern of peaks eluting from n-C_8 to n-C_{13} showing a maximum near n-C_{10}. The large peak seen near 25 minutes on the GC/FID trace is pentacosane, added as a quality assurance check for this GC analysis. There is a second internal standard peak seen on the GC/ECD trace at about 26 minutes which is dibutyl chlorendate.



SAMPLE: METHOD BLANK

PROJECT: STANDARD BRANDS PHASE #1

ENVIRON

MAY 20, 1995

GC/FID

Sig. 1 in C:\HPCHEM\4\DATA\05-20-95\023F1001.D

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Andrew John Friedman
James E. Bruya, Ph.D.
(206) 285-8282

3012 16th Avenue West
Seattle, WA 98119-2029
FAX: (206) 283-5044

May 31, 1995

RECEIVED
JUN - 5 1995
ENVIRON

Kim Jolitz, Project Leader
ENVIRON
5820 Shellmound Street, Suite 700
Emeryville, CA 94608

Dear Ms. Jolitz:

Enclosed are the results from the testing of material submitted on May 19, 1995 from your project #03-4603B, Standard Brands Phase I Site Investigation.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Bradley T Benson

Bradley T. Benson
Chemist

jdp
Enclosures

EN10531R

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: May 31, 1995
Date Received: May 19, 1995
Project: #03-4603B, Standard Brands Phase I Site Investigation
Date Samples Extracted: May 19, 1995

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR FINGERPRINT CHARACTERIZATION BY CAPILLARY GAS CHROMATOGRAPHY USING A FLAME IONIZATION DETECTOR (FID)

Sample ID	GC Characterization
B-2 @ 10-10.5	The GC trace using the flame ionization detector (FID) and the GC electron capture detector (ECD) trace showed an absence of volatile and semi-volatile compounds. The detection limit for this analysis is 20, 50 and 100 ppm for gasoline, diesel and motor oil, respectively. The large peak seen near 25 minutes on the GC/FID trace is pentacosane, added as a quality assurance check for this GC analysis. There is a second internal standard peak seen on the GC/ECD trace at about 26 minutes which is dibutyl chlorendate.
B-11 @ 10.5-11	The GC trace using the flame ionization detector (FID) showed the presence of low and medium boiling compounds. The patterns displayed by these peaks are indicative of mineral spirits or Stoddard solvent and diesel fuel. The low boiling compounds appeared as a regular pattern of peaks eluting from $n\text{-C}_9$ to $n\text{-C}_{13}$ showing a maximum near $n\text{-C}_{11}$. The medium boiling compounds appeared as a regular pattern of peaks eluting from $n\text{-C}_{12}$ to $n\text{-C}_{29}$ showing a maximum near $n\text{-C}_{17}$. An absence of a dominant pattern of the n-alkanes was seen for this material. The medium boiling material appears to have undergone chemical/biological degradation due to the loss of the n-alkane peaks. The large peak seen near 25 minutes on the GC/FID trace is pentacosane, added as a quality assurance check for this GC analysis. There is a second internal standard peak seen on the GC/ECD trace at about 26 minutes which is dibutyl chlorendate.

Laboratory Report for
Hydrocarbon Fuel Scan of Soil Samples
Sampling Date: May 16, 1995

Friedman and Bruya, Inc.
Report Date: May 24, 1995

<u>Sample Location</u>
B-10

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Andrew John Friedman
James E. Bruya, Ph.D.
(206) 285-8282

3012 16th Avenue West
Seattle, WA 98119-2029
FAX: (206) 283-5044

May 19, 1995

RECEIVED
MAY 24 1995
ENVIRON

Kim Jolitz, Project Leader
ENVIRON
5820 Shellmound Street, Suite 700
Emeryville, CA 94608

Dear Mr. Jolitz:

Enclosed are the results from the testing of material submitted on May 17, 1995 from your project #03-4603B, Standard Brands Phase 1.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Bradley T Benson

Bradley T. Benson
Chemist

jdp
Enclosures

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: May 19, 1995
Date Received: May 17, 1995
Project: #03-4603B, Standard Brands Phase 1
Date Samples Extracted: May 17, 1995

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR FINGERPRINT CHARACTERIZATION BY CAPILLARY GAS CHROMATOGRAPHY USING A FLAME IONIZATION DETECTOR (FID) AND ELECTRON CAPTURE DETECTOR (ECD)

Sample ID	GC Characterization
B-6 @ 14.5-15.0	The GC trace using the flame ionization detector (FID) showed the presence of low boiling compounds. The patterns displayed by these peaks are indicative of mineral spirits or Stoddard solvent. The low boiling compounds appeared as a regular pattern of peaks eluting from n-C_8 to n-C_{13} showing a maximum near n-C_{10}. The large peak seen near 25 minutes on the GC/FID trace is pentacosane, added as a quality assurance check for this GC analysis. There is a second internal standard peak seen on the GC/ECD trace at about 26 minutes which is dibutyl chlorendate.
B-5 @ 7.0-7.5	The GC trace using the flame ionization detector (FID) showed the presence of low and high boiling compounds. The patterns displayed by these peaks are indicative of mineral spirits or Stoddard solvent and motor oil. The low boiling compounds appeared as a regular pattern of peaks eluting from n-C_8 to n-C_{11} showing a maximum near n-C_{10}. The high boiling compounds appeared as a regular pattern of peaks eluting from n-C_{23} to beyond n-C_{32} showing a maximum near n-C_{28}. The large peak seen near 25 minutes on the GC/FID trace is pentacosane, added as a quality assurance check for this GC analysis. There is a second internal standard peak seen on the GC/ECD trace at about 26 minutes which is dibutyl chlorendate.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: May 19, 1995
Date Received: May 17, 1995
Project: #03-4603B, Standard Brands Phase 1
Date Samples Extracted: May 17, 1995

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR FINGERPRINT CHARACTERIZATION BY CAPILLARY GAS CHROMATOGRAPHY USING A FLAME IONIZATION DETECTOR (FID) AND ELECTRON CAPTURE DETECTOR (ECD)

Sample ID	GC Characterization
B-4A @ 14.5-15.0	The GC trace using the flame ionization detector (FID) showed the presence of low and high boiling compounds. The patterns displayed by these peaks are indicative of mineral spirits or Stoddard solvent and motor oil. The low boiling compounds appeared as a regular pattern of peaks eluting from n-C$_{8}$ to n-C$_{11}$ showing a maximum near n-C$_{10}$. The high boiling compounds appeared as a regular pattern of peaks eluting from n-C$_{23}$ to beyond n-C$_{32}$ showing a maximum near n-C$_{28}$. The large peak seen near 25 minutes on the GC/FID trace is pentacosane, added as a quality assurance check for this GC analysis. There is a second internal standard peak seen on the GC/ECD trace at about 26 minutes which is dibutyl chlorendate.
B-7 @ 8.0-8.5	The GC trace using the flame ionization detector (FID) showed the presence of low and medium boiling compounds. The patterns displayed by these peaks are indicative of mineral spirits or Stoddard solvent and diesel fuel. The low boiling compounds appeared as a regular pattern of peaks eluting from n-C$_{8}$ to n-C$_{13}$ showing a maximum near n-C$_{10}$. The medium boiling compounds appeared as a regular pattern of peaks eluting from n-C$_{12}$ to n-C$_{28}$ showing a maximum near n-C$_{17}$. An absence of a dominant pattern of n-alkanes was seen for this material. The medium boiling material appears to have undergone chemical/biological degradation due to the loss of the n-alkane peaks. The large peak seen near 25 minutes on the GC/FID trace is pentacosane, added as a quality assurance check for this GC analysis. There is a second internal standard peak seen on the GC/ECD trace at about 26 minutes which is dibutyl chlorendate.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: May 19, 1995
Date Received: May 17, 1995
Project: #03-4603B, Standard Brands Phase 1
Date Samples Extracted: May 17, 1995

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR FINGERPRINT CHARACTERIZATION BY CAPILLARY GAS CHROMATOGRAPHY USING A FLAME IONIZATION DETECTOR (FID) AND ELECTRON CAPTURE DETECTOR (ECD)

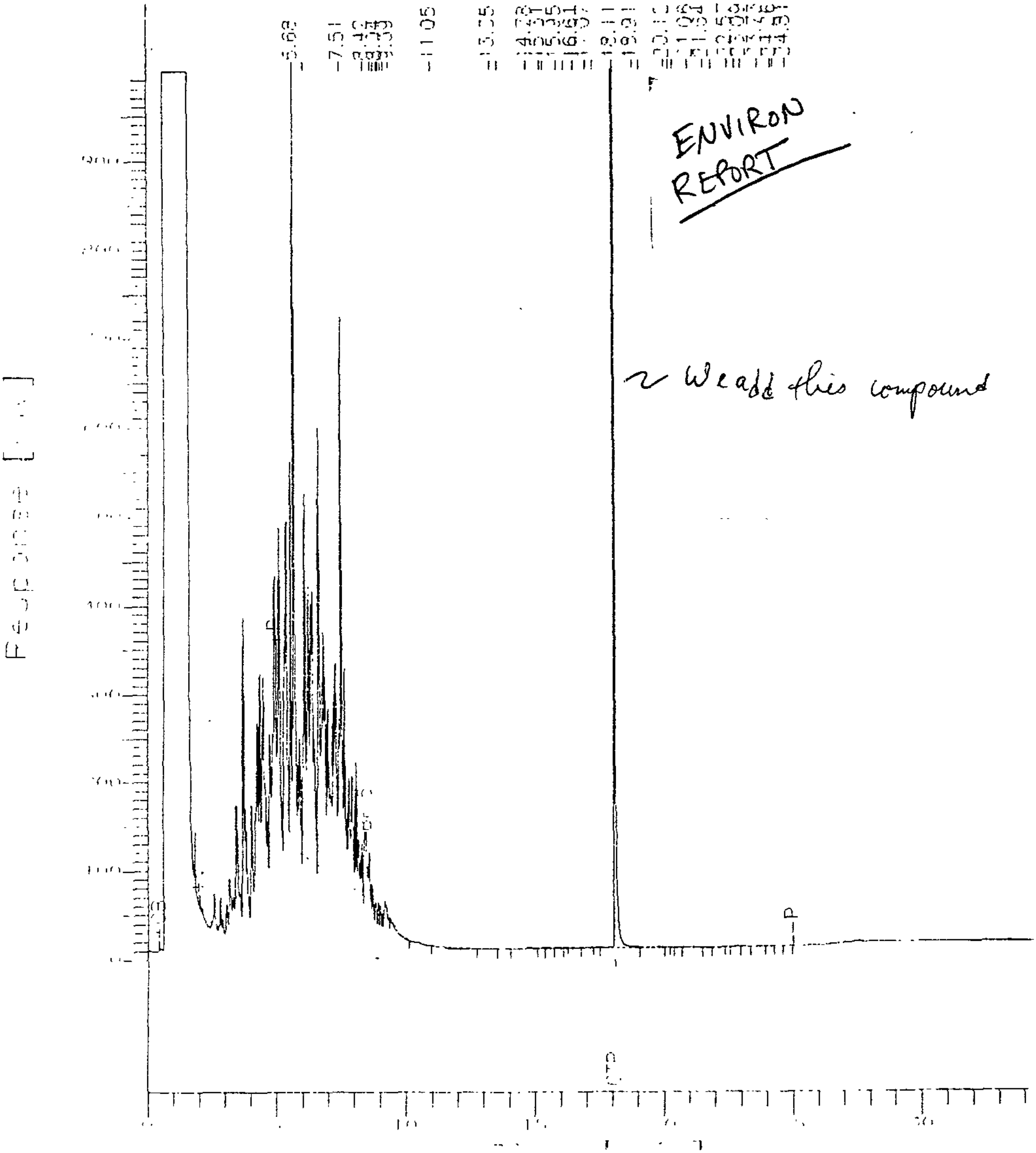
Sample ID	GC Characterization
B9 @ 17.5-18	The GC trace using the flame ionization detector (FID) and the GC electron capture detector (ECD) trace showed an absence of volatile and semi-volatile compounds. The detection limit for this analysis is 20, 50 and 100 ppm for gasoline, diesel and motor oil, respectively. The large peak seen near 25 minutes on the GC/FID trace is pentacosane, added as a quality assurance check for this GC analysis. There is a second internal standard peak seen on the GC/ECD trace at about 26 minutes which is dibutyl chlorendate.

Mineral Spirits Friedman Bruya Min Spirit 390

diesel analysis

File Name : 2500PPM-MINERAL SPIRIT
FileName : d:\6000dies\S606015.raw
Method : sdieselb.ins
Start Time : 0.00 min End Time : 35.00 min
Scale Factor : 0 Plot Offset : 0 mV

Sample #: GC404 Page 1 of 1
Date : 6/6/95 07:27 PM
Time of Injection: 6/6/95 06:52 PM
Low Point : 0.00 mV High Point : 1000.00 mV
Plot Scale: 1000 mV



ENVIRON REPORT

← We add this compound

diesel analysis

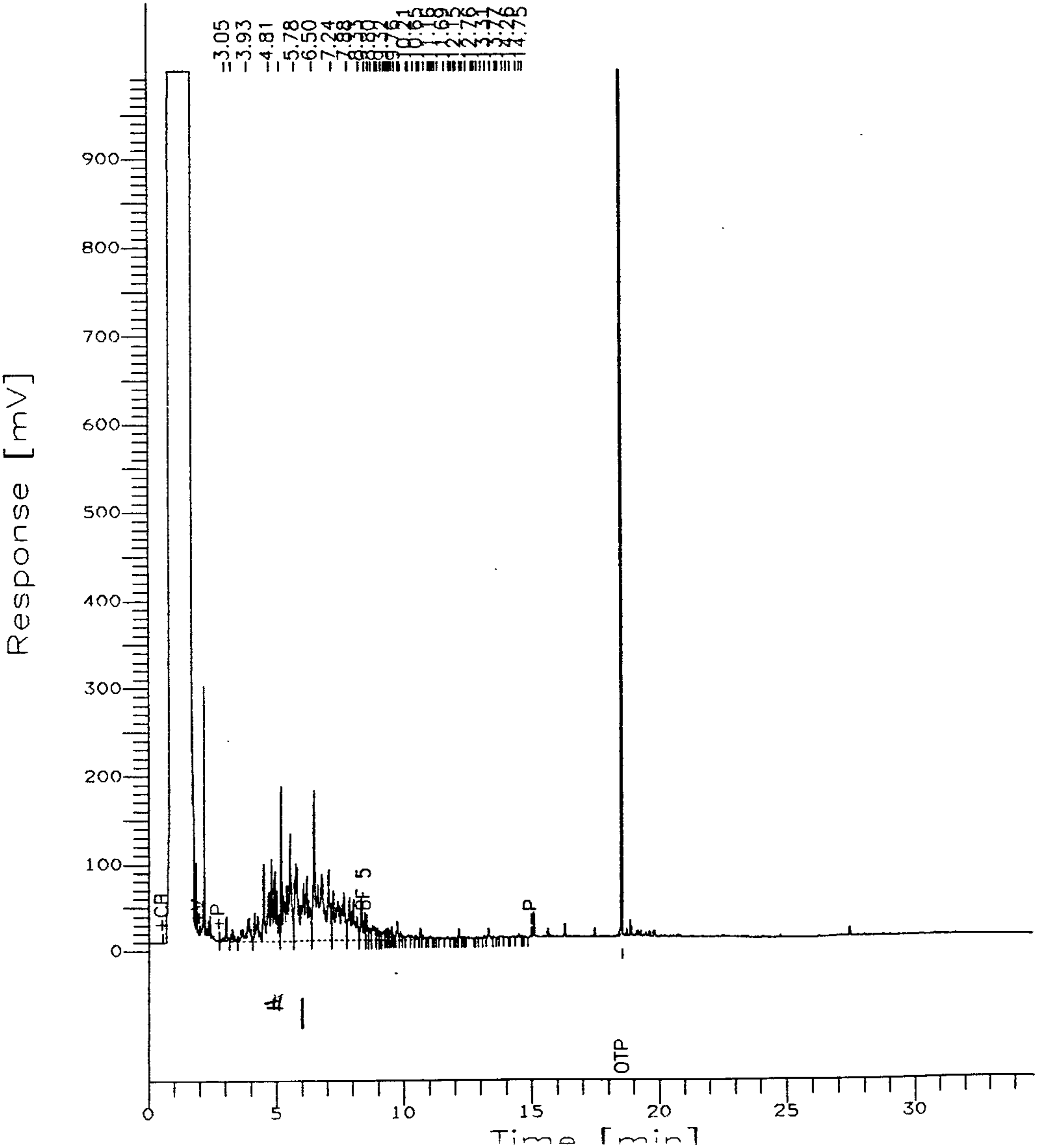
Sample Name : 05199/88647 NOX
FileName : D:\6500DIES\T522004.RAW
Method : TKERO.ins
Start Time : 0.00 min
Scale Factor: 0

End Time : 35.00 min
Plot Offset: 0 mV

Sample #: 88647R1
Date : 5/23/95 09:24 AM
Time of Injection: 5/22/95 11:18 AM
Low Point : 0.00 mV
Plot Scale: 1000 mV

Page 1 of 1

High Point : 1000.00 mV



diesel analysis

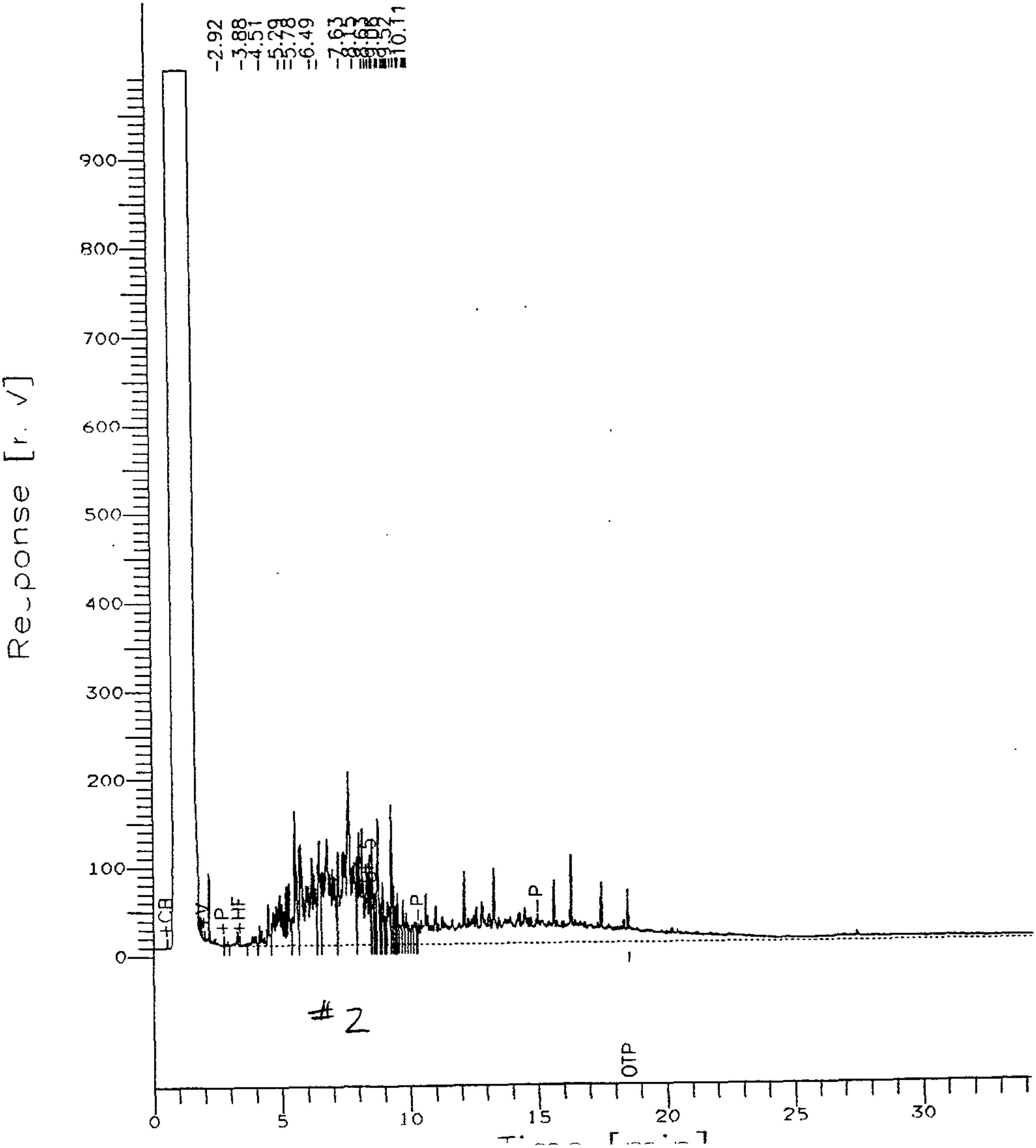
File Name : 05199/88698 (50X)
FileName : D:\6500DIES\T522007.RAW
Method : TKERO.ins
Start Time : 0.00 min
Scale Factor: 0

End Time : 35.00 min
Plot Offset: 0 mV

Sample #: 88698R1
Date : 5/23/95 10:23 AM
Time of Injection: 5/22/95 01:38 PM
Low Point : 0.00 mV
Plot Scale: 1000 mV

Page 1 of 1

High Point : 1000.00 mV



#2

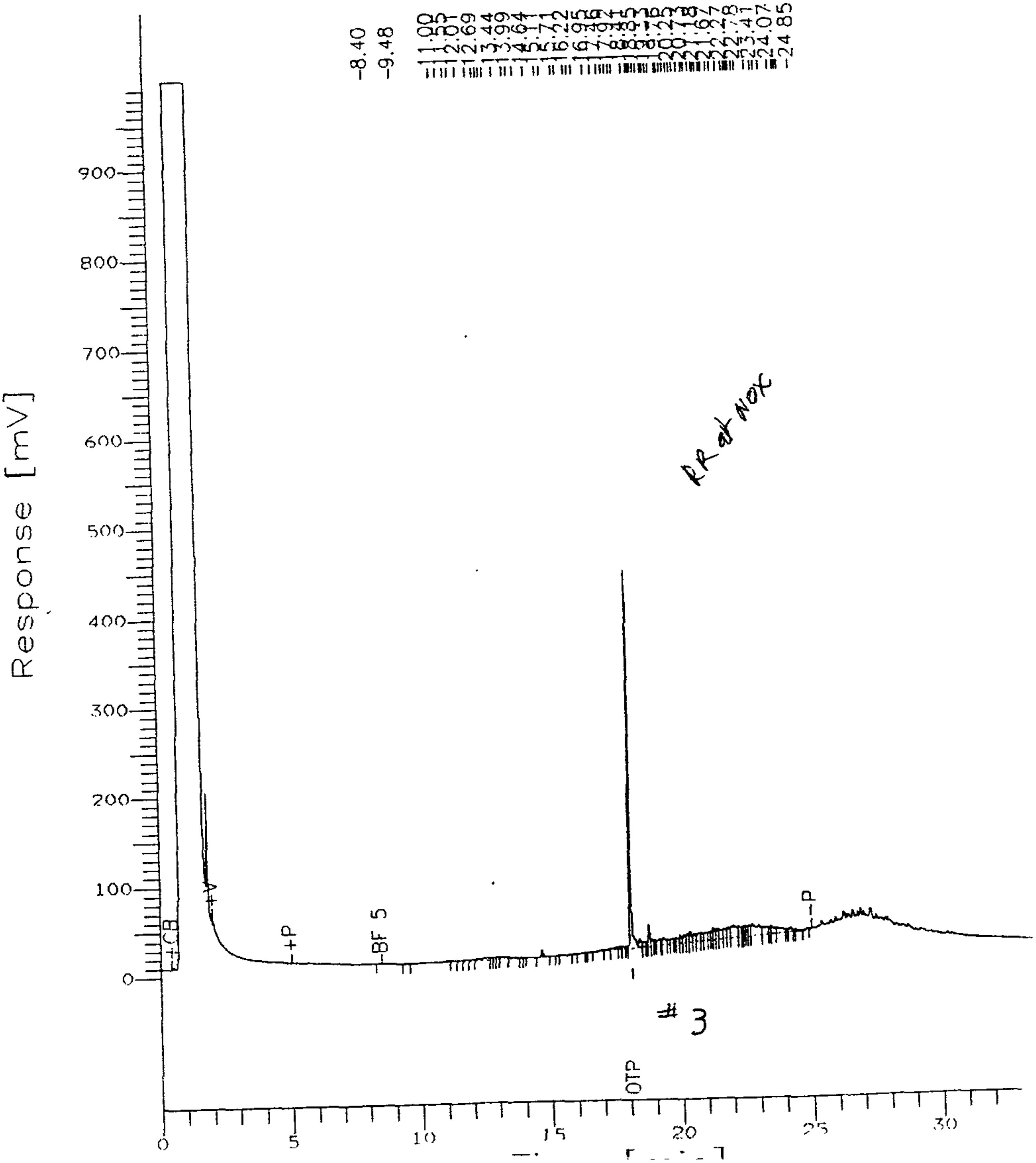
diesel analysis

Sample Name : 05210/B10A (5X)
FileName : d:\6000dies\S522022.raw
Method : sdieselb.ins
Start Time : 0.00 min
Scale Factor: 0

End Time : 35.00 min
Plot Offset: 0 mV

Sample #: 88766
Date : 5/23/95 02:04 AM
Time of Injection: 5/23/95 01:29 AM
Low Point : 0.00 mV
Plot Scale: 1000 mV

Page 1 of 1
High Point : 1000.00 mV



RR at NOX

#3

diesel analysis

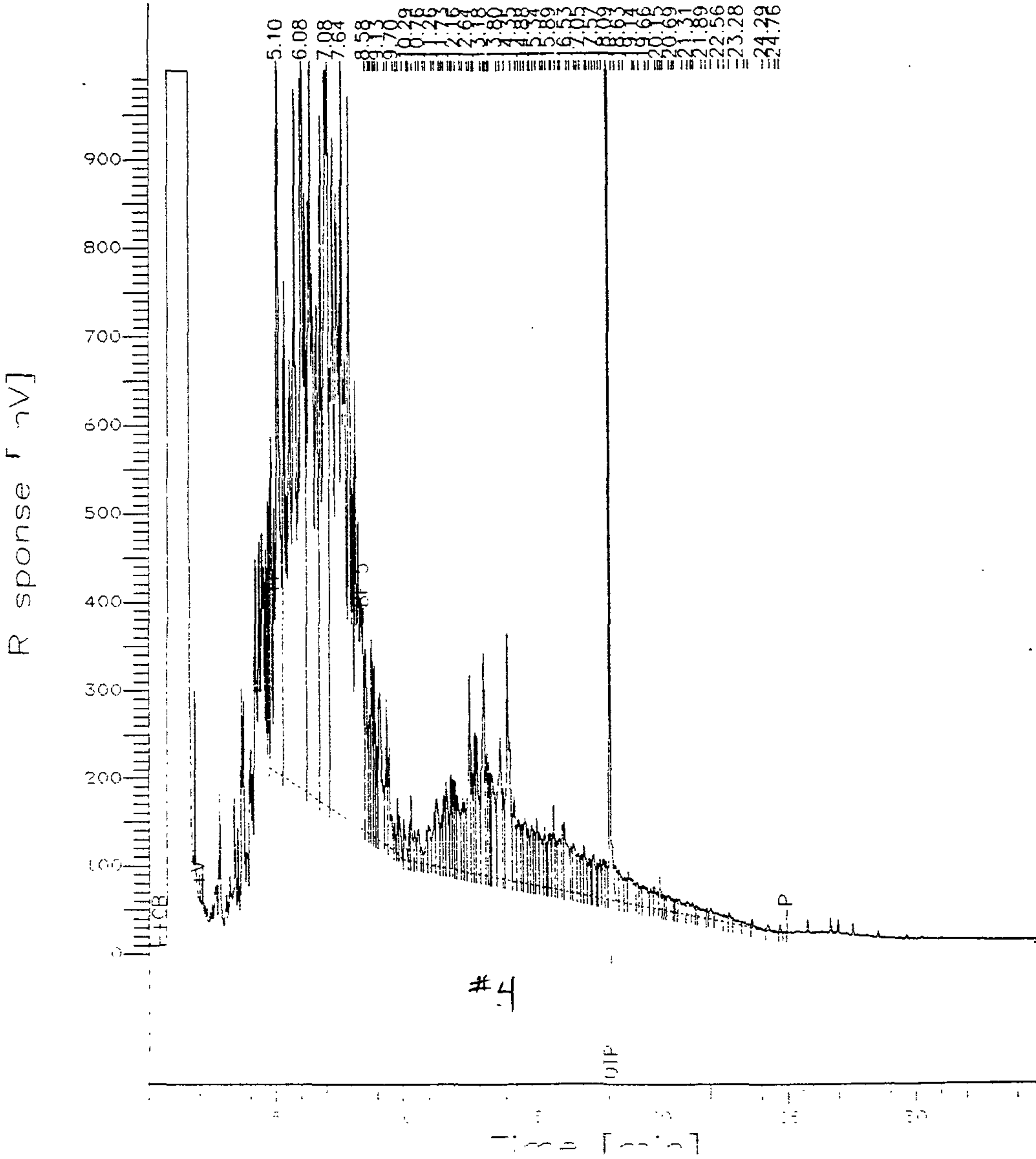
Sample Name : 05246/CPT8
File Name : d:\6000dies\S524023.raw
Method : sdieselb.ins
Start Time : 0.00 min
Scale Factor: 0

End Time : 35.00 min
Plot Offset: 0 mV

Sample #: 59105
Date : 5/25/95 12:14 PM
Time of Injection: 5/25/95 11:38 AM
Low Point : 0.00 mV
Plot Scale: 1000 mV

Page 1 of 1

High Point : 1000.00 mV



#4

diesel analysis

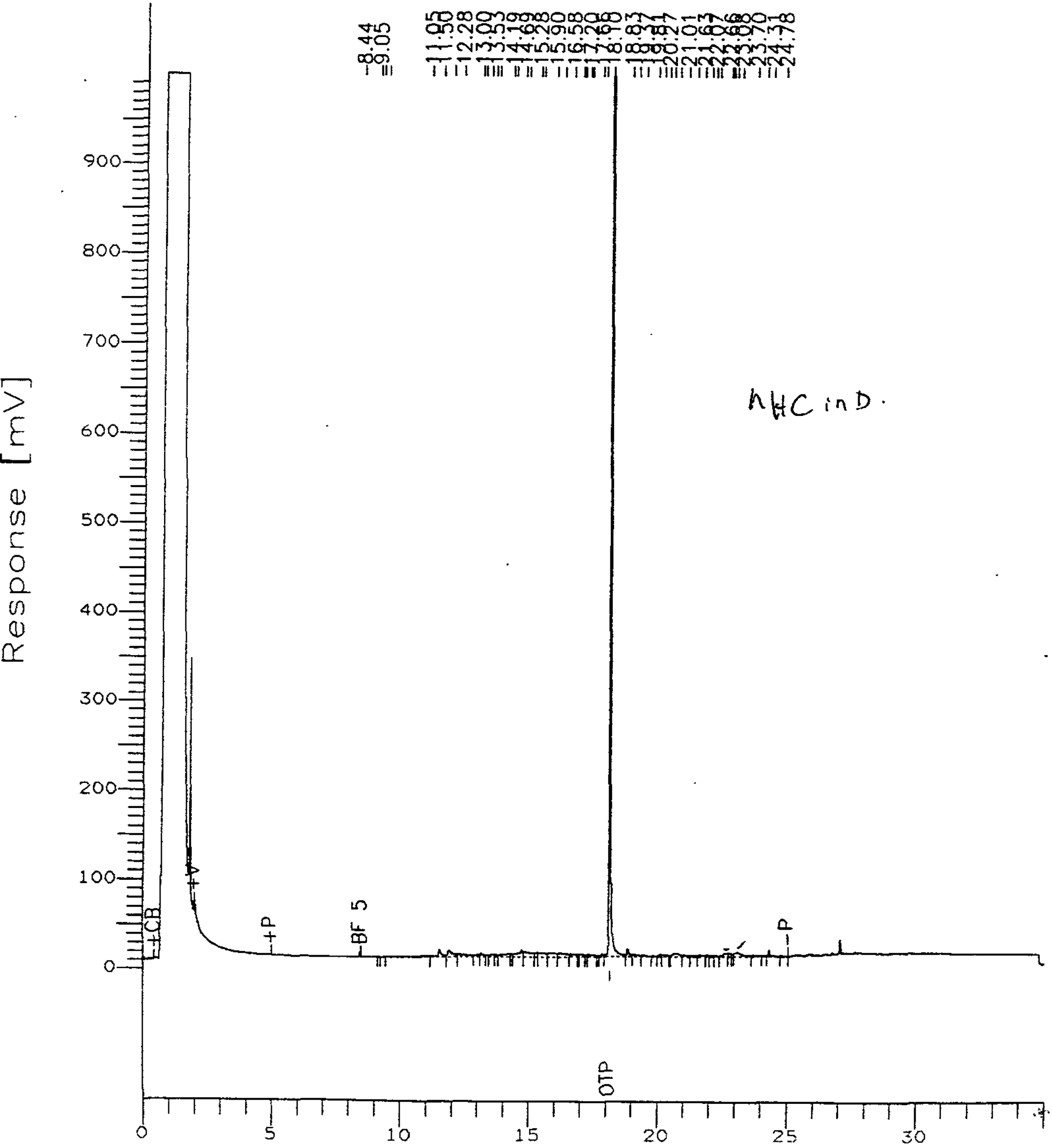
Sample Name : 05210/CPT-32-37
FileName : d:\6000dies\S522011.raw
Method : sdieselb.ins
Start Time : 0.00 min
Scale Factor: 0

End Time : 35.00 min
Plot Offset: 0 mV

Sample #: 88774
Date : 5/22/95 06:23 PM
Time of Injection: 5/22/95 05:48 PM
Low Point : 0.00 mV
Plot Scale: 1000 mV

Page 1 of 1

High Point : 1000.00 mV



NHC in D.

APPENDIX C

CONE PENETROMETER TEST (CPT) SOUNDINGS

APPENDIX C

CONE PENETROMETER TEST (CPT) SOUNDINGS

This appendix presents a report by the Earth Technology Corporation (Ertec), which contains the CPT soundings and a correlation chart of CPT measurements with soil behavior type. The CPT soundings can be used as soil-type logs, as outlined below.

Each CPT sounding record consists of a graphical and tabulated presentation of the CPT measurements. Both presentations include measurements of friction ratio, tip resistance and soil behavior type with depth. The CPT measurements have been empirically related to changes in soil grain size on hundreds of sites, and these empirical relations are used to develop a continuous log of soil behavior type. The empirical relations of the CPT measurements and soil type used to develop the continuous logs are shown on Figure 2 of the attached Earth Tech report. On the continuous log of soil behavior type, two vertical lines, one solid and one dashed, are superimposed on the CPT sounding record. The solid line is designated the sand line, and the dashed line is termed the silt line. Where the CPT sounding record crosses the sand line to the right, the CPT probe measurements are indicative of coarse-grained sediments, such as sand and gravel. Between the sand line and the silt line, the CPT probe measurements reflect more fine-grained sediments, intermediate between silts and sands, with values near the silt line representing soil behavior typical of silts. Where the CPT sounding record crosses the silt line to the left, soil behavior has been related to still finer grained sediments such as clays.

2121 Alton Parkway, Suite 100, Irvine, California 92714

Telephone
714-724 1776
Facsimile
714 724-1557

May 23, 1995

Mr. Dave Harnish
ENVIRON
5820 Shellmound Street, Suite 700
Emeryville, California 94608

Project Name: Standard Brands, Emeryville, California

Project No.: 03-3118L

Enclosed please find copies of the cone penetration test (CPT) data and results for the above referenced project along with a copy of the corresponding invoice.

The cone penetration tests conducted for this project consisted of pushing an instrumented cone-tipped probe into the ground while simultaneously recording the tip resistance and side friction resistance of the soil during penetration.

The cone penetration tests described in this report were conducted in general accordance with the current ASTM specifications (ASTM D3441-86) using an electronic cone penetrometer.

The CPT equipment operated by EARTH TECH (The Earth Technology Corporation) consists of a cone assembly mounted at the end of a series of hollow sounding rods. A set of hydraulic rams is used to continuously push the cone and rods into the soil at a rate of 20-mm per second (approximately 4 feet per minute) while the cone tip resistance and sleeve friction resistance are recorded every 25-mm (approximately 1-inch) and stored in digital form. A specially designed all wheel drive 23-ton truck provides the required reaction weight for pushing the cone assembly and is also used to transport and house the test equipment.

The cone penetrometer assembly used for this project consists of a conical tip and a cylindrical friction sleeve. The conical tip has a 60° apex angle and a diameter of 35.6-mm (1.40-inch) resulting in a projected cross-sectional area of 10 cm^2 (1.5 square inches). The cylindrical friction sleeve is 133-mm (5.25-inch) in length and has an outside diameter of 35.8-mm (1.41-inch), resulting in a surface area of 150 cm^2 (23 square inches).

The interior of the cone penetrometer is instrumented with strain gauges that allow simultaneous measurement of cone tip and friction sleeve resistance during penetration. Continuous electric signals from the strain gauges are transmitted by a shielded cable in the sounding rods to the PC-based data acquisition hardware in the CPT truck. The sounding log is also displayed on a monitor.

The CPT data processing is performed using the truck mounted computer based data acquisition and presentation system. The computer generated plots include cone resistance,

052395 DC/ CPT #2

friction resistance, friction ratio (and optional pore pressure ratio) versus depth at a user selectable scale.

Soil Behavior Type and other parameter interpretations are based on the following reference: Robertson, P.K. and Campanella, R.G., 1989 "Guidelines for Geotechnical Design using the Cone Penetrometer Test and CPT with Pore Pressure Measurement." Soil Mechanics series No. 120, Civil Engineering Department, University of British Columbia, Vancouver, B.C., V6T 1Z4, September 1989.

Soil Behavior Type and other parameter interpretations are done using EARTH TECH's proprietary data interpretation and presentation software. It is important to note that the data is not averaged. All interpretations are point interpretations at the corresponding depth listed.

It is also important to note that most of the correlative methods presented herein are based on a combination of theory, field research, research performed under laboratory conditions, and literature review. The tabulated and plotted information should, therefore, be viewed as a guideline rather than as precise measurements. However, an estimated equivalent relative density (D_r) of 20 to 40 percent, for example, having an estimated equivalent blow count (N_1) of less than 10, is clearly a loose granular soil, and cannot be confused with gravel or dense sand. Thus, for preliminary assessments of soil properties and expected site behavior, these interpretations are generally adequate.

Some care is recommended when using the Soil Behavior Type tabulations. If a tabulation depth happens to fall on a soil layer interface, or a seam of soil differing from the rest of the layer, the tabulated data can be misleading. The solution to this problem is the proper use of the CPT logs. The continuous penetration resistance is the primary source of profile description; the Soil Behavior Type tabulations are supplemental. The continuous logs should be examined and layer boundaries delineated in accordance with the project requirements. The Soil Behavior Type tabulations are only representative of the response of the soil to the large shear deformations imposed during cone penetration. This is not necessarily a prediction of grain size distribution. However, it has been found that Soil Behavior Types generally agree well with the soil types defined in accordance with the grain size distribution methods such as used in the Unified Soil Classification System.

Computer generated cone penetration test plots and the results of cone penetrometer test data are included at Attachment A to this letter report.

Limitations

EARTH TECH presents the attached data in accordance with ASTM Standard D3441-86 and generally accepted Cone Penetration Test practices and standards.

The attached data further relates only to the specific project location discussed in the data.

Judgement may be required to verify the CPT Soil Behavior Interpretations.

The "CLIENT" may distribute this data or excerpts therefrom provided the following statement is prominently displayed and included with the distribution:

> "Neither CLIENT nor EARTH TECH make any guarantee or warranty, express or implied, regarding this data. THE USE OF THIS INFORMATION SHALL BE AT THE USER'S SOLE RISK REGARDLESS OF ANY FAULT OR NEGLIGENCE OF THE CLIENT OR EARTH TECH."

Please feel free to call me if you have any questions.

Very truly yours,

EARTH TECH

Dick Carlton

Dick Carlton
Project Administrator

052395.DC/ CPT #2

Notes:

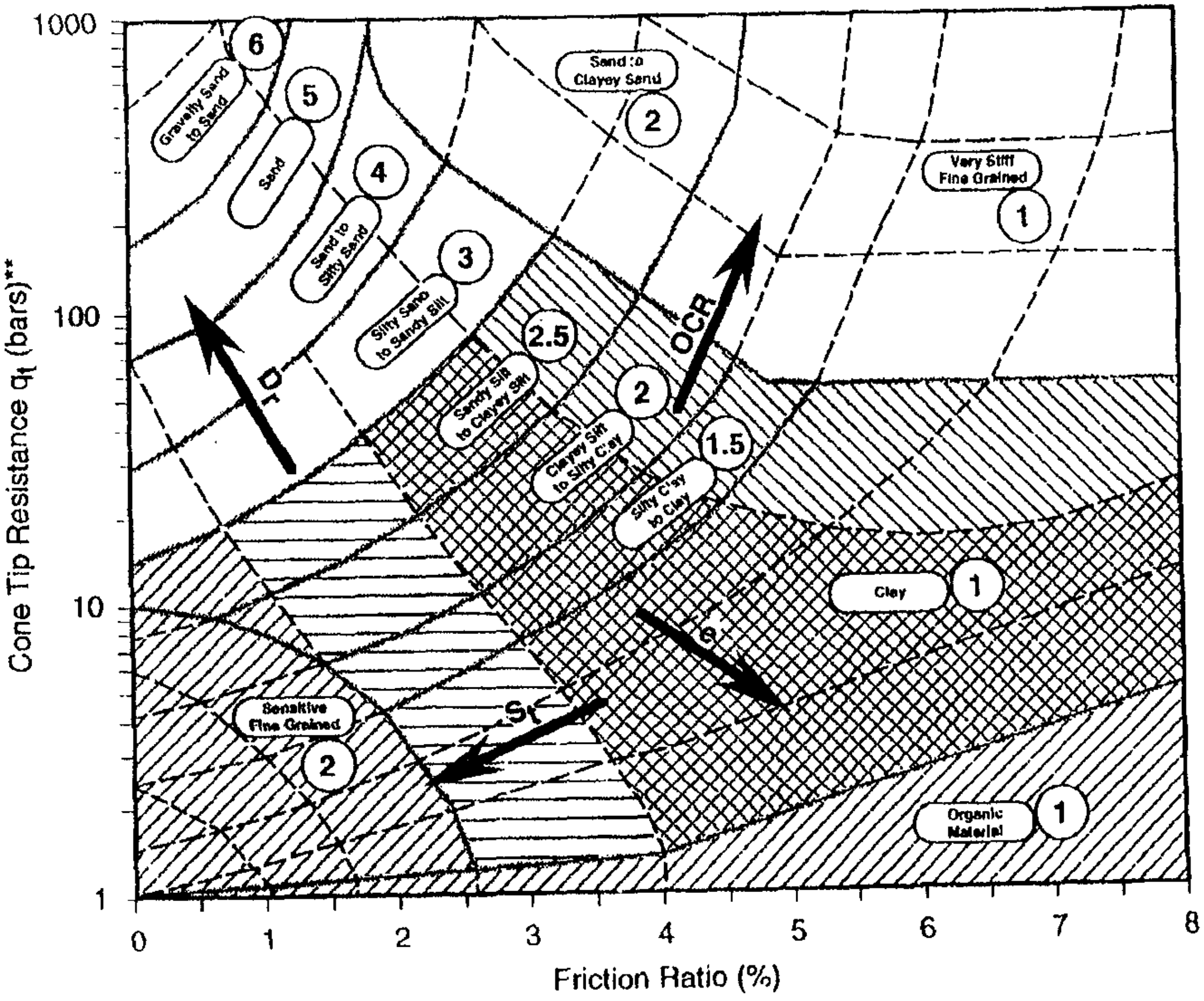
1. Heavy Lines Indicate SBT Zone Boundaries
2. $\frac{q_t}{N}$ Ratio Used to Estimate Equivalent SPT N(60) Value
3. Undrained Shear Strength

$$Su = \frac{q_t - \sigma_v}{N_k}$$

Zone	N_k
▨	10.0
☰	12.5
▩	15.0
▧	17.0

** 1 bar = 100 kPa = 1.0443 tsf

* q_t = Cone Tip Resistance Corrected for Unequal and Areas (if applicable)



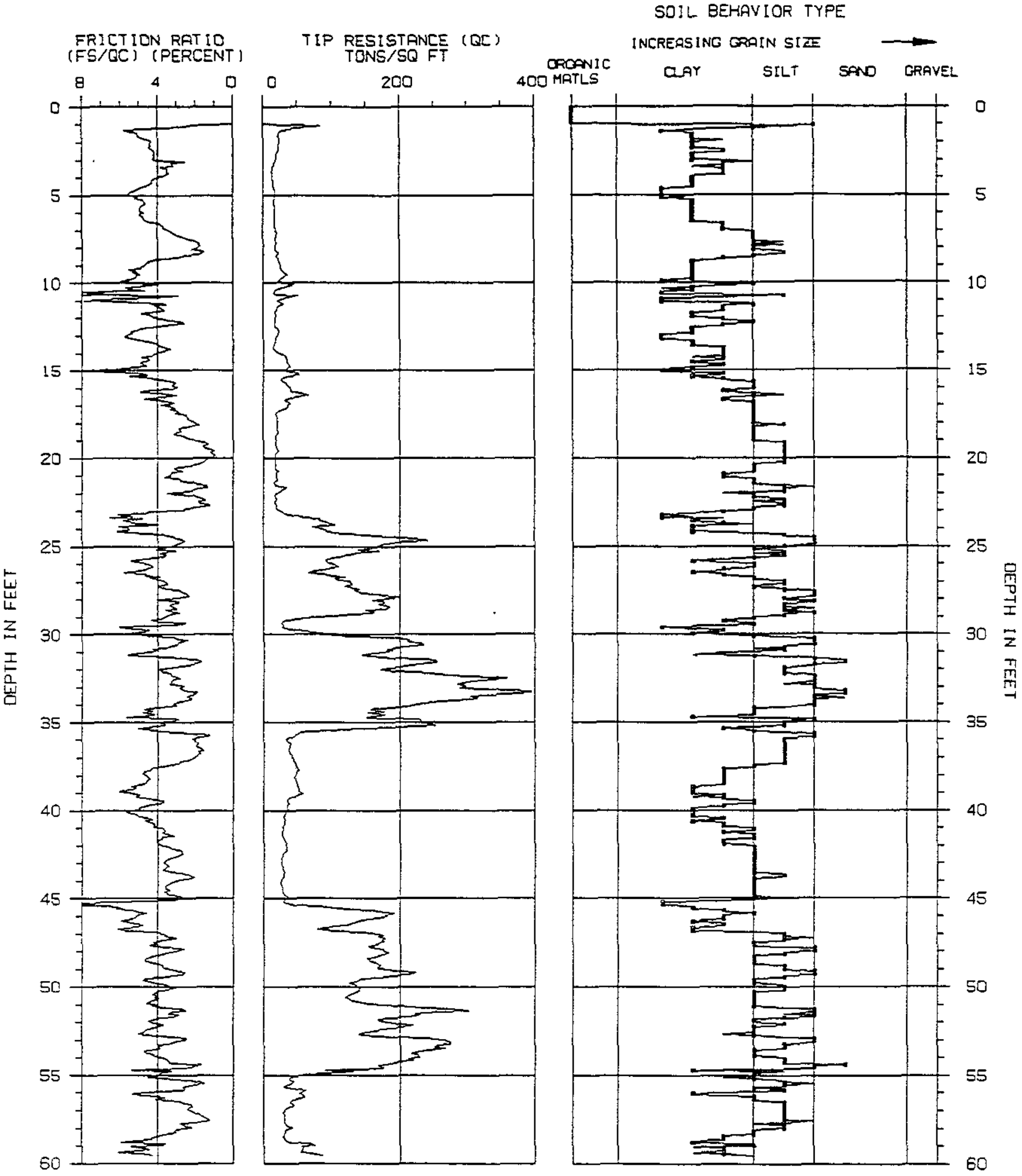
EARTH TECH	Project No.: 95-380-01102 Dames & Moore/NASNI

Soil Behavior Type Classification Chart

(After Robertson and Campanella, 1989)

5-95

Figure 2



TOP 1.0 FT IS DISTURBED SOIL

TIP RESISTANCE NOT CORRECTED FOR END AREA EFFECT

ASSUMED TOTAL UNIT WT = 110 PCF

ASSUMED DEPTH OF WATER TABLE = 15.0 FT

SOIL BEHAVIOR TYPE INTERPRETATIONS BASED ON: GUIDELINES FOR GEOTECHNICAL DESIGN USING THE CPT AND CPTU SOIL MECHANICS SERIES #120, UNIVERSITY OF BRITISH COLUMBIA, SEPTEMBER 1989, BY P.K. ROBERTSON AND R.G. CAMPANELLA.

CONE PENETRATION TEST

SOUNDING NUMBER: CPT-1

PROJECT NAME : ENVIRON/STD.BNDS

CONE/RIG : 469/T-3

PROJECT NUMBER : 95-381-12106

DATE/TIME: 05-15-95 10:31

EARTH TECH

CONE PENETRATION TEST

SOUNDING : CPT-1
PROJECT : ENVIRON/STD.BNDS
DATE/TIME: 05-15-95 10:31

PROJECT No.: 95-381-12106
CONE/RIG : 469/T-3

DEPTH (m)	DEPTH (ft)	TIP RESISTANCE (tsf)	FRICTION RATIO (%)	CONE PORE PRESSURE (tsf)	SOIL BEHAVIOR TYPE	N(60)
150	.49	.0	.00	NA		0
.300	98	.0	.00	NA		0
.450	1.48	23.5	5.06	NA	CLAY	24
600	1.97	23.2	4.40	NA	CLAY to SILTY CLAY	15
.750	2.46	21.1	4.26	NA	CLAY to SILTY CLAY	14
.900	2.95	18.2	4.30	NA	CLAY	18
1.050	3.44	11.9	3.85	NA	CLAY	12
1.200	3.94	12.3	3.75	NA	CLAY	12
1 350	4.43	14.5	4.55	NA	CLAY	15
1 500	4.92	17.0	5.53	NA	CLAY	17
1.650	5.41	16.0	4.69	NA	CLAY	16
1.800	5.91	17.3	4.92	NA	CLAY	17
1 950	6.40	17.1	4.74	NA	CLAY	17
2.100	6.89	17.9	3.69	NA	CLAY to SILTY CLAY	12
2 250	7.38	18.3	2.68	NA	CLAYEY SILT to SILTY CLAY	9
2.400	7.87	17.7	1.75	NA	SANDY SILT to CLAYEY SILT	7
2.550	8.37	20.7	1.88	NA	SANDY SILT to CLAYEY SILT	8
2.700	8.86	23.5	4.51	NA	CLAY	24
2.850	9.35	28.4	5.14	NA	CLAY	28
3.000	9.84	21.9	5.80	NA	CLAY	22
3.150	10.33	22.5	5.52	NA	CLAY	22
3.300	10.83	35.5	4.09	NA	CLAY to SILTY CLAY	24
3.450	11.32	23.3	4.17	NA	CLAY to SILTY CLAY	16
3.600	11.81	18.0	4.50	NA	CLAY	18
3.750	12.30	17.0	2.59	NA	CLAYEY SILT to SILTY CLAY	8
3.900	12.80	22.7	5.42	NA	CLAY	23
4 050	13.29	17.3	5.04	NA	CLAY	17
4.200	13.78	15.3	3.34	NA	CLAY to SILTY CLAY	10
4 350	14 27	32.3	4.86	NA	CLAY	32
4 500	14.76	39.5	4.59	NA	CLAY to SILTY CLAY	26
4.650	15.26	52.3	4.53	NA	CLAY to SILTY CLAY	35
4 800	15.75	34.0	3.03	NA	CLAYEY SILT to SILTY CLAY	17
4.950	16.24	43.3	4.92	NA	CLAY to SILTY CLAY	29
5.100	16.73	31.6	4.02	NA	CLAY to SILTY CLAY	21
5.250	17.22	28 3	3.32	NA	CLAYEY SILT to SILTY CLAY	14
5 400	17.72	19.8	2.37	NA	CLAYEY SILT to SILTY CLAY	10
5 550	18.21	19.8	2.28	NA	CLAYEY SILT to SILTY CLAY	10
5.700	18 70	19.1	2.83	NA	CLAYEY SILT to SILTY CLAY	10
5.850	19.19	16.8	1.37	NA	SANDY SILT to CLAYEY SILT	7
6 000	19 69	19.5	1.18	NA	SANDY SILT to CLAYEY SILT	8
6.150	20.18	16.9	1.48	NA	SANDY SILT to CLAYEY SILT	7

NA = NOT APPLICABLE
TOP 1.0 ft IS DISTURBED SOIL
*INDICATES OVERCONSOLIDATED OR CEMENTED MATERIAL
ASSUMED TOTAL UNIT WT = 110 pcf
ASSUMED DEPTH OF WATER TABLE = 15.0 ft
N(60) = EQUIVALENT SPT VALUE (60% Energy)

EARTH TECH

Interpretations based on: Robertson and Campanella, 1989.

SOUNDING : CPT-1

DEPTH (m)	DEPTH (ft)	TIP RESISTANCE (tsf)	FRICTION RATIO (%)	CONE PORE PRESSURE (tsf)	SOIL BEHAVIOR TYPE	N(60)
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6.300	20.67	19.1	2.94	NA	CLAYEY SILT to SILTY CLAY	10
6.450	21.16	19.7	2.94	NA	CLAYEY SILT to SILTY CLAY	10
6.600	21.65	33.3	1.32	NA	SILTY SAND to SANDY SILT	11
6.750	22.15	17.1	2.16	NA	CLAYEY SILT to SILTY CLAY	9
6.900	22.64	19.3	1.29	NA	SANDY SILT to CLAYEY SILT	8
7.050	23.13	30.4	4.70	NA	CLAY	30
7.200	23.62	92.0	5.56	NA	*VERY STIFF FINE GRAINED	92
7.350	24.11	92.5	5 63	NA	*VERY STIFF FINE GRAINED	92
7.500	24.61	235.7	2.72	NA	SILTY SAND to SANDY SILT	79
7.650	25.10	164.5	3.78	NA	*SAND to CLAYEY SAND	82
7.800	25.59	111.2	3.70	NA	SANDY SILT to CLAYEY SILT	44
7.950	26.08	105.7	4.32	NA	*VERY STIFF FINE GRAINED	106
8.100	26.57	86.2	4.64	NA	*VERY STIFF FINE GRAINED	86
8.250	27.07	126.8	3.51	NA	SANDY SILT to CLAYEY SILT	51
8.400	27.56	137.1	2.83	NA	SILTY SAND to SANDY SILT	46
8.550	28.05	161.2	3.89	NA	*SAND to CLAYEY SAND	81
8.700	28.54	178.1	3 02	NA	SILTY SAND to SANDY SILT	59
8.850	29.04	75.2	3.60	NA	CLAYEY SILT to SILTY CLAY	38
9.000	29.53	28.7	4.57	NA	CLAY to SILTY CLAY	19
9.150	30.02	104.0	4.75	NA	*VERY STIFF FINE GRAINED	104
9.300	30.51	231.7	2.92	NA	SILTY SAND to SANDY SILT	77
9.450	31.00	174.9	4.36	NA	*VERY STIFF FINE GRAINED	175
9.600	31.50	254 2	1.94	NA	SAND to SILTY SAND	64
9.750	31.99	171.9	3.90	NA	*SAND to CLAYEY SAND	86
9.900	32.48	358 0	2.81	NA	*SAND to CLAYEY SAND	179
10 050	32.97	298 5	2.60	NA	SILTY SAND to SANDY SILT	100
10 200	33.46	327.2	2.30	NA	SILTY SAND to SANDY SILT	109
10.350	33 96	225.9	3.16	NA	SILTY SAND to SANDY SILT	75
10.500	34.45	153 1	4.79	NA	*VERY STIFF FINE GRAINED	153
10.650	34.94	233.2	3.35	NA	*SAND to CLAYEY SAND	117
10 800	35.43	97 6	4.22	NA	CLAYEY SILT to SILTY CLAY	49
10.950	35.93	33.3	2.16	NA	SANDY SILT to CLAYEY SILT	13
11.100	36 42	37 5	1.95	NA	SANDY SILT to CLAYEY SILT	15
11.250	36.91	41.3	1.91	NA	SANDY SILT to CLAYEY SILT	17
11.400	37.40	46.7	3.25	NA	CLAYEY SILT to SILTY CLAY	23
11.550	37.89	47 6	4 81	NA	CLAY to SILTY CLAY	32
11 700	38.39	48 2	4.57	NA	CLAY to SILTY CLAY	32
11.850	38.88	51.3	5.91	NA	CLAY	51
12.000	39.37	35 1	4.16	NA	CLAY to SILTY CLAY	23
12.150	39.86	35.4	5 03	NA	CLAY	35
12.300	40 35	29.4	5.03	NA	CLAY	29
12 450	40.85	28 3	4.16	NA	CLAY to SILTY CLAY	19
12.600	41.34	27.9	3.47	NA	CLAYEY SILT to SILTY CLAY	14
12 750	41.83	33.3	3.99	NA	CLAY to SILTY CLAY	22
12.900	42.32	32.0	2.72	NA	CLAYEY SILT to SILTY CLAY	16
13.050	42.81	26.6	3.53	NA	CLAYEY SILT to SILTY CLAY	13
13 200	43.31	28.1	3.63	NA	CLAYEY SILT to SILTY CLAY	14
13.350	43.80	29.4	2.11	NA	SANDY SILT to CLAYEY SILT	12
13 500	44.29	26.5	3.59	NA	CLAYEY SILT to SILTY CLAY	13
13 650	44.78	29.8	3 39	NA	CLAYEY SILT to SILTY CLAY	15

NA = NOT APPLICABLE
*INDICATES OVERCONSOLIDATED OR CEMENTED MATERIAL
ASSUMED TOTAL UNIT WT = 110 pcf
ASSUMED DEPTH OF WATER TABLE = 15.0 ft
N(60) = EQUIVALENT SPT VALUE (60% Energy)

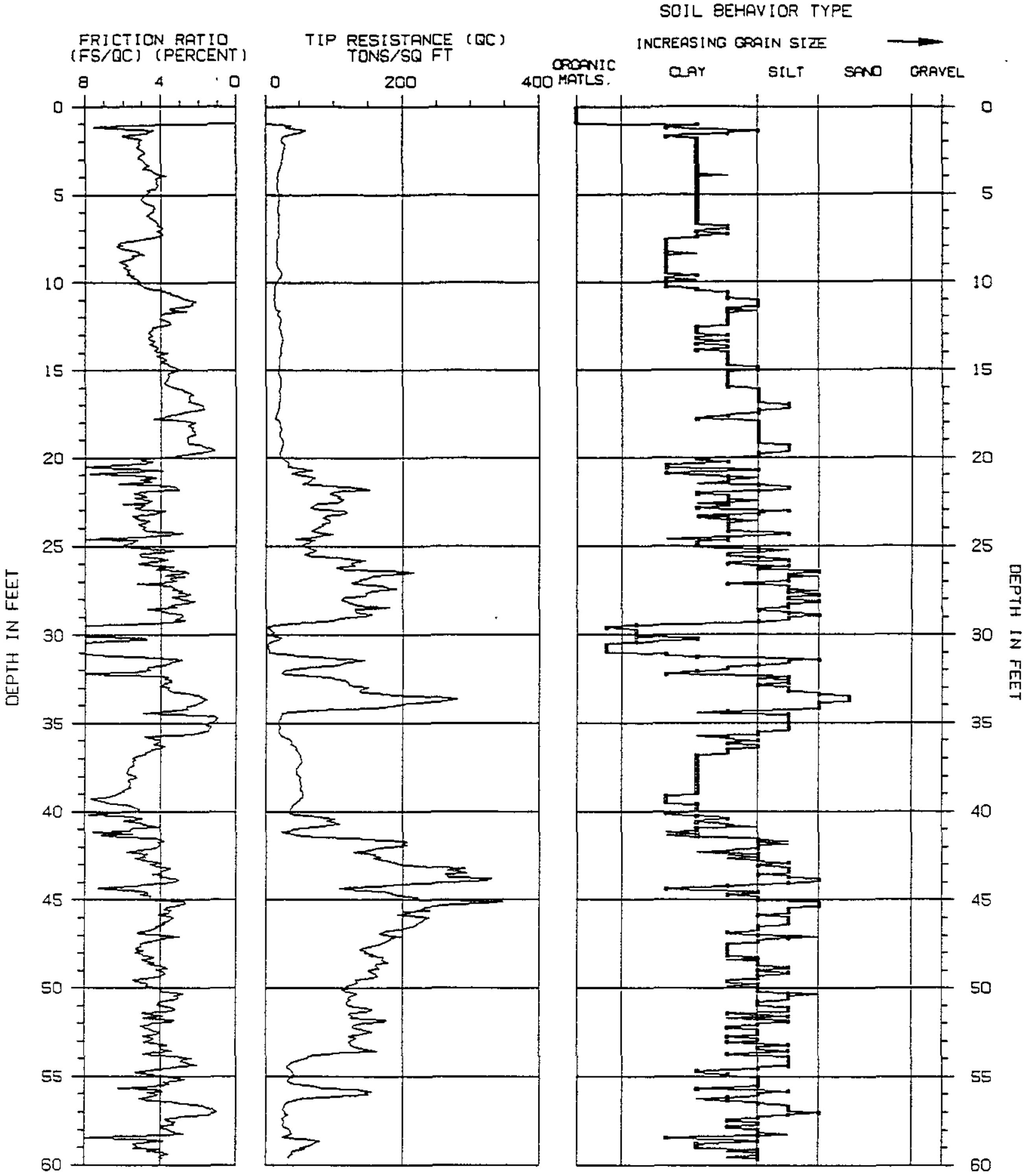
Interpretations based on: Robertson and Campanella, 1989.

SOUNDING : CPT-1

DEPTH (m)	DEPTH (ft)	TIP RESISTANCE (tsf)	FRICTION RATIO (%)	CONE PORE PRESSURE (tsf)	SOIL BEHAVIOR TYPE	N(60)
13.800	45.28	33.2	8.55	NA	CLAY	33
13.950	45.77	176.8	4.99	NA	*VERY STIFF FINE GRAINED	177
14.100	46.26	138.8	5.92	NA	*VERY STIFF FINE GRAINED	139
14.250	46.75	79.7	6.11	NA	*VERY STIFF FINE GRAINED	80
14.400	47.24	178.6	3.00	NA	SILTY SAND to SANDY SILT	60
14.550	47.74	153.8	4.19	NA	*VERY STIFF FINE GRAINED	154
14.700	48.23	169.6	4.00	NA	*VERY STIFF FINE GRAINED	170
14.850	48.72	169.3	4.00	NA	*VERY STIFF FINE GRAINED	169
15.000	49.21	222.6	2.60	NA	SILTY SAND to SANDY SILT	74
15.150	49.70	135.4	4.37	NA	*VERY STIFF FINE GRAINED	135
15.300	50.20	139.7	3.74	NA	SANDY SILT to CLAYEY SILT	56
15.450	50 69	124.3	3.96	NA	CLAYEY SILT to SILTY CLAY	62
15.600	51.18	230.7	3.76	NA	*SAND to CLAYEY SAND	115
15.750	51.67	213.5	3.10	NA	SILTY SAND to SANDY SILT	71
15.900	52.17	220.2	3.68	NA	*SAND to CLAYEY SAND	110
16.050	52.66	140.5	5.03	NA	*VERY STIFF FINE GRAINED	140
16 200	53.15	275.7	3.12	NA	*SAND to CLAYEY SAND	138
16.350	53 64	229.9	4.76	NA	*VERY STIFF FINE GRAINED	230
16.500	54.13	219.3	3.43	NA	*SAND to CLAYEY SAND	110
16.650	54.63	174.6	2.57	NA	SILTY SAND to SANDY SILT	58
16 800	55.12	38.6	4.56	NA	CLAY to SILTY CLAY	26
16.950	55.61	29.3	2.46	NA	SANDY SILT to CLAYEY SILT	12
17.100	56 10	55.0	5.35	NA	CLAY	55
17.250	56.59	41.2	2.62	NA	SANDY SILT to CLAYEY SILT	16
17.400	57.09	29.4	2.11	NA	SANDY SILT to CLAYEY SILT	12
17 550	57.58	30.3	1.22	NA	SILTY SAND to SANDY SILT	10
17.700	58.07	35.0	2.94	NA	CLAYEY SILT to SILTY CLAY	17
17.850	58.56	30.4	4.35	NA	CLAY to SILTY CLAY	20
18 000	59.06	55.4	5.43	NA	CLAY	55

NA = NOT APPLICABLE
*INDICATES OVERCONSOLIDATED OR CEMENTED MATERIAL
ASSUMED TOTAL UNIT WT = 110 pcf
ASSUMED DEPTH OF WATER TABLE = 15.0 ft
N(60) = EQUIVALENT SPT VALUE (60% Energy)

Interpretations based on: Robertson and Campanella, 1989.



TOP 1.0 FT IS DISTURBED SOIL

TIP RESISTANCE NOT CORRECTED FOR END AREA EFFECT

ASSUMED TOTAL UNIT WT = 110 PCF

ASSUMED DEPTH OF WATER TABLE = 15.0 FT

SOIL BEHAVIOR TYPE INTERPRETATIONS BASED ON: GUIDELINES FOR GEOTECHNICAL DESIGN USING THE CPT AND CPTU SOIL MECHANICS SERIES #120. UNIVERSITY OF BRITISH COLUMBIA. SEPTEMBER 1989. BY P.K. ROBERTSON AND R.G. CAMPANELLA.

CONE PENETRATION TEST

SOUNDING NUMBER: CPT-2

PROJECT NAME : ENVIRON/STD.BNDS

CONE/RIG : 469/T-3

PROJECT NUMBER : 95-381-12106

DATE/TIME: 05-15-95 06:31

EARTH TECH

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*                                                                     *
*                     CONE PENETRATION TEST                           *
*                                                                     *
*  SOUNDING : CPT-2                       PROJECT No.:   95-381-121  *
*  PROJECT  : ENVIRON/STD.BNDS            CONE/RIG : 469/T-3          *
*  DATE/TIME: 05-15-95 06:31                                          *
*                                                                     *
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DEPTH (m)	DEPTH (ft)	TIP RESISTANCE (tsf)	FRICTION RATIO (%)	CONE PORE PRESSURE (tsf)	SOIL BEHAVIOR TYPE	N(60)
.150	.49	.0	.00	NA		0
.300	.98	.0	.00	NA		0
.450	1.48	52 9	4.67	NA	CLAY to SILTY CLAY	35
.600	1.97	23.6	5.14	NA	CLAY	24
.750	2.46	26.5	5.07	NA	CLAY	26
.900	2.95	24.0	5.17	NA	CLAY	24
1.050	3.44	19.5	4.93	NA	CLAY	19
1.200	3.94	16.5	3.77	NA	CLAY to SILTY CLAY	11
1.350	4.43	15.5	4.19	NA	CLAY	16
1.500	4.92	18.0	4.77	NA	CLAY	18
1.650	5.41	18.2	4.94	NA	CLAY	18
1.800	5.91	17.8	4.39	NA	CLAY	18
1 950	6.40	18 3	4.44	NA	CLAY	18
2.100	6.89	18.4	3.92	NA	CLAY to SILTY CLAY	12
2 250	7 38	18.5	4.17	NA	CLAY	18
2.400	7.87	16.1	6.04	NA	CLAY	16
2.550	8.37	15.5	4.91	NA	CLAY	15
2 700	8.86	15.0	6.13	NA	CLAY	15
2.850	9.35	22.0	5.83	NA	CLAY	22
3 000	9.84	17.6	5.12	NA	CLAY	18
3.150	10.33	12.5	4.63	NA	CLAY	13
3.300	10.83	11.9	2.93	NA	CLAY to SILTY CLAY	8
3.450	11.32	13.3	2.32	NA	CLAYEY SILT to SILTY CLAY	7
3.600	11.81	17.2	3.95	NA	CLAY to SILTY CLAY	11
3 750	12.30	20.7	3.48	NA	CLAY to SILTY CLAY	14
3.900	12.80	21.8	4.60	NA	CLAY	22
4 050	13.29	25.1	4.54	NA	CLAY	25
4.200	13.78	22.1	4.17	NA	CLAY to SILTY CLAY	15
4.350	14.27	19.7	4.01	NA	CLAY to SILTY CLAY	13
4.500	14.76	19.3	3.52	NA	CLAY to SILTY CLAY	13
4.650	15.26	19 7	3.60	NA	CLAY to SILTY CLAY	13
4.800	15.75	21 4	3.78	NA	CLAY to SILTY CLAY	14
4.950	16.24	19.3	2.81	NA	CLAYEY SILT to SILTY CLAY	10
5 100	16.73	19.8	2.48	NA	CLAYEY SILT to SILTY CLAY	10
5.250	17.22	17.6	1.70	NA	SANDY SILT to CLAYEY SILT	7
5.400	17.72	13.0	3.86	NA	CLAY	13
5 550	18.21	20.3	2 57	NA	CLAYEY SILT to SILTY CLAY	10
5.700	18.70	19.8	2.22	NA	CLAYEY SILT to SILTY CLAY	10
5 850	19 19	24.2	2.52	NA	CLAYEY SILT to SILTY CLAY	12
6.000	19.69	20.0	1.50	NA	SANDY SILT to CLAYEY SILT	8
6.150	20.18	27.9	5.02	NA	CLAY	28

NA = NOT APPLICABLE
TOP 1.0 ft IS DISTURBED SOIL
*INDICATES OVERCONSOLIDATED OR CEMENTED MATERIAL
ASSUMED TOTAL UNIT WT = 110 pcf
ASSUMED DEPTH OF WATER TABLE = 15.0 ft
N(60) = EQUIVALENT SPT VALUE (60% Energy)

Interpretations based on: Robertson and Campanella, 1989.

SOUNDING : CPT-2

DEPTH (m)	DEPTH (ft)	TIP RESISTANCE (tsf)	FRICTION RATIO (%)	CONE PORE PRESSURE (tsf)	SOIL BEHAVIOR TYPE	N(60)
6.300	20.67	61.4	4.40	NA	CLAYEY SILT to SILTY CLAY	31
6.450	21.16	72.1	4.26	NA	CLAYEY SILT to SILTY CLAY	36
6.600	21.65	114.1	3.22	NA	SANDY SILT to CLAYEY SILT	46
6.750	22.15	101.5	4.95	NA	*VERY STIFF FINE GRAINED	101
6.900	22.64	76.2	6.02	NA	*VERY STIFF FINE GRAINED	76
7.050	23.13	118.5	4.15	NA	*VERY STIFF FINE GRAINED	119
7.200	23.62	93.7	4.57	NA	*VERY STIFF FINE GRAINED	94
7.350	24.11	68.8	4.85	NA	*VERY STIFF FINE GRAINED	69
7.500	24.61	43.8	8.19	NA	CLAY	44
7.650	25.10	60.1	5.39	NA	CLAY	60
7.800	25.59	67.7	5.04	NA	*VERY STIFF FINE GRAINED	68
7.950	26.08	131.6	4.24	NA	*VERY STIFF FINE GRAINED	132
8.100	26.57	196.9	3.34	NA	SANDY SILT to CLAYEY SILT	79
8.250	27.07	126.1	3.97	NA	CLAYEY SILT to SILTY CLAY	63
8.400	27.56	158.3	2.84	NA	SILTY SAND to SANDY SILT	53
8.550	28.05	111.8	2.77	NA	SANDY SILT to CLAYEY SILT	45
8.700	28.54	130.9	4.68	NA	*VERY STIFF FINE GRAINED	131
8.850	29.04	120.0	2.96	NA	SANDY SILT to CLAYEY SILT	48
9.000	29.53	2.7	35.19	NA	ORGANIC MATERIAL	3
9.150	30.02	5.8	21.40	NA	CLAY	6
9.300	30.51	2.4	25.00	NA	ORGANIC MATERIAL	2
9.450	31.00	3.5	52.71	NA	ORGANIC MATERIAL	4
9.600	31.50	136.5	3.13	NA	SANDY SILT to CLAYEY SILT	55
9.750	31.99	30.2	4.53	NA	CLAY to SILTY CLAY	20
9.900	32.48	102.6	3.77	NA	CLAYEY SILT to SILTY CLAY	51
10.050	32.97	149.8	3.50	NA	SANDY SILT to CLAYEY SILT	60
10.200	33.46	213.3	1.84	NA	SAND to SILTY SAND	53
10.350	33.96	195.0	2.17	NA	SILTY SAND to SANDY SILT	65
10.500	34.45	23.7	4.93	NA	CLAY	24
10.650	34.94	18.9	1.22	NA	SANDY SILT to CLAYEY SILT	8
10.800	35.43	18.4	1.53	NA	SANDY SILT to CLAYEY SILT	7
10.950	35.93	35.1	4.10	NA	CLAY to SILTY CLAY	23
11.100	36.42	44.9	4.06	NA	CLAYEY SILT to SILTY CLAY	22
11.250	36.91	50.9	5.28	NA	CLAY	51
11.400	37.40	48.3	5.42	NA	CLAY	48
11.550	37.89	45.3	5.72	NA	CLAY	45
11.700	38.39	51.2	5.62	NA	CLAY	51
11.850	38.88	54.0	5.94	NA	CLAY	54
12.000	39.37	49.9	7.21	NA	CLAY	50
12.150	39.86	37.1	5.13	NA	CLAY	37
12.300	40.35	88.5	5.05	NA	*VERY STIFF FINE GRAINED	89
12.450	40.85	72.8	4.01	NA	CLAYEY SILT to SILTY CLAY	36
12.600	41.34	42.5	7.17	NA	CLAY	43
12.750	41.83	199.2	4.04	NA	*SAND to CLAYEY SAND	100
12.900	42.32	130.1	5.84	NA	*VERY STIFF FINE GRAINED	130
13.050	42.81	181.2	4.52	NA	*VERY STIFF FINE GRAINED	181
13.200	43.31	266.0	3.71	NA	*SAND to CLAYEY SAND	133
13.350	43.80	330.0	3.22	NA	*SAND to CLAYEY SAND	165
13.500	44.29	123.2	6.52	NA	*VERY STIFF FINE GRAINED	123
13.650	44.78	206.3	4.50	NA	*VERY STIFF FINE GRAINED	206

NA = NOT APPLICABLE
*INDICATES OVERCONSOLIDATED OR CEMENTED MATERIAL
ASSUMED TOTAL UNIT WT = 110 pcf
ASSUMED DEPTH OF WATER TABLE = 15.0 ft
N(60) = EQUIVALENT SPT VALUE (60% Energy)

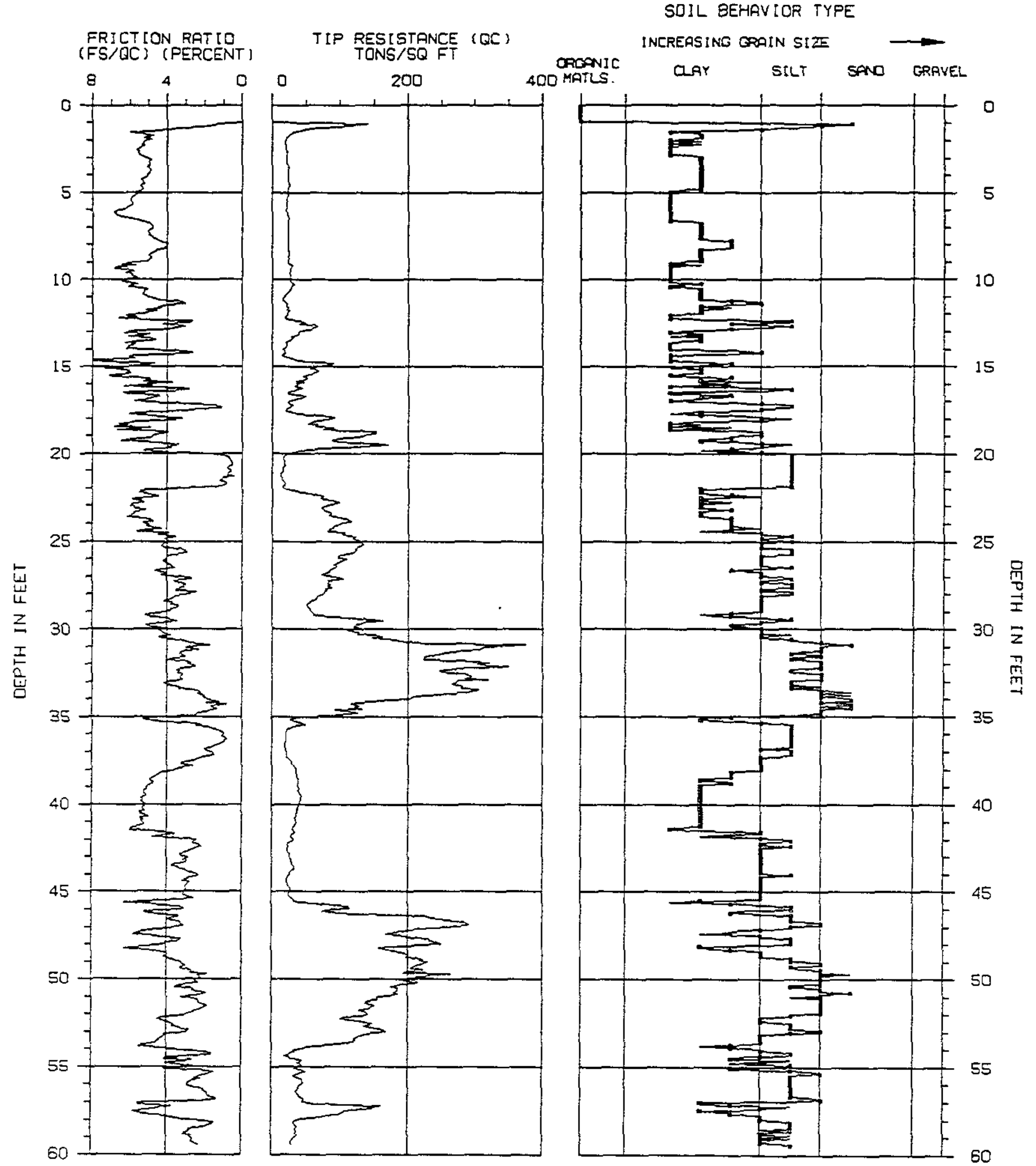
Interpretations based on: Robertson and Campanella, 1989.

SOUNDING : CPT-2

DEPTH (m)	DEPTH (ft)	TIP RESISTANCE (tsf)	FRICTION RATIO (%)	CONE PORE PRESSURE (tsf)	SOIL BEHAVIOR TYPE	N(60)
13.800	45.28	276.3	2.85	NA	SILTY SAND to SANDY SILT	92
13.950	45.77	211.7	3.57	NA	*SAND to CLAYEY SAND	106
14.100	46.26	224.9	3.89	NA	*SAND to CLAYEY SAND	112
14.250	46.75	178.1	4.62	NA	*VERY STIFF FINE GRAINED	178
14.400	47.24	183.1	4.12	NA	*VERY STIFF FINE GRAINED	183
14.550	47.74	143.9	5.27	NA	*VERY STIFF FINE GRAINED	144
14.700	48.23	171.7	4.30	NA	*VERY STIFF FINE GRAINED	172
14 850	48.72	159.8	4.16	NA	*VERY STIFF FINE GRAINED	160
15 000	49.21	160.2	3.73	NA	*SAND to CLAYEY SAND	80
15 150	49.70	134.8	4.88	NA	*VERY STIFF FINE GRAINED	135
15.300	50.20	118.6	3.91	NA	CLAYEY SILT to SILTY CLAY	59
15.450	50.69	125.0	3.39	NA	SANDY SILT to CLAYEY SILT	50
15 600	51.18	154.5	3.22	NA	SANDY SILT to CLAYEY SILT	62
15.750	51.67	125.4	4.94	NA	*VERY STIFF FINE GRAINED	125
15.900	52.17	128.3	5.04	NA	*VERY STIFF FINE GRAINED	128
16.050	52.66	134.5	4.43	NA	*VERY STIFF FINE GRAINED	134
16 200	53.15	125.3	4.33	NA	*VERY STIFF FINE GRAINED	125
16 350	53.64	116.2	4.29	NA	*VERY STIFF FINE GRAINED	116
16 500	54.13	43.7	2.93	NA	SANDY SILT to CLAYEY SILT	17
16 650	54.63	35.2	4.10	NA	CLAY to SILTY CLAY	23
16.800	55.12	33.7	3.15	NA	CLAYEY SILT to SILTY CLAY	17
16.950	55.61	77.4	4.93	NA	*VERY STIFF FINE GRAINED	77
17.100	56.10	122.6	4.21	NA	*VERY STIFF FINE GRAINED	123
17.250	56.59	27.8	2.23	NA	SANDY SILT to CLAYEY SILT	11
17.400	57.09	28.1	1.42	NA	SANDY SILT to CLAYEY SILT	11
17.550	57.58	25.6	3.20	NA	CLAYEY SILT to SILTY CLAY	13
17.700	58.07	36.3	3.50	NA	CLAYEY SILT to SILTY CLAY	18
17.850	58.56	53.6	5.04	NA	CLAY to SILTY CLAY	36
18.000	59.06	49.6	5.44	NA	CLAY	50
18 150	59.55	33 3	4.06	NA	CLAY to SILTY CLAY	22

NA = NOT APPLICABLE
*INDICATES OVERCONSOLIDATED OR CEMENTED MATERIAL
ASSUMED TOTAL UNIT WT = 110 pcf
ASSUMED DEPTH OF WATER TABLE = 15.0 ft
N(60) = EQUIVALENT SPT VALUE (60% Energy)

Interpretations based on: Robertson and Campanella, 1989.



TOP 1.0 FT IS DISTURBED SOIL

TIP RESISTANCE NOT CORRECTED FOR END AREA EFFECT

ASSUMED TOTAL UNIT WT = 110 PCF

ASSUMED DEPTH OF WATER TABLE = 15.0 FT

SOIL BEHAVIOR TYPE INTERPRETATIONS BASED ON: GUIDELINES FOR GEOTECHNICAL DESIGN USING THE CPT AND CPTU. SOIL MECHANICS SERIES #120. UNIVERSITY OF BRITISH COLUMBIA. SEPTEMBER 1989. BY P.K. ROBERTSON AND R.G. CAMPANELLA.

CONE PENETRATION TEST	SOUNDING NUMBER: CPT-3
PROJECT NAME : ENVIRON/STD.BNDS PROJECT NUMBER : 95-381-12106	CONE/RIG : 469/T-3 DATE/TIME: 05-15-95 08:49

EARTH TECH

CONE PENETRATION TEST

SOUNDING : CPT-3
PROJECT : ENVIRON/STD.BNDS
DATE/TIME: 05-15-95 08:49

PROJECT No.: 95-381-12106
CONE/RIG : 469/T-3

DEPTH (m)	DEPTH (ft)	TIP RESISTANCE (tsf)	FRICTION RATIO (%)	CONE PORE PRESSURE (tsf)	SOIL BEHAVIOR TYPE	N(60)
.150	.49	.0	.00	NA		0
.300	.98	.0	.00	NA		0
.450	1.48	39.8	4.85	NA	CLAY to SILTY CLAY	27
.600	1.97	20.8	4.87	NA	CLAY	21
750	2 46	20.4	5.45	NA	CLAY	20
.900	2 95	21.2	5.28	NA	CLAY	21
1.050	3.44	22.9	4.94	NA	CLAY	23
1.200	3.94	22.5	5.11	NA	CLAY	23
1.350	4.43	23.6	5.30	NA	CLAY	24
1.500	4.92	22.8	5.52	NA	CLAY	23
1.650	5.41	21.4	6.00	NA	CLAY	21
1.800	5.91	20.8	6.19	NA	CLAY	21
1.950	6.40	22.4	6.44	NA	CLAY	22
2.100	6.89	23.3	4.84	NA	CLAY	23
2.250	7.38	23.5	4.97	NA	CLAY	24
2.400	7.87	23.0	4.17	NA	CLAY to SILTY CLAY	15
2 550	8 37	24.7	4.65	NA	CLAY	25
2.700	8 86	22.4	5.04	NA	CLAY	22
2 850	9.35	26.5	6.84	NA	CLAY	26
3.000	9 84	25.9	5.68	NA	CLAY	26
3 150	10.33	29.7	5.96	NA	CLAY	30
3 300	10.83	20.8	5.35	NA	CLAY	21
3.450	11.32	19.3	3.22	NA	CLAYEY SILT to SILTY CLAY	10
3.600	11.81	24.2	4.58	NA	CLAY	24
3.750	12.30	22.7	5.20	NA	CLAY	23
3.900	12.80	61.6	3.50	NA	CLAYEY SILT to SILTY CLAY	31
4.050	13.29	27.6	6.09	NA	CLAY	28
4.200	13.78	21.8	5.83	NA	CLAY	22
4.350	14.27	18.3	2.95	NA	CLAYEY SILT to SILTY CLAY	9
4.500	14.76	66.8	6.29	NA	*VERY STIFF FINE GRAINED	67
4 650	15.26	67.3	6.00	NA	*VERY STIFF FINE GRAINED	67
4.800	15.75	49.0	4.89	NA	CLAY to SILTY CLAY	33
4.950	16.24	43.5	3.38	NA	CLAYEY SILT to SILTY CLAY	22
5.100	16.73	47.8	4.46	NA	CLAY to SILTY CLAY	32
5.250	17.22	28.9	1.45	NA	SANDY SILT to CLAYEY SILT	12
5.400	17.72	36.1	6.04	NA	CLAY	36
5.550	18.21	60.4	5 54	NA	CLAY	60
5.700	18.70	112.1	5.36	NA	*VERY STIFF FINE GRAINED	112
5 850	19 19	91.4	6.00	NA	*VERY STIFF FINE GRAINED	91
6 000	19.69	97 5	3.81	NA	CLAYEY SILT to SILTY CLAY	49
6.150	20.18	17.5	86	NA	SANDY SILT to CLAYEY SILT	7

NA = NOT APPLICABLE
TOP 1.0 ft IS DISTURBED SOIL
*INDICATES OVERCONSOLIDATED OR CEMENTED MATERIAL
ASSUMED TOTAL UNIT WT = 110 pcf
ASSUMED DEPTH OF WATER TABLE = 15.0 ft
N(60) = EQUIVALENT SPT VALUE (60% Energy)

EARTH TECH

Interpretations based on: Robertson and Campanella, 1989.

SOUNDING : CPT-3

DEPTH (m)	DEPTH (ft)	TIP RESISTANCE (tsf)	FRICTION RATIO (%)	CONE PORE PRESSURE (tsf)	SOIL BEHAVIOR TYPE	N(60)
6.300	20.67	18.0	.55	NA	SANDY SILT to CLAYEY SILT	7
6.450	21.16	13.3	.75	NA	SANDY SILT to CLAYEY SILT	5
6.600	21.65	19.0	.84	NA	SANDY SILT to CLAYEY SILT	8
6.750	22.15	28.5	5.47	NA	CLAY	29
6.900	22.64	75.1	5.84	NA	*VERY STIFF FINE GRAINED	75
7.050	23.13	71.4	5.75	NA	*VERY STIFF FINE GRAINED	71
7.200	23.62	91.3	6.15	NA	*VERY STIFF FINE GRAINED	91
7.350	24.11	93.7	5.14	NA	*VERY STIFF FINE GRAINED	94
7.500	24.61	102.4	4.47	NA	*VERY STIFF FINE GRAINED	102
7.650	25.10	130.6	4.11	NA	*VERY STIFF FINE GRAINED	131
7.800	25.59	120.1	3.00	NA	SANDY SILT to CLAYEY SILT	48
7.950	26.08	100.8	4.21	NA	CLAYEY SILT to SILTY CLAY	50
8.100	26.57	89.3	4.21	NA	CLAYEY SILT to SILTY CLAY	45
8.250	27.07	99.6	2.78	NA	SANDY SILT to CLAYEY SILT	40
8.400	27.56	80.7	3.24	NA	SANDY SILT to CLAYEY SILT	32
8.550	28.05	73.9	3.13	NA	SANDY SILT to CLAYEY SILT	30
8.700	28.54	50.4	3.81	NA	CLAYEY SILT to SILTY CLAY	25
8.850	29.04	58.5	4.13	NA	CLAYEY SILT to SILTY CLAY	29
9.000	29.53	163.8	3.47	NA	SANDY SILT to CLAYEY SILT	66
9.150	30.02	110.2	4.47	NA	*VERY STIFF FINE GRAINED	110
9.300	30.51	147.8	4.26	NA	*VERY STIFF FINE GRAINED	148
9.450	31.00	315.5	2.67	NA	SILTY SAND to SANDY SILT	105
9.600	31.50	245.4	3.20	NA	*SAND to CLAYEY SAND	123
9.750	31.99	303.8	2.92	NA	*SAND to CLAYEY SAND	152
9.900	32.48	258.5	3.42	NA	*SAND to CLAYEY SAND	129
10.050	32.97	274.0	3.79	NA	*SAND to CLAYEY SAND	137
10.200	33.46	305.8	2.77	NA	SILTY SAND to SANDY SILT	102
10.350	33.96	204.7	1.89	NA	SAND to SILTY SAND	51
10.500	34.45	120.9	1.64	NA	SILTY SAND to SANDY SILT	40
10.650	34.94	87.9	2.51	NA	SANDY SILT to CLAYEY SILT	35
10.800	35.43	48.1	2.18	NA	SANDY SILT to CLAYEY SILT	19
10.950	35.93	20.1	1.00	NA	SANDY SILT to CLAYEY SILT	8
11.100	36.42	19.6	.97	NA	SANDY SILT to CLAYEY SILT	8
11.250	36.91	20.6	1.94	NA	SANDY SILT to CLAYEY SILT	8
11.400	37.40	23.9	2.34	NA	CLAYEY SILT to SILTY CLAY	12
11.550	37.89	34.0	3.24	NA	CLAYEY SILT to SILTY CLAY	17
11.700	38.39	36.7	4.57	NA	CLAY to SILTY CLAY	24
11.850	38.88	37.6	4.95	NA	CLAY	38
12.000	39.37	40.0	5.22	NA	CLAY	40
12.150	39.86	41.1	5.40	NA	CLAY	41
12.300	40.35	37.1	5.20	NA	CLAY	37
12.450	40.85	34.9	5.30	NA	CLAY	35
12.600	41.34	30.9	5.93	NA	CLAY	31
12.750	41.83	27.0	4.73	NA	CLAY	27
12.900	42.32	23.6	2.25	NA	CLAYEY SILT to SILTY CLAY	12
13.050	42.81	26.2	3.24	NA	CLAYEY SILT to SILTY CLAY	13
13.200	43.31	28.9	3.02	NA	CLAYEY SILT to SILTY CLAY	14
13.350	43.80	29.0	3.03	NA	CLAYEY SILT to SILTY CLAY	15
13.500	44.29	22.0	2.87	NA	CLAYEY SILT to SILTY CLAY	11
13.650	44.78	27.6	2.97	NA	CLAYEY SILT to SILTY CLAY	14

NA = NOT APPLICABLE
*INDICATES OVERCONSOLIDATED OR CEMENTED MATERIAL
ASSUMED TOTAL UNIT WT = 110 pcf
ASSUMED DEPTH OF WATER TABLE = 15.0 ft
N(60) = EQUIVALENT SPT VALUE (60% Energy)

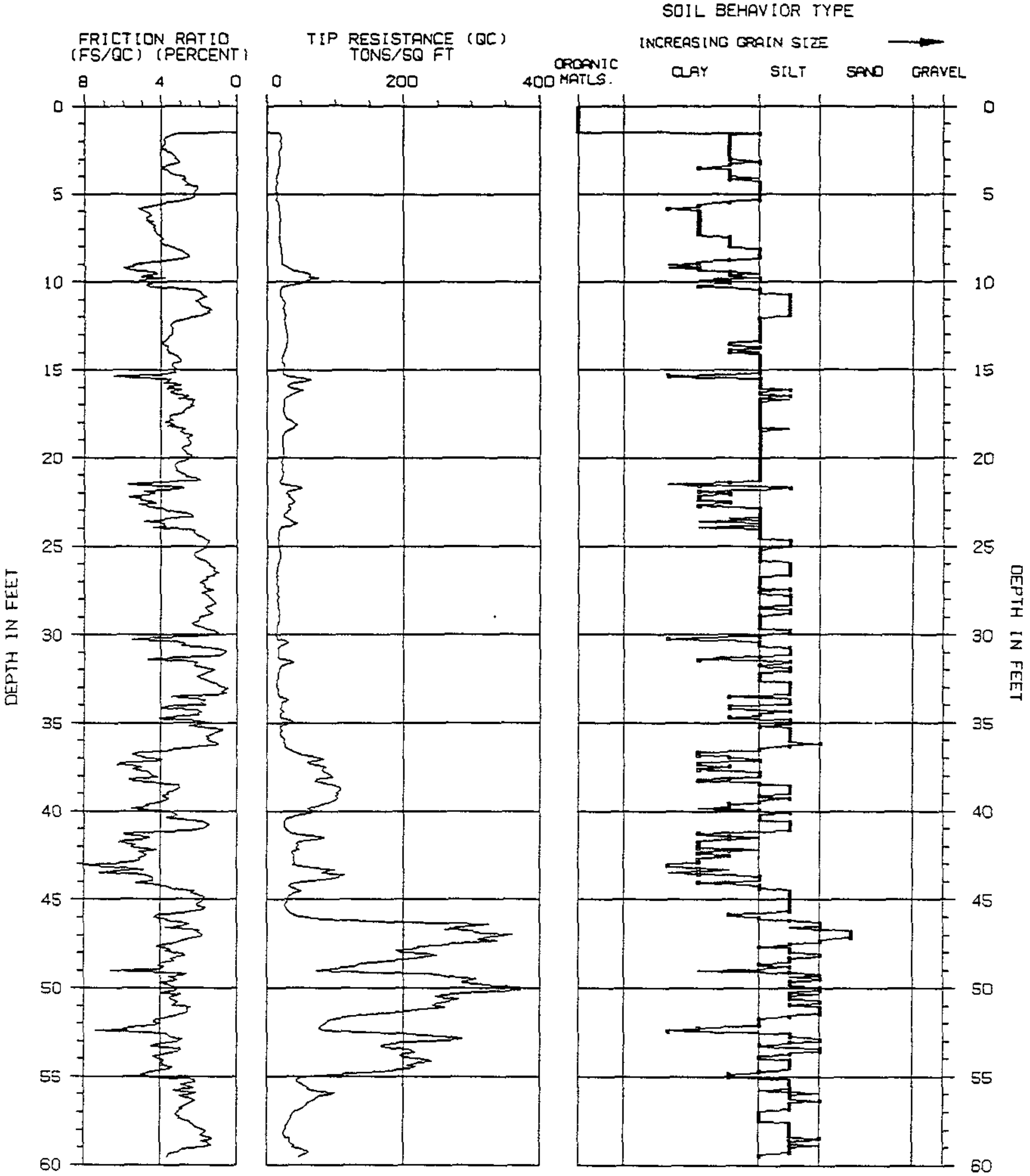
Interpretations based on: Robertson and Campanella, 1989.

SOUNDING : CPT-3

DEPTH (m)	DEPTH (ft)	TIP RESISTANCE (tsf)	FRICTION RATIO (%)	CONE PORE PRESSURE (tsf)	SOIL BEHAVIOR TYPE	N(60)
13.800	45.28	25.7	2.88	NA	CLAYEY SILT to SILTY CLAY	13
13.950	45.77	91.0	4.36	NA	CLAYEY SILT to SILTY CLAY	46
14.100	46.26	120.5	4.48	NA	*VERY STIFF FINE GRAINED	121
14.250	46.75	282.8	3.24	NA	*SAND to CLAYEY SAND	141
14.400	47.24	191.4	5.19	NA	*VERY STIFF FINE GRAINED	191
14.550	47.74	232.6	3.28	NA	*SAND to CLAYEY SAND	116
14.700	48.23	158.1	6.25	NA	*VERY STIFF FINE GRAINED	158
14.850	48.72	197.1	4.18	NA	*VERY STIFF FINE GRAINED	197
15.000	49.21	218.7	3.02	NA	SILTY SAND to SANDY SILT	73
15.150	49.70	263.6	1.82	NA	SAND to SILTY SAND	66
15.300	50.20	215.7	2.32	NA	SILTY SAND to SANDY SILT	72
15.450	50.69	185.9	2.65	NA	SILTY SAND to SANDY SILT	62
15.600	51.18	154.5	2.43	NA	SILTY SAND to SANDY SILT	52
15.750	51 67	140.5	2.16	NA	SILTY SAND to SANDY SILT	47
15.900	52.17	106.5	4.22	NA	*VERY STIFF FINE GRAINED	107
16.050	52.66	135.4	3.66	NA	SANDY SILT to CLAYEY SILT	54
16.200	53.15	137.9	4.13	NA	*VERY STIFF FINE GRAINED	138
16.350	53.64	109.3	4.58	NA	*VERY STIFF FINE GRAINED	109
16.500	54.13	33.7	2.02	NA	SANDY SILT to CLAYEY SILT	13
16.650	54.63	43.1	2.60	NA	SANDY SILT to CLAYEY SILT	17
16.800	55.12	33.6	4.11	NA	CLAY to SILTY CLAY	22
16.950	55.61	35.8	2.46	NA	SANDY SILT to CLAYEY SILT	14
17.100	56.10	40.4	2.85	NA	SANDY SILT to CLAYEY SILT	16
17.250	56.59	39.3	1.81	NA	SANDY SILT to CLAYEY SILT	16
17.400	57.09	64 3	5.49	NA	*VERY STIFF FINE GRAINED	64
17.550	57.58	106.5	5.40	NA	*VERY STIFF FINE GRAINED	106
17 700	58 07	35.6	1.99	NA	SANDY SILT to CLAYEY SILT	14
17.850	58.56	35.6	2.78	NA	CLAYEY SILT to SILTY CLAY	18
18.000	59.06	32.3	2.63	NA	SANDY SILT to CLAYEY SILT	13

NA = NOT APPLICABLE
*INDICATES OVERCONSOLIDATED OR CEMENTED MATERIAL
ASSUMED TOTAL UNIT WT = 110 pcf
ASSUMED DEPTH OF WATER TABLE = 15.0 ft
N(60) = EQUIVALENT SPT VALUE (60% Energy)

Interpretations based on: Robertson and Campanella, 1989.



TOP 1.5 FT IS DISTURBED SOIL

TIP RESISTANCE NOT CORRECTED FOR END AREA EFFECT

ASSUMED TOTAL UNIT WT = 110 PCF

ASSUMED DEPTH OF WATER TABLE = 15.0 FT

SOIL BEHAVIOR TYPE INTERPRETATIONS BASED ON: GUIDELINES FOR GEOTECHNICAL DESIGN USING THE CPT AND CPTU. SOIL MECHANICS SERIES #120. UNIVERSITY OF BRITISH COLUMBIA. SEPTEMBER 1989. BY P.K. ROBERTSON AND R.G. CAMPANELLA.

CONE PENETRATION TEST

SOUNDING NUMBER: CPT-4

PROJECT NAME : ENVIRON/STD.BNDS

CONE/RIG : 469/T-3

PROJECT NUMBER : 95-381-12106

DATE/TIME: 05-15-95 13:45

EARTH TECH

CONE PENETRATION TEST

SOUNDING : CPT-4
PROJECT : ENVIRON/STD.BNDS
DATE/TIME: 05-15-95 13:45

PROJECT No.: 95-381-12106
CONE/RIG : 469/T-3

DEPTH (m)	DEPTH (ft)	TIP RESISTANCE (tsf)	FRICTION RATIO (%)	CONE PORE PRESSURE (tsf)	SOIL BEHAVIOR TYPE	N(60)
.150	.49	.0	.00	NA		0
.300	.98	.0	.00	NA		0
.450	1.48	.0	.00	NA		0
.600	1.97	19.1	3.82	NA	CLAY to SILTY CLAY	13
.750	2.46	18.8	3.77	NA	CLAY to SILTY CLAY	13
.900	2.95	17.4	3.33	NA	CLAY to SILTY CLAY	12
1 050	3.44	16.6	3.80	NA	CLAY to SILTY CLAY	11
1.200	3.94	13.9	3.17	NA	CLAY to SILTY CLAY	9
1 350	4.43	13.8	2.54	NA	CLAYEY SILT to SILTY CLAY	7
1.500	4.92	13.6	2.28	NA	CLAYEY SILT to SILTY CLAY	7
1.650	5.41	14.0	3.08	NA	CLAY to SILTY CLAY	9
1.800	5.91	16.8	4.99	NA	CLAY	17
1.950	6.40	18.1	4.76	NA	CLAY	18
2.100	6.89	16 9	4.45	NA	CLAY	17
2.250	7 38	17.4	4.08	NA	CLAY	17
2 400	7.87	18.5	3.84	NA	CLAY to SILTY CLAY	12
2.550	8.37	20.5	2.74	NA	CLAYEY SILT to SILTY CLAY	10
2.700	8.86	21.2	4.38	NA	CLAY	21
2 850	9.35	39.6	5.22	NA	CLAY	40
3.000	9.84	58.3	5.19	NA	CLAY	58
3 150	10.33	20 5	3.52	NA	CLAY to SILTY CLAY	14
3.300	10 83	19.4	1.60	NA	SANDY SILT to CLAYEY SILT	8
3 450	11.32	25 0	1.96	NA	SANDY SILT to CLAYEY SILT	10
3 600	11.81	25.7	1.67	NA	SANDY SILT to CLAYEY SILT	10
3 750	12.30	24.3	3.38	NA	CLAYEY SILT to SILTY CLAY	12
3 900	12.80	27.9	3.44	NA	CLAYEY SILT to SILTY CLAY	14
4.050	13 29	28.9	3.74	NA	CLAYEY SILT to SILTY CLAY	14
4 200	13.78	26.6	3.69	NA	CLAYEY SILT to SILTY CLAY	13
4.350	14.27	22.1	3.12	NA	CLAYEY SILT to SILTY CLAY	11
4.500	14.76	25.0	3.44	NA	CLAYEY SILT to SILTY CLAY	12
4.650	15 26	25 1	4.25	NA	CLAY to SILTY CLAY	17
4 800	15.75	37.1	3.85	NA	CLAYEY SILT to SILTY CLAY	19
4.950	16.24	45.5	3.50	NA	CLAYEY SILT to SILTY CLAY	23
5 100	16.73	24 5	2.25	NA	SANDY SILT to CLAYEY SILT	10
5 250	17.22	22.8	2.72	NA	CLAYEY SILT to SILTY CLAY	11
5 400	17 72	26.8	3.51	NA	CLAYEY SILT to SILTY CLAY	13
5 550	18.21	39.5	3 64	NA	CLAYEY SILT to SILTY CLAY	20
5.700	18 70	22.8	2.41	NA	CLAYEY SILT to SILTY CLAY	11
5.850	19.19	21.7	2.49	NA	CLAYEY SILT to SILTY CLAY	11
6.000	19.69	23.0	2.65	NA	CLAYEY SILT to SILTY CLAY	11
6 150	20 18	21.4	2.71	NA	CLAYEY SILT to SILTY CLAY	11

NA = NOT APPLICABLE
TOP 1.5 ft IS DISTURBED SOIL
*INDICATES OVERCONSOLIDATED OR CEMENTED MATERIAL
ASSUMED TOTAL UNIT WT = 110 pcf
ASSUMED DEPTH OF WATER TABLE = 15.0 ft
N(60) = EQUIVALENT SPT VALUE (60% Energy)

EARTH TECH

Interpretations based on: Robertson and Campanella, 1989.

SOUNDING : CPT-4

DEPTH (m)	DEPTH (ft)	TIP RESISTANCE (tsf)	FRICTION RATIO (%)	CONE PORE PRESSURE (tsf)	SOIL BEHAVIOR TYPE	N(60)
6.300	20.67	21.8	3.16	NA	CLAYEY SILT to SILTY CLAY	11
6.450	21.16	21.1	2.22	NA	CLAYEY SILT to SILTY CLAY	11
6.600	21.65	48.0	2.98	NA	SANDY SILT to CLAYEY SILT	19
6.750	22.15	32.1	4.85	NA	CLAY	32
6.900	22.64	33.5	5.16	NA	CLAY	34
7.050	23.13	26.8	2.72	NA	CLAYEY SILT to SILTY CLAY	13
7.200	23.62	34.6	4.85	NA	CLAY	35
7.350	24.11	17.4	2.18	NA	CLAYEY SILT to SILTY CLAY	9
7.500	24.61	16.3	1.65	NA	CLAYEY SILT to SILTY CLAY	8
7.650	25.10	17.1	1.64	NA	SANDY SILT to CLAYEY SILT	7
7.800	25.59	18.7	2.20	NA	CLAYEY SILT to SILTY CLAY	9
7.950	26.08	15.1	1.45	NA	SANDY SILT to CLAYEY SILT	6
8.100	26.57	13.7	1.24	NA	SANDY SILT to CLAYEY SILT	5
8.250	27.07	14.1	1.91	NA	CLAYEY SILT to SILTY CLAY	7
8.400	27.56	15.1	1.52	NA	CLAYEY SILT to SILTY CLAY	8
8.550	28.05	14.4	1.32	NA	SANDY SILT to CLAYEY SILT	6
8.700	28.54	15.6	1.61	NA	CLAYEY SILT to SILTY CLAY	8
8.850	29.04	16.6	1.99	NA	CLAYEY SILT to SILTY CLAY	8
9.000	29.53	14.2	2.05	NA	CLAYEY SILT to SILTY CLAY	7
9.150	30.02	13.4	1.57	NA	CLAYEY SILT to SILTY CLAY	7
9.300	30.51	29.0	2.72	NA	CLAYEY SILT to SILTY CLAY	15
9.450	31.00	16.2	.68	NA	SANDY SILT to CLAYEY SILT	6
9.600	31.50	31.6	2.85	NA	CLAYEY SILT to SILTY CLAY	16
9.750	31.99	17.5	1.20	NA	SANDY SILT to CLAYEY SILT	7
9.900	32.48	14.9	1.81	NA	CLAYEY SILT to SILTY CLAY	7
10.050	32.97	14.8	.74	NA	SANDY SILT to CLAYEY SILT	6
10.200	33.46	17.1	2.45	NA	CLAYEY SILT to SILTY CLAY	9
10.350	33.96	19.5	1.64	NA	SANDY SILT to CLAYEY SILT	8
10.500	34.45	19.3	2.07	NA	CLAYEY SILT to SILTY CLAY	10
10.650	34.94	37.7	1.67	NA	SANDY SILT to CLAYEY SILT	15
10.800	35.43	21.0	.81	NA	SANDY SILT to CLAYEY SILT	8
10.950	35.93	23.9	1.55	NA	SANDY SILT to CLAYEY SILT	10
11.100	36.42	27.5	2.55	NA	CLAYEY SILT to SILTY CLAY	14
11.250	36.91	64.8	5.11	NA	*VERY STIFF FINE GRAINED	65
11.400	37.40	73.8	5.56	NA	*VERY STIFF FINE GRAINED	74
11.550	37.89	88.9	4.53	NA	*VERY STIFF FINE GRAINED	89
11.700	38.39	77.9	4.49	NA	CLAYEY SILT to SILTY CLAY	39
11.850	38.88	106.4	3.48	NA	SANDY SILT to CLAYEY SILT	43
12.000	39.37	99.1	3.73	NA	CLAYEY SILT to SILTY CLAY	50
12.150	39.86	59.5	5.51	NA	CLAY	60
12.300	40.35	34.3	3.67	NA	CLAYEY SILT to SILTY CLAY	17
12.450	40.85	24.6	1.59	NA	SANDY SILT to CLAYEY SILT	10
12.600	41.34	49.7	5.89	NA	CLAY	50
12.750	41.83	42.9	5.71	NA	CLAY	43
12.900	42.32	36.0	5.14	NA	CLAY	36
13.050	42.81	39.4	5.13	NA	CLAY	39
13.200	43.31	97.8	4.89	NA	*VERY STIFF FINE GRAINED	98
13.350	43.80	99.1	4.46	NA	*VERY STIFF FINE GRAINED	99
13.500	44.29	34.0	3.50	NA	CLAYEY SILT to SILTY CLAY	17
13.650	44.78	32.1	1.90	NA	SANDY SILT to CLAYEY SILT	13

NA = NOT APPLICABLE
*INDICATES OVERCONSOLIDATED OR CEMENTED MATERIAL
ASSUMED TOTAL UNIT WT = 110 pcf
ASSUMED DEPTH OF WATER TABLE = 15.0 ft
N(60) = EQUIVALENT SPT VALUE (60% Energy)

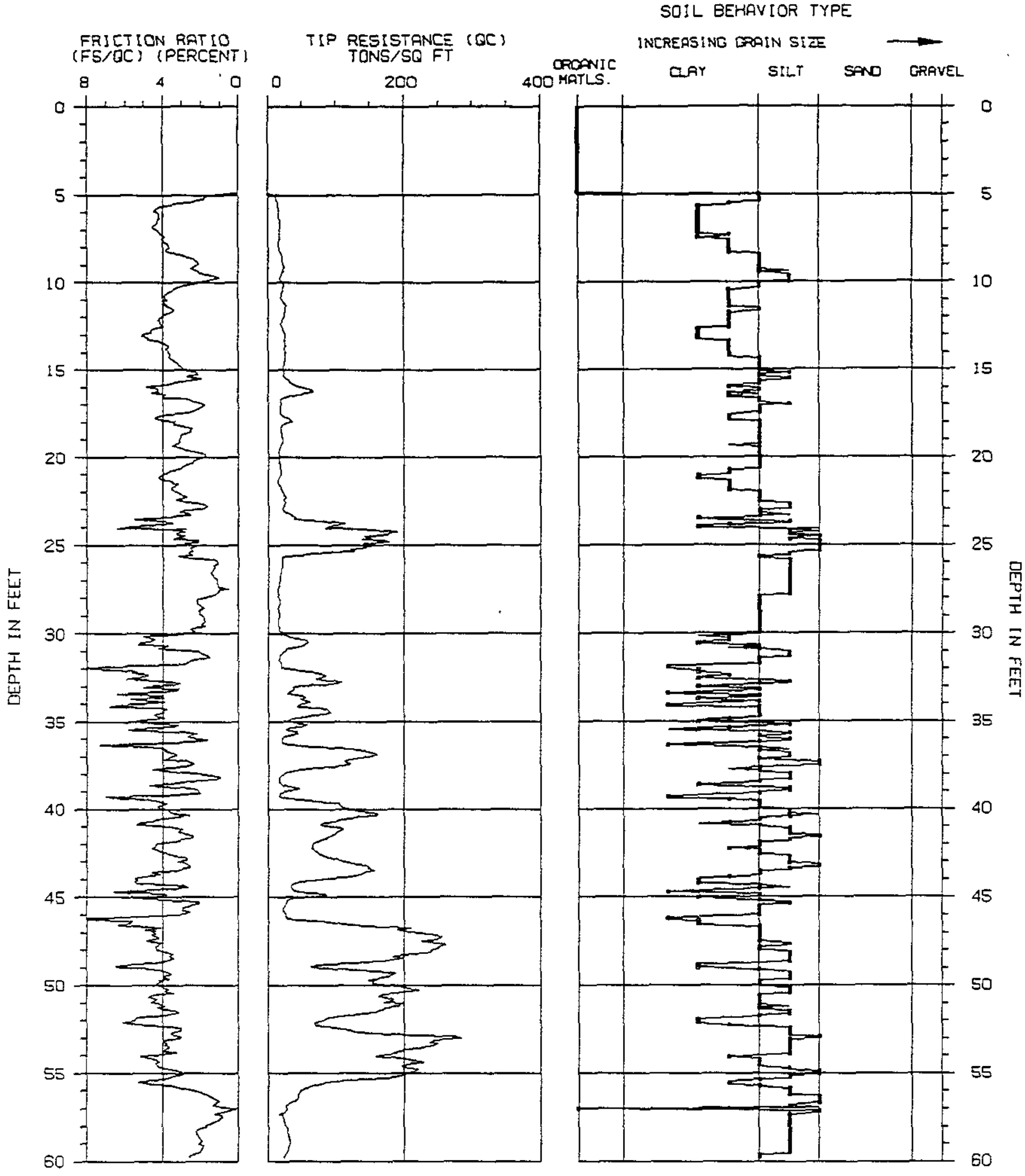
Interpretations based on: Robertson and Campanella, 1989.

SOUNDING : CPT-4

DEPTH (m)	DEPTH (ft)	TIP RESISTANCE (tsf)	FRICTION RATIO (%)	CONE PORE PRESSURE (tsf)	SOIL BEHAVIOR TYPE	N(60)
13.800	45.28	26.3	2.09	NA	SANDY SILT to CLAYEY SILT	11
13.950	45.77	34.7	2.82	NA	CLAYEY SILT to SILTY CLAY	17
14.100	46.26	193.4	2.94	NA	SILTY SAND to SANDY SILT	64
14.250	46.75	301.9	2.00	NA	SAND to SILTY SAND	75
14 400	47.24	309 9	2.63	NA	SILTY SAND to SANDY SILT	103
14.550	47.74	223.8	3.79	NA	*SAND to CLAYEY SAND	112
14 700	48.23	235.4	3 08	NA	SILTY SAND to SANDY SILT	78
14.850	48.72	133.1	4.11	NA	*VERY STIFF FINE GRAINED	133
15.000	49.21	239.2	2.61	NA	SILTY SAND to SANDY SILT	80
15.150	49.70	285.6	4.08	NA	*SAND to CLAYEY SAND	143
15.300	50.20	310.3	3.75	NA	*SAND to CLAYEY SAND	155
15.450	50.69	273.3	3.27	NA	*SAND to CLAYEY SAND	137
15 600	51.18	228.7	2.63	NA	SILTY SAND to SANDY SILT	76
15.750	51.67	106.3	3 80	NA	CLAYEY SILT to SILTY CLAY	53
15 900	52.17	79.8	5.14	NA	*VERY STIFF FINE GRAINED	80
16.050	52 66	225.8	3.56	NA	*SAND to CLAYEY SAND	113
16 200	53.15	184.5	3.89	NA	*SAND to CLAYEY SAND	92
16.350	53 64	217.0	3.41	NA	*SAND to CLAYEY SAND	109
16.500	54.13	241.3	3.87	NA	*SAND to CLAYEY SAND	121
16.650	54.63	191.4	3.78	NA	*SAND to CLAYEY SAND	96
16.800	55.12	45.1	2.64	NA	SANDY SILT to CLAYEY SILT	18
16.950	55.61	59.5	2.29	NA	SANDY SILT to CLAYEY SILT	24
17.100	56.10	74 7	3.01	NA	SANDY SILT to CLAYEY SILT	30
17 250	56.59	57.5	2.70	NA	SANDY SILT to CLAYEY SILT	23
17.400	57.09	36.3	3 22	NA	CLAYEY SILT to SILTY CLAY	18
17 550	57.58	30.3	2.41	NA	SANDY SILT to CLAYEY SILT	12
17 700	58.07	25.1	1.60	NA	SANDY SILT to CLAYEY SILT	10
17.850	58.56	33.7	1.30	NA	SILTY SAND to SANDY SILT	11
18 000	59.06	43.1	2.48	NA	SANDY SILT to CLAYEY SILT	17

NA = NOT APPLICABLE
*INDICATES OVERCONSOLIDATED OR CEMENTED MATERIAL
ASSUMED TOTAL UNIT WT = 110 pcf
ASSUMED DEPTH OF WATER TABLE = 15.0 ft
N(60) = EQUIVALENT SPT VALUE (60% Energy)

Interpretations based on: Robertson and Campanella, 1989.



TOP 5.0 FT IS DISTURBED SOIL

TIP RESISTANCE NOT CORRECTED FOR END AREA EFFECT

ASSUMED TOTAL UNIT WT = 110 PCF

ASSUMED DEPTH OF WATER TABLE = 15.0 FT

SOIL BEHAVIOR TYPE INTERPRETATIONS BASED ON: GUIDELINES FOR GEOTECHNICAL DESIGN USING THE CPT AND CPTU. SOIL MECHANICS SERIES #120. UNIVERSITY OF BRITISH COLUMBIA. SEPTEMBER 1989. BY P.K. ROBERTSON AND R.G. CAMPANELLA.

CONE PENETRATION TEST	SOUNDING NUMBER: CPT-5

PROJECT NAME : ENVIRON/STD.BNDS
CONE/RIG : 469/T-3
PROJECT NUMBER : 95-381-12106
DATE/TIME: 05-15-95 14:39

EARTH TECH

CONE PENETRATION TEST

SOUNDING : CPT-5
PROJECT : ENVIRON/STD.BNDS
DATE/TIME: 05-15-95 14:39

PROJECT No.: 95-381-12106
CONE/RIG : 469/T-3

DEPTH (m)	DEPTH (ft)	TIP RESISTANCE (tsf)	FRICTION RATIO (%)	CONE PORE PRESSURE (tsf)	SOIL BEHAVIOR TYPE	N(60)
.150	.49	.0	.00	NA		0
.300	.98	.0	.00	NA		0
.450	1.48	.0	.00	NA		0
.600	1.97	.0	.00	NA		0
.750	2.46	.0	.00	NA		0
.900	2.95	.0	.00	NA		0
1.050	3.44	.0	.00	NA		0
1.200	3.94	.0	.00	NA		0
1.350	4.43	.0	.00	NA		0
1.500	4.92	.0	.00	NA		0
1.650	5.41	13.5	2.59	NA	CLAYEY SILT to SILTY CLAY	7
1.800	5.91	15.3	4.50	NA	CLAY	15
1 950	6.40	16 7	4.25	NA	CLAY	17
2.100	6.89	16.9	4.51	NA	CLAY	17
2.250	7.38	16.8	3.92	NA	CLAY to SILTY CLAY	11
2.400	7.87	16.3	3.69	NA	CLAY to SILTY CLAY	11
2.550	8.37	19.0	3.27	NA	CLAYEY SILT to SILTY CLAY	9
2 700	8.86	20.9	2.15	NA	CLAYEY SILT to SILTY CLAY	10
2.850	9.35	23.6	2.08	NA	SANDY SILT to CLAYEY SILT	9
3 000	9.84	18.3	1.64	NA	SANDY SILT to CLAYEY SILT	7
3 150	10.33	21.2	3.30	NA	CLAYEY SILT to SILTY CLAY	11
3.300	10.83	19.2	3.86	NA	CLAY to SILTY CLAY	13
3.450	11.32	25.9	3.82	NA	CLAY to SILTY CLAY	17
3.600	11.81	22.7	3.88	NA	CLAY to SILTY CLAY	15
3.750	12.30	18.8	4.14	NA	CLAY to SILTY CLAY	13
3.900	12.80	22 5	4.63	NA	CLAY	22
4 050	13.29	24.0	4.83	NA	CLAY	24
4.200	13.78	24.5	3.83	NA	CLAY to SILTY CLAY	16
4 350	14.27	24.5	3.67	NA	CLAY to SILTY CLAY	16
4.500	14.76	22.0	3.18	NA	CLAYEY SILT to SILTY CLAY	11
4.650	15.26	22.3	2.15	NA	CLAYEY SILT to SILTY CLAY	11
4 800	15 75	31.2	3.37	NA	CLAYEY SILT to SILTY CLAY	16
4.950	16.24	67.8	4.20	NA	CLAYEY SILT to SILTY CLAY	34
5 100	16.73	18.8	2.60	NA	CLAYEY SILT to SILTY CLAY	9
5.250	17.22	17.4	2.12	NA	CLAYEY SILT to SILTY CLAY	9
5 400	17.72	24.3	4.44	NA	CLAY to SILTY CLAY	16
5.550	18.21	20.1	3.18	NA	CLAYEY SILT to SILTY CLAY	10
5 700	18.70	19 7	3.00	NA	CLAYEY SILT to SILTY CLAY	10
5.850	19.19	20.5	3.17	NA	CLAYEY SILT to SILTY CLAY	10
6 000	19.69	15.8	2.41	NA	CLAYEY SILT to SILTY CLAY	8
6.150	20.18	15.8	2.35	NA	CLAYEY SILT to SILTY CLAY	8

NA = NOT APPLICABLE
TOP 5 0 ft IS DISTURBED SOIL
*INDICATES OVERCONSOLIDATED OR CEMENTED MATERIAL
ASSUMED TOTAL UNIT WT = 110 pcf
ASSUMED DEPTH OF WATER TABLE = 15.0 ft
N(60) = EQUIVALENT SPT VALUE (60% Energy)

EARTH TECH

Interpretations based on: Robertson and Campanella, 1989.

SOUNDING : CPT-5

DEPTH (m)	DEPTH (ft)	TIP RESISTANCE (tsf)	FRICTION RATIO (%)	CONE PORE PRESSURE (tsf)	SOIL BEHAVIOR TYPE	N(60)
-----	-----	----------	--------	---------	-------------------------	-----
6.300	20.67	17.8	3.09	NA	CLAYEY SILT to SILTY CLAY	9
6.450	21.16	15.8	4.24	NA	CLAY	16
6.600	21.65	17.1	3.38	NA	CLAY to SILTY CLAY	11
6.750	22.15	22.8	3.07	NA	CLAYEY SILT to SILTY CLAY	11
6.900	22.64	25.6	2.27	NA	SANDY SILT to CLAYEY SILT	10
7 050	23.13	22.4	3.13	NA	CLAYEY SILT to SILTY CLAY	11
7.200	23.62	58.8	4.64	NA	CLAY to SILTY CLAY	39
7 350	24.11	136.5	2.79	NA	SILTY SAND to SANDY SILT	46
7 500	24 61	151.6	3.33	NA	SANDY SILT to CLAYEY SILT	61
7.650	25.10	148.8	2.26	NA	SILTY SAND to SANDY SILT	50
7.800	25.59	48.3	2.42	NA	SANDY SILT to CLAYEY SILT	19
7 950	26.08	20.3	1.13	NA	SANDY SILT to CLAYEY SILT	8
8.100	26.57	18.1	1.44	NA	SANDY SILT to CLAYEY SILT	7
8.250	27.07	16.0	1.13	NA	SANDY SILT to CLAYEY SILT	6
8.400	27.56	14.6	1.03	NA	SANDY SILT to CLAYEY SILT	6
8.550	28.05	15.9	2.08	NA	CLAYEY SILT to SILTY CLAY	8
8.700	28.54	14.1	1.84	NA	CLAYEY SILT to SILTY CLAY	7
8.850	29.04	15.3	1.90	NA	CLAYEY SILT to SILTY CLAY	8
9 000	29 53	14.9	2.01	NA	CLAYEY SILT to SILTY CLAY	7
9.150	30.02	19.3	3.11	NA	CLAYEY SILT to SILTY CLAY	10
9.300	30.51	58.0	5.16	NA	CLAY	58
9.450	31.00	26.2	2.14	NA	SANDY SILT to CLAYEY SILT	10
9 600	31 50	16.0	2.31	NA	CLAYEY SILT to SILTY CLAY	8
9.750	31.99	26.1	7.73	NA	CLAY	26
9 900	32.48	77 2	5.34	NA	*VERY STIFF FINE GRAINED	77
10.050	32.97	47 7	4.40	NA	CLAY to SILTY CLAY	32
10.200	33.46	37.7	5.52	NA	CLAY	38
10.350	33.96	52.4	5.21	NA	CLAY	52
10 500	34.45	91.8	3.95	NA	CLAYEY SILT to SILTY CLAY	46
10.650	34.94	29.1	5.39	NA	CLAY	29
10 800	35.43	26.5	5.81	NA	CLAY	26
10 950	35.93	20.8	2.55	NA	CLAYEY SILT to SILTY CLAY	10
11.100	36.42	69.1	5.04	NA	*VERY STIFF FINE GRAINED	69
11 250	36.91	160 5	3.28	NA	SANDY SILT to CLAYEY SILT	64
11 400	37 40	121.7	2.35	NA	SILTY SAND to SANDY SILT	41
11.550	37 89	29.2	3.05	NA	CLAYEY SILT to SILTY CLAY	15
11 700	38.39	15.2	2.04	NA	CLAYEY SILT to SILTY CLAY	8
11 850	38.88	42 4	2.24	NA	SANDY SILT to CLAYEY SILT	17
12.000	39 37	27.9	6.05	NA	CLAY	28
12.150	39.86	107.1	4.28	NA	*VERY STIFF FINE GRAINED	107
12 300	40.35	160.6	2.60	NA	SILTY SAND to SANDY SILT	54
12 450	40.85	77.6	5.38	NA	*VERY STIFF FINE GRAINED	78
12 600	41 34	101.2	3.07	NA	SANDY SILT to CLAYEY SILT	40
12 750	41.83	75.5	3.31	NA	SANDY SILT to CLAYEY SILT	30
12.900	42.32	66.9	4 40	NA	CLAYEY SILT to SILTY CLAY	33
13.050	42 81	100.0	2.72	NA	SANDY SILT to CLAYEY SILT	40
13 200	43.31	149.8	2.58	NA	SILTY SAND to SANDY SILT	50
13 350	43.80	131.5	4.62	NA	*VERY STIFF FINE GRAINED	132
13.500	44.29	34.3	3.58	NA	CLAYEY SILT to SILTY CLAY	17
13.650	44.78	83.9	4.03	NA	CLAYEY SILT to SILTY CLAY	42

NA = NOT APPLICABLE
*INDICATES OVERCONSOLIDATED OR CEMENTED MATERIAL
ASSUMED TOTAL UNIT WT = 110 pcf
ASSUMED DEPTH OF WATER TABLE = 15.0 ft
N(60) = EQUIVALENT SPT VALUE (60% Energy)

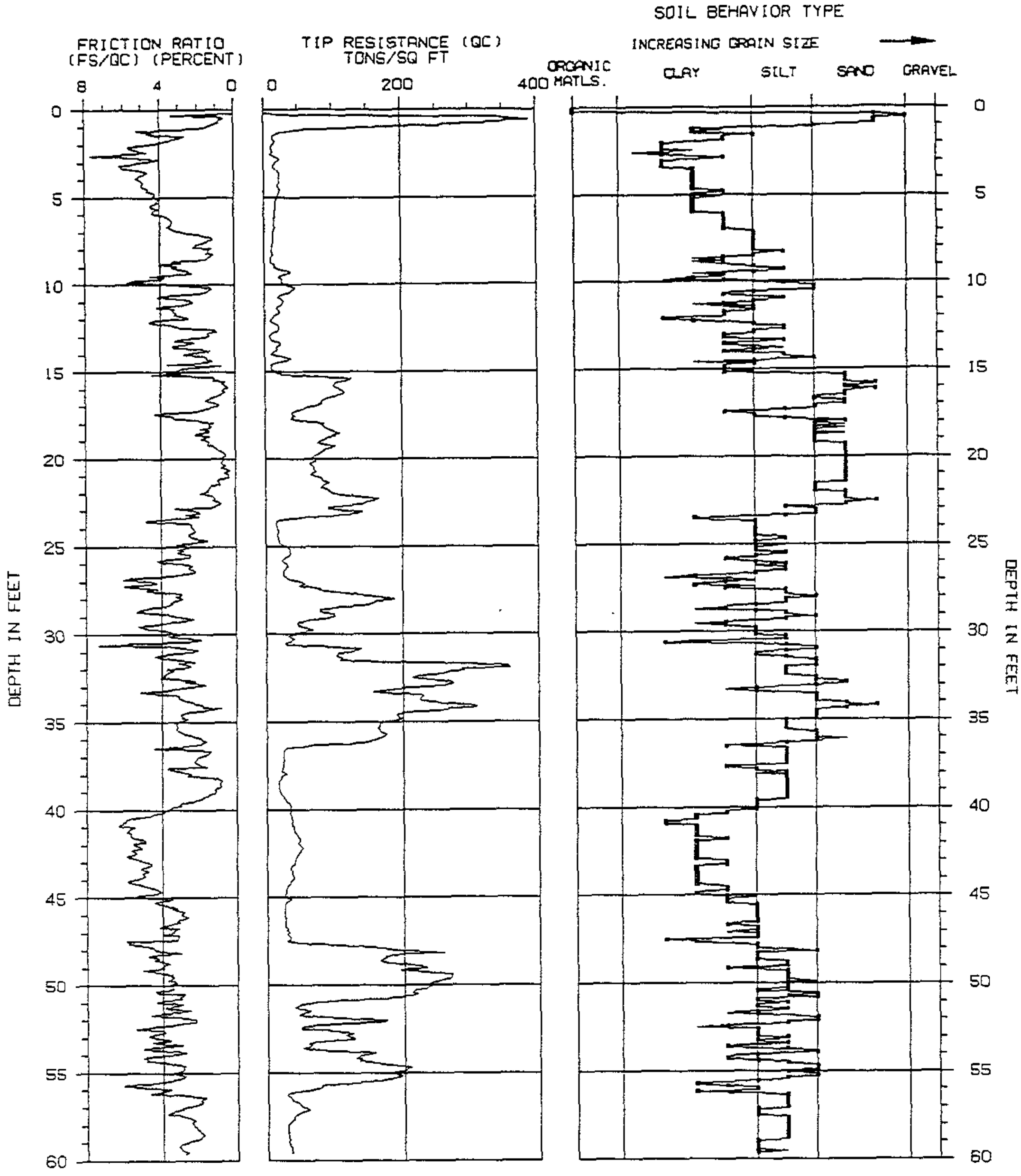
Interpretations based on: Robertson and Campanella, 1989.

SOUNDING : CPT-5

DEPTH (m)	DEPTH (ft)	TIP RESISTANCE (tsf)	FRICTION RATIO (%)	CONE PORE PRESSURE (tsf)	SOIL BEHAVIOR TYPE	N(60)
13.800	45.28	27.1	2.11	NA	SANDY SILT to CLAYEY SILT	11
13.950	45.77	21.6	2.97	NA	CLAYEY SILT to SILTY CLAY	11
14.100	46.26	36.5	9.10	NA	CLAY	37
14.250	46.75	209.8	4.12	NA	*VERY STIFF FINE GRAINED	210
14.400	47.24	254.6	4.29	NA	*VERY STIFF FINE GRAINED	255
14.550	47.74	261.1	4.19	NA	*SAND to CLAYEY SAND	131
14.700	48.23	211.6	3.48	NA	*SAND to CLAYEY SAND	106
14.850	48.72	127.8	4.40	NA	*VERY STIFF FINE GRAINED	128
15.000	49.21	161.9	3.94	NA	*SAND to CLAYEY SAND	81
15.150	49.70	146.8	4.20	NA	*VERY STIFF FINE GRAINED	147
15.300	50.20	213.3	3.67	NA	*SAND to CLAYEY SAND	107
15.450	50.69	171.7	4.76	NA	*VERY STIFF FINE GRAINED	172
15.600	51.18	194.9	3.91	NA	*SAND to CLAYEY SAND	97
15.750	51.67	123.7	3.83	NA	CLAYEY SILT to SILTY CLAY	62
15.900	52.17	69.1	5.74	NA	*VERY STIFF FINE GRAINED	69
16.050	52.66	128.3	3.46	NA	SANDY SILT to CLAYEY SILT	51
16.200	53.15	244.2	3.96	NA	*SAND to CLAYEY SAND	122
16.350	53.64	203.5	3.91	NA	*SAND to CLAYEY SAND	102
16.500	54.13	196.8	4.71	NA	*VERY STIFF FINE GRAINED	197
16 650	54.63	197.4	4.27	NA	*VERY STIFF FINE GRAINED	197
16.800	55.12	200.0	3.17	NA	SANDY SILT to CLAYEY SILT	80
16.950	55 61	78.4	4.61	NA	*VERY STIFF FINE GRAINED	78
17.100	56.10	46.9	2.05	NA	SANDY SILT to CLAYEY SILT	19
17 250	56.59	39.0	1.05	NA	SILTY SAND to SANDY SILT	13
17.400	57.09	25.9	.50	NA	SILTY SAND to SANDY SILT	9
17.550	57.58	22.4	.98	NA	SANDY SILT to CLAYEY SILT	9
17.700	58.07	27.2	1.73	NA	SANDY SILT to CLAYEY SILT	11
17 850	58 56	29.6	2.16	NA	SANDY SILT to CLAYEY SILT	12
18.000	59.06	31.3	2.11	NA	SANDY SILT to CLAYEY SILT	13
18.150	59.55	26 7	2.14	NA	SANDY SILT to CLAYEY SILT	11

NA = NOT APPLICABLE
*INDICATES OVERCONSOLIDATED OR CEMENTED MATERIAL
ASSUMED TOTAL UNIT WT = 110 pcf
ASSUMED DEPTH OF WATER TABLE = 15.0 ft
N(60) = EQUIVALENT SPT VALUE (60% Energy)

Interpretations based on: Robertson and Campanella, 1989.



TIP RESISTANCE NOT CORRECTED FOR END AREA EFFECT

ASSUMED TOTAL UNIT WT = 110 PCF

ASSUMED DEPTH OF WATER TABLE = 15.0 FT

SOIL BEHAVIOR TYPE INTERPRETATIONS BASED ON: GUIDELINES FOR GEOTECHNICAL DESIGN USING THE CPT AND CPTU
SOIL MECHANICS SERIES #120. UNIVERSITY OF BRITISH COLUMBIA. SEPTEMBER 1989. BY P.K. ROBERTSON AND R.G. CAMPANELLA.

CONE PENETRATION TEST

SOUNDING NUMBER: CPT-6

PROJECT NAME : ENVIRON/STD.BNDS

CONE/RIG : 469/T-3

PROJECT NUMBER : 95-381-12106

DATE/TIME: 05-15-95 15:24

EARTH TECH

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CONE PENETRATION TEST

SOUNDING : CPT-6
PROJECT : ENVIRON/STD.BNDS
DATE/TIME: 05-15-95 15:24

PROJECT No.: 95-381-12106
CONE/RIG : 469/T-3

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PAGE 1 of 3

DEPTH (m)	DEPTH (ft)	TIP RESISTANCE (tsf)	FRICTION RATIO (%)	CONE PORE PRESSURE (tsf)	SOIL BEHAVIOR TYPE	N(60)
.150	.49	361.3	.53	NA	GRAVELLY SAND to SAND	60
.300	.98	177.0	1.33	NA	SAND to SILTY SAND	44
450	1.48	15.4	4.10	NA	CLAY	15
.600	1.97	14.8	4.32	NA	CLAY	15
750	2.46	12.6	4.68	NA	CLAY	13
.900	2.95	20.3	4.62	NA	CLAY	20
1.050	3.44	17.3	5.27	NA	CLAY	17
1.200	3.94	21.2	5.27	NA	CLAY	21
1.350	4.43	21.2	4.91	NA	CLAY	21
1.500	4.92	20.1	4.38	NA	CLAY	20
1.650	5.41	17.1	4.39	NA	CLAY	17
1.800	5.91	16.0	4.38	NA	CLAY	16
1.950	6.40	14.5	3.37	NA	CLAY to SILTY CLAY	10
2.100	6.89	13.8	3.27	NA	CLAY to SILTY CLAY	9
2.250	7.38	12.0	1.17	NA	CLAYEY SILT to SILTY CLAY	6
2 400	7.87	11.3	2.22	NA	CLAYEY SILT to SILTY CLAY	6
2.550	8.37	11.1	1.26	NA	CLAYEY SILT to SILTY CLAY	6
2.700	8.86	14.2	4.08	NA	CLAY	14
2.850	9.35	37.7	2.28	NA	SANDY SILT to CLAYEY SILT	15
3.000	9.84	24.0	5.74	NA	CLAY	24
3.150	10.33	41.3	1.38	NA	SILTY SAND to SANDY SILT	14
3.300	10.83	24.1	2.82	NA	CLAYEY SILT to SILTY CLAY	12
3.450	11.32	18.9	4.18	NA	CLAY	19
3.600	11.81	12.6	2.93	NA	CLAY to SILTY CLAY	8
3.750	12 30	18.3	3.55	NA	CLAY to SILTY CLAY	12
3.900	12.80	10.9	1.47	NA	CLAYEY SILT to SILTY CLAY	5
4.050	13.29	18.9	2.33	NA	CLAYEY SILT to SILTY CLAY	9
4 200	13.78	17.3	1.33	NA	SANDY SILT to CLAYEY SILT	7
4.350	14.27	37.8	1.56	NA	SANDY SILT to CLAYEY SILT	15
4 500	14.76	8 9	2.24	NA	CLAY to SILTY CLAY	6
4.650	15.26	72.3	1.63	NA	SILTY SAND to SANDY SILT	24
4 800	15.75	101.1	.62	NA	SAND to SILTY SAND	25
4.950	16.24	114.7	.73	NA	SAND to SILTY SAND	29
5 100	16.73	83.5	1.44	NA	SILTY SAND to SANDY SILT	28
5.250	17.22	48.7	1.81	NA	SILTY SAND to SANDY SILT	16
5 400	17.72	38.0	3.34	NA	CLAYEY SILT to SILTY CLAY	19
5.550	18.21	86.7	1.28	NA	SAND to SILTY SAND	22
5 700	18.70	103.1	1.39	NA	SAND to SILTY SAND	26
5.850	19.19	88.9	1.44	NA	SILTY SAND to SANDY SILT	30
6 000	19.69	81.2	.68	NA	SAND to SILTY SAND	20
6.150	20.18	72.8	.76	NA	SAND to SILTY SAND	18

NA = NOT APPLICABLE
*INDICATES OVERCONSOLIDATED OR CEMENTED MATERIAL
ASSUMED TOTAL UNIT WT = 110 pcf
ASSUMED DEPTH OF WATER TABLE = 15.0 ft
N(60) = EQUIVALENT SPT VALUE (60% Energy)

EARTH TECH

Interpretations based on: Robertson and Campanella, 1989.

SOUNDING : CPT-6

DEPTH (m)	DEPTH (ft)	TIP RESISTANCE (tsf)	FRICTION RATIO (%)	CONE PORE PRESSURE (tsf)	SOIL BEHAVIOR TYPE	N(60)
6.300	20.67	73.8	.35	NA	SAND to SILTY SAND	18
6.450	21.16	83.1	.77	NA	SAND to SILTY SAND	21
6.600	21.65	81.6	1.41	NA	SILTY SAND to SANDY SILT	27
6.750	22.15	121.7	1.31	NA	SAND to SILTY SAND	30
6.900	22.64	139.4	.88	NA	SAND to SILTY SAND	35
7.050	23.13	135.3	1.91	NA	SILTY SAND to SANDY SILT	45
7.200	23.62	16.1	4.79	NA	CLAY	16
7.350	24 11	18.3	2.18	NA	CLAYEY SILT to SILTY CLAY	9
7.500	24.61	19.3	1.86	NA	SANDY SILT to CLAYEY SILT	8
7.650	25.10	32.8	2.50	NA	SANDY SILT to CLAYEY SILT	13
7.800	25.59	32.6	2.45	NA	SANDY SILT to CLAYEY SILT	13
7.950	26.08	32.5	2.37	NA	SANDY SILT to CLAYEY SILT	13
8.100	26.57	25.5	2.70	NA	CLAYEY SILT to SILTY CLAY	13
8.250	27.07	55.4	4.30	NA	CLAYEY SILT to SILTY CLAY	28
8.400	27.56	84.8	4.80	NA	*VERY STIFF FINE GRAINED	85
8.550	28.05	179.8	2.99	NA	SILTY SAND to SANDY SILT	60
8 700	28.54	93.2	4.78	NA	*VERY STIFF FINE GRAINED	93
8.850	29 04	98.7	3.11	NA	SANDY SILT to CLAYEY SILT	39
9 000	29.53	48.4	5.23	NA	CLAY	48
9.150	30.02	37.1	3.07	NA	CLAYEY SILT to SILTY CLAY	19
9 300	30.51	27.5	5.31	NA	CLAY	27
9 450	31.00	122.0	2.40	NA	SILTY SAND to SANDY SILT	41
9.600	31.50	108.0	3.00	NA	SANDY SILT to CLAYEY SILT	43
9 750	31.99	285.8	3.75	NA	*SAND to CLAYEY SAND	143
9.900	32.48	214.6	4.09	NA	*SAND to CLAYEY SAND	107
10.050	32.97	256.9	2.12	NA	SAND to SILTY SAND	64
10 200	33.46	224.8	3.39	NA	*SAND to CLAYEY SAND	112
10.350	33.96	257.3	2.25	NA	SILTY SAND to SANDY SILT	86
10.500	34.45	220.7	2.47	NA	SILTY SAND to SANDY SILT	74
10.650	34 94	184.4	2.96	NA	SILTY SAND to SANDY SILT	61
10.800	35.43	166.1	3.21	NA	SANDY SILT to CLAYEY SILT	66
10 950	35.93	164.4	1.96	NA	SILTY SAND to SANDY SILT	55
11.100	36.42	48.7	3.12	NA	CLAYEY SILT to SILTY CLAY	24
11 250	36.91	24.1	1.74	NA	SANDY SILT to CLAYEY SILT	10
11.400	37.40	24.9	2.09	NA	SANDY SILT to CLAYEY SILT	10
11.550	37.89	26.7	2.74	NA	CLAYEY SILT to SILTY CLAY	13
11 700	38 39	17.4	.81	NA	SANDY SILT to CLAYEY SILT	7
11.850	38.88	18.0	1.17	NA	SANDY SILT to CLAYEY SILT	7
12 000	39.37	26.1	1.88	NA	SANDY SILT to CLAYEY SILT	10
12.150	39.86	35.4	3.36	NA	CLAYEY SILT to SILTY CLAY	18
12.300	40.35	36.2	4.66	NA	CLAY to SILTY CLAY	24
12 450	40.85	35.9	6.35	NA	CLAY	36
12.600	41.34	42.2	5.71	NA	CLAY	42
12.750	41.83	47.1	4.93	NA	CLAY to SILTY CLAY	31
12.900	42.32	49 1	5.64	NA	CLAY	49
13 050	42.81	42.2	5.31	NA	CLAY	42
13 200	43.31	35.1	5.13	NA	CLAY	35
13.350	43.80	37.7	4.98	NA	CLAY	38
13 500	44.29	31.8	5.13	NA	CLAY	32
13 650	44 78	26.4	4.59	NA	CLAY	26

NA = NOT APPLICABLE
*INDICATES OVERCONSOLIDATED OR CEMENTED MATERIAL
ASSUMED TOTAL UNIT WT = 110 pcf
ASSUMED DEPTH OF WATER TABLE = 15.0 ft
N(60) = EQUIVALENT SPT VALUE (60% Energy)

EARTH TECH

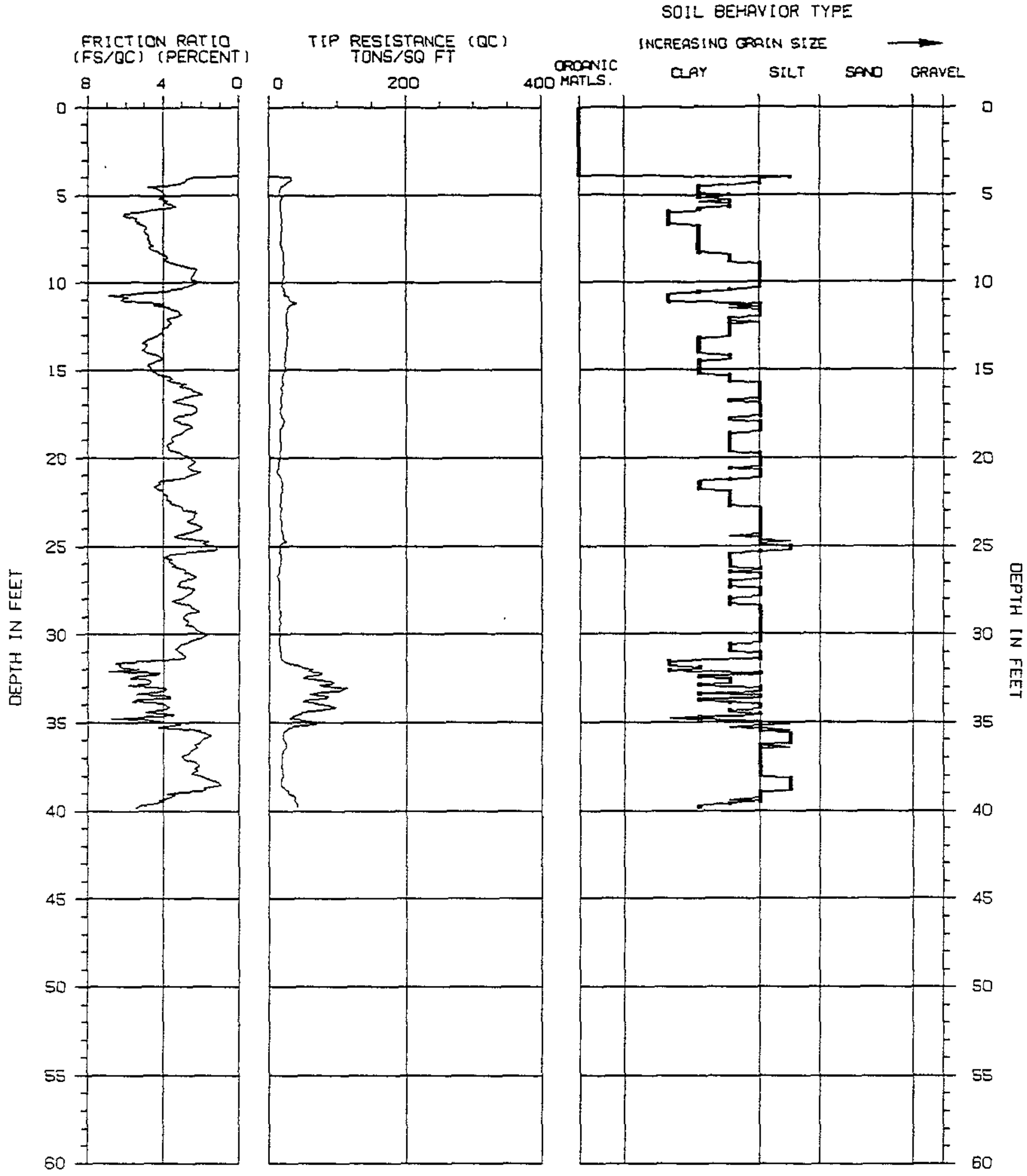
Interpretations based on: Robertson and Campanella, 1989.

SOUNDING : CPT-6

DEPTH (m)	DEPTH (ft)	TIP RESISTANCE (tsf)	FRICTION RATIO (%)	CONE PORE PRESSURE (tsf)	SOIL BEHAVIOR TYPE	N(60)
13.800	45.28	27.0	4.44	NA	CLAY to SILTY CLAY	18
13.950	45.77	26.3	3.01	NA	CLAYEY SILT to SILTY CLAY	13
14.100	46.26	25.3	3.20	NA	CLAYEY SILT to SILTY CLAY	13
14.250	46.75	29.4	3.17	NA	CLAYEY SILT to SILTY CLAY	15
14.400	47.24	33.5	3.17	NA	CLAYEY SILT to SILTY CLAY	17
14.550	47.74	105.1	5.26	NA	*VERY STIFF FINE GRAINED	105
14.700	48.23	199.1	4.16	NA	*VERY STIFF FINE GRAINED	199
14.850	48.72	176.5	3.63	NA	*SAND to CLAYEY SAND	88
15.000	49.21	212.7	4.63	NA	*VERY STIFF FINE GRAINED	213
15.150	49.70	255.4	3.72	NA	*SAND to CLAYEY SAND	128
15.300	50.20	232.6	3.41	NA	*SAND to CLAYEY SAND	116
15.450	50.69	184.9	3.11	NA	SANDY SILT to CLAYEY SILT	74
15.600	51.18	44.8	3.15	NA	CLAYEY SILT to SILTY CLAY	22
15.750	51.67	45.3	4.64	NA	CLAY to SILTY CLAY	30
15.900	52.17	118.2	2.89	NA	SANDY SILT to CLAYEY SILT	47
16.050	52.66	111.9	3.92	NA	CLAYEY SILT to SILTY CLAY	56
16.200	53.15	105.1	3.56	NA	SANDY SILT to CLAYEY SILT	42
16.350	53.64	58.3	5.03	NA	CLAY to SILTY CLAY	39
16.500	54.13	129.7	5.05	NA	*VERY STIFF FINE GRAINED	130
16.650	54.63	198.6	2.83	NA	SILTY SAND to SANDY SILT	66
16.800	55.12	194.3	3.09	NA	SILTY SAND to SANDY SILT	65
16.950	55.61	116.0	4.80	NA	*VERY STIFF FINE GRAINED	116
17.100	56.10	42.2	4.07	NA	CLAYEY SILT to SILTY CLAY	21
17.250	56.59	37.0	2.00	NA	SANDY SILT to CLAYEY SILT	15
17.400	57.09	60.1	2.94	NA	SANDY SILT to CLAYEY SILT	24
17.550	57.58	37.9	2.64	NA	SANDY SILT to CLAYEY SILT	15
17.700	58.07	28.8	2.29	NA	SANDY SILT to CLAYEY SILT	12
17.850	58.56	30.4	1.84	NA	SANDY SILT to CLAYEY SILT	12
18.000	59.06	31.4	2.93	NA	CLAYEY SILT to SILTY CLAY	16
18.150	59.55	35.3	2.70	NA	SANDY SILT to CLAYEY SILT	14

NA = NOT APPLICABLE
*INDICATES OVERCONSOLIDATED OR CEMENTED MATERIAL
ASSUMED TOTAL UNIT WT = 110 pcf
ASSUMED DEPTH OF WATER TABLE = 15.0 ft
N(60) = EQUIVALENT SPT VALUE (60% Energy)

Interpretations based on: Robertson and Campanella, 1989.



TOP 4.0 FT IS DISTURBED SOIL

TIP RESISTANCE NOT CORRECTED FOR END AREA EFFECT

ASSUMED TOTAL UNIT WT = 110 PCF

ASSUMED DEPTH OF WATER TABLE = 15.0 FT

SOIL BEHAVIOR TYPE INTERPRETATIONS BASED ON: GUIDELINES FOR GEOTECHNICAL DESIGN USING THE CPT AND CPTU. SOIL MECHANICS SERIES #120. UNIVERSITY OF BRITISH COLUMBIA. SEPTEMBER 1988. BY P.K. ROBERTSON AND R.G. CAMPANELLA.

CONE PENETRATION TEST

SOUNDING NUMBER: CPT-7

PROJECT NAME : ENVIRON/STD.BNDS

PROJECT NUMBER : 95-381-12106

CONE/RIG : 469/T-3

DATE/TIME: 05-18-95 08:32

EARTH TECH

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CONE PENETRATION TEST

SOUNDING : CPT-7
PROJECT : ENVIRON/STD.BNDS
DATE/TIME: 05-18-95 08:32

PROJECT No.: 95-381-12106
CONE/RIG : 469/T-3

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PAGE 1 of 2

DEPTH (m)	DEPTH (ft)	TIP RESISTANCE (tsf)	FRICTION RATIO (%)	CONE PORE PRESSURE (tsf)	SOIL BEHAVIOR TYPE	N(60)
.150	.49	.0	.00	NA		0
.300	.98	.0	.00	NA		0
.450	1.48	.0	.00	NA		0
.600	1.97	.0	.00	NA		0
.750	2.46	.0	.00	NA		0
.900	2.95	.0	.00	NA		0
1.050	3.44	.0	.00	NA		0
1.200	3.94	.0	.00	NA		0
1.350	4.43	22.9	3.88	NA	CLAY to SILTY CLAY	15
1.500	4.92	16.0	4.01	NA	CLAY	16
1.650	5.41	15.2	4.02	NA	CLAY	15
1.800	5.91	16.8	5.01	NA	CLAY	17
1.950	6.40	18.0	5.49	NA	CLAY	18
2.100	6.89	18.1	4.91	NA	CLAY	18
2.250	7.38	17.3	4.80	NA	CLAY	17
2.400	7.87	17.6	4.55	NA	CLAY	18
2.550	8.37	19.8	3.98	NA	CLAY to SILTY CLAY	13
2 700	8.86	21.2	3.58	NA	CLAY to SILTY CLAY	14
2.850	9.35	20.6	2.33	NA	CLAYEY SILT to SILTY CLAY	10
3.000	9.84	19.3	2.49	NA	CLAYEY SILT to SILTY CLAY	10
3.150	10.33	21.4	3.08	NA	CLAYEY SILT to SILTY CLAY	11
3.300	10.83	29.1	5.88	NA	CLAY	29
3.450	11.32	29.6	4.52	NA	CLAY to SILTY CLAY	20
3.600	11.81	24.4	3.07	NA	CLAYEY SILT to SILTY CLAY	12
3.750	12.30	25.6	3.60	NA	CLAYEY SILT to SILTY CLAY	13
3.900	12.80	26.3	4.00	NA	CLAY to SILTY CLAY	18
4.050	13.29	26.2	4.93	NA	CLAY	26
4.200	13 78	24.5	5.02	NA	CLAY	25
4.350	14.27	22.4	4.11	NA	CLAY to SILTY CLAY	15
4.500	14.76	21.7	4.88	NA	CLAY	22
4.650	15.26	19.5	4.25	NA	CLAY	20
4.800	15 75	19.6	3.16	NA	CLAYEY SILT to SILTY CLAY	10
4.950	16.24	18.1	2.43	NA	CLAYEY SILT to SILTY CLAY	9
5.100	16.73	17.9	3.30	NA	CLAY to SILTY CLAY	12
5.250	17.22	15.7	2.23	NA	CLAYEY SILT to SILTY CLAY	8
5.400	17 72	18.1	3.42	NA	CLAY to SILTY CLAY	12
5 550	18.21	18.4	2.55	NA	CLAYEY SILT to SILTY CLAY	9
5 700	18.70	15.7	3.30	NA	CLAY to SILTY CLAY	10
5.850	19.19	17.6	3 70	NA	CLAY to SILTY CLAY	12
6.000	19.69	16 2	3.15	NA	CLAY to SILTY CLAY	11
6.150	20.18	14.0	2.50	NA	CLAYEY SILT to SILTY CLAY	7

NA = NOT APPLICABLE
TOP 4.0 ft IS DISTURBED SOIL
*INDICATES OVERCONSOLIDATED OR CEMENTED MATERIAL
ASSUMED TOTAL UNIT WT = 110 pcf
ASSUMED DEPTH OF WATER TABLE = 15.0 ft
N(60) = EQUIVALENT SPT VALUE (60% Energy)

EARTH TECH

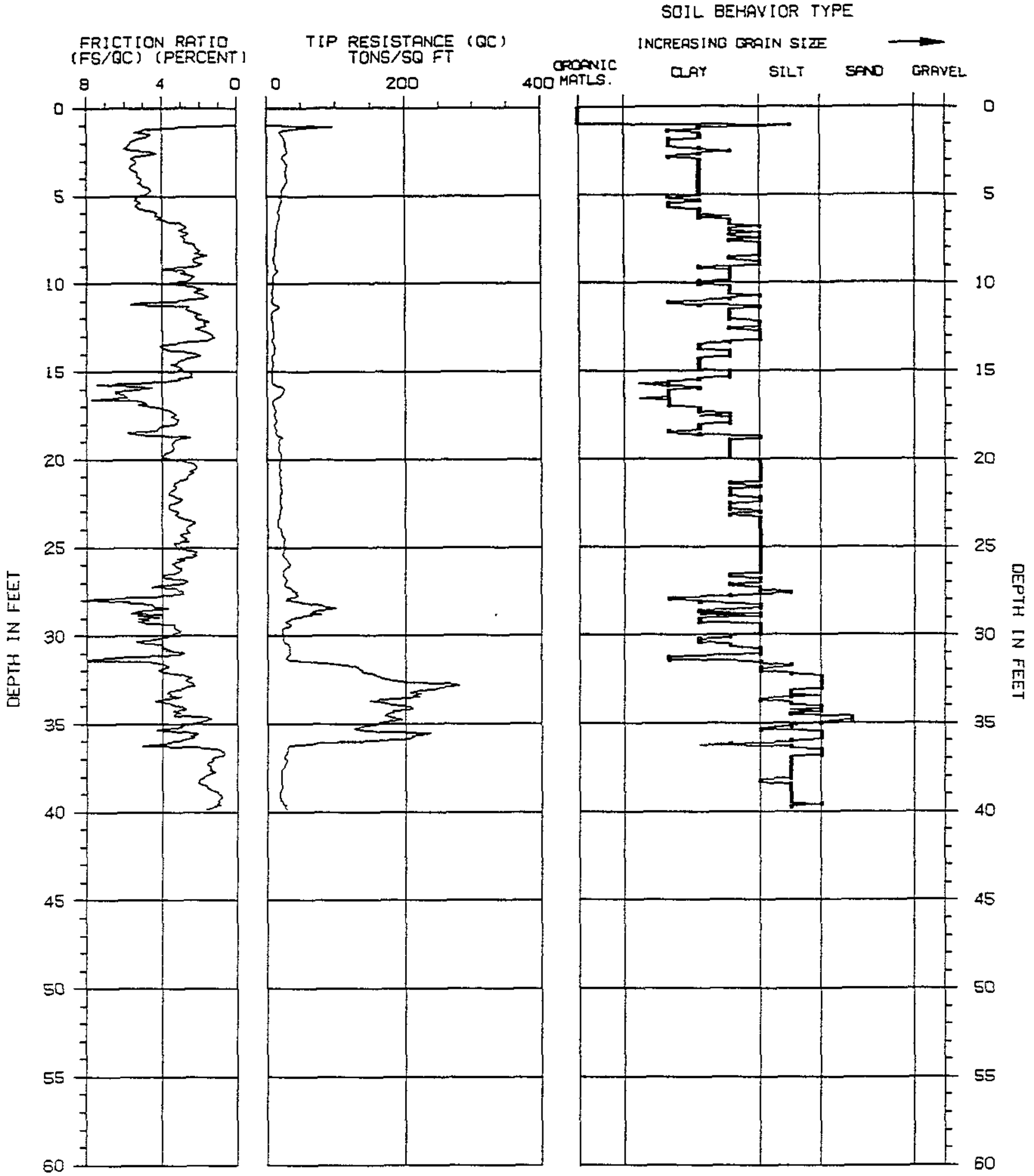
Interpretations based on: Robertson and Campanella, 1989.

SOUNDING : CPT-7

DEPTH (m)	DEPTH (ft)	TIP RESISTANCE (tsf)	FRICTION RATIO (%)	CONE PORE PRESSURE (tsf)	SOIL BEHAVIOR TYPE	N(60)
-----	-----	----------	--------	---------	------------------------	-----
6.300	20.67	11.7	2.57	NA	CLAYEY SILT to SILTY CLAY	6
6.450	21.16	17.3	2.95	NA	CLAYEY SILT to SILTY CLAY	9
6 600	21.65	17.9	4.48	NA	CLAY	18
6.750	22.15	16.9	3.79	NA	CLAY to SILTY CLAY	11
6.900	22 64	16.0	3.55	NA	CLAY to SILTY CLAY	11
7.050	23.13	15.4	2.27	NA	CLAYEY SILT to SILTY CLAY	8
7.200	23.62	16.6	2.71	NA	CLAYEY SILT to SILTY CLAY	8
7.350	24.11	17.1	2.28	NA	CLAYEY SILT to SILTY CLAY	9
7 500	24.61	21.5	2.56	NA	CLAYEY SILT to SILTY CLAY	11
7 650	25.10	15.3	1.17	NA	SANDY SILT to CLAYEY SILT	6
7 800	25.59	17.0	3.82	NA	CLAY to SILTY CLAY	11
7.950	26.08	15.5	3.36	NA	CLAY to SILTY CLAY	10
8 100	26.57	12.9	2.63	NA	CLAYEY SILT to SILTY CLAY	6
8.250	27.07	14.5	3.23	NA	CLAY to SILTY CLAY	10
8.400	27.56	14.1	2.47	NA	CLAYEY SILT to SILTY CLAY	7
8.550	28.05	14.8	3.25	NA	CLAY to SILTY CLAY	10
8 700	28.54	14.2	2.47	NA	CLAYEY SILT to SILTY CLAY	7
8.850	29.04	14.7	2.92	NA	CLAYEY SILT to SILTY CLAY	7
9.000	29.53	14.7	2.58	NA	CLAYEY SILT to SILTY CLAY	7
9.150	30.02	14.6	1.84	NA	CLAYEY SILT to SILTY CLAY	7
9.300	30.51	14.6	2.75	NA	CLAYEY SILT to SILTY CLAY	7
9.450	31.00	16.5	3.15	NA	CLAY to SILTY CLAY	11
9.600	31.50	19.6	4.24	NA	CLAY	20
9.750	31.99	62.6	5.35	NA	CLAY	63
9.900	32.48	49.6	5.76	NA	CLAY	50
10.050	32.97	81.2	5.45	NA	*VERY STIFF FINE GRAINED	81
10.200	33 46	72.3	4.18	NA	CLAYEY SILT to SILTY CLAY	36
10.350	33.96	72.6	3.92	NA	CLAYEY SILT to SILTY CLAY	36
10.500	34.45	47.6	4.98	NA	CLAY to SILTY CLAY	32
10.650	34 94	57.5	4.37	NA	CLAYEY SILT to SILTY CLAY	29
10.800	35.43	24.8	2.06	NA	SANDY SILT to CLAYEY SILT	10
10.950	35.93	20.1	1.89	NA	SANDY SILT to CLAYEY SILT	8
11.100	36.42	24.0	2.21	NA	SANDY SILT to CLAYEY SILT	10
11 250	36.91	19.0	3.00	NA	CLAYEY SILT to SILTY CLAY	10
11 400	37.40	17.5	2.17	NA	CLAYEY SILT to SILTY CLAY	9
11 550	37.89	19.3	2.49	NA	CLAYEY SILT to SILTY CLAY	10
11 700	38.39	17.0	1.06	NA	SANDY SILT to CLAYEY SILT	7
11 850	38 88	27.0	1.96	NA	SANDY SILT to CLAYEY SILT	11
12.000	39 37	36.8	4.21	NA	CLAY to SILTY CLAY	25

NA = NOT APPLICABLE
*INDICATES OVERCONSOLIDATED OR CEMENTED MATERIAL
ASSUMED TOTAL UNIT WT = 110 pcf
ASSUMED DEPTH OF WATER TABLE = 15.0 ft
N(60) = EQUIVALENT SPT VALUE (60% Energy)

Interpretations based on: Robertson and Campanella, 1989.



TOP 1.0 FT IS DISTURBED SOIL

TIP RESISTANCE NOT CORRECTED FOR END AREA EFFECT

ASSUMED TOTAL UNIT WT = 110 PCF

ASSUMED DEPTH OF WATER TABLE = 15.0 FT

SOIL BEHAVIOR TYPE INTERPRETATIONS BASED ON: GUIDELINES FOR GEOTECHNICAL DESIGN USING THE CPT AND CPTU. SOIL MECHANICS SERIES #120. UNIVERSITY OF BRITISH COLUMBIA. SEPTEMBER 1989. BY P.K. ROBERTSON AND R.G. CAMPANELLA.

CONE PENETRATION TEST

SOUNDING NUMBER: CPT-8

PROJECT NAME : ENVIRON/STD.BNDS

CONE/RIG : 469/T-3

PROJECT NUMBER : 95-381-12106

DATE/TIME: 05-18-95 09:09

EARTH TECH

CONE PENETRATION TEST

SOUNDING : CPT-8
PROJECT : ENVIRON/STD.BNDS
DATE/TIME: 05-18-95 09:09

PROJECT No.: 95-381-12106
CONE/RIG : 469/T-3

DEPTH (m)	DEPTH (ft)	TIP RESISTANCE (tsf)	FRICTION RATIO (%)	CONE PORE PRESSURE (tsf)	SOIL BEHAVIOR TYPE	N(60)
.150	.49	.0	.00	NA		0
.300	.98	.0	.00	NA		0
.450	1.48	19.4	4.63	NA	CLAY	19
.600	1.97	26.1	5.71	NA	CLAY	26
.750	2.46	28.5	4.78	NA	CLAY	28
.900	2.95	23.9	5.47	NA	CLAY	24
1.050	3.44	27.4	5.65	NA	CLAY	27
1.200	3.94	27.6	5.35	NA	CLAY	28
1.350	4.43	25.3	5.03	NA	CLAY	25
1.500	4.92	21.1	4.88	NA	CLAY	21
1.650	5.41	19.3	5.17	NA	CLAY	19
1.800	5 91	16.1	4.35	NA	CLAY	16
1.950	6.40	15.8	3.92	NA	CLAY to SILTY CLAY	11
2.100	6.89	13.4	2.91	NA	CLAY to SILTY CLAY	9
2.250	7.38	13.1	2.90	NA	CLAY to SILTY CLAY	9
2.400	7.87	12.5	2.24	NA	CLAYEY SILT to SILTY CLAY	6
2.550	8.37	11.1	1.62	NA	CLAYEY SILT to SILTY CLAY	6
2.700	8.86	11.0	1.90	NA	CLAYEY SILT to SILTY CLAY	6
2.850	9.35	13.0	2.78	NA	CLAY to SILTY CLAY	9
3.000	9.84	8.4	2.73	NA	CLAY to SILTY CLAY	6
3.150	10.33	7.2	1.80	NA	CLAY to SILTY CLAY	5
3.300	10.83	7.2	1.80	NA	CLAY to SILTY CLAY	5
3.450	11.32	17.6	2.55	NA	CLAYEY SILT to SILTY CLAY	9
3.600	11.81	7.1	2.26	NA	CLAY to SILTY CLAY	5
3.750	12.30	7.6	1.72	NA	CLAYEY SILT to SILTY CLAY	4
3 900	12.80	8.1	1.61	NA	CLAYEY SILT to SILTY CLAY	4
4.050	13.29	7.4	2.44	NA	CLAY to SILTY CLAY	5
4.200	13.78	9.6	3.54	NA	CLAY	10
4 350	14 27	6.9	2.74	NA	CLAY	7
4.500	14.76	7.4	3.11	NA	CLAY	7
4.650	15.26	6.3	2.53	NA	CLAY to SILTY CLAY	4
4.800	15.75	10.0	7.41	NA	CLAY	10
4.950	16.24	23.5	6.47	NA	CLAY	23
5.100	16.73	7.4	5.13	NA	CLAY	7
5.250	17.22	11.4	3.61	NA	CLAY	11
5.400	17.72	12.3	3.18	NA	CLAY to SILTY CLAY	8
5 550	18.21	11.5	4.17	NA	CLAY	12
5.700	18 70	19 3	2.96	NA	CLAYEY SILT to SILTY CLAY	10
5.850	19.19	16.7	3.41	NA	CLAY to SILTY CLAY	11
6.000	19.69	19.4	3.87	NA	CLAY to SILTY CLAY	13
6.150	20.18	17.3	2.60	NA	CLAYEY SILT to SILTY CLAY	9

NA = NOT APPLICABLE
TOP 1.0 ft IS DISTURBED SOIL
*INDICATES OVERCONSOLIDATED OR CEMENTED MATERIAL
ASSUMED TOTAL UNIT WT = 110 pcf
ASSUMED DEPTH OF WATER TABLE = 15.0 ft
N(60) = EQUIVALENT SPT VALUE (60% Energy)

EARTH TECH

Interpretations based on: Robertson and Campanella, 1989.

SOUNDING : CPT-8

DEPTH (m)	DEPTH (ft)	TIP RESISTANCE (tsf)	FRICTION RATIO (%)	CONE PORE PRESSURE (tsf)	SOIL BEHAVIOR TYPE	N(60)
6.300	20.67	17.5	2.57	NA	CLAYEY SILT to SILTY CLAY	9
6.450	21.16	18.7	2.73	NA	CLAYEY SILT to SILTY CLAY	9
6.600	21.65	19.5	3.34	NA	CLAYEY SILT to SILTY CLAY	10
6.750	22.15	18.7	3.32	NA	CLAY to SILTY CLAY	12
6.900	22.64	19.8	3.64	NA	CLAY to SILTY CLAY	13
7.050	23.13	17.6	3.29	NA	CLAY to SILTY CLAY	12
7.200	23.62	15.4	2.28	NA	CLAYEY SILT to SILTY CLAY	8
7.350	24.11	19.8	2.63	NA	CLAYEY SILT to SILTY CLAY	10
7.500	24.61	23.7	2.91	NA	CLAYEY SILT to SILTY CLAY	12
7.650	25.10	24.0	3.08	NA	CLAYEY SILT to SILTY CLAY	12
7.800	25.59	23.8	2.43	NA	CLAYEY SILT to SILTY CLAY	12
7.950	26.08	30.0	3.24	NA	CLAYEY SILT to SILTY CLAY	15
8.100	26.57	23.1	3.94	NA	CLAY to SILTY CLAY	15
8.250	27.07	24.4	2.95	NA	CLAYEY SILT to SILTY CLAY	12
8.400	27.56	44.0	2.89	NA	SANDY SILT to CLAYEY SILT	18
8.550	28.05	42.7	5.78	NA	CLAY	43
8.700	28.54	77.4	4.88	NA	*VERY STIFF FINE GRAINED	77
8.850	29.04	32.9	5.28	NA	CLAY	33
9.000	29.53	27.4	3.39	NA	CLAYEY SILT to SILTY CLAY	14
9.150	30.02	23.6	3.65	NA	CLAY to SILTY CLAY	16
9.300	30.51	31.0	3.99	NA	CLAY to SILTY CLAY	21
9.450	31.00	33.4	2.85	NA	CLAYEY SILT to SILTY CLAY	17
9.600	31.50	56.5	4.74	NA	CLAY to SILTY CLAY	38
9.750	31.99	136.4	4.23	NA	*VERY STIFF FINE GRAINED	136
9.900	32.48	171.3	2.71	NA	SILTY SAND to SANDY SILT	57
10.050	32.97	252.2	2.79	NA	SILTY SAND to SANDY SILT	84
10.200	33.46	220.7	3.00	NA	SILTY SAND to SANDY SILT	74
10.350	33.96	192.3	3.26	NA	SANDY SILT to CLAYEY SILT	77
10.500	34.45	175.8	3.34	NA	SANDY SILT to CLAYEY SILT	70
10.650	34.94	161.5	2.30	NA	SILTY SAND to SANDY SILT	54
10.800	35.43	165.7	2.96	NA	SILTY SAND to SANDY SILT	55
10.950	35.93	191.3	2.89	NA	SILTY SAND to SANDY SILT	64
11.100	36.42	28.8	1.25	NA	SANDY SILT to CLAYEY SILT	12
11.250	36.91	24.7	1.25	NA	SANDY SILT to CLAYEY SILT	10
11.400	37.40	24.3	1.44	NA	SANDY SILT to CLAYEY SILT	10
11 550	37.89	19.9	1.61	NA	SANDY SILT to CLAYEY SILT	8
11 700	38.39	20.7	2.08	NA	CLAYEY SILT to SILTY CLAY	10
11.850	38 88	17.5	1.08	NA	SANDY SILT to CLAYEY SILT	7
12.000	39 37	18.9	1.06	NA	SANDY SILT to CLAYEY SILT	8

NA = NOT APPLICABLE
*INDICATES OVERCONSOLIDATED OR CEMENTED MATERIAL
ASSUMED TOTAL UNIT WT = 110 pcf
ASSUMED DEPTH OF WATER TABLE = 15.0 ft
N(60) = EQUIVALENT SPT VALUE (60% Energy)

Interpretations based on: Robertson and Campanella, 1989.