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Additional Site Investigation Report

Former CENCO Refinery 12345 Lakeland Road Santa Fe Springs, California

Isola & Associates, LLP
Lodi, California

August 2006

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Transmittal

Transmitted via FedEx

Blasland, Bouck & Lee, Inc.
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To: Mr. Tom Hall
Environmental Protection Specialist
Santa Fe Springs Fire Department
11300 Greenstone Avenue
Santa Fe Springs, CA 90670-4619

Date: August 14, 2006

File: SLIC No. 318, Site ID 2040071

Re: Cenco Refining Company

We are sending you: ☒ herewith ☐ under separate cover
☐ drawings ☐ letters ☐ other _____

If material received is not as listed, please notify us at once.

Quantity	Identifying Number	Title	Action*
1	N/A	Additional Site Investigation Report - Former CENCO Refining Company	R

*Action letter code: R – for your review; S - resubmit; N - reviewed and noted; J - rejected; I - for your information; Y - for your approval

Remarks:

Enclosed please find the Additional Site Investigation Report for the Former Cenco Refining Company for your review. Please do not hesitate to call me at (949) 474-9052 extension 18 if you have any questions or concerns.

Sincerely,

BLASLAND, BOUCK & LEE, INC.

cc: File

Paris A. Hajali, Ph.D., P.E.
Vice President

08/14/06
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Transmitted Via Federal Express

August 11, 2006

Mr. Don Indermill
Spills, Leaks, Investigation and Cleanup II Unit
Regional Water Quality Control Board
320 West 4th Street, Suite 200
Los Angeles, California 90013

Re: Additional Site Investigation Report
Former CENCO Refining Property
12345 Lakeland Road
Santa Fe Springs, California
SLIC No. 318, Site ID 2040071

Dear Mr. Indermill:

On behalf of Lakeland Development Company, Blasland, Bouck & Lee, Inc., an ARCADIS company (BBL) is pleased to provide you with the Additional Site Investigation Report for the Former CENCO Refining Property in Santa Fe Springs, California. Presented in this document are the findings of the additional site investigation activities conducted between December 2005 and February 2006.

Please do not hesitate to contact me at (949) 474-9052 Extension 18 should you have any questions or comments regarding the report.

Sincerely,

BLASLAND, BOUCK & LEE, INC.

Paris Hajali, Ph.D., P.E.
Vice President

JLW/jlw
Enclosures: Additional Site Investigation Report

RWQCB Inv Rpt Cover Letter.doc

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REPORT

Additional Site Investigation Report

Former CENCO Refinery 12345 Lakeland Road Santa Fe Springs, California

Isola & Associates, LLP
Lodi, California

August 2006

Respectfully submitted,

BLASLAND, BOUCK & LEE, INC.

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Executive Summary

Blasland, Bouck & Lee, Inc., an ARCADIS company (BBL), has prepared this Additional Site Investigation Report on behalf of CENCO Refining Company. This report describes the soil vapor and soil investigation activities and groundwater monitoring activities performed at the CENCO refinery (Site) located at 12345 Lakeland Road in Santa Fe Springs, California (Figure 1). The investigation activities were conducted between November 8, 2005 and February 8, 2006 in accordance with the *Additional Site Investigation Workplan*, prepared by Haley & Aldrich, Inc. on May 9, 2005, and approved by the California Regional Water Quality Control Board Los Angeles Region (RWQCB) in a letter dated September 15, 2005. The groundwater monitoring activities were conducted between February 13 and February 16, 2006.

The investigation consisted of an active soil gas survey and soil investigation. The soil gas survey included the installation of soil gas semi-permanent probes at 221 locations (at 5 feet bgs and 10 feet bgs) on an approximately 100-foot by 100-foot grid spacing to provide appropriate coverage across the Site. Soil vapor samples were analyzed for volatile organic compounds (VOCs) and methane (in selected locations). Additionally, a total of 220 soil borings were advanced at the Site along an approximate 100-foot by 100-foot grid. Soil samples were collected at depths of 2, 5, 10, 15, 20, 30, 40, and 50 feet bgs. Initially, all 2-foot, 5-foot, and 10-foot samples were analyzed for VOCs, polynuclear aromatic hydrocarbons (PAHs), and total petroleum hydrocarbon (TPH) carbon chain speciation. Metals, polychlorinated biphenyls (PCBs), organochlorine pesticides, pH, and hexavalent chromium were analyzed on selected 2-foot and 5-foot samples. Deeper samples were selected for analysis based on recommendations by the RWQCB due to concentrations elevated above regulatory screening values.

The most recent groundwater monitoring event discussed in this report consisted of groundwater sample collection from 17 existing wells. The samples were analyzed for TPH as gasoline, VOCs, oxygenates, and hexavalent chromium. In addition, groundwater samples from five of these wells were analyzed for methane, nitrate, sulfate, alkalinity, and ferrous iron to evaluate potential for biodegradation of petroleum hydrocarbons in groundwater.

The soil vapor and soil chemical concentration data collected during the Site investigation were evaluated against regulatory limits to delineate the extent of the subsurface impacts. All applicable regulatory screening values from various guidance documents were reviewed. These screening criteria are chemical-specific and were developed by regulatory agencies to protect human health and the environment. BBL selected the lowest of the screening criteria between the various references for the Site-specific cleanup screening levels (CSLs). These CSLs were used to determine the areas at the Site requiring remediation. Chemicals exceeding the CSLs include various VOCs, PAHs, all carbon chains of TPH, metals, and PCBs. Pesticide and hexavalent chromium concentrations did not exceed the CSLs. For the shallow vadose zone (0 to 20 feet below ground surface), the estimated total soil volume requiring remediation is on the order of 725,000 tons.

Deeper soil within the vadose zone and groundwater have also been impacted and will require remediation. Further investigations will need to be implemented before the extent of impact is delineated. Based on the results of investigations conducted to date, remediation will certainly be required.

1. Introduction

Blasland, Bouck & Lee, Inc., an ARCADIS company (BBL), has prepared this Additional Site Investigation Report on behalf of CENCO Refining Company. This report describes the soil vapor and soil investigation activities and groundwater monitoring activities performed at the CENCO refinery (Site) located at 12345 Lakeland Road in Santa Fe Springs, California (Figure 1). The soil vapor and soil investigation activities were conducted between November 8, 2005 and February 8, 2006 in accordance with the *Additional Site Investigation Workplan*, prepared by Haley & Aldrich, Inc. (Haley & Aldrich) on May 9, 2005, and approved by the California Regional Water Quality Control Board Los Angeles Region (RWQCB) in a letter dated September 15, 2005 (Appendix A). The quarterly groundwater monitoring field activities were conducted between February 13 and 16, 2006. All work was performed under the supervision of a State of California Professional Geologist.

1.1 Purpose

The purpose of the investigation was to:

- Identify and resolve data gaps to complete an assessment of the nature and extent of Site-related chemical impacts to shallow and deep vadose zone soil and groundwater;
- Delineate the horizontal and vertical extent of Site-related chemical impacts;
- Obtain sufficient information for the evaluation of existing and potential threats to groundwater quality; and
- Obtain sufficient information for the assessment of potential human health risks to on-site and off-site human receptors due to potential exposure to Site-related chemical impacts.

This investigation was conducted on three subsurface zones of the Site: (1) shallow vadose zone, (2) deep vadose zone, and (3) groundwater. The investigation focused primarily on the shallow vadose zone soil and soil vapor (from ground surface to approximately 20 feet below ground surface [bgs]). This shallow zone represents the largest potential impact to human health and Site redevelopment. Additionally, the shallow zone can be remediated using different methods (i.e., excavation) than the deeper zone and groundwater. The deep vadose zone soil was investigated primarily to target areas with known historical accidental hydrocarbon/volatile organic compound (VOC) releases. Additional investigation of the deep zone will be necessary to fully delineate the impact. The groundwater investigation proposed in the *Additional Site Investigation Workplan* (Haley & Aldrich, 2005) will be conducted separately and will be reported as a supplemental document to this report. The quarterly groundwater monitoring results are summarized in this report to illustrate the levels of chemical impacts to on-site and off-site groundwater.

2. Background

2.1 Site Description

The Site is approximately 55 acres and is located at 12345 Lakeland Road in Santa Fe Springs, California. The Site is bordered to the north by Florence Avenue, to the south by Lakeland Road, and to the east by Bloomfield Avenue. Commercial/light industrial properties border the Site to the west. Property to the south and west of the Site is within the city of Norwalk, and other property to the south of the Site is situated on State lands (the Metropolitan State Hospital). The Site is located within an industrial/commercial area, which is bordered by a residential neighborhood to the west. The location of the Site and surrounding properties are shown on Figure 2. The assessors parcel map for the Site is shown in Appendix B.

The refinery is not operating; however, most of the structures related to the former oil refinery operations remain on-site. These structures are scheduled to be removed from the Site prior to the redevelopment of the property for commercial/light industrial use.

2.2 Operational History

The Site was historically operated by various entities, including the Bell View Oil Syndicate, Rothschild Oil Company, Powerine, Mr. Oscar Schmidt, Castle Energy Corporation, Energy Merchant Corporation, and CENCO. Information regarding Site ownership and on-Site operations was obtained from the January 28, 2000 *Revised Master Work Plan*, prepared by Versar, Inc. (Versar, 2000).

A review of aerial photographs dated 1928 and 1938 indicates that the western portion of the Site may have historically been used for agricultural purposes. Prior to construction of the refinery, the Site was an oil field consisting of crude oil production wells and unlined sumps. In 1936, Rothschild Oil Company purchased the refinery from the Bell View Oil Syndicate. The Rothschild Oil Company owned and operated the Powerine Refinery at the Site from 1936 to 1984, when Powerine went into bankruptcy and ceased operations. In 1986, the refinery emerged from bankruptcy under new ownership by Mr. Oscar Schmidt. Mr. Schmidt restarted the refinery and continued operations until 1992, when it was shut down again due to financial hardships. In 1993, the Castle Energy Corporation purchased Powerine and operated the refinery until 1995, when refinery operations were suspended. In 1996, Energy Merchant Corporation purchased Powerine. In August 1998, CENCO purchased the assets and liabilities of Powerine.

The Site has three former main refinery operational areas identified as the East Tank Farm, the Processing Area, and the West Tank Farm. Each of these areas and associated structures is shown in Figure 3. The East Tank Farm is located in the southeastern portion of the Site. This area contains several aboveground storage tanks (ASTs) and a storm water impounding basin in the southeast corner of the Site. The ASTs were used to store various petroleum products, including crude oil, gasoline, jet fuel and intermediate refined products, propane, isobutene, and butane. The Processing Area is located in the central and northern portions of the Site. The Processing Area contains an administration building, a maintenance office, a laboratory, and processing equipment including crude units, a fluid catalytic cracking unit, an alkylation unit, a coker unit, a sulfur plant, a hydrogen plant, a hydrocracker, various hydrotreating units, and a gasoline blending facility. In addition, the Processing Area contains an underground pipeline that transported fuels to a former AST area on a property located adjacent to the southeast of the Site. The West Tank Farm is located along the western boundary of the Site and contains several ASTs. The ASTs were used to store wastewater, vacuum residuum, gas oil, and other fuel products.

Previous refining operations included processing crude oil into several grades of fuel including kerosene, leaded gasoline and aviation fuel, unleaded gasoline, jet fuel, high and low sulfur diesel, fuel oil, and petroleum coke.

The refinery also produced non-fuel byproducts for sales, including sulfur and carbon dioxide. Additionally, the refinery produced refinery gas and hydrogen for internal refinery consumption.

In general, chemicals of potential concern at the Site include petroleum hydrocarbons as various mixtures, volatile organic compounds (VOCs), polynuclear aromatic hydrocarbons (PAHs), and petroleum product additives and processing chemicals (including metals and other VOCs). Polychlorinated biphenyls (PCBs) may also be of concern as on-site electrical equipment may have contained PCBs.

3. Geology and Hydrogeology

3.1 Geology and Hydrogeology

Regional and Site-specific geology and hydrogeology are discussed in the following sections. Information on geology and hydrogeology was obtained from historical Site investigations as well as the investigation conducted by BBL.

3.1.1 Regional Geology

The Site is located within the Santa Fe Springs Plain Subgeomorphic Province of the Los Angeles Coastal Plain at an elevation of approximately 130 to 140 feet above mean sea level (msl). This plain is a slightly rolling topographic feature sloping gently to the northeast in the vicinity of the Site due to the northwest trending Santa Fe Springs-Coyote Hills anticlinal system. The Site is positioned above the southern limb of the Santa Fe Springs Anticline. Petroleum accumulation associated with this anticlinal structure has resulted in substantial oil production in the Santa Fe Springs area. Prominent topographic features in the area include the Puente and Coyote Hills to the northeast, east, and southeast. The San Gabriel River is located approximately 1.75 miles west of the Site and flows from north-northeast to south-southwest (Haley & Aldrich, 2005 and Versar, 2000).

The Los Angeles Coastal Plain area is a large structural basin that has accumulated thousands of feet of sediments since Miocene time and has been tectonically active. The Los Angeles Coastal Plain generally consists of alluvial materials deposited by the Los Angeles, San Gabriel, and Santa Ana Rivers. The Santa Fe Springs Plain is comprised of the Upper Pleistocene age Lakewood Formation (California Division of Mines and Geology [CDMG], 1999). The Lakewood Formation and the underlying San Pedro Formation are folded over the anticlinal dome structure (Haley & Aldrich, 2005 and Versar, 2000).

3.1.2 Local Geology

In the Site vicinity, the Santa Fe Springs Plain consists of the late Pleistocene alluvium of the Lakewood Formation. The Lakewood Formation unconformably overlies the lower Pleistocene San Pedro Formation and the Pliocene Pico Formation. The Lakewood Formation consists of interbedded clays, silts, silty sands, and sands representative of stream-type alluvial and floodplain deposits (Versar, 2000).

Based on a review of historical boring logs and well completion records obtained during previous Site investigations, subsurface lithology appears to be heterogeneous and varies both vertically and laterally across the Site (Haley & Aldrich, 2005).

Boring logs from BBL's investigation generally indicate silts, with lesser amount of clays from ground surface to between approximately 8 feet bgs (in the eastern portion of the Site) to 38 feet bgs (in the western portion of the Site). Below the silt are interbedded sands and silty sands, with lesser amounts of interbedded clayey sands, silts, and clays. In general, the eastern and central portions of the Site contain more coarser-grained sediments (sand and gravel) than the western portion of the Site. Cross-section lines are depicted on the soil boring location map (Figure 4). The cross-sections showing generalized Site geology are provided as Figures 5 through 8. Boring logs from the Site investigation are included in Appendix C.

3.1.3 Regional Hydrogeology

Several regional water-bearing units have been identified within the older alluvial fan and valley deposits of the Lakewood Formation and underlying San Pedro Formation. In the Site area, the Lakewood Formation begins at ground surface, ranges from 100 to 180 feet thick, and is composed of three hydrostratigraphic units: 1) the

Bellflower Aquiclude (upper unit), 2) the Exposition Aquifer, and 3) the Gage Aquifer. The Exposition and Gage aquifers consist predominantly of sands and fine gravels with discontinuous, thinly bedded silts and clays. These aquifers have an approximate combined thickness of 100 to 150 feet, approximately half of which is saturated (Versar, 2000). Appendix D shows a cross-section of generalized regional geology and hydrogeologic units.

Within the Site vicinity, the Bellflower Aquiclude consists of a heterogeneous mixture of clays, silty clays, silts, and extensive interbedded lenses of sandy or gravelly silts and clays and has an estimated thickness between 20 and 40 feet. The major water-bearing unit of interest for this investigation is the Exposition Aquifer (otherwise known as the Artesia Aquifer), the upper water bearing unit of the Lakewood Formation. The Exposition Aquifer is composed of coarse gravel, coarse to fine sand, and interbedded silts and clays with a general southwesterly dip and thickness between 40 and 80 feet. The Exposition Aquifer is separated from the Gage Aquifer by an unnamed aquiclude. Information for the Site area in Santa Fe Springs indicates that the depth to first-encountered groundwater within the Exposition Aquifer ranges from 75 to 90 feet bgs. The Gage Aquifer consists predominantly of sands and fine gravels with an estimated thickness between 30 and 50 feet (Department of Water Resources [DWR], 1961, Haley & Aldrich, 2005, and Versar, 2000).

Based on available information, the Site is located at the southern end of the Montebello Forebay Area of the Central Groundwater Basin situated within Downey Plain. The primary water-producing aquifers for the Central Basin Pressure Area are the Silverado and Sunnyside Aquifers within the San Pedro Formation at depths greater than 165 feet bgs (DWR, 1961 and 2001).

3.1.4 Local Hydrogeology

Shallow groundwater was encountered beneath the Site at depths ranging between 88.49 and 103.91 feet bgs with a groundwater gradient of 0.01 feet per foot (February 2006). Groundwater flow direction varies from a south-southwesterly direction in the northeastern portion of the Site to a south-southeasterly direction beneath the Metropolitan State Hospital. Aquifer testing performed at the Site by IT Corporation (IT) in 1986 resulted in calculated transmissivities between 124 gallons/day/foot (g/d/f) and 13,613 g/d/f within shallow groundwater. IT interpreted the hydraulic test results as an indication of a highly heterogeneous water-bearing zone containing significant boundary effects.

Local public and municipal production wells were researched by Haley & Aldrich and discussed in the March 15, 2005 *Additional Site Investigation Work Plan* (Haley & Aldrich, 2005). According to hydrogeologic records available at the Los Angeles County Department of Public Works (LADPW), three municipal wells are located within 1 mile of the Site. Information obtained for these wells is provided below:

- Well No. 1627C had a reported depth to groundwater of 91.0 feet bgs on April 17, 1991 and is located FX-9: Wells [redacted] and not in use, and is owned by the Metropolitan State Hospital.
- FX-9: Wells [redacted]
- Well 1628J, an active municipal monitoring well, had a reported depth to groundwater of 60.3 feet bgs FX-9: Wells [redacted]

Haley & Aldrich researched municipal wells located in the vicinity of the Site (Haley & Aldrich, 2005). According to the California DWR Watermaster Service in the Central Basin of Los Angeles County Report for the period July 1, 2000 through June 30, 2001 (DWR, 2001), two municipal supply wells are operated within

and by the city of Santa Fe Springs (farther than 1 mile from the Site). Information obtained for these wells is provided below:

- Well 03S/11W-20R09S, located approximately 3.7 miles south-southeast of the Site, generated approximately 1,526 acre-feet of groundwater from July 1, 2000 through June 30, 2001.
- Well 02S/11W-30R03S, located approximately 2.9 miles north of the Site, generated approximately 1,878 acre-feet of groundwater from July1, 2000 through June 30, 2001.

4. Previous Investigations

Investigations have been and are being conducted at the Site in response to two CAOs issued for the Site by the RWQCB. The first CAO, 85-17, was issued in 1985 and directed Powerine (now CENCO) to conduct a subsurface investigation of the Site. The second CAO, 97-118, dated August 25, 1997, directed Powerine to further address on-site and off-site soil and groundwater impacts originating from the Site and its interconnecting pipelines. On March 24, 2004, the Superior Court of the State of California for the County of Los Angeles issued a preliminary injunction requiring the remediation and removal of released hazardous substances at the Site.

Three other properties located adjacent to the Site were formerly owned by the refinery. These properties are referred to as the Former Bloomfield Property, the Former Lakeland Property, and the Former Walker Property (Figure 2). The RWQCB has granted no further action regarding soil impacts on these three properties. Therefore, the soil impacts to these adjacent properties were not included in the investigation conducted by BBL.

4.1 Soil Investigations

Previous soil investigations indicated that the subsurface soils are impacted by petroleum hydrocarbons, and to a lesser extent benzene, toluene, ethylbenzene, and xylenes (BTEX), at the areas of known accidental releases. Other VOCs were detected sporadically in soil samples at low levels (less than 0.3 milligrams per kilogram [mg/kg]). Low concentrations of metals were detected throughout the Site, suggesting background soil metal concentrations, with exception of areas adjacent to Tanks 10006 and 20092 in the West Tank Farm (Haley & Aldrich, 2005). The following sections summarize past remedial investigations and soil conditions at each of the Site Operational Areas. Historical soil investigation results are tabulated in Appendix E. A figure with historical soil results is included in Appendix F.

East Tank Farm

IT Corporation – 1985 Investigation

In 1985 a subsurface investigation was conducted by IT at the East Tank Farm in response to CAO 85-17 (IT, 1985). Eighteen soil borings (SB-1 through SB-9, SB-103, SB-104, SB-202, SB-204, SB-303 through SB-305, SB-308, and SB-309) were drilled to maximum depths ranging from 5 feet to 88.5 feet bgs. Soil borings were located in areas of visual staining. A total of 33 subsurface soil samples were collected from the soil borings. Thirteen soil samples were collected from soil borings SB-1 through SB-9 and were analyzed for total recoverable petroleum hydrocarbons (TRPH) only. The remaining 20 soil samples were analyzed for TRPH, BTEX, total organic halogens (TOX) (which is a measure of volatile and nonvolatile halo-carbons), and halogenated VOCs (HVOCs). Upon completion of soil sample collection, soil borings SB-103, SB-104, SB-202, and SB-204 were converted into 4-inch diameter monitoring wells, and soil borings SB-303 through SB-305, SB-308, and SB-309 were converted into vapor monitoring wells (Versar, 2000).

In this study, three areas were found to be impacted: 1) the area west of the Impounding Basin, 2) the area north of the East Tank Farm and south of the Hydrogen/Hydrocracker Unit, and 3) the central section of the East Tank Farm. The concentration of TRPH was 26,500 mg/kg at 15 feet bgs and below the laboratory reporting limit (2 mg/kg) at 10 feet bgs at soil boring SB-5, located in the area west of the Impounding Basin and at the southeast corner of the East Tank Farm. TRPH analysis of four soil samples collected from soil borings SB-6 and SB-103, located approximately 120 feet downgradient of SB-5, revealed concentrations below 100 mg/kg. None of the BTEX constituents was detected in any of the three soil borings mentioned above (Versar, 2000).

Four soil borings were advanced in the area north of the East Tank Farm at depths ranging between 5 and 40 feet bgs. TRPH was detected at a maximum concentration of 2,440 mg/kg at 40 feet bgs in soil boring SB-1, while concentrations in soil samples collected from the other three soil borings (SB-2, SB-3 and SB-309) ranged between 4 mg/kg and 118 mg/kg. As in the first impacted area, none of the BTEX constituents were detected in any of the soil samples collected (Versar, 2000).

Nine soil borings were drilled to maximum depths between 4.5 feet and 68.5 feet bgs in the third impacted area at the East Tank Farm. Six of these soil borings were located in the vicinity of previously reported tank releases. TRPH analysis revealed concentrations ranging between 1 mg/kg and 4,140 mg/kg (SB-8). Elevated TRPH levels in this area were present at variable depths and locations. Boring SB-204 was the only location where any BTEX constituents were detected. Toluene, ethylbenzene, and total xylenes concentrations were 0.32 mg/kg, 0.32 mg/kg, and 4.4 mg/kg, respectively (Versar, 2000).

Versar – 1999 Investigation

In March 1999, Versar advanced two soil borings in accordance with the June 1998 *Master Work Plan*, which was approved by the RWQCB. Soil borings DB2 and DB3 were drilled west of the Impounding Basin and in the southwest corner of the East Tank Farm, respectively. Samples were taken from depths up to 80.5 feet bgs and analyzed for total petroleum hydrocarbons as gasoline (TPH-g), BTEX, and methyl tertiary butyl ether (MTBE). One grab groundwater sample was collected from boring DB2 using a Hydropunch™ II sampler and was analyzed for TPH-g, BTEX, and MTBE (Versar, 2000).

Analytical results of the soil samples taken from DB2 indicated that vadose zone soils were impacted by gasoline-range petroleum hydrocarbons, BTEX, and MTBE from approximately 20 feet bgs to first encountered groundwater (at about 80 feet bgs). Low levels (less than 10 mg/kg) of petroleum hydrocarbons, BTEX, and MTBE were observed in the samples collected from DB2 at depths between the ground surface and 20 feet bgs. Groundwater analysis revealed that TPH-g, benzene, toluene, ethylbenzene, total xylenes, and MTBE were present at concentrations of 402 milligrams per liter (mg/L), 22.1 mg/L, 5.0 mg/L, 16.4 mg/L, 35.0 mg/L, and 294.0 mg/L, respectively (Versar, 2000).

In soil boring DB3, TPH-g was detected at a concentration of 1.0 mg/kg in the sample collected at 0.5 feet bgs. BTEX and MTBE were not detected at their corresponding laboratory reporting limits in all the samples collected from 0.5 to 81 feet bgs. Analytical results of the soil samples collected from DB3 showed that vadose zone soils were not impacted by gasoline-range petroleum hydrocarbons, BTEX, or MTBE at this location (Versar, 2000).

Processing Area

IT Corporation – 1985 Investigation

Subsurface investigations in the Processing Area focused on the northern and southern portions of the CENCO Site boundary and the area adjacent to the on-Site laboratory. Ten soil borings were advanced to maximum depths between 15 feet and 88.5 feet bgs from which 32 soil samples were collected. Fourteen of the samples were analyzed for TRPH, 13 for VOCs, 28 for HVOCs, 16 for lead, and 8 were analyzed for TPH-g and MTBE. Analytical results showed the soil to be impacted by petroleum hydrocarbons in the areas of soil borings SB-102, SB-302, SB-402, and DB1; however, groundwater at SB-302 and SB-402 was not impacted. Total HVOC and lead concentrations were lower than 0.23 mg/kg and 12 mg/kg, respectively (Versar, 2000).

A soil investigation was also performed in the northern portion of the Processing Area where three soil borings (SB-104, SB-401, and SB-402) were drilled to maximum depths from 33.5 feet to 85 feet bgs. Borings SB-104, SB-401, and SB-402 were located at the northeast portion of the Site, in the Sulfur Unit area, and south of the

Lime Pond, respectively. Seven soil samples were taken from these borings and analyzed for TRPH and BTEX constituents. TRPH was detected at concentrations between 40 mg/kg (at 18.5 feet bgs in SB-401) and 940 mg/kg (at 8.5 feet bgs in SB-402). No BTEX constituents were detected in the seven analyzed samples (Versar, 2000).

In the southwest corner of the Processing Area at SB-102, TRPH was detected at 32,000 mg/kg at 8.5 feet bgs, 8,100 mg/kg at 13.5 feet bgs, and 1,500 mg/kg at 48.5 feet bgs. The BTEX constituents and HVOCs were detected sporadically in this boring at low levels (6.68 mg/kg and 0.23 mg/kg, respectively). Boring SB-102 was located adjacent to the underground pipeline that was used to transfer fuels from the CENCO refinery to the former AST area at the Walker Property. Boring SB-302, located approximately 200 feet to the northeast of SB-102, was advanced to a depth of approximately 40 feet bgs. TRPH was detected at a depth of 8.5 feet bgs at a concentration of 5,060 mg/kg and was not detected at 38.5 feet bgs. HVOCs were not present in any soil samples collected from SB-302 (Versar, 2000).

TriHydro – 1996 Investigation

In 1996, a soil gas survey and soil sampling investigation was conducted in the area of the on-Site laboratory. The objective of this investigation was to assess whether previous handling of HVOC-containing materials (including carbon tetrachloride, 1,2-dichloroethane [1,2-DCA], propylene dichloride, and tetrachloroethene [PCE]) in this area have impacted the groundwater beneath the Site. Thirteen locations were used for soil gas sampling and HVOC analysis. Additionally, three soil borings (LBS-5, LBS-10 and LBS-11) were advanced to maximum depths of 15, 20, and 21 feet bgs, respectively. Reported results showed no evidence of the presence of any HVOCs in any of the soil gas and soil samples collected (Versar, 2000).

Versar – 1999 Investigation

In March 1999, soil boring DB1 was drilled to a maximum depth of 81 feet bgs with a total of eight soil samples collected at depths ranging from 0.5 feet to 80.5 feet bgs. The maximum concentrations of TPH-g, benzene, toluene, ethylbenzene, and total xylenes were observed between 60.5 feet and 61.0 feet bgs and were 7,200 mg/kg, 58 mg/kg, 120 mg/kg, 75 mg/kg, and 392 mg/kg, respectively. The highest MTBE concentration was 3.4 mg/kg at a depth of 80.5 feet bgs (at first-encountered groundwater). MTBE levels were consistently low in all soil samples taken from 5.5 feet bgs to deeper than 61 feet bgs (Versar, 2000).

West Tank Farm

IT Corporation – 1985 Investigation

In this investigation that was conducted in the West Tank Farm, 15 soil borings were drilled to maximum depths between 5 feet and 83.5 feet bgs. A total of 22 soil samples were collected from these borings to be analyzed for TRPH. Of these samples, 13 were also analyzed for VOCs and lead, while three samples were analyzed for TPH-g. Analytical results revealed that only a limited area at soil boring SB-201 was impacted by petroleum hydrocarbons and the contamination did not extend to groundwater (Versar, 2000).

The concentration of TRPH was less than 100 mg/kg in all the samples collected from the West Tank Farm except for the sample taken from SB-201 and one sample collected from SB-13. The TRPH concentration was 11,000 mg/kg in SB-201 at a depth of 8.5 feet bgs and 198 mg/kg in SB-13 at 5 feet bgs. Benzene was not present in any of the samples located in the southeast corner of the area of concern. Toluene, ethylbenzene, total xylenes and other VOCs were detected sporadically at low concentrations in four soil samples collected from SB-105 and SB-201. Lead concentrations were below 10 mg/kg in all 13 samples, and HVOCs were not detected in any of the ten analyzed samples (Versar, 2000).

4.2 Groundwater Investigations

Groundwater quality at the Site has been impacted by a variety of sources. Historical AST releases have resulted in releases of petroleum hydrocarbons to groundwater. Groundwater monitoring has been conducted on-site since August 1986, pursuant to two CAOs (85-17 and 97-118) issued by the RWQCB to Powerine Oil Company (CENCO Refining Company) in 1985 and 1997. The quarterly groundwater monitoring program currently consists of 28 wells. Groundwater beneath the Site has been impacted primarily by TPH-g and BTEX. Free-phase petroleum hydrocarbons (FPPH) were first observed in Well MW-504 in June 1988 at a thickness of 1.83 feet. Since that time, FPPH have been detected intermittently in several on-site and off-site wells (Versar, 2000). Historical groundwater elevation tables are included in Appendix G and historical groundwater sampling results are included in Appendix E.

5. Site Investigation Plan

5.1 Health and Safety

Field activities were conducted in accordance with a Site-specific Health and Safety Plan (HASP) prepared pursuant to Code of Federal Regulations Title 29 Section 1910.120 (BBL, 2006). The HASP identifies and describes potentially hazardous substances that may be encountered during field operations, personal protective equipment and clothing for Site activities, and measures that need to be implemented in the event of an emergency. BBL field personnel reviewed the HASP prior to commencing fieldwork. Prior to initiation of field activities each day, a Site safety briefing was conducted to identify potential physical and chemical hazards and measures to be taken in event of an emergency. All on-site personnel were required to sign the Site safety briefing form. A RAE Systems MultiRae was used to monitor methane, oxygen, hydrogen sulfide, and organic vapors. A Drager Chip Measurement System was used to monitor benzene.

5.2 Pre-Field Activities

Besides the preparation of a Site-specific HASP, several pre-field activities were implemented. A total of 223 proposed investigation locations within the former CENCO Refinery facility were located and marked. Underground Services Alert was contacted a minimum of 48 hours prior to subsurface activities to mark underground utilities. A review of available facility as-built drawings was conducted, as well as meeting with facilities staff to go over potential conflicts with proposed drilling locations. Additionally, geophysical utility clearance of the proposed investigation locations was conducted. Utility clearance consisted of a visual inspection of the area for overhead and underground utilities, electromagnetic (EM) pipe and cable location scans, EM induction metal detection, and ground penetrating radar surveys. Utilities detected during the clearance activities were marked in the field. BBL coordinated with the RWQCB, City of Santa Fe Springs Public Works, City of Santa Fe Springs Fire Department, and facilities personnel to discuss the scope of work and methodology prior to initiation of subsurface activities.

5.3 Soil Vapor

An active soil gas survey was conducted in accordance with the RWQCB *Interim Guidance for Active Soil Gas Investigation* guidelines (February 25, 1997) and the Department of Toxic Substances Control (DTSC) and RWQCB *Active Soil Gas Survey Investigation Advisory* (January 28, 2003). At 221 locations across the former refinery, soil gas semi-permanent probes were installed at 5 feet bgs and 10 feet bgs using a direct-push drilling rig. The soil gas probes were installed on an approximately 100-foot by 100-foot grid spacing to provide appropriate coverage across the Site, as shown in Figure 9. The probes were distributed over the Site as follows: 55 probe locations in the West Tank Farm, 96 locations in the Processing Area, and 70 locations in the East Tank Farm. One round of soil gas sampling was done at a each depth from the 221 locations. Each soil gas sample was collected in a pre-cleaned, airtight glass syringe and analyzed for VOCs using United States Environmental Protection Agency (USEPA) Method 8260B performed in an on-site mobile laboratory equipped with a gas chromatograph/mass spectrometer (GC/MS).

Twenty-five of these soil gas semi-permanent probe locations (at both the 5-foot and 10-foot depths) were also used to assess potential subsurface methane levels and VOC concentrations pursuant to the Santa Fe Springs Code of Ordinances, Chapter 117, Section 117.131, *Requirement for a Soils Gas Study* and following the DTSC and RWQCB *Active Soil Gas Survey Investigation Advisory*. These probes are located in proximity to former on-Site oil production wells or provide general coverage across the Site. Six locations are in the West Tank Farm, 12 locations are in the Processing Area, and 7 locations are in the East Tank Farm. Two soil gas sampling rounds (7 days apart) were performed. Each soil gas sample was analyzed for VOCs using USEPA Method 8260B, as indicated above, and for methane using a Land Tech Gas Analyzer with a detection limit of less than 0.1 percent by volume in air. The procedures utilized to collect soil-gas samples for the analysis of VOCs using

USEPA Method 8260B and methane gas using a Land Tech Gas Analyzer are discussed in detail in the Site *Soil Vapor Sampling Standard Operating Procedure* included in Appendix H.

5.4 Soil

To assess the nature and extent of the on-site impacts of the contaminants of concern, 213 soil borings were advanced using a hollow-stem auger rig to a depth of 50 feet bgs. Seven borings were advanced by hand auger to depths between 10 and 15 feet bgs in areas inaccessible by the drilling rig. The locations of the soil borings are illustrated in Figure 4. Fifty-four borings were advanced in the West Tank Farm, 96 borings in the Processing Area, and 70 borings in the East Tank Farm. During boring advancement, soil samples were collected to identify the lithologic variation in subsurface material. Soil samples were collected for potential laboratory analysis at depths of 2, 5, 10, 15, 20, 30, 40, and 50 feet bgs. Soil was collected in stainless steel sample liners for potential PAH, total petroleum hydrocarbon (TPH), metals, PCB, pesticide, pH, and hexavalent chromium analysis, and in pre-preserved, pre-measured volatile organic analysis (VOA) vials (USEPA Method 5035 preparation) for potential VOC analysis.

Initially, all 2-foot, 5-foot, and 10-foot samples were analyzed for VOCs (USEPA Method 8260B), PAHs (USEPA Method 8270C SIMS), and TPH carbon chain speciation (USEPA Method 8015 Modified). Metals (USEPA Methods 6010B and 7471A) were initially analyzed on selected 2-foot and 5-foot samples, based on past potential use of metals in Site operations, and at a frequency of 10 percent across the Site for general characterization, as requested by the RWQCB. PCBs (USEPA Method 8082) were analyzed in selected 2-foot and 5-foot samples based on locations of former or existing electrical equipment. Organochlorine pesticides (USEPA Method 8081A) were analyzed on selected 2-foot samples collected on the western portion of the Site, where agricultural operations may have historically been conducted prior to oil production or refinery operations. The analysis of pH (USEPA Method 9045C) was conducted on selected 2-foot samples in the former Hydrofluoric Acid Alkylation Unit area. Hexavalent chromium (USEPA Method 7199) was initially analyzed on selected 2-foot and 5-foot samples in former or existing cooling tower locations. The pH and hexavalent chromium analyses were not originally included in the *Additional Site Investigation Workplan* (Haley & Aldrich, 2005). Deeper samples were selected for analysis based on recommendations by the RWQCB due to initial sample concentrations elevated above screening values. The procedures used for the installation of soil borings, collection of soil samples, and abandonment of boreholes are discussed in detail in the Standard Operating Procedures (SOPs) included in Appendix H.

Four representative samples of soil types within the upper 5 feet of the Site were tested for various physical properties. The physical parameters analyzed included: permeability to air, porosity, volumetric air and water content, moisture, hydraulic conductivity, bulk density, grain density, grain size analysis, Atterberg limits, total organic carbon (TOC), capillary pressure, and initial/residual pore fluid saturations.

5.5 Groundwater

Groundwater monitoring has been performed at the Site, the Lakeland property, the Metropolitan State Hospital property, the Bloomfield property, and the Walker property since August of 1986 in order to evaluate chemical impacts, contaminant sources, and overall groundwater quality at the Site. The most recent monitoring event discussed in this report was conducted between February 13 and 16, 2006 in accordance with RWQCB CAO 85-17. The quarterly groundwater monitoring program consists of 25 wells as described below and shown on Figure 2.

- Nine on-site groundwater monitoring wells;
- Ten off-site down-gradient groundwater monitoring wells on the former Lakeland property and the Metropolitan State Hospital property;

- Four off-site groundwater monitoring wells southeast of the Site on the Walker property; and
- Two on-site deep former water production wells.

The three Bloomfield property wells (MW-106, MW-107, and MW-203) were not monitored since they were abandoned (2 wells) or damaged (1 well) during property redevelopment activities. The wells were re-installed after this monitoring event. Monitoring of these wells will be resumed in the following quarters.

The 25 active wells were gauged to determine groundwater elevation. Of the 25 wells, six (MW-101, MW-103, MW-202, MW-501A, MW-601A, and MW-604) were dry and two (EW-1 and MW-600A) contained FPPH and, therefore, were not sampled. Two wells (MW-504 and W-3A) were found to contain a sheen during purging. Samples were collected from these wells. Groundwater samples were collected from a total of 17 wells and analyzed for TPH-g by USEPA Preparation Method 5030B and Method 8015M (DHS LUFT), VOCs and oxygenates by USEPA Preparation Method 8260B, and hexavalent chromium by USEPA Method 7199. In addition, groundwater samples from five of these wells were analyzed for methane, nitrate, sulfate, alkalinity, and ferrous iron to evaluate potential for biodegradation of petroleum hydrocarbons in groundwater.

Water quality parameters including temperature, pH, turbidity, electric conductivity, dissolved oxygen (DO), and oxidation-reduction potential (ORP) were measured in the field prior to well sampling.

Field activities were conducted in accordance with the SOPs prepared for the Site. SOPs for groundwater sampling, equipment decontamination, and investigation-derived waste handling and storage are included in Appendix H.

An additional groundwater investigation, consisting of installation and sampling of additional on-site and off-site wells as proposed in the *Additional Site Investigation Workplan* (Haley & Aldrich, 2005), will be implemented in the third and fourth quarter of 2006 and reported in a separate document.

5.6 Quality Assurance/Quality Control (QA/QC)

This section presents QA/QC requirements for environmental samples that were followed during all project analytical activities. The purpose of the QA/QC program is to produce data of known quality that satisfy the project objectives and that meet or exceed the requirements of the standard methods of analysis. This section provides a summary of the field and laboratory procedures that were employed for verifying and maintaining performance quality for collection of environmental samples and subsequent chemical analysis.

5.6.1 Field Equipment Blanks

A field equipment blank is a sample that is prepared in the field by pouring de-ionized, distilled water into sampling equipment that has been cleaned using the equipment decontamination procedures described in the SOPs included in Appendix H. The water is then collected and analyzed as a sample. The field equipment blank gives an indication of contamination from field procedures (e.g., improperly cleaned sampling equipment, cross-contamination). Field equipment blanks were collected at a minimum frequency of at least 5 percent of primary field samples and at least one per sampling day per crew when non-dedicated equipment was utilized (includes soil and groundwater sampling activities). The field equipment blanks were analyzed using the same analyses requested for the associated primary samples collected.

5.6.2 Trip Blanks

The primary purpose of trip blanks is to detect potential additional sources of contamination that could potentially influence contaminant values reported in field samples, both quantitatively and qualitatively. Trip blanks serve as a mechanism of control for sample bottle preparation, blank water quality and sample handling.

One trip blank sample accompanied each cooler sent to the laboratory for soil and groundwater sampling activities. When no VOCs were analyzed for or detected at the Site, the trip blanks were not analyzed.

5.6.3 Field Duplicate Samples

Field duplicate samples were collected and analyzed to evaluate sampling and analytical precision during soil vapor and groundwater sampling activities. Field duplicates were collected and analyzed in the same manner as the primary samples. Agreement between primary and duplicate sample results is an indication of good sampling and analytical precision. Field duplicates were collected at a frequency of at least 10 percent of the primary samples collected. The duplicate samples were analyzed for all laboratory analyses requested for the primary sample collected.

5.6.4 Matrix Spike Samples

Matrix spikes were performed by the analytical laboratory to evaluate the efficiency of the sample extraction and analysis procedures, and are necessary because matrix interference (interferences from non-target compound in the sample matrix, water or soil) may have a widely varying impact on the accuracy and precision of the extraction analysis. A matrix spike may be prepared by the addition of known quantities of target compounds to a sample. The sample is then extracted and analyzed. The results of the analysis are compared with the known additions and a matrix spike recovery is calculated giving an evaluation of the accuracy of the extraction and analysis procedures. For the soil vapor, soil, and groundwater investigations, matrix spike recoveries were reviewed to check that they were within acceptable ranges. However, the acceptable ranges vary widely with both sample matrix and analytical method. Matrix spikes and matrix spike duplicates were analyzed by the laboratory at a frequency of at least 5 percent of the primary field samples.

6. Screening Criteria/Sampling Decision Process

The chemical concentration data collected during the Site investigation must be evaluated against regulatory limits in order to delineate the extent of the subsurface impacts. The regulatory limits are chemical-specific and are established through a number of regulatory processes for protecting human health and the environment. For the former CENCO Site, the primary goal of the investigation was to identify subsurface impacts that are potentially harmful to human health and groundwater.

BBL developed a process in coordination with the lead regulatory agency (RWQCB) to identify the applicable limits for the chemicals of concern at the Site. The process involved the following steps:

1. Identify the chemicals of concern (COCs) based on historical Site use;
2. Sample and analyze for COCs;
3. Compare collected data against screening criteria developed by various regulatory agencies;
4. Recommend additional sampling and analysis where applicable;
5. Obtain regulatory approval;
6. Implement additional sampling and analyses; and
7. Repeat Steps 3 through 6 as necessary.

The following sections present the process of sampling and analysis and screening criteria used for this Site.

6.1 Regulatory Screening Criteria

In order to delineate the extent of subsurface impacts, regulatory screening values from various guidance documents were reviewed. The screening values were developed by regulatory agencies to protect human health and the environment. The regulatory screening criteria for each chemical in the analytical methods used for the Site investigation are included in Appendix I. BBL selected the lowest of the screening values between the various references for the Site-specific cleanup screening levels (CSLs). These CSLs were used to determine the areas at the Site requiring remediation. The CSLs for each chemical in the analytical methods are listed in Tables 1 through 6. This section provides additional details on the screening criteria. The following references were used in the screening process:

- *Los Angeles Regional Water Quality Control Board Interim Site Assessment and Cleanup Guidebook,* dated May 1996 (RWQCB, 1996);
- USEPA Region 9 Preliminary Remediation Goals (PRGs), dated October 2004;
- USEPA Region 9 Soil Screening Levels (SSLs) based on a Dilution Attenuation Factor of 20 (DAF20) (USEPA, 2002);
- Designated Level Methodology (DLM) for Waste Classification and Cleanup Level Determination dated June 1989 for metals (California RWQCB, 1989); and
- California Human Health Screening Levels (CHHSLs) (California Environmental Protection Agency [Cal/EPA], 2005).

6.1.1 RWQCB Interim Site Assessment and Cleanup Guidebook

This document provides guidance to assess analytical data collected from soil samples obtained from borings drilled to investigate the potential impact on groundwater beneath the Site. To aid the public in assessing data collected from a release site, the RWQCB developed two screening models. The first screening model addresses the release of petroleum hydrocarbons and is summarized in Table 4-1 of the guidance document. The second screening model addresses the release of chlorinated VOCs and is summarized in Table 5-1 of the guidance document. Both screening models use depth to groundwater and stratigraphic distribution of materials to calculate an attenuation factor that is used to estimate the likelihood of a release impacting groundwater and thus requiring remediation at the site of interest. In order to develop the screening criteria for the contaminants detected in soil during subsurface investigation at CENCO refinery Site, BBL reviewed depth-to-water data from monitoring wells screened in the uppermost water-bearing zone (wells from quarterly groundwater monitoring program) and reviewed historical groundwater elevations summarized in Appendix G. Depth to groundwater at the Site ranges from approximately 80 to 90 feet bgs. Site soils consist mainly of silt.

6.1.2 Region 9 Preliminary Remediation Goals (PRGs)

Region 9 PRGs are risk-based tools used for assessing and cleaning up contaminated sites. They combine current human health toxicity values with standard exposure factors to estimate contaminant concentrations in environmental media (soil, air, and water) that are considered to be health protective of human exposures over a lifetime. Chemical concentrations above these levels indicate the need for further evaluation of the potential risks that may be posed by site contaminants and do not necessarily trigger a response action. Further assessment may consist of additional sampling, investigating ambient levels in the environment, or reassessment of the assumptions contained in these screening-level estimates. When considering PRGs as cleanup goals, assuming maximum beneficial use of a property (i.e., residential use) is recommended by the USEPA. BBL reviewed the available residential PRGs for detected contaminants of concern at the following webpage: http://www.epa.gov/region09/waste/sfund/prg/index.html.

6.1.3 Region 9 Soil Screening Levels (SSLs) Using DAF20

SSLs were developed assuming a default DAF of 20 to account for natural processes that reduce contaminant concentrations in the subsurface. At sites where little or no dilution or attenuation of soil contaminant levels is expected, such as sites with shallow water tables, fractured media, karst topography, or source size greater than 30 acres, a generic DAF value of 1 is used. BBL reviewed the available DAF20 concentrations for detected contaminants of concern at the following webpage: http://www.epa.gov/region09/waste/sfund/prg/index.html.

6.1.4 Designated Level Methodology (DLM)

BBL reviewed the DLM developed for the Central Region RWQCB. This guidance document addresses the potential for a given metal to impact groundwater from a site release. Leachability factors are developed using the ratio of total constituent concentration to leachable constituent concentration. For this Site, BBL used the conservative 10-fold factor suggested in the guidance document. For each metal detected, the soluble threshold limit concentration (STLC) provided in California Code of Regulations (CCR) Title 22, Section 66261.24 was multiplied by a factor of ten. The results were compared to the total threshold limit concentration (TTLC) for each detected metal.

6.1.5 California Human Health Screening Levels (CHHSLs)

The CHHSLs were taken into consideration when determining the screening concentrations of the contaminants of concern. The CHHSLs represent concentrations of 54 hazardous chemicals in soil or soil gas that the California EPA (Cal/EPA) considers as thresholds for risks to human health. The thresholds of concern used to

develop the CHHSLs are an excess lifetime cancer risk of one-in-one-million (10^{-6}) and a hazard quotient of 1.0 for noncancer health effects. These levels can be used to screen sites for potential human health concerns where releases of hazardous chemicals to soils have occurred. Under most circumstances, the presence of a chemical in soil or soil gas at concentrations less than the corresponding CHHSL can be assumed to not pose a significant health risk to people who live (residential CHHSLs) or work (commercial/industrial CHHSLs) at the site.

6.1.6 Alternative Screening Criteria

Following the review of the data obtained for soil samples collected at 2 and 5 feet bgs, BBL discussed the results with the RWQCB representative. This discussion resulted in alternative screening level concentration for arsenic of 13 milligrams per kilogram which had previously been accepted for the Bloomfield property, located adjacent to the Site (ARCADIS, 2003). An overall analysis of the potential human health effects relating to the levels of arsenic at the Site will be provided in a site-specific human health risk assessment following the remediation actions proposed in Section 11.

6.1.7 RWQCB Guidance

Throughout the duration of the Site investigation at the CENCO refinery, BBL held periodic meetings with representatives of the RWQCB to obtain guidance and recommendations on the soil/soil vapor sampling schedule and depth and on the development of the contaminants of concern screening levels. The RWQCB also reviewed analytical results as they were generated and provided feedback on data quality in order to adequately characterize the extent of soil contamination at the Site. Based on reviews of soil analytical results throughout the project, the RWQCB suggested analyses of deeper soil samples.

6.2 Sampling & Analyses Process

In order to collect adequate chemical analyses data to characterize the Site, BBL proposed the laboratory analysis program depicted in the flow chart shown in Figure 10. This flow diagram outlines the decision making process utilized in selecting soil samples to be analyzed for VOCs, TPH, PAHs, metals, PCBs, pesticides, pH, and hexavalent chromium. The diagram also specifies when deeper samples should be selected, based on a comparison with the chemical-specific CSLs developed by BBL. The analytical methods performed in the Site investigation are presented in the following subsections.

6.2.1 Soil Vapor

All soil vapor samples collected were analyzed by the following method:

- VOCs by USEPA Method 8260B.

Selected soil vapor samples were analyzed for:

- Methane field measurements using a Land Tech Gas Analyzer.

6.2.2 Soil

All soil samples from 2 feet bgs, 5 feet bgs, and 10 feet bgs, along with selected deeper soil samples were analyzed by the following methods:

- VOCs by USEPA Method 8260B with sample preparation by USEPA Method 5035;
- TPH Extended Carbon Chain by USEPA Method 8015 Modified; and
- PAHs by USEPA Method 8270C SIMS.

Selected soil samples were analyzed by the following methods:

- CCR Title 22 metals by USEPA Methods 6010B and 7471A;
- Pesticides by USEPA Method 8081A;

- PCBs by USEPA Method 8082;
- Hexavalent chromium by USEPA Method 7199; and
- pH by USEPA Method 9045C.

6.2.3 Groundwater

All groundwater samples for the quarterly monitoring event were analyzed by the following methods:

- VOCs and oxygenates by USEPA Method 8260B;
- TPH as gasoline using USEPA Method 8015 Modified; and
- Hexavalent chromium by USEPA Method 7199.

Selected groundwater samples were analyzed by the following methods to determine biodegradation potential:

- Methane by Method RSK-175M;
- Nitrate (as N) by USEPA Methods 353.3 and 354.1;
- Sulfate by USEPA Method 375.4;
- Total Alkalinity (as $CaCO_3$) by Method SM 2320B; and
- Ferrous Iron (Iron II) by Method SM 3500-FeD.

7. Soil Vapor Investigation Results

A summary of the laboratory analytical results for the soil vapor investigation is presented in this section. BBL installed 221 soil gas semi-permanent probe locations, each with probes at 2 depths (5 feet bgs and 10 feet bgs), across the former refinery on an approximately 100-foot by 100-foot grid spacing to provide appropriate coverage across the Site. One round of soil gas sampling was conducted at each depth for the 221 locations. Each soil gas sample was analyzed for VOCs by USEPA Method 8260B performed in an on-site mobile laboratory.

Twenty-five of these probe locations at 2 depths (5 feet bgs and 10 feet bgs) were also used to assess potential subsurface methane levels and VOC concentrations to fulfill City of Santa Fe Springs requirements. These probes are located near former on-site oil production wells or provide general coverage across the Site. Two soil gas sampling rounds (7 days apart) were performed. Each soil gas sample was analyzed for VOCs using USEPA Method 8260B and for percent methane (by volume) using field equipment (Land Tech Gas Analyzer).

7.1 VOCs

A total of 258 soil vapor samples were analyzed from 5 feet bgs and 256 samples were analyzed from 10 feet bgs. The sections below summarize the VOC analytical results and areas impacted by VOCs, based on the soil vapor investigation.

7.1.1 Detection Frequency

The following VOCs were detected in one or more of the 5-foot vapor samples: benzene, toluene, ethylbenzene, xylenes (both ortho- [o-] and para/ meta- [p/m-] xylenes), cis-1,2-dichloroethene (cis-1,2-DCE), trichloroethene (TCE), and PCE. The 10-foot vapor samples included the same VOCs as the 5-foot samples, with the addition of chloroform and vinyl chloride.

The p/m-xylene isomer was the most frequently detected VOC and was detected in 39 percent of samples collected at 5 feet bgs and in 49 percent of samples taken at 10 feet bgs. The highest p/m-xylene concentrations at 5 and 10 feet bgs were 4,800 µg/L (V049) and 5,000 µg/L (V158), respectively. The next most frequently detected VOC for both depths was benzene, which was detected in 25 percent of 5-foot samples and 33 percent of 10-foot samples. The highest benzene concentrations at 5 and 10 feet bgs were 490 µg/L (V123) and 1,400 µg/L (V123), respectively. Toluene, ethylbenzene, and o-xylenes were all detected at frequencies above 15 percent in both sample depths.

Chlorinated VOCs were detected at significantly lower frequencies than other VOCs. In the 5-foot depth samples, cis-1,2-DCE was detected in 2 samples (V152 and V160), TCE was detected in 1 sample (V152), and PCE was detected in 1 sample (V215). The maximum concentration of any chlorinated solvent at 5 feet bgs was 4.1 ug/L (cis-1,2-DCE in V152). In the 10-foot depth samples, vinyl chloride was detected in 1 sample (V176), cis-1,2-DCE was detected in 3 samples (V150, V151, and V152), TCE was detected in 5 samples (V151, V152, V160, and 2 rounds from V176), PCE was detected in 3 samples (V215, and 2 rounds from V176), and chloroform was detected in 1 sample at the reporting limit (V215). The maximum concentration of any chlorinated solvent at 10 feet bgs was 20 ug/L (cis-1,2-DCE in V152). Summaries of the detection frequency of each VOC and the corresponding concentration range for the 5-foot and 10-foot depths are presented in Tables 7 and 8. Summarized analytical results for VOCs in soil vapor are included as Table 9.

VOC concentrations were compared to CSLs determined by the lowest of the screening values described in Section 6. CHHSLs are the only screening levels for vapor, and the residential land use scenario was selected to be conservative. In the 5-foot depth, benzene, toluene, p/m-xylenes, o-xylenes, TCE, and PCE CSLs were

exceeded in at least 1 sample. In the 10-foot depth, benzene, toluene, p/m-xylenes, o-xylenes, vinyl chloride, cis-1,2-DCE, TCE, and PCE CSLs were exceeded in at least 1 sample. Laboratory analytical data for soil vapor samples is included in Appendix J.

The results of two rounds of soil vapor sampling conducted at 25 locations for 2 depths (total of 50 probes) for City of Santa Fe Springs requirements were compared to see if there were any changes between the 2 sampling rounds spaced 7 days apart. Nine out of 25 borings for each depth (total of 18 sample probes) did not have VOCs detected during either sampling round. The majority of the samples had similar results for both sampling rounds. Four locations had significant changes between the first and second sampling rounds for at least one VOC, as described in the table below.

Location	Depth (feet bgs)	Round 1 VOC Concentration (micrograms per liter [ug/L])	Round 2 VOC Concentration (ug/L)	Maximum Changed VOC
V121	5	2.5	30	p/m-xylenes
	10	2,300	1,400	p/m-xylenes
V124	10	120	12	benzene
V176	10	190	350	benzene
V179	10	990	110	p/m-xylenes

The above probe locations are in the vicinity of impacts due to releases during Site operations. A comparison of the 2 rounds of VOC results is included in Table 10.

7.1.2 Impacted Areas

In the East Tank Farm, total BTEX isoconcentration contours indicate three main potential source areas:

- The northern portion of the tank farm in the vicinity of AST #60108, which contained light catalytic gas, and AST #74111, which contained jet fuel, and ASTs #96110 and #96109, which contained crude oil;
- The middle portion of the tank farm in the vicinity of #20094, which contained vacuum gas oil; and
- The western portion of the tank farm in the vicinity of ASTs #34008, #80071, #5075, and #43009, which contained gasoline, and AST #10073, which contained diesel fuel.

In the Processing Area, total BTEX isoconcentration contours indicate five main potential source areas:

- The southern boundary of the Site in vicinity of AST #4236, which contained well water, and AST #2047, which contained waste crude oil from the crude desalter;
- The southern boundary of the Site, located behind the administration/engineering office building, south of former AST #5516, which contained Fluidized Bed Catalytic Cracking Unit (FCC) decant oil;
- The vicinity of AST #5015, which contained black oil (burner fuel), then low sulfur gas oil, and diesel fuel in the late 1980s;
- The western portion of the area at the Crude Unit; and
- Northwest of the laboratory building, near the Central Wastewater Treatment System.

In the West Tank Farm, total BTEX isoconcentration contours indicate three main potential source areas:

- The vicinity of AST #60059, which contained heavy naphtha, AST #40063, which contained diesel fuel, and AST #40065, which contained fuel oil or untreated gas oil;
- North of AST #20092, which contained fuel oil, gas oil, or jet fuel, and AST #10006, which contained asphalt and oil waste; and
- The southwest corner of the tank farm, in the vicinity of ASTs #79022 and #96086, which contained crude oil, and former AST #3072, which contained oil recovered from waste water separation.

Isoconcentration contour maps of total BTEX concentrations at 5 feet bgs and 10 feet bgs are included as Figures 11 and 12. Isoconcentration maps of benzene concentrations at 5 feet bgs and 10 feet bgs are included as Figures 13 and 14. Additional isoconcentration maps for toluene, ethylbenzene, p/m-xylenes, and o-xylenes at 5 feet bgs and 10 feet bgs are included in Appendix K.

7.2 Methane

Twenty-five locations at two depths (5 feet bgs and 10 feet bgs) were sampled for methane in two rounds (7 days apart) to fulfill City of Santa Fe Springs Fire Department requirements. The majority of the samples had similar results for both sampling rounds. Two locations had significant changes between the first and second sampling rounds, as described in the table below.

Location	Depth (feet bgs)	Round 1 Methane Concentration (%)	Round 2 Methane Concentration (%)
V089	10	9.5	89.3
V124	5	0.2	33.6

Six locations contained highly elevated methane levels (1 location contained methane at 89.3 percent and five locations contained methane at 99.9 percent). These locations correspond with the Site area exhibiting the highest elevated VOC concentrations due to releases from Site operations. Methane results are included in Table 11.

8. Soil Investigation Results

This section provides a summary of the laboratory results for the soil samples collected from the 220 soil borings advanced to characterize the Site. The number of soil borings sampled and the corresponding analyses are summarized in the table below. Laboratory analytical data reports are attached in Appendix J.

Analyte	Boring Count
VOCs	220
TPH	220
PAHs	220
Metals	147
PCBs	40
Pesticides	10
Hexavalent Chromium	9

The following subsections present the soil investigation results for each of the chemical group or laboratory analytical method.

8.1 TPH Results

TPH Extended Carbon Chain analysis was conducted to determine the presence of compounds in the C_6 to C_{36} carbon range. A total of 740 soil samples, collected from 220 soil borings, were analyzed for TPH carbon chain lengths C_6 to C_{10}, C_{10} to C_{22}, and C_{22} to C_{36}. TPH in the C_6 to C_{10} carbon range was detected in 246 of the 740 collected samples, amounting to a detection frequency of 33 percent. TPH in the C_{10} to C_{22} carbon range was detected in 312 of the 740 collected samples, amounting to a detection frequency of 42 percent. TPH in the C_{22} to C_{36} carbon range was detected in 455 of the 740 collected samples, amounting to a detection frequency of 61 percent.

At the 2-foot, 5-foot, and 10-foot depths, TPH was most frequently detected in the C_{22} to C_{36} carbon range. At the 15-foot, 20-foot, and 30-foot depths, TPH was most frequently detected in the C_{10} to C_{22} carbon range. The maximum concentrations of TPH for each depth were also found in the C_{10} to C_{22} and C_{22} to C_{36} carbon ranges, indicative of predominantly heavier hydrocarbon contamination. A summary of the detection frequencies and the concentration ranges by depth is presented in Table 12. The tabulated results of the laboratory analyses are listed in Table 13.

TPH concentrations were compared to CSLs determined by the lowest of the regulatory screening values described in Section 6. CSLs were exceeded in one or more samples for each of the three carbon chain lengths, C_6 to C_{10}, C_{10} to C_{22}, and C_{22} to C_{36}.

8.2 VOC Results

Samples were collected from 2, 5, and 10 feet bgs at all of the borings for VOC analysis, as well as at deeper depths (up to 50 feet bgs) based on results of the upper samples. From the analyte list targeted by USEPA Method 8260B, 38 compounds were detected in at least one of the analyzed soil samples. A summary of the detection frequency and concentration ranges of the observed VOCs is presented in Table 14. Of the compounds analyzed, 1,2,4-trimethylbenzene was the most frequently detected and was present in 273 of 793 samples, a detection frequency of approximately 34%. Second most frequently detected were benzene and total xylenes that were each detected in 266 of 793 analyzed samples (34%). In addition, 1,2,4-trimethylbenzene was

the VOC detected at the highest concentration at the Site where it measured 27,600,000 ug/kg at 40 feet bgs in soil boring B045.

VOC concentrations were compared to CSLs determined by the lowest of the screening values described in Section 6. CSLs were exceeded in at least one sample for the following VOCs: 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, 1,2,4-trichlorobenzene, benzene, toluene, ethylbenzene, total xylenes, MTBE, tertiary butyl alcohol (TBA), n-butylbenzene, n-propylbenzene, sec-butylbenzene, isopropylbenzene, PCE, 1,1,1,2-tetrachloroethane, and naphthalene.

The tabulated results of the laboratory analyses are listed in Table 15. Isoconcentration contour maps of benzene, naphthalene, and total xylenes are presented in Figures 15 through 23.

8.3 PAH Results

Samples were collected from 2, 5, and 10 feet bgs at all of the borings for PAH analysis, as well as at deeper depths (up to 40 feet bgs) based on results of the upper samples. A total of 706 samples were analyzed for PAHs. Of the analyte list targeted by USEPA Method 8270C SIMS, all 16 compounds were detected in at least one of the analyzed soil samples (Table 16). The most often detected PAHs at the Site were phenanthrene (40%), naphthalene (37%), pyrene (37%), and chrysene (35%). Other contaminants of concern present in the sampled soil were acenaphthene, acenaphthylene, anthracene, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, dibenzo(a,h)anthracene, fluoranthene, fluorene, and indeno(1,2,3-cd)pyrene. The tabulated results of the laboratory analyses are listed in Table 17. Isoconcentration contour maps of benzo(a)pyrene are presented in Figures 24 through 26.

PAH concentrations were compared to CSLs determined by the lowest of the screening values described in Section 6. CSLs were exceeded in at least 1 sample for the following PAHs: naphthalene, anthracene, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, indeno(1,2,3-cd)pyrene, dibenzo(a,h)anthracene, chrysene, fluorine, and phenanthrene.

8.4 Metals Results

Selected soil samples were analyzed for CCR Title 22 metals. A total of 147 soil samples were taken from a depth of 2 feet bgs, 59 samples were collected at 5 feet bgs, 7 samples were from 10 feet bgs, 2 samples were collected at 15 feet bgs, and one soil sample was taken from 20 feet bgs. With the exception of silver and thallium, each of the metals of interest was detected in at least one of the analyzed soil samples. A summary of the detection frequency and concentration ranges of the observed metals is presented in Table 18. The tabulated results of the laboratory analyses are listed in Table 19.

Metals concentrations were compared to CSLs determined by the lowest of the screening values described in Section 6. CSLs were exceeded in at least 1 sample for the following metals: antimony, arsenic, barium, chromium, cobalt, copper, lead, and selenium.

8.5 PCB Results

A total of 83 soil samples were analyzed for PCBs. Forty samples were collected at 2 feet bgs, 40 samples at 5 feet bgs, and three samples at 10 feet bgs. PCB-1254 was detected in six of the samples taken from 2 feet bgs, in four of the 5-foot samples, and in one of the 10-foot samples. PCB-1260 was observed in four of the soil samples taken from 2 feet bgs and in two of the 5-foot samples. A summary of the detection frequency and concentration ranges of the observed PCBs is presented in Table 20. The tabulated results of the laboratory analyses are listed in Table 21.

PCB concentrations were compared to CSLs determined by the lowest of the screening values described in Section 6. CSLs were exceeded in at least 1 sample for the following PCBs: PCB-1254 and PCB-1260.

8.6 Pesticide Results

Selected soil samples were collected from a depth of 2 feet bgs in ten soil borings to be analyzed for pesticides. Chlordane, 4,4-DDD, 4,4-DDE, and 4,4-DDT were the only pesticides observed at concentrations above the laboratory detection limit. These compounds were all detected at 2 feet bgs in one soil boring location (B178). A summary of the detection frequency and concentration ranges of the observed pesticides is presented in Table 22. The tabulated results of the laboratory analyses are listed in Table 23.

Pesticide concentrations were compared to CSLs determined by the lowest of the screening values described in Section 6. CSLs were not exceeded in any samples.

8.7 Hexavalent Chromium Results

Selected soil samples were analyzed for hexavalent chromium. A total of 29 soil samples were analyzed and hexavalent chromium was present in all but one of these samples. Hexavalent chromium concentrations varied between 10 μg/kg and 266 μg/kg. A summary of the detection frequency and concentration ranges of hexavalent chromium is presented in Table 24. The tabulated results of the laboratory analyses are listed in Table 25.

Hexavalent chromium concentrations were compared to CSLs determined by the lowest of the screening values described in Section 6. CSLs were not exceeded in any samples.

8.8 pH Results

Soils samples were taken from depths of 2 feet bgs and 5 feet bgs at 7 soil borings (B101, B013, B104, B105, B117, B118, and B119) located in the vicinity of the Hydrogen Fluoride Alkylation Unit for pH measurement to assess the impact of the unit operation on the soil underneath. As shown in Table 26, the pH of the soil samples was found to be neutral to slightly alkaline and varied between 7.28 and 8.09 pH units.

8.9 Impacted Areas

In the East Tank Farm, isoconcentration contours indicate five main potential source areas:

- The northern portion of the tank farm in the vicinity of AST #60108, which contained light catalytic gas, AST #74111 (and the area west of #74111), which contained jet fuel, and AST #96109, which contained crude oil;
- The middle portion of the tank farm in the vicinity of AST #40106, which contained topped crude oil, AST #60107, which contained vacuum gas oil, AST #10024, which contained topped crude oil, and later diesel fuel, and former AST #27105, which contained topped crude oil, and later slop oil and waste water;
- The middle portion of the tank farm in the vicinity of #20094, which contained vacuum gas oil;
- The western portion of the tank farm in the vicinity of ASTs #80071, #5075, and #43009, which contained gasoline; and
- The southern border of the Site between the truck loading area and the Seagraves Storm Water Impounding Basin.

In the Processing Area, isoconcentration contours indicate eight main potential source areas:

- The southern boundary of the Site in vicinity of AST #4236, which contained well water, and AST #2047, which contained diesel fuel in the 1970s, and later waste crude oil from the crude desalter;

- The southern portion of the area in the vicinity of AST #5015, which contained black oil (burner fuel), then low sulfur gas oil, and diesel fuel in the late 1980s, former AST #27089, which contained gasoline, and later MTBE, and former AST #5516, which contained FCC decant oil;
- The western portion of the area at the Crude Unit;
- The middle portion of the area, south of former AST #10051 and AST #10102, which contained treated or raw naphtha;
- The middle portion of the area, between the Carbon Dioxide Plant and Kerosene Hydrotreater Unit;
- The northwestern portion of the area, near the Carpenter Shed and Insulator Shed;
- The western corner of the area, in the vicinity of AST #20057, which contained naphtha (before 1983) or water, and former AST #2029, which contained decant oil; and
- The northern boundary of the Site at the pond adjacent to the Reverse Osmosis Water Unit (RO Unit).

In the West Tank Farm, isoconcentration contours indicate three main potential source areas.

- The southwestern corner of the Site, in the vicinity of AST #20091, which contained crude oil, and later fuel oil and gas oil, and AST #10045, which contained fuel oil, and later waste water, and AST #10046, which contained asphalt;
- The northwest corner of the tank farm, in the vicinity of AST #79022, which contained crude oil until 1988, then sour water, AST #96086, which contained crude oil, and AST #54039, which crude oil until the 1980s, then sour water; and
- The southern portion of the tank farm, in the vicinity of AST #20092, which contained fuel oil, then gas oil, and later jet fuel, AST #10006, which contained asphalt until the earlt 1990s, then waste oil, and former AST #3072, which contained oil recovered from oil/water separation.

The soil vapor sample analytical results correlate well with the soil sample analytical results, and confirm the main source areas indicated by the soil investigation.

Areas with results above CSLs were plotted for each depth up to 20 feet bgs for assessing the extent of the impact on shallow soil. These maps are included as Figures 27 through 31.

9. Groundwater Monitoring Results

Seventeen wells were sampled during the first quarter 2006 groundwater monitoring event conducted between February 13 and February 16, 2006. All groundwater samples were analyzed for total petroleum TPH-g, VOCs and oxygenates, and hexavalent chromium. Additional groundwater samples were collected from five selected wells and analyzed for methane, nitrate, sulfate, alkalinity, and ferrous iron to evaluate potential for biodegradation of petroleum hydrocarbons in groundwater.

A relatively steep groundwater gradient of approximately 0.01 feet per foot was observed for this groundwater monitoring event, which is consistent with historical gradient data for the Site. Overall, groundwater levels have risen by an average of 0.8 feet since the previous quarterly sampling event in October 2005. The groundwater elevation contours are shown on Figure 32.

Measurable FPPH was present in two wells (EW-1 and MW-600A) and a sheen was present during purging of two wells (MW-504 and W-3A) within the CENCO monitoring well network. FPPH observed in MW-600A may have originated from a source on the CENCO Site; however, FPPH observed in EW-1 likely originated from northeast of the Site, based on local groundwater flow direction. The thicknesses detected within these wells do not necessarily reflect FPPH thickness in the surrounding aquifer as fluctuations in water level and permeability factors can influence FPPH accumulation in monitoring wells.

Groundwater monitoring results at the Site were generally consistent with historical observations and analyses. The number of wells in which FPPH was observed has decreased from six in June 2004, to four in October 2005, to only two in February 2006, with a sheen on the other two wells which had FPPH the previous quarter. TPH-g concentrations declined in several of the sampled wells, namely MW-105, MW-201, MW-204, MW-205, MW-607, W-1, and W-8. An increase in TPH-g and MTBE was observed in well MW-502. Benzene levels decreased in wells MW-201, MW-204, MW-205, MW-503B, and W-1.

In general, the leading/downgradient edge of the plume showed a decrease in TPH-g concentrations on the southern and southeastern edges of the plume (wells MW-606, MW-607, and W-3A [the previous quarter W-3A contained FPPH]). The southwestern edge of the plume showed an increase in TPH-g (wells MW-603 and MW-605). The leading edge of the plume showed the same or lower benzene concentrations and similar MTBE concentrations on the southern (MW-606), southeastern edges (MW-607 and W-3A), and southwestern edges (MW-603 and MW-605) of the plume. Isoconcentration contour maps for TPH-g and benzene are included as Figures 33 and 34, respectively.

Hexavalent chromium was demonstrated to be generally below detection limits and in all cases below California maximum contaminant levels during the February 2006 sampling event.

Intrinsic biodegradation continues to be viable, in at least some areas of the site, based on conditions measured in the subsurface. Nitrate, sulfate, ferrous iron, methane, alkalinity, and oxidation-reduction potential indicate the potential for intrinsic biodegradation occurring in the vicinity of the site.

10. Areas of Concern

Based on a review of the soil vapor and soil analytical results, several areas of concern were identified for the Site. These areas of concern include likely source areas identified by the investigation results and in some cases additional assessment is necessary.

10.1 Potential Source Areas

Potential source areas of contamination were identified by reviewing isoconcentration contour maps for soil and soil vapor within the upper 10 feet, where source areas are most likely to exhibit contamination extending into deeper soil. Additionally, previous reports were reviewed for documentation relating to historical releases at the Site. The potential source areas are discussed by operational area in the subsections below.

10.1.1 East Tank Farm

Based on the soil vapor and soil investigations, the following five main potential sources within the East Tank Farm were identified:

- The northern portion of the tank farm in the vicinity of AST #60108, which contained light catalytic gas, AST #74111 (and the area west of #74111), which contained jet fuel, and ASTs #96109 and #96110, which contained crude oil;
- The middle portion of the tank farm in the vicinity of AST #40106, which contained topped crude oil, AST #60107, which contained vacuum gas oil, AST #10024, which contained topped crude oil, and later diesel fuel, and former AST #27105, which contained topped crude oil and later slop oil and waste water;
- The middle portion of the tank farm in the vicinity of #20094, which contained vacuum gas oil;
- The western portion of the tank farm in the vicinity of ASTs #5075, #34008, #43009, and #80071, which contained gasoline, and AST #10073, which contained diesel fuel; and
- The southern border of the Site between the truck loading area and the Seagraves Storm Water Impounding Basin.

A review of the *Environmental Risk Assessment of the Powerine Oil Company in Santa Fe Springs, California*, by Risk Science International (RSI, 1986) indicated the following releases that may be related to the investigation results:

- An on-site rubbish and crude petroleum disposal area existed east of the cooling towers and west of AST #74111. Boring location B068 is located in the vicinity described, and contained elevated TPH results. The presence of elevated TPH results (middle carbon range) rather than VOCs in soil is indicative of an oil source rather than a lighter carbon range fuel source; and
- Tank bottom failures occurred in ASTs #40106, which contained topped crude oil, and #27105, which contained topped crude oil, and later slop oil and waste water. Elevated TPH results in this area (boring locations B058, B048, and B049) may be a result of these failures. The presence of elevated TPH results (middle carbon range) rather than VOCs in soil is indicative of an oil source rather than a lighter carbon range fuel source.

10.1.2 Processing Area

Based on the soil vapor and soil investigations, the following eight main potential sources within the Processing area were identified:

- The southern boundary of the Site in vicinity of ASTs #4236, which contained well water, and AST #2047 which contained diesel fuel in the 1970s, and later waste crude oil from the crude desalter;

- The southern portion of the area and the area behind the administration/engineering office building in the vicinity of AST #5015, which contained black oil (burner fuel), then low sulfur gas oil, and diesel fuel in the late 1980s, former AST #27089, which contained gasoline, and later MTBE, and former AST #5516, which contained FCC decant oil;
- The western portion of the area at the Crude Unit;
- The middle portion of the area, northwest of the laboratory building, near the Central Wastewater Treatment System, and south of former ASTs #10051 and #10102, which contained treated or raw naphtha;
- The middle portion of the area, between the Carbon Dioxide Plant and Kerosene Hydrotreater Unit;
- The northwestern portion of the area, near the Carpenter Shed and Insulation Shop;
- The western corner of the area, in the vicinity of AST #20057, which contained naphtha before 1983, and later water, and former AST #2029, which contained decant oil; and
- The northern boundary of the Site at the boiler blowdown pond adjacent to the Reverse Osmosis Water Unit.

A review of the *Environmental Risk Assessment of the Powerine Oil Company in Santa Fe Springs, California*, by RSI (RSI, 1986) indicated the following release that may be related to the investigation results:

- A tank bottom failure occurred in AST #27089, containing gasoline, and later MTBE. Elevated VOC results in this area (boring locations B139, B142, and B158) may be a result of this failure. The elevated VOCs are more indicative of a lighter carbon chain fuel (such as gasoline) source rather than an oil source.

10.1.3 West Tank Farm

Based on the soil vapor and soil investigations, the following four main potential source areas were identified for the West Tank Farm:

- The southwestern corner of the Site, in the vicinity of AST #20091, which contained crude oil, then fuel oil, and later gas oil, AST #10045, which contained fuel oil, and later waste water, and AST #10046, which contained asphalt;
- The northwest corner of the tank farm, in the vicinity of AST #79022, which contained crude oil until 1988, then sour water, AST #96086, which contained crude oil, and AST #54039, which contained crude oil until the 1980s, then sour water;
- The southern portion of the tank farm, in the vicinity of AST #20092, which contained fuel oil, then gas oil, and later jet fuel, AST #10006, which asphalt until the early 1990s, then waste oil, and former AST #3072, which contained oil recovered from oil/water separation; and
- The eastern portion of the tank farm, in the vicinity of AST #60059, which contained heavy naphtha, AST #40063, which contained diesel fuel, and AST #40065, which contained fuel oil until the mid-1970s, then treated gas oil.

A review of the *Environmental Risk Assessment of the Powerine Oil Company in Santa Fe Springs, California*, by RSI (RSI, 1986) indicated the following release that may be related to the investigation results:

- A tank bottom failure occurred in AST #96086, containing crude oil; and
- A tank bottom failure occurred in AST #40063, containing diesel fuel. The elevated VOCs found in borings B179 and B186 are more indicative of a lighter carbon chain fuel (such as diesel) source rather than an oil source.

10.2 Data Gaps

Based on the results of this additional site investigation, the following data gaps have been identified:

- The investigation was conducted while most ASTs and processing units remained intact and in-place. Once the structures are removed, additional investigation will be needed beneath the structures;
- Prior to initiating remediation, additional sampling may be necessary to better delineate (laterally and vertically) the areas of impact for designing an effective and efficient remediation program;
- The investigation primarily addressed the shallow vadose zone (from ground surface to approximately 20 feet bgs). The investigation results indicate that the deep vadose zone (greater than 20 feet bgs) is impacted, extending to the groundwater table. Further investigation of deep soil is needed to delineate the impacts; and
- Groundwater within deeper (deeper than first-encountered groundwater) water-bearing zones remains a data gap. This data gap will be addressed during the upcoming groundwater investigation. Following the investigation, a supplemental report will be prepared.

11. Conclusions and Recommendations

For the former CENCO Site, the primary goal of the investigation was to identify subsurface impacts that are potentially harmful to human health and groundwater. The investigation was conducted on three subsurface zones of the Site: (1) shallow vadose zone, (2) deep vadose zone, and (3) groundwater. The investigation focused primarily on the shallow vadose zone soil and soil vapor (from ground surface to approximately 20 feet bgs). This shallow zone represents the largest potential impact to human health and Site redevelopment. Additionally, the shallow zone can be remediated using different methods (i.e., excavation) than the deeper zone and groundwater. The deep vadose zone soil was investigated primarily to target areas with known historical accidental hydrocarbon/VOC releases.

The investigation included an active soil gas survey, consisting of the installation of soil gas semi-permanent probes at 221 locations (at 5 feet bgs and 10 feet bgs) on an approximately 100-foot by 100-foot grid spacing to provide appropriate coverage across the Site. Soil vapor samples were analyzed for VOCs and methane (in selected locations). Additionally, 220 soil borings were advanced at the Site on the same approximately 100-foot by 100-foot grid spacing. Soil samples were collected at depths of 2, 5, 10, 15, 20, 30, 40, and 50 feet bgs. Initially, all 2-foot, 5-foot, and 10-foot samples were analyzed for VOCs, PAHs, and TPH carbon chain speciation. Metals, PCBs, organochlorine pesticides, pH, and hexavalent chromium were analyzed on selected 2-foot and 5-foot samples. Deeper samples were selected for analysis based on recommendations by the RWQCB due to concentrations elevated above regulatory screening values.

The most recent groundwater monitoring event discussed in this report was conducted between February 13 and 16, 2006. The groundwater samples were collected from 17 wells and analyzed for TPH-g, VOCs, oxygenates, and hexavalent chromium. In addition, groundwater samples were collected from five of these wells and analyzed for methane, nitrate, sulfate, alkalinity, and ferrous iron to evaluate potential for biodegradation of petroleum hydrocarbons in groundwater.

Results of the investigation and recommendations are discussed in the sections below.

11.1 Results Summary

Boring logs from the investigation generally indicate a Site lithology of silts, with a lesser amount of clays from ground surface to between approximately 8 feet bgs (in the eastern portion of the Site) to 38 feet bgs (in the western portion of the Site). Below the silt are interbedded sands and silty sands, with lesser amounts of interbedded clayey sands, silts, and clays. In general, the eastern and central portions of the Site contain more coarse-grained sediments (sand and gravel) than the western portion of the Site.

The soil vapor and soil chemical concentration data collected during the Site investigation were evaluated against regulatory limits in order to delineate the extent of the subsurface impacts. To delineate the extent of subsurface impacts, regulatory screening values from various guidance documents were reviewed. These screening criteria are chemical-specific and were developed by regulatory agencies to protect human health and the environment. BBL selected the lowest of the screening criteria between the various references for the Site-specific CSLs. These CSLs were used to determine the areas at the Site requiring remediation. Chemicals exceeding the CSLs are listed below.

Total Petroleum Hydrocarbons
C_6 to C_{10}
C_{10} to C_{22}
C_{22} to C_{36}

Volatile Organic Compounds
1,1,1,2-Tetrachloroethane
1,2,4-Trichlorobenzene
1,2,4-Trimethylbenzene
1,3,5-Trimethylbenzene
Benzene
n-Butylbenzene
sec-Butylbenzene
cis-1,2-Dichloroethene (cis-1,2-DCE)
Ethylbenzene
Isopropylbenzene
Methyl tertiary butyl ether (MTBE)
Naphthalene
n-Propylbenzene
Tertiary butyl alcohol (TBA)
Tetrachloroethene (PCE)
Trichloroethene (TCE)
Toluene
Vinyl chloride
o-Xylene
p/m-Xylene

Polynuclear Aromatic Hydrocarbons
Anthracene
Benzo(a)anthracene
Benzo(a)pyrene
Benzo(b)fluoranthene
Benzo(k)fluoranthene
Chrysene
Dibenzo(a,h)anthracene
Fluorene
Indeno(1,2,3-cd)pyrene
Naphthalene
Phenanthrene

Metals
Antimony
Arsenic
Barium
Chromium
Cobalt
Copper
Lead
Selenium

Polychlorinated Biphenyls
PCB-1254
PCB-1250

Hexavalent chromium did not exceed the CSL in any samples. Additionally, there were no pesticides that exceeded the CSLs in any samples.

Petroleum products produced at the refinery are a mixture of many chemicals. Common chemicals in petroleum hydrocarbons that were detected during the Site investigation at concentrations above CSLs include: benzene, toluene, ethylbenzene, xylenes, MTBE, 1,3,5-trimethylbenzene, 1,2,4-trimethylbenzene, sec-butylbenzene, n-propylbenzene, fluorene, and naphthalene. Each chemical behaves differently in response to time of release, weathering and degradation processes over time, with some chemicals being relatively undegradable (e.g., o-xylene, m-xylene, and ethylbenzene) or relatively degradable (e.g., p-xylene, toluene, naphthalene, and benzene). This may result in some chemicals being more frequently detected.

11.2 Additional Site Investigation

Based on the results of this additional site investigation, the following data gaps have been identified:

- The investigation was conducted while most ASTs and processing units remained intact and in-place. Once the structures are removed, additional investigation will be needed beneath the structures;
- Prior to initiating remediation, additional sampling may be necessary to better define (laterally and vertically) the areas of impact for designing an effective and efficient remediation program;
- The investigation primarily addressed the shallow vadose zone (from ground surface to approximately 20 feet bgs). The investigation results indicate that the deep vadose zone (deeper than 20 feet bgs) is

impacted, extending to the groundwater table, confirming that past accidental releases at the site have impacted the underlying groundwater. Further deep vadose zone investigation is needed to delineate the impacts;

- Groundwater within deeper (deeper than first-encountered groundwater) water-bearing zones remains a data gap. This data gap will be addressed during the upcoming groundwater investigation. Following investigation, a supplemental report will be prepared; and
- A remedial investigation/feasibility study will be necessary following structure removal and groundwater investigation to determine the best method for Site remediation.

11.3 Areas Requiring Remediation

The Site will require remediation of the shallow vadose zone, deep vadose zone, and groundwater. The remediation areas are discussed in the subsections below.

11.3.1 Shallow Vadose Zone

The investigation results were screened against the CSLs, and areas above the CSLs were plotted on maps by depth. The remediation areas correspond with the source area discussions in Sections 7 and 8. Figures 27 through 31 show estimated areas of remediation. It should be noted that these areas will be further defined as part of a data gap investigation to better delineate vertical and lateral extents of the contamination. The following table lists the estimated impacted areas by depth that will require remediation.

Sample Depth (feet)	Estimated Area (feet^2)	Depth Range (feet)	Estimated Thickness (feet)	Estimated Volume (feet^3)	Estimated Volume (tons)
2	762,000	0-3.5	3.5	2,667,000	133,350
5	575,000	3.5-7.5	4	2,300,000	115,000
10	699,000	7.5-12.5	5	3,495,000	174,750
15	793,000	12.5-17.5	5	3,965,000	198,250
20	833,000	17.5-20	2.5	2,082,500	104,125
			Total:	14,509,500	725,475

Volume estimate based on approximate weight of 1 cubic foot of soil = 100 pounds

The shallow vadose zone is more accessible to equipment and is therefore expected to be remediated using a combination of excavation or surgical removal and soil vapor extraction.

11.3.2 Deep Vadose Zone

The investigation results indicate that the deep vadose zone (greater than 20 feet bgs) is impacted, extending to the groundwater table. Further deep vadose zone investigation is needed to delineate the impacts. This will be conducted as part of the data gap investigation.

11.3.3 Groundwater

Groundwater within deeper (deeper than first-encountered groundwater) water-bearing zones remains a data gap. This data gap will be addressed during the upcoming groundwater investigation. Following the investigation, a supplemental report will be prepared.

Based on the results of the quarterly groundwater monitoring, groundwater is impacted with petroleum hydrocarbons and VOCs. FPPH was present intermittently in several wells within the CENCO monitoring well network. FPPH removal actions will be necessary for the Site. Additional remedial actions will be discussed in the groundwater supplemental report following the groundwater investigation.

12. References

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Tables

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TABLE 1
CLEANUP SCREENING LEVELS
TOTAL PETROLEUM HYDROCARBONS IN SOIL

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

		Screening Method: Res/Ind/Com (if Applicable)		Lowest CSL non VOCs: NA
Matrix	Test Method	Analyte	Units	
Soil	8015	C06 - C10	mg/Kg	100
Soil	8015	C10 - C22	mg/Kg	100
Soil	8015	C22 - C36	mg/Kg	500

NOTES:
CSL - Cleanup Screening Level (the lowest of the compared regulatory screening levels)
VOCs - Volatile organic compounds
Res - Residential
Ind - Industrial
Com - Commercial
NA - Not applicalbe
mg/kg - Milligrams per kilogram

TABLE 2
CLEANUP SCREENING LEVELS
VOLATILE ORGANIC COMPOUNDS IN SOIL

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

		Screening Method		Lowest CSL VOCs			
		Res/Ind/Com (If Applicable)		2'-5'	10'-20'	30'-40'	60'
Matrix	Test Method	Analyte	Units				
Soil	8260B	1,1,1,2-Tetrachloroethane	µg/Kg	9.46	5.59	2.15	1.29
Soil	8260B	1,1,1-Trichloroethane	µg/Kg	2,000	2,000	1,000	600
Soil	8260B	1,1,2,2-Tetrachloroethane	µg/Kg	3	3	3	3
Soil	8260B	1,1,2-Trichloroethane	µg/Kg	20	20	20	15
Soil	8260B	1,1,2-Trichlorotrifluoroethane	µg/Kg	26,400	15,600	6,000	3,600
Soil	8260B	1,1-Dichloroethane	µg/Kg	110	65	25	15
Soil	8260B	1,1-Dichloroethene	µg/Kg	60	60	30	18
Soil	8260B	1,1-Dichloropropene	µg/Kg	--	--	--	--
Soil	8260B	1,2,3-Trichlorobenzene	µg/Kg	--	--	--	--
Soil	8260B	1,2,3-Trichloropropane	µg/Kg	0.1232	0.0728	0.028	0.0168
Soil	8260B	1,2,4-Trichlorobenzene	µg/Kg	110	65	25	15
Soil	8260B	1,2,4-Trimethylbenzene	µg/Kg	264	156	60	36
Soil	8260B	1,2-Dibromo-3-chloropropane	µg/Kg	0.0352	0.0208	0.008	0.0048
Soil	8260B	1,2-Dibromoethane	µg/Kg	0.1232	0.0728	0.028	0.0168
Soil	8260B	1,2-Dichlorobenzene	µg/Kg	1,100	1,100	1,100	1,100
Soil	8260B	1,2-Dichloroethane	µg/Kg	4.5	4.5	2.5	1.5
Soil	8260B	1,2-Dichloropropane	µg/Kg	30	30	25	15
Soil	8260B	1,3,5-Trimethylbenzene	µg/Kg	264	156	60	36
Soil	8260B	1,3-Dichlorobenzene	µg/Kg	3,960	2,340	900	540
Soil	8260B	1,3-Dichloropropane	µg/Kg	2,640	1,560	600	360
Soil	8260B	1,4-Dichlorobenzene	µg/Kg	46	46	25	15
Soil	8260B	1-Chlorohexane	µg/Kg	--	--	--	--
Soil	8260B	2,2-Dichloropropane	µg/Kg	--	--	--	--
Soil	8260B	2-Butanone (MEK)	µg/Kg	3,900	3,900	3,900	3,900
Soil	8260B	2-Chloroethyl vinyl ether	µg/Kg	--	--	--	--
Soil	8260B	2-Chlorotoluene	µg/Kg	2640	1560	600	360
Soil	8260B	2-Hexanone	µg/Kg	--	--	--	--
Soil	8260B	4-Chlorotoluene	µg/Kg	--	--	--	--
Soil	8260B	4-Methyl -2- Pentanone (MIBK)	µg/Kg	44000	26000	10000	6000
Soil	8260B	Acetone	µg/Kg	500	500	500	500
Soil	8260B	Acetonitrile	µg/Kg	2,200	1,300	500	300
Soil	8260B	Acrolein	µg/Kg	0.924	0.546	0.21	0.126
Soil	8260B	Acrylonitrile	µg/Kg	0.858	0.507	0.195	0.117
Soil	8260B	Allyl chloride	µg/Kg	220	130	50	30
Soil	8260B	Benzene	µg/Kg	30	11	11	11
Soil	8260B	Benzyl chloride	µg/Kg	1.452	0.858	0.33	0.198
Soil	8260B	Bromobenzene	µg/Kg	440	260	100	60
Soil	8260B	Bromochloromethane	µg/Kg	--	--	--	--
Soil	8260B	Bromodichloromethane	µg/Kg	3.96	2.34	0.9	0.54
Soil	8260B	Bromoform	µg/Kg	187	110.5	42.5	25.5
Soil	8260B	Bromomethane	µg/Kg	191.4	113.1	43.5	26.1

TABLE 2
CLEANUP SCREENING LEVELS
VOLATILE ORGANIC COMPOUNDS IN SOIL

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

		Screening Method		Lowest CSL VOCs			
		Resting/Com (If Applicable)		2'-5'	10'-20'	30'-40'	60'
Matrix	Test Method	Analyte	Units				
Soil	8260B	Carbon Disulfide	µg/Kg	22,000	13,000	5,000	3,000
Soil	8260B	Carbon tetrachloride	µg/Kg	11	6.5	2.5	1.5
Soil	8260B	Chlorobenzene	µg/Kg	1,000	910	350	210
Soil	8260B	Chloroethane	µg/Kg	101.2	59.8	23	13.8
Soil	8260B	Chloroform	µg/Kg	11.66	6.89	2.65	1.59
Soil	8260B	Chloromethane	µg/Kg	70	70	70	70
Soil	8260B	Dibromochloromethane	µg/Kg	2.86	1.69	0.65	0.39
Soil	8260B	Dibromomethane	µg/Kg	1342	793	305	183
Soil	8260B	Dichlorodifluoromethane	µg/Kg	8,580	5,070	1,950	1,170
Soil	8260B	Ethyl benzene	µg/Kg	3,300	2,000	2,000	2,000
Soil	8260B	Ethyl methacrylate	µg/Kg	12,100	7,150	2,750	1,650
Soil	8260B	Ethyl-tertbutylether (ETBE)	µg/Kg	--	--	--	--
Soil	8260B	Hexachlorobutadiene	µg/Kg	18.92	11.18	4.30	2.58
Soil	8260B	Iodomethane	µg/Kg	--	--	--	--
Soil	8260B	Isopropyl ether (DIPE)	µg/Kg	--	--	--	--
Soil	8260B	Isopropylbenzene (Cumene)	µg/Kg	14,520	8,580	3,300	1,980
Soil	8260B	Methacrylonitrile	µg/Kg	22	13	5	3
Soil	8260B	Methyl methacrylate	µg/Kg	30,800	18,200	7,000	4,200
Soil	8260B	Methyl-tert-butylether (MTBE)	µg/Kg	23	23	23	15
Soil	8260B	Methylene chloride	µg/Kg	20	20	20	12.9
Soil	8260B	Naphthalene	µg/Kg	2.046	1.209	0.465	0.279
Soil	8260B	Pentachloroethane	µg/Kg	--	--	--	--
Soil	8260B	Propionitrile	µg/Kg	--	--	--	--
Soil	8260B	Styrene	µg/Kg	1,500	1,300	500	300
Soil	8260B	Tert-amylmethylether (TAME)	µg/Kg	--	--	--	--
Soil	8260B	Tertiary butyl alcohol (TBA)	µg/Kg	73	73	73	73
Soil	8260B	Tetrachloroethene	µg/Kg	60	60	25	15
Soil	8260B	Toluene	µg/Kg	2,900	450	450	450
Soil	8260B	Trichloroethene	µg/Kg	60	60	25	15
Soil	8260B	Trichlorofluoromethane	µg/Kg	3,300	1,950	750	450
Soil	8260B	Vinyl acetate	µg/Kg	9,020	5,330	2,050	1,230
Soil	8260B	Vinyl chloride	µg/Kg	6.7	6.5	2.5	1.5
Soil	8260B	Xylenes, total	µg/Kg	2,300	2,300	2,300	2,300
Soil	8260B	cis-1,2-Dichloroethene	µg/Kg	132	78	30	18
Soil	8260B	cis-1,3-Dichloropropene	µg/Kg	--	--	--	--
Soil	8260B	cis-1,4-Dichloro-2-butene	µg/Kg	--	--	--	--
Soil	8260B	m and p-Xylene	µg/Kg	40,000	5,300	5,300	5,300
Soil	8260B	n-Butylbenzene	µg/Kg	5,280	3,120	1,200	720
Soil	8260B	n-Propylbenzene	µg/Kg	5,280	3,120	1,200	720
Soil	8260B	o-Xylene	µg/Kg	40,000	5,300	5,300	5,300
Soil	8260B	p-Isopropyltoluene	µg/Kg	--	--	--	--
Soil	8260B	sec-Butylbenzene	µg/Kg	5,280	3,120	1,200	720
Soil	8260B	tert-Butylbenzene	µg/Kg	5,280	3,120	1,200	720

TABLE 2
CLEANUP SCREENING LEVELS
VOLATILE ORGANIC COMPOUNDS IN SOIL

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

		Screening Method		Lowest CSL VOCs			
		Resind/Com (If Applicable)		2'-5'	10'-20'	30'-40'	60'
Matrix	Test Method	Analyte	Units				
Soil	8260B	trans-1,2-Dichloroethene	µg/Kg	220	130	50	30
Soil	8260B	trans-1,3-Dichloropropene	µg/Kg	--	--	--	--
Soil	8260B	trans-1,4-Dichloro-2-butene	µg/Kg	--	--	--	--

NOTES:
CSL - Cleanup Screening Level (the lowest of the compared regulatory screening levels)
VOCs - Volatile organic compounds
Res - Residential
Ind - Industrial
Com - Commercial
NA - Not applicalbe
µg/kg - Micrograms per kilogram
tert - Tertiary
m - Meta
p - Para
n - Normal
o - Ortho
sec - Secondary

TABLE 3
CLEANUP SCREENING LEVELS
POLYNUCLEAR AROMATIC HYDROCARBONS IN SOIL

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

		Screening Method Res/Ind/Com (If Applicable)		Lowest CSL non VOCs NA
Matrix	Test Method	Analyte	Units	
Soil	8270C-PAHs	Acenaphthene	µg/Kg	16,000
Soil	8270C-PAHs	Acenaphthylene	µg/Kg	13,000
Soil	8270C-PAHs	Anthracene	µg/Kg	2,800
Soil	8270C-PAHs	Benzo(a)anthracene	µg/Kg	380
Soil	8270C-PAHs	Benzo(a)pyrene	µg/Kg	38
Soil	8270C-PAHs	Benzo(b)fluoranthene	µg/Kg	380
Soil	8270C-PAHs	Benzo(ghi)perylene	µg/Kg	27,000
Soil	8270C-PAHs	Benzo(k)fluoranthene	µg/Kg	380
Soil	8270C-PAHs	Chrysene	µg/Kg	3,800
Soil	8270C-PAHs	Dibenzo(a,h)anthracene	µg/Kg	62
Soil	8270C-PAHs	Fluoranthene	µg/Kg	40,000
Soil	8270C-PAHs	Fluorene	µg/Kg	8,900
Soil	8270C-PAHs	Indeno(1,2,3-cd)pyrene	µg/Kg	380
Soil	8270C-PAHs	Naphthalene	µg/Kg	460
Soil	8270C-PAHs	Phenanthrene	µg/Kg	11,000
Soil	8270C-PAHs	Pyrene	µg/Kg	85,000

NOTES:
CSL - Cleanup Screening Level (the lowest of the compared regulatory screening levels)
VOCs - Volatile organic compounds
Res - Residential
Ind - Industrial
Com - Commercial
NA - Not applicalbe
µg/kg - Micrograms per kilogram

TABLE 4
CLEANUP SCREENING LEVELS
METALS IN SOIL

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

		Screening Method		Lowest CSL non VOCs
		Res/Ind/Com (If Applicable)		NA
Matrix	Test Method	Analyte	Units	
Soil	6010B	Antimony	mg/Kg	5
Soil	6010B	Arsenic	mg/Kg	0.062
Soil	6010B	Barium	mg/Kg	750
Soil	6010B	Beryllium	mg/Kg	4
Soil	6010B	Cadmium	mg/Kg	1.7
Soil	6010B	Chromium	mg/Kg	38
Soil	6010B	Cobalt	mg/Kg	10
Soil	6010B	Copper	mg/Kg	230
Soil	6010B	Lead	mg/Kg	15
Soil	6010B	Molybdenum	mg/Kg	40
Soil	6010B	Nickel	mg/Kg	100
Soil	6010B	Selenium	mg/Kg	5
Soil	6010B	Silver	mg/Kg	20
Soil	6010B	Thallium	mg/Kg	1
Soil	6010B	Vanadium	mg/Kg	78
Soil	6010B	Zinc	mg/Kg	600
Soil	7471A	Mercury	mg/Kg	2
Soil	7199	Hexavalent Chromium	µg/Kg	1,800

NOTES:
CSL - Cleanup Screening Level (the lowest of the compared regulatory screening levels)
VOCs - Volatile organic compounds
Res - Residential
Ind - Industrial
Com - Commercial
NA - Not applicalbe
mg/kg - Milligrams per kilogram
µg/kg - Micrograms per kilogram

TABLE 5
CLEANUP SCREENING LEVELS
POLYCHLORINATED BIPHENYLS IN SOIL

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

		Screening Method: Res/Ind/Com (If Applicable)		Lowest CSL non VOCs NA
Matrix	Test Method	Analyte	Units	
Soil	8082	PCB-1016	mg/Kg	0.089
Soil	8082	PCB-1221	mg/Kg	0.089
Soil	8082	PCB-1232	mg/Kg	0.089
Soil	8082	PCB-1242	mg/Kg	0.089
Soil	8082	PCB-1248	mg/Kg	0.089
Soil	8082	PCB-1254	mg/Kg	0.089
Soil	8082	PCB-1260	mg/Kg	0.089

NOTES:
CSL - Cleanup Screening Level (the lowest of the compared regulatory screening levels)
VOCs - Volatile organic compounds
Res - Residential
Ind - Industrial
Com - Commercial
NA - Not applicalbe
mg/kg - Milligrams per kilogram

TABLE 6
CLEANUP SCREENING LEVELS
PESTICIDES IN SOIL

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

		Screening Method		Lowest CSL non VOCs
		Res/Ind/Com (If Applicable)		NA
Matrix	Test Method	Analyte	Units	
Soil	8081A	4,4-DDD	mg/Kg	2.3
Soil	8081A	4,4-DDE	mg/Kg	1.6
Soil	8081A	4,4-DDT	mg/Kg	1.6
Soil	8081A	Aldrin	mg/Kg	0.029
Soil	8081A	Alpha BHC	mg/Kg	--
Soil	8081A	Beta BHC	mg/Kg	--
Soil	8081A	Chlordane	mg/Kg	0.43
Soil	8081A	Delta BHC	mg/Kg	--
Soil	8081A	Dieldrin	mg/Kg	0.0023
Soil	8081A	Endosulfan I	mg/Kg	0.0046
Soil	8081A	Endosulfan II	mg/Kg	0.0046
Soil	8081A	Endosulfan sulfate	mg/Kg	--
Soil	8081A	Endrin	mg/Kg	0.00065
Soil	8081A	Endrin aldehyde	mg/Kg	--
Soil	8081A	Heptachlor	mg/Kg	0.014
Soil	8081A	Heptachlor epoxide	mg/Kg	0.015
Soil	8081A	Lindane	mg/Kg	0.5
Soil	8081A	Methoxychlor	mg/Kg	19
Soil	8081A	Toxaphene	mg/Kg	0.00042

NOTES:
CSL - Cleanup Screening Level (the lowest of the compared regulatory screening levels)
VOCs - Volatile organic compounds
Res - Residential
Ind - Industrial
Com - Commercial
NA - Not applicalbe
mg/kg - Milligrams per kilogram

.BLE 7
DETECTION FREQUENCY SUMMARY
VOLATILE ORGANIC COMPOUNDS IN SOIL VAPOR AT 5 FEET BGS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Analyte	Maximum Detected Concentration (µg/L)	Minimum Detected Concentration (µg/L)	Number of Detects	Number of Samples Analyzed	Frequency of Detection (%)
Benzene	490	1	65	258	25.2
c-1,2-Dichloroethene	4.1	2.1	2	258	0.8
Ethylbenzene	1200	1	54	258	20.9
o-Xylene	1600	1.1	39	258	15.1
p/m-Xylene	4800	1	100	258	38.8
Tetrachloroethene	3.6	3.6	1	258	0.4
Toluene	3100	1	60	258	23.3
Trichloroethene	1.2	1.2	1	258	0.4

NOTES:
µg/L - Micrograms per liter
% - Percent

.BLE 8
DETECTION FREQUENCY SUMMARY
VOLATILE ORGANIC COMPOUNDS IN SOIL VAPOR AT 10 FEET BGS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Analyte	Maximum Detected Concentration (µg/L)	Minimum Detected Concentration (µg/L)	Number of Detects	Number of Samples Analyzed	Frequency of Detection (%)
Benzene	1400	1	84	256	32.8
c-1,2-Dichloroethene	20	1.2	3	256	1.2
Chloroform	1	1	1	256	0.4
Ethylbenzene	1200	1	78	256	30.5
o-Xylene	1400	1.1	55	256	21.5
p/m-Xylene	5000	1	126	256	49.2
Tetrachloroethene	17	1.3	3	256	1.2
Toluene	1400	1	67	256	26.2
Trichloroethene	15	1.6	5	256	2.0
Vinyl Chloride	1.6	1.6	1	256	0.4

NOTES:
µg/L - Micrograms per liter
% - Percent

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SUMMARY OF SOIL VAPOR ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID	Depth (Feet)	Date Collected	Benzene	1,1,2-Dichloroethane	Chloroform	Ethylbenzene	o-Xylene	p/m-Xylene	Tetrachloroethene	Toluene	Trichloroethene	Vinyl Chloride
			(µg/L)									
V001-5	5	11/28/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V001-10	10	11/28/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V002-5	5	11/28/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V002-10	10	11/28/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V003-5	5	11/28/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V003-10	10	11/28/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V004-5	5	11/28/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V004-10	10	11/28/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V005-5	5	11/28/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V005-10	10	11/28/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V006-5	5	11/30/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	1.5	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V006-10	10	11/30/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	1.3	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V007-5	5	11/30/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	2.1	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V007-10	10	11/30/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	1.4	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V008-5	5	11/29/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	1.3	ND(1.0)	1.2	ND(1.0)	ND(1.0)
V008-10	10	11/29/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	1.0	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V009-5	5	11/28/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V009-10	10	11/28/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V010-5	5	11/29/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V010-10	10	11/29/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	1.2	ND(1.0)	2.0	ND(1.0)	ND(1.0)
V011-5	5	11/28/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V011-10	10	11/28/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	1.3	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V012-5	5	11/28/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	1.2	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V012-10	10	11/28/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V013-5	5	12/5/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
	5	12/12/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V013-10	10	12/5/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
	10	12/12/2005	2.7	ND(1.0)	ND(1.0)	1.2	ND(1.0)	4.5	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V014-5	5	11/28/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V014-10	10	11/28/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)

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SUMMARY OF SOIL VAPOR ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID	Depth (Feet)	Date Collected	Benzene	1,2,3,4-Tetrachlorobenzene	Chloroform	Ethylbenzene	o-Xylene	p,m-Xylene	1,2,3-Trichlorobenzene	Toluene	1,1,1-Trichloroethane	Vinyl Chloride
			(ug/L)									
V015-5	5	12/1/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V015-10	10	12/1/2005	ND(1.0)	ND(1.0)	ND(1.0)	16	ND(1.0)	6.9	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V016-5	5	12/6/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V016-10	10	12/2/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	1.6	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V017-5	5	12/5/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	1.2	3.3	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
	5	12/12/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	1.4	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V017-10	10	12/5/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
	10	12/12/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	1.1	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V018-5	5	11/30/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V018-10	10	11/30/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V019-5	5	11/30/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V019-10	10	11/30/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	1.1	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V020-5	5	11/30/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	1.0	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V020-10	10	11/30/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	1.1	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V021-5	5	12/6/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V021-10	10	12/7/2005	260	ND(20)	ND(20)	190	93	860	ND(20)	72	ND(20)	ND(20)
V022-5	5	12/2/2005	53	ND(1.0)	ND(1.0)	130	340	600	ND(1.0)	120	ND(1.0)	ND(1.0)
V022-10	10	12/5/2005	280	ND(10)	ND(10)	620	1,400	3,600	ND(10)	820	ND(10)	ND(10)
V023-5	5	12/2/2005	90	ND(10)	ND(10)	520	850	2,000	ND(10)	1,500	ND(10)	ND(10)
V023-10	10	12/2/2005	210	ND(20)	ND(20)	570	800	2,400	ND(20)	1,400	ND(20)	ND(20)
V024-5	5	11/30/2005	3.1	ND(1.0)	ND(1.0)	63	360	700	ND(1.0)	72	ND(1.0)	ND(1.0)
V024-10	10	11/30/2005	12	ND(1.0)	ND(1.0)	84	160	400	ND(1.0)	150	ND(1.0)	ND(1.0)
V025-5	5	12/1/2005	ND(1.0)	ND(1.0)	ND(1.0)	1.9	9.7	25	ND(1.0)	2.2	ND(1.0)	ND(1.0)
V025-10	10	11/30/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V026-5	5	11/29/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	2.6	ND(1.0)	1.2	ND(1.0)	ND(1.0)
V026-10	10	11/29/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V027-5	5	11/29/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	1.4	ND(1.0)	1.2	ND(1.0)	ND(1.0)
V027-10	10	11/29/2005	ND(1.0)	ND(1.0)	ND(1.0)	2.5	6.6	19	ND(1.0)	3.6	ND(1.0)	ND(1.0)
V028-5	5	11/28/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V028-10	10	11/28/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)

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SUMMARY OF SOIL VAPOR ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID	Depth (Feet)	Date Collected	Benzene	cis-1,2-Dichloroethene	Chloroform	Ethylbenzene	o-Xylene	p/m-Xylene	Tetrachloroethene	Toluene	Trichloroethene	Vinyl Chloride
			(ug/L)									
V029-5	5	12/1/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V029-10	10	12/1/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V030-5	5	11/30/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V030-10	10	11/30/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V031-5	5	11/29/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V031-10	10	11/29/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V032-5	5	11/30/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V032-10	10	11/30/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V033-5	5	11/30/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V033-10	10	11/30/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V034-5	5	11/28/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V034-10	10	11/28/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V035-5	5	12/1/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	1.4	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V035-10	10	12/1/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	1.1	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V036-5	5	12/5/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	1.5	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
	5	12/12/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V036-10	10	12/5/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
	10	12/12/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V037-5	5	11/29/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V037-10	10	11/29/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V038-5	5	11/30/2005	4.9	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	1.4	ND(1.0)	2.9	ND(1.0)	ND(1.0)
V038-10	10	11/30/2005	4.5	ND(1.0)	ND(1.0)	3.2	ND(1.0)	2.3	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V039-5	5	11/30/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V039-10	10	11/30/2005	8.4	ND(1.0)	ND(1.0)	49	16	150	ND(1.0)	1.8	ND(1.0)	ND(1.0)
V040-5	5	12/5/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
	5	12/12/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	1.0	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V040-10	10	12/5/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	1.7	2.8	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
	10	12/12/2005	ND(1.0)	ND(1.0)	ND(1.0)	1.4	ND(1.0)	6.1	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V041-5	5	12/1/2005	29	ND(1.0)	ND(1.0)	83	55	270	ND(1.0)	20	ND(1.0)	ND(1.0)
V041-10	10	12/2/2005	ND(50)	ND(50)	ND(50)	180	70	840	ND(50)	ND(50)	ND(50)	ND(50)

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SUMMARY OF SOIL VAPOR ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID	Depth (Feet)	Date Collected	Benzene	1,2-Dichloroethane	Chloroform	Ethylbenzene	o-Xylene	p/m-Xylene	Tetrachloroethene	Toluene	Trichloroethene	Vinyl Chloride
			(ug/L)									
V042-5	5	12/1/2005	33	ND(1.0)	ND(1.0)	200	12	120	ND(1.0)	4.9	ND(1.0)	ND(1.0)
V042-10	10	12/1/2005	46	ND(1.0)	ND(1.0)	51	86	270	ND(1.0)	57	ND(1.0)	ND(1.0)
V043-5	5	11/30/2005	19	ND(1.0)	ND(1.0)	7.5	2.0	9.9	ND(1.0)	1.6	ND(1.0)	ND(1.0)
V043-10	10	11/30/2005	32	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	1.9	ND(1.0)	1.6	ND(1.0)	ND(1.0)
V044-5	5	11/30/2005	1.4	ND(1.0)	ND(1.0)	3.8	3.7	9.5	ND(1.0)	3.5	ND(1.0)	ND(1.0)
V044-10	10	12/1/2005	1.0	ND(1.0)	ND(1.0)	1.4	7.0	13	ND(1.0)	1.3	ND(1.0)	ND(1.0)
V045-5	5	11/30/2005	290	ND(1.0)	ND(1.0)	30	3.3	29	ND(1.0)	8.0	ND(1.0)	ND(1.0)
V045-10	10	11/30/2005	280	ND(1.0)	ND(1.0)	27	26	64	ND(1.0)	110	ND(1.0)	ND(1.0)
V046-5	5	11/30/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V046-10	10	11/30/2005	8.5	ND(1.0)	ND(1.0)	1.0	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V047-5	5	11/29/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	1.4	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V047-10	10	11/29/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V048-5	5	12/1/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V048-10	10	12/1/2005	ND(1.0)	ND(1.0)	ND(1.0)	1.2	ND(1.0)	3.0	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V049-5	5	11/28/2005	380	ND(100)	ND(100)	1,200	1,600	4,800	ND(100)	3,100	ND(100)	ND(100)
V049-10	10	11/28/2005	81	ND(1.0)	ND(1.0)	170	250	660	ND(1.0)	330	ND(1.0)	ND(1.0)
V050-5	5	11/30/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V050-10	10	11/30/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V051-5	5	11/30/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V051-10	10	11/30/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V052-5	5	11/29/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V052-10	10	11/29/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V053-5	5	11/29/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V053-10	10	11/29/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V054-5	5	12/5/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
	5	12/12/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V054-10	10	12/5/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
	10	12/12/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V055-5	5	11/30/2005	460	ND(5.0)	ND(5.0)	590	290	1,300	ND(5.0)	100	ND(5.0)	ND(5.0)
V055-10	10	11/30/2005	150	ND(20)	ND(20)	370	450	1,300	ND(20)	180	ND(20)	ND(20)

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SUMMARY OF SOIL VAPOR ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID	Depth (Feet)	Date Collected	Benzene	1,2-Dichloroethane	Chloroform	Ethylbenzene	m,p-Xylene	o-Xylene	Tetrachloroethene	Toluene	Trichloroethene	Vinyl Chloride
			(mg/L)									
V056-5	5	11/29/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	2.3	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V056-10	10	11/29/2005	6.6	ND(1.0)	ND(1.0)	75	200	530	ND(1.0)	39	ND(1.0)	ND(1.0)
V057-5	5	12/5/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
	5	12/12/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V057-10	10	12/5/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
	10	12/12/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V058-5	5	11/29/2005	1.3	ND(1.0)	ND(1.0)	2.3	ND(1.0)	2.2	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V058-10	10	11/29/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V059-5	5	12/1/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V059-10	10	12/1/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	1.3	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V060-5	5	12/1/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V060-10	10	12/1/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V061-5	5	12/1/2005	1.3	ND(1.0)	ND(1.0)	4.1	3.5	12	ND(1.0)	1.6	ND(1.0)	ND(1.0)
V061-10	10	12/1/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	1.2	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V062-5	5	12/1/2005	2.0	ND(1.0)	ND(1.0)	2.1	1.3	2.9	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V062-10	10	12/1/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	1.2	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V063-5	5	12/13/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V063-10	10	12/13/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V064-5	5	11/29/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V064-10	10	11/29/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V065-5	5	12/2/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	2.0	4.6	ND(1.0)	1.1	ND(1.0)	ND(1.0)
V065-10	10	12/2/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V066-5	5	12/1/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V066-10	10	12/1/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	1.2	2.0	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V067-5	5	11/29/2005	1.0	ND(1.0)	ND(1.0)	8.0	ND(1.0)	7.6	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V067-5	5	11/29/2005	1.9	ND(1.0)	ND(1.0)	13	ND(1.0)	12	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V067-10	10	11/29/2005	ND(1.0)	ND(1.0)	ND(1.0)	7.4	ND(1.0)	13	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V068-5	5	11/28/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V068-10	10	11/28/2005	1.2	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V069-5	5	12/2/2005	2.0	ND(1.0)	ND(1.0)	3.2	8.1	18	ND(1.0)	4.0	ND(1.0)	ND(1.0)

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SUMMARY OF SOIL VAPOR ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID	Depth (Feet)	Date Collected	Benzene	1,2-Dichloroethene	Chloroform	Ethylbenzene	o-Xylene	m,p-Xylene	Tetrachloroethene	Toluene	Trichloroethene	Vinyl Chloride
			(ug/L)									
V069-10	10	12/2/2005	1.3	ND(1.0)	ND(1.0)	5.3	11	30	ND(1.0)	5.2	ND(1.0)	ND(1.0)
V070-5	5	12/1/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V070-10	10	12/1/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	1.3	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V071-5	5	12/2/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V071-10	10	12/2/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V072-5	5	12/14/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V072-10	10	12/14/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	1.8	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V073-5	5	12/2/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	1.6	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V073-10	10	12/2/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	1.4	2.8	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V074-5	5	12/13/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V074-10	10	12/13/2005	5.2	ND(1.0)	ND(1.0)	30	ND(1.0)	37	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V075-5	5	12/1/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V075-10	10	12/1/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V076-5	5	12/5/2005	1.1	ND(1.0)	ND(1.0)	11	2.2	8.3	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
	5	12/12/2005	1.8	ND(1.0)	ND(1.0)	14	2.5	9.4	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V076-10	10	12/5/2005	1.7	ND(1.0)	ND(1.0)	10	4.3	18	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
	10	12/12/2005	ND(1.0)	ND(1.0)	ND(1.0)	3.3	1.1	4.9	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V077-5	5	12/1/2005	36	ND(1.0)	ND(1.0)	38	ND(1.0)	3.5	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V077-10	10	12/1/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V078-5	5	12/1/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V078-10	10	12/1/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V079-5	5	12/1/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V079-10	10	12/1/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V080-5	5	12/14/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V080-10	10	12/14/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V081-5	5	12/14/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V081-10	10	12/14/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V082-5	5	12/1/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V082-10	10	12/1/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)

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SUMMARY OF SOIL VAPOR ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID	Depth (Feet)	Date Collected	Benzene	1,1,2-Trichloroethane	Chloroform	Ethylbenzene	o-Xylene	p/m-Xylene	Tetrachloroethene	Toluene	1,1,1-Trichloroethane	Vinyl Chloride
			(ug/L)									
V083-5	5	12/5/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
	5	12/12/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V083-10	10	12/5/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
	10	12/12/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	1.8	ND(1.0)	1.2	ND(1.0)	ND(1.0)
V084-5	5	12/8/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V084-10	10	12/12/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V085-5	5	12/7/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V085-10	10	12/7/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V086-5	5	12/7/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V086-10	10	12/7/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V087-5	5	12/2/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	1.0	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V087-10	10	12/2/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	1.4	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V088-5	5	12/1/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V088-10	10	12/1/2005	ND(1.0)	ND(1.0)	ND(1.0)	9.6	ND(1.0)	1.1	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V089-5	5	12/5/2005	2.7	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	1.7	ND(1.0)	1.1	ND(1.0)	ND(1.0)
	5	12/12/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V089-10	10	12/5/2005	2.8	ND(1.0)	ND(1.0)	8.7	ND(1.0)	9.1	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
	10	12/12/2005	2.4	ND(1.0)	ND(1.0)	5.0	ND(1.0)	5.0	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V090-5	5	12/7/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V090-10	10	12/7/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	1.5	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V091-5	5	12/7/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V091-10	10	12/7/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V092-5	5	12/7/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V092-10	10	12/7/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V093-5	5	12/7/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V093-10	10	12/7/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V094-5	5	12/2/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	1.2	ND(1.0)	ND(1.0)
V094-10	10	12/2/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V095-5	5	12/2/2005	ND(1.0)	ND(1.0)	ND(1.0)	1.6	3.5	8.8	ND(1.0)	1.8	ND(1.0)	ND(1.0)
V095-10	10	12/2/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	2.3	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)

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SUMMARY OF SOIL VAPOR ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID	Depth (Feet)	Date Collected	Benzene	1,1,2-Dichloroethane	Chloroform	Ethylbenzene	o-Xylene	p/m-Xylene	Tetrachloroethene	Toluene	1,1,1-Trichloroethane	Vinyl Chloride
			(ppb)									
V096-5	5	12/5/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
	5	12/12/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V096-10	10	12/5/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
	10	12/12/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	1.2	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V097-5	5	12/2/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V097-10	10	12/2/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V098-5	5	12/5/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
	5	12/12/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V098-10	10	12/5/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
	10	12/12/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V099-5	5	12/7/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V099-10	10	12/7/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V100-5	5	12/2/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V100-10	10	12/2/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V101-5	5	12/8/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V101-10	10	12/8/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V102-5	5	12/2/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V102-10	10	12/2/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V103-5	5	12/14/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V103-10	10	12/14/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	2.8	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V104-5	5	12/7/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V104-10	10	12/7/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V105-5	5	12/5/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
	5	12/12/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V105-10	10	12/5/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
	10	12/12/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V106-5	5	12/8/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V106-10	10	12/8/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V107-5	5	12/14/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	1.8	ND(1.0)	ND(1.0)
V107-10	10	12/14/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)

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SUMMARY OF SOIL VAPOR ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID	Depth (Feet)	Date Collected	Benzene	1,2-Dichloroethane	Chloroform	Ethylbenzene	o-Xylene	m/p-Xylene	Tetrachloroethene	Toluene	Trichloroethene	Vinyl Chloride
			(µg/L)									
V108-5	5	12/7/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V108-10	10	12/2/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V109-5	5	12/2/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V109-10	10	12/2/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V110-5	5	12/2/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V110-10	10	12/2/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V111-5	5	12/5/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
	5	12/12/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V111-10	10	12/5/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
	10	12/12/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V112-5	5	12/1/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V112-10	10	12/2/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	1.1	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V113-5	5	12/7/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V113-10	10	12/1/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V114-5	5	12/1/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V114-10	10	12/1/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V115-5	5	12/2/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V115-10	10	12/2/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V116-5	5	12/1/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	1.4	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V116-10	10	12/1/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	2.9	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V117-5	5	12/1/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	1.2	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V117-10	10	12/1/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V118-5	5	12/2/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	1.0	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V118-10	10	12/2/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V119-5	5	12/14/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V119-10	10	12/14/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V120-5	5	12/13/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V120-10	10	12/13/2005	1.3	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V121-5	5	12/6/2005	9.7	ND(1.0)	ND(1.0)	1.3	1.4	2.5	ND(1.0)	1.8	ND(1.0)	ND(1.0)
	5	12/13/2005	ND(5.0)	ND(5.0)	ND(5.0)	6.2	ND(5.0)	30	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)

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SUMMARY OF SOIL VAPOR ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID	Depth (Feet)	Date Collected	Benzene	1,2-Dichloroethane	Chloroform	Ethylbenzene	o-Xylene	p/m-Xylene	Tetrachloroethene	Toluene	Trichloroethene	Vinyl Chloride
			(ug/L)									
V121-10	10	12/6/2005	550	ND(10)	ND(10)	770	670	2,300	ND(10)	580	ND(10)	ND(10)
	10	12/13/2005	260	ND(10)	ND(10)	410	390	1,400	ND(10)	510	ND(10)	ND(10)
V122-5	5	12/7/2005	41	ND(1.0)	ND(1.0)	2.4	1.4	7.8	ND(1.0)	1.4	ND(1.0)	ND(1.0)
V122-10	10	12/7/2005	500	ND(10)	ND(10)	32	ND(10)	37	ND(10)	17	ND(10)	ND(10)
V123-5	5	11/29/2005	490	ND(4.0)	ND(4.0)	60	16	96	ND(4.0)	54	ND(4.0)	ND(4.0)
V123-10	10	11/29/2005	1,400	ND(20)	ND(20)	150	34	230	ND(20)	170	ND(20)	ND(20)
V124-5	5	12/6/2005	2.7	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
	5	12/13/2005	2.5	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V124-10	10	12/6/2005	120	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
	10	12/13/2005	12	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V125-5	5	12/8/2005	15	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	1.1	ND(1.0)	ND(1.0)
V125-10	10	12/8/2005	36	ND(1.0)	ND(1.0)	ND(1.0)	1.2	5.4	ND(1.0)	3.2	ND(1.0)	ND(1.0)
V126-5	5	12/8/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V126-10	10	12/8/2005	4.9	ND(4.0)	ND(4.0)	ND(4.0)	ND(4.0)	ND(4.0)	ND(4.0)	ND(4.0)	ND(4.0)	ND(4.0)
V127-5	5	12/7/2005	1.4	ND(1.0)	ND(1.0)	1.9	ND(1.0)	6.2	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V127-10	10	12/7/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	1.1	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V128-5	5	12/7/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	2.2	ND(1.0)	1.4	ND(1.0)	ND(1.0)
V128-10	10	12/7/2005	1.1	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	2.4	ND(1.0)	1.1	ND(1.0)	ND(1.0)
V129-5	5	12/7/2005	ND(1.0)	ND(1.0)	ND(1.0)	1.2	ND(1.0)	4.8	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V129-10	10	12/7/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	2.4	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V130-5	5	12/7/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	1.8	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V130-10	10	12/7/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	1.7	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V131-5	5	12/7/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	3.0	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V131-10	10	12/7/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V132-5	5	12/6/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	2.5	ND(1.0)	1.3	ND(1.0)	ND(1.0)
	5	12/13/2005	6.7	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	1.4	ND(1.0)	1.2	ND(1.0)	ND(1.0)
V132-10	10	12/6/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
	10	12/13/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V133-5	5	12/7/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	1.9	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V133-10	10	12/7/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)

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SUMMARY OF SOIL VAPOR ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID	Depth (Feet)	Date Collected	Benzene	1,2-Dichloroethane	Chloroform	Ethylbenzene	o-Xylene	p/m-Xylene	Tetrachloroethylene	Toluene	Trichloroethylene	Vinyl Chloride
			(µg/L)									
V134-5	5	12/7/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	2.3	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V134-10	10	12/7/2005	1.4	ND(1.0)	ND(1.0)	1.3	ND(1.0)	1.8	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V135-5	5	12/8/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V135-10	10	12/8/2005	4.4	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	1.2	ND(1.0)	ND(1.0)
V136-5	5	12/13/2005	7.8	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V136-10	10	12/13/2005	190	ND(1.0)	ND(1.0)	20	ND(1.0)	7.7	ND(1.0)	4.2	ND(1.0)	ND(1.0)
V137-5	5	12/6/2005	17	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	9.6	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
V137-10	10	12/6/2005	630	ND(5.0)	ND(5.0)	37	ND(5.0)	14	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
V139-5	5	12/6/2005	29	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	1.1	ND(1.0)	ND(1.0)
V139-10	10	12/6/2005	1.7	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	2.2	ND(1.0)	1.2	ND(1.0)	ND(1.0)
V140-5	5	12/14/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V140-10	10	12/14/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V141-5	5	12/13/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V141-10	10	12/8/2005	1.0	ND(1.0)	ND(1.0)	31	7.0	65	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V142-5	5	12/8/2005	4.8	ND(1.0)	ND(1.0)	5.8	ND(1.0)	4.2	ND(1.0)	2.3	ND(1.0)	ND(1.0)
V142-10	10	12/8/2005	150	ND(1.0)	ND(1.0)	15	6.8	32	ND(1.0)	150	ND(1.0)	ND(1.0)
V143-5	5	12/8/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	1.7	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V143-10	10	12/8/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	1.6	ND(1.0)	1.6	ND(1.0)	ND(1.0)
V144-5	5	12/8/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V144-10	10	12/8/2005	1.3	ND(1.0)	ND(1.0)	2.5	1.8	7.2	ND(1.0)	3.5	ND(1.0)	ND(1.0)
V145-5	5	12/8/2005	24	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	2.5	ND(1.0)	1.1	ND(1.0)	ND(1.0)
V145-10	10	12/8/2005	14	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	1.2	ND(1.0)	1.1	ND(1.0)	ND(1.0)
V146-5	5	12/13/2005	130	ND(1.0)	ND(1.0)	9.8	2.1	19	ND(1.0)	23	ND(1.0)	ND(1.0)
V146-10	10	12/13/2005	55	ND(1.0)	ND(1.0)	35	5.7	100	ND(1.0)	5.4	ND(1.0)	ND(1.0)
V147-5	5	12/6/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	1.1	ND(1.0)	ND(1.0)
	5	12/13/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	2.6	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V147-10	10	12/6/2005	2.9	ND(1.0)	ND(1.0)	1.7	3.6	10	ND(1.0)	7.7	ND(1.0)	ND(1.0)
	10	12/13/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	3.0	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V148-5	5	12/7/2005	280	ND(2.0)	ND(2.0)	91	110	340	ND(2.0)	220	ND(2.0)	ND(2.0)
V148-10	10	12/7/2005	120	ND(1.0)	ND(1.0)	44	45	150	ND(1.0)	79	ND(1.0)	ND(1.0)

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SUMMARY OF SOIL VAPOR ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID	Depth (Feet)	Date Collected	Benzene	1,2-Dibromoethane	Chloroform	Ethylbenzene	o-Xylene	p/m-Xylene	Tetrachloroethene	Toluene	Trichloroethene	Vinyl Chloride
			(µg/L)									
V149-5	5	12/8/2005	32	ND(1.0)	ND(1.0)	7.5	9.6	22	ND(1.0)	25	ND(1.0)	ND(1.0)
V149-10	10	12/8/2005	200	ND(2.0)	ND(2.0)	47	70	210	ND(2.0)	190	ND(2.0)	ND(2.0)
V150-5	5	12/7/2005	9.0	ND(1.0)	ND(1.0)	1.6	1.9	3.8	ND(1.0)	2.6	ND(1.0)	ND(1.0)
V150-10	10	12/7/2005	98	1.3	ND(1.0)	10	8.8	21	ND(1.0)	15	ND(1.0)	ND(1.0)
V151-5	5	12/7/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	1.1	ND(1.0)	1.2	ND(1.0)	ND(1.0)
V151-10	10	12/7/2005	ND(1.0)	1.2	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	1.6	ND(1.0)
V152-5	5	12/7/2005	ND(1.0)	4.1	ND(1.0)	ND(1.0)	ND(1.0)	1.6	ND(1.0)	1.2	1.2	ND(1.0)
V152-10	10	12/7/2005	2.4	20	ND(1.0)	6.2	2.4	12	ND(1.0)	4.0	8.8	ND(1.0)
V153-5	5	12/7/2005	5.0	ND(1.0)	ND(1.0)	11	12	43	ND(1.0)	67	ND(1.0)	ND(1.0)
V153-10	10	12/7/2005	2.8	ND(1.0)	ND(1.0)	2.1	2.0	7.9	ND(1.0)	14	ND(1.0)	ND(1.0)
V154-5	5	12/8/2005	4.6	ND(1.0)	ND(1.0)	5.6	ND(1.0)	3.2	ND(1.0)	2.9	ND(1.0)	ND(1.0)
V154-10	10	12/8/2005	5.6	ND(1.0)	ND(1.0)	71	8.7	170	ND(1.0)	3.8	ND(1.0)	ND(1.0)
V155-5	5	12/14/2005	49	ND(5.0)	ND(5.0)	18	29	86	ND(5.0)	140	ND(5.0)	ND(5.0)
V155-10	10	12/14/2005	160	ND(10)	ND(10)	48	89	270	ND(10)	580	ND(10)	ND(10)
V156-5	5	12/8/2005	1.5	ND(1.0)	ND(1.0)	1.2	ND(1.0)	1.9	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V156-10	10	12/8/2005	11	ND(1.0)	ND(1.0)	6.8	ND(1.0)	1.0	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V158-5	5	12/13/2005	210	ND(10)	ND(10)	220	ND(10)	170	ND(10)	ND(10)	ND(10)	ND(10)
V158-10	10	12/13/2005	1,000	ND(20)	ND(20)	1,200	990	5,000	ND(20)	230	ND(20)	ND(20)
V159-5	5	12/12/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V159-10	10	12/12/2005	3.7	ND(1.0)	ND(1.0)	110	58	440	ND(1.0)	2.7	ND(1.0)	ND(1.0)
V160-5	5	12/6/2005	ND(1.0)	2.1	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
	5	12/13/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V160-10	10	12/6/2005	1.6	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	1.0	3.6	ND(1.0)
	10	12/13/2005	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)
V161-5	5	12/14/2005	6.3	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V161-10	10	12/14/2005	25	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	1.1	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V162-5	5	12/14/2005	14	ND(1.0)	ND(1.0)	2.8	ND(1.0)	1.3	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V162-10	10	12/14/2005	59	ND(1.0)	ND(1.0)	10	ND(1.0)	6.1	ND(1.0)	1.5	ND(1.0)	ND(1.0)
V163-5	5	12/8/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V163-10	10	12/8/2005	340	ND(1.0)	ND(1.0)	19	1.2	12	ND(1.0)	1.6	ND(1.0)	ND(1.0)

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SUMMARY OF SOIL VAPOR ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID	Depth (Feet)	Date Collected	Benzene	1,2 Dichloroethane	Chloroform	Ethylbenzene	o,p Xylene	Meta Xylene	Methylene Chloride	Toluene	Trichloroethene	Vinyl Chloride
			(µg/L)									
V164-5	5	12/8/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V164-10	10	12/8/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V165-5	5	12/7/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	1.0	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V165-10	10	12/8/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	3.6	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V166-5	5	12/6/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	1.0	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
	5	12/13/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	1.7	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V166-10	10	12/6/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
	10	12/13/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	1.2	ND(1.0)	1.1	ND(1.0)	ND(1.0)
V167-5	5	12/8/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V167-10	10	12/8/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V168-5	5	12/8/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V168-10	10	12/8/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V169-5	5	12/8/2005	4.8	ND(1.0)	ND(1.0)	8.2	ND(1.0)	23	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V169-10	10	12/8/2005	90	ND(5.0)	ND(5.0)	85	13	210	ND(5.0)	8.0	ND(5.0)	ND(5.0)
V170-5	5	12/8/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V170-10	10	12/8/2005	12	ND(1.0)	ND(1.0)	4.4	ND(1.0)	1.9	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V171-5	5	12/8/2005	53	ND(5.0)	ND(5.0)	210	48	450	ND(5.0)	26	ND(5.0)	ND(5.0)
V171-10	10	12/8/2005	130	ND(1.0)	ND(1.0)	56	52	200	ND(1.0)	190	ND(1.0)	ND(1.0)
V172-5	5	12/8/2005	22	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	1.8	ND(1.0)	1.3	ND(1.0)	ND(1.0)
V172-10	10	12/8/2005	79	ND(1.0)	ND(1.0)	2.2	2.2	9.9	ND(1.0)	1.4	ND(1.0)	ND(1.0)
V173-5	5	12/13/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V173-10	10	12/13/2005	1.6	ND(1.0)	ND(1.0)	2.4	ND(1.0)	3.1	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V174-5	5	12/7/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V174-10	10	12/7/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V175-5	5	12/14/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V175-10	10	12/14/2005	2.4	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V176-5	5	12/5/2005	3.2	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
	5	12/12/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V176-10	10	12/5/2005	190	ND(1.0)	ND(1.0)	4.7	ND(1.0)	4.0	13	6.4	11	1.6
	10	12/12/2005	350	ND(5.0)	ND(5.0)	8.9	ND(5.0)	6.2	17	7.3	15	ND(5.0)

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SUMMARY OF SOIL VAPOR ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID	Depth (Feet)	Date Collected	Benzene	1,2-Dichloroethane	Chloroform	Ethylbenzene	o-Xylene	m/p-Xylene	Tetrachloroethene	Toluene	Trichloroethene	Vinyl Chloride
			(ug/L)									
V177-5	5	12/13/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V177-10	10	12/13/2005	16	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V178-5	5	12/14/2005	230	ND(10)	ND(10)	400	270	980	ND(10)	590	ND(10)	ND(10)
V178-10	10	12/14/2005	190	ND(5.0)	ND(5.0)	230	180	590	ND(5.0)	610	ND(5.0)	ND(5.0)
V179-5	5	12/6/2005	1.4	ND(1.0)	ND(1.0)	1.0	ND(1.0)	3.3	ND(1.0)	1.9	ND(1.0)	ND(1.0)
	5	12/13/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	2.8	ND(1.0)	1.1	ND(1.0)	ND(1.0)
V179-10	10	12/6/2005	300	ND(10)	ND(10)	360	140	990	ND(10)	550	ND(10)	ND(10)
	10	12/13/2005	33	ND(1.0)	ND(1.0)	40	17	110	ND(1.0)	62	ND(1.0)	ND(1.0)
V180-5	5	11/28/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V180-10	10	11/28/2005	ND(1.0)	ND(1.0)	ND(1.0)	7.8	14	44	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V181-5	5	12/13/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	2.4	ND(1.0)	1.3	ND(1.0)	ND(1.0)
V181-10	10	12/13/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V182-5	5	12/14/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V182-10	10	12/14/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V183-5	5	12/14/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V183-10	10	12/14/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V184-5	5	12/14/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V184-10	10	12/14/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V185-5	5	12/14/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V185-10	10	12/14/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V186-5	5	12/14/2005	1.3	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V186-10	10	12/14/2005	2.8	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	1.2	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V187-5	5	12/14/2005	34	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V187-10	10	12/14/2005	120	ND(1.0)	ND(1.0)	2.3	ND(1.0)	2.2	ND(1.0)	2.4	ND(1.0)	ND(1.0)
V188-5	5	12/14/2005	380	ND(1.0)	ND(1.0)	25	2.7	24	ND(1.0)	35	ND(1.0)	ND(1.0)
V188-10	10	12/15/2005	1,300	ND(10)	ND(10)	200	45	320	ND(10)	260	ND(10)	ND(10)
V189-5	5	12/14/2005	32	ND(1.0)	ND(1.0)	4.5	1.2	7.6	ND(1.0)	6.4	ND(1.0)	ND(1.0)
V189-10	10	12/14/2005	18	ND(1.0)	ND(1.0)	2.7	ND(1.0)	4.6	ND(1.0)	3.5	ND(1.0)	ND(1.0)
V190-5	5	12/14/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	2.0	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V190-10	10	12/14/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	1.2	ND(1.0)	1.3	ND(1.0)	ND(1.0)

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SUMMARY OF SOIL VAPOR ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID	Depth (Feet)	Date Collected	Benzene	1,2-Dichlorobenzene	Chloroform	Ethylbenzene	o-Xylene	p,m-Xylene	Tetrachloroethene	Toluene	1,1,1-Trichloroethane	Vinyl Chloride
			(µg/L)									
V191-5	5	12/14/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	1.0	ND(1.0)	ND(1.0)
V191-10	10	12/14/2005	14	ND(1.0)	ND(1.0)	6.7	ND(1.0)	1.8	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V192-5	5	12/14/2005	2.3	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V192-10	10	12/14/2005	12	ND(1.0)	ND(1.0)	4.2	ND(1.0)	5.0	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V193-5	5	12/14/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	1.0	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V193-10	10	12/14/2005	89	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	2.4	ND(1.0)	2.7	ND(1.0)	ND(1.0)
V194-5	5	12/14/2005	1.4	ND(1.0)	ND(1.0)	2.1	ND(1.0)	2.9	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V194-10	10	12/14/2005	13	ND(1.0)	ND(1.0)	11	6.0	13	ND(1.0)	2.1	ND(1.0)	ND(1.0)
V195-5	5	12/14/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	1.1	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V195-10	10	12/14/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	2.0	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V196-5	5	12/14/2005	1.2	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	1.6	ND(1.0)	1.0	ND(1.0)	ND(1.0)
V196-10	10	12/14/2005	5.1	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	1.4	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V197-5	5	12/6/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
	5	12/13/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	1.6	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V197-10	10	12/6/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
	10	12/13/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	3.0	ND(1.0)	1.3	ND(1.0)	ND(1.0)
V198-5	5	12/14/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V198-10	10	12/14/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	1.1	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V199-5	5	12/14/2005	36	ND(1.0)	ND(1.0)	34	28	110	ND(1.0)	110	ND(1.0)	ND(1.0)
V199-10	10	12/14/2005	52	ND(1.0)	ND(1.0)	49	46	160	ND(1.0)	160	ND(1.0)	ND(1.0)
V200-5	5	12/13/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V200-10	10	12/13/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	1.3	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V201-5	5	12/15/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V201-10	10	12/15/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V202-5	5	12/15/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V202-10	10	12/15/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V203-5	5	12/15/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V203-10	10	12/15/2005	1.4	ND(1.0)	ND(1.0)	8.8	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V204-5	5	12/15/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V204-10	10	12/15/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)

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SUMMARY OF SOIL VAPOR ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID	Depth (Feet)	Date Collected	Benzene	1,2,3-Trichlorobenzene	Chloroform	Ethylbenzene	o-Xylene	p/m-Xylene	Tetrachloroethylene	Toluene	Trichloroethylene	Vinyl chloride
			(ug/L)									
V205-5	5	12/15/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V205-10	10	12/15/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V206-5	5	12/15/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V206-10	10	12/15/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V207-5	5	12/15/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V207-10	10	12/15/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V208-5	5	12/15/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V208-10	10	12/15/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V209-5	5	12/6/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
	5	12/13/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V209-10	10	12/6/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	1.3	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
	10	12/13/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V210-5	5	12/15/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V210-10	10	12/15/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V211-5	5	12/15/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V211-10	10	12/15/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V212-5	5	12/6/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
	5	12/13/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V212-10	10	12/6/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
	10	12/13/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V213-5	5	12/6/2005	ND(1.0)	ND(1.0)	ND(1.0)	1.0	1.1	4.1	ND(1.0)	1.7	ND(1.0)	ND(1.0)
	5	12/13/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V213-10	10	12/6/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
	10	12/13/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V214-5	5	12/15/2005	ND(1.0)	ND(1.0)	ND(1.0)	3.3	ND(1.0)	3.5	ND(1.0)	1.6	ND(1.0)	ND(1.0)
V214-10	10	12/15/2005	ND(1.0)	ND(1.0)	ND(1.0)	3.4	ND(1.0)	2.9	ND(1.0)	1.9	ND(1.0)	ND(1.0)
V215-5	5	12/15/2005	6.5	ND(1.0)	ND(1.0)	26	41	87	3.6	3.6	ND(1.0)	ND(1.0)
V215-10	10	12/15/2005	2.5	ND(1.0)	1.0	7.7	19	23	1.3	2.0	ND(1.0)	ND(1.0)
V216-5	5	12/15/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V216-10	10	12/15/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	1.4	ND(1.0)	1.2	ND(1.0)	ND(1.0)

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SUMMARY OF SOIL VAPOR ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID	Depth (Feet)	Date Collected	Benzene	c-1,2-Dichloroethene	Chloroform	Ethylbenzene	o-Xylene	p/m-Xylene	Tetrachloroethene	Toluene	Trichloroethene	Vinyl Chloride
			(µg/L)									
V217-5	5	12/15/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V217-10	10	12/15/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V218-5	5	12/15/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V218-10	10	12/15/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V219-5	5	12/15/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V219-10	10	12/15/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V220-5	5	12/15/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V220-10	10	12/15/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	1.6	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V221-5	5	12/15/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V221-10	10	12/15/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V222-5	5	12/15/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V222-10	10	12/15/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V223-5	5	12/15/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V223-10	10	12/15/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)

NOTES:
ID - Identification
µg/L - Micrograms per liter
c - cis
o - ortho
p/m - para/meta
ND(1.0) - Analyte not detected at reporting limit shown

BLE 10
RESULTS OF TWO ROUNDS OF SOIL VAPOR SAMPLING
VOLATILE ORGANIC COMPOUNDS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID	Depth (Feet)	Date Collected	Benzene	Carbon Tetrachloride	Chloroform	Ethylbenzene	Toluene	m,p-Xylene	Tetrachloroethene	Toluene	Trichloroethene	Vinyl Chloride
			(ug/L)									
V013-5	5	12/5/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
	5	12/12/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V013-10	10	12/5/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
	10	12/12/2005	2.7	ND(1.0)	ND(1.0)	1.2	ND(1.0)	4.5	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V017-5	5	12/5/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	1.2	3.3	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
	5	12/12/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	1.4	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V017-10	10	12/5/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
	10	12/12/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	1.1	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V036-5	5	12/5/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	1.5	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
	5	12/12/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V036-10	10	12/5/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
	10	12/12/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V040-5	5	12/5/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
	5	12/12/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	1.0	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V040-10	10	12/5/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	1.7	2.8	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
	10	12/12/2005	ND(1.0)	ND(1.0)	ND(1.0)	1.4	ND(1.0)	6.1	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V054-5	5	12/5/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
	5	12/12/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V054-10	10	12/5/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
	10	12/12/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V057-5	5	12/5/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
	5	12/12/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V057-10	10	12/5/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
	10	12/12/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V076-5	5	12/5/2005	1.1	ND(1.0)	ND(1.0)	11	2.2	8.3	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
	5	12/12/2005	1.8	ND(1.0)	ND(1.0)	14	2.5	9.4	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V076-10	10	12/5/2005	1.7	ND(1.0)	ND(1.0)	10	4.3	18	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
	10	12/12/2005	ND(1.0)	ND(1.0)	ND(1.0)	3.3	1.1	4.9	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V083-5	5	12/5/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
	5	12/12/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V083-10	10	12/5/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
	10	12/12/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	1.8	ND(1.0)	1.2	ND(1.0)	ND(1.0)
V089-5	5	12/5/2005	2.7	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	1.7	ND(1.0)	1.1	ND(1.0)	ND(1.0)
	5	12/12/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V089-10	10	12/5/2005	2.8	ND(1.0)	ND(1.0)	8.7	ND(1.0)	9.1	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
	10	12/12/2005	2.4	ND(1.0)	ND(1.0)	5.0	ND(1.0)	5.0	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V096-5	5	12/5/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
	5	12/12/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)

BLE 10
RESULTS OF TWO ROUNDS OF SOIL VAPOR SAMPLING
VOLATILE ORGANIC COMPOUNDS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID	Depth (Feet)	Date Collected	Benzene	Dichlorodifluoromethane	Chloroform	Ethylbenzene	Hexane	Methyl Ethyl Ketone (2-Butanone)	Methylene Chloride	Toluene	Trichloroethylene (TCE)	Vinyl Chloride
			ug/m3									
V096-10	10	12/5/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
	10	12/12/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	1.2	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V098-5	5	12/5/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
	5	12/12/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V098-10	10	12/5/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
	10	12/12/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V105-5	5	12/5/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
	5	12/12/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V105-10	10	12/5/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
	10	12/12/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V111-5	5	12/5/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
	5	12/12/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V111-10	10	12/5/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
	10	12/12/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V121-5	5	12/6/2005	9.7	ND(1.0)	ND(1.0)	1.3	1.4	2.5	ND(1.0)	1.8	ND(1.0)	ND(1.0)
	5	12/13/2005	ND(5.0)	ND(5.0)	ND(5.0)	6.2	ND(5.0)	30	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
V121-10	10	12/6/2005	550	ND(10)	ND(10)	770	670	2,300	ND(10)	580	ND(10)	ND(10)
	10	12/13/2005	260	ND(10)	ND(10)	410	390	1,400	ND(10)	510	ND(10)	ND(10)
V124-5	5	12/6/2005	2.7	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
	5	12/13/2005	2.5	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V124-10	10	12/6/2005	120	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
	10	12/13/2005	12	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V132-5	5	12/6/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	2.5	ND(1.0)	1.3	ND(1.0)	ND(1.0)
	5	12/13/2005	6.7	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	1.4	ND(1.0)	1.2	ND(1.0)	ND(1.0)
V132-10	10	12/6/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
	10	12/13/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V147-5	5	12/6/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	1.1	ND(1.0)	ND(1.0)
	5	12/13/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	2.6	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V147-10	10	12/6/2005	2.9	ND(1.0)	ND(1.0)	1.7	3.6	10	ND(1.0)	7.7	ND(1.0)	ND(1.0)
	10	12/13/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	3.0	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V160-5	5	12/6/2005	ND(1.0)	2.1	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
	5	12/13/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V160-10	10	12/6/2005	1.6	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	1.0	3.6	ND(1.0)
	10	12/13/2005	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)
V166-5	5	12/6/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	1.0	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
	5	12/13/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	1.7	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V166-10	10	12/6/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
	10	12/13/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	1.2	ND(1.0)	1.1	ND(1.0)	ND(1.0)

BLE 10
RESULTS OF TWO ROUNDS OF SOIL VAPOR SAMPLING
VOLATILE ORGANIC COMPOUNDS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID	Depth (Feet)	Date Collected	Benzene	c-1,2-Dichloroethene	Chloroform	Ethylbenzene	m,p-Xylene	o-Xylene	Tetrachloroethene	Toluene	Trichloroethene	Vinyl chloride
			(µg/L)									
V176-5	5	12/5/2005	3.2	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
	5	12/12/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V176-10	10	12/5/2005	190	ND(1.0)	ND(1.0)	4.7	ND(1.0)	4.0	13	6.4	11	1.6
	10	12/12/2005	350	ND(5.0)	ND(5.0)	8.9	ND(5.0)	6.2	17	7.3	15	ND(5.0)
V179-5	5	12/6/2005	1.4	ND(1.0)	ND(1.0)	1.0	ND(1.0)	3.3	ND(1.0)	1.9	ND(1.0)	ND(1.0)
	5	12/13/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	2.8	ND(1.0)	1.1	ND(1.0)	ND(1.0)
V179-10	10	12/6/2005	300	ND(10)	ND(10)	360	140	990	ND(10)	550	ND(10)	ND(10)
	10	12/13/2005	33	ND(1.0)	ND(1.0)	40	17	110	ND(1.0)	62	ND(1.0)	ND(1.0)
V197-5	5	12/6/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
	5	12/13/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	1.6	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V197-10	10	12/6/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
	10	12/13/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	3.0	ND(1.0)	1.3	ND(1.0)	ND(1.0)
V209-5	5	12/6/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
	5	12/13/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V209-10	10	12/6/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	1.3	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
	10	12/13/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V212-5	5	12/6/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
	5	12/13/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V212-10	10	12/6/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
	10	12/13/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V213-5	5	12/6/2005	ND(1.0)	ND(1.0)	ND(1.0)	1.0	1.1	4.1	ND(1.0)	1.7	ND(1.0)	ND(1.0)
	5	12/13/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
V213-10	10	12/6/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
	10	12/13/2005	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)

NOTES:
ID - Identification
µg/L - Micrograms per liter
ND(1.0) - Analyte not detected at reporting limit shown
c - Cis
o - Ortho
p/m - Para/Meta

BLE 11
SUMMARY OF SOIL VAPOR METHANE RESULTS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Primary Sample Analysis			QA/QC Samples					
			Duplicate Sample Analysis			Confirmation Sample Analysis Using Second Meter		
	Methane (%)			Methane (%)			Methane (%)	
Sample ID	Round 1 12/5/2005	Round 2 12/12/2005	Sample ID	Round 1 12/5/2005	Round 2 12/12/2005	Sample ID	Round 1 12/5/2005	Round 2 12/12/2005
V013-5	4.2	5.2	V013-5D	4.2	6.2	V013-5-C	5.4	5.6
V013-10	9.7	4.9	V013-10D	10.4	5.2	V013-10-C	13.6	5.1
V017-5	0	0	--	--	--	--	--	--
V017-10	0	0	--	--	--	--	--	--
V036-5	0	0	--	--	--	V036-5-C	0	0
V036-10	12.1	8.1	--	--	--	V036-10-C	13.2	9.3
V040-5	0.1	0.1	--	--	--	V040-5-C	0.6	0.1
V040-10	2.2	6.9	--	--	--	V040-10-C	3.1	7
V054-5	0	0	--	--	--	--	--	--
V054-10	0	0	--	--	--	--	--	--
V057-5	6.8	1.9	--	--	--	V057-5-C	7.6	1.6
V057-10	12.8	8.5	V057-10D	13	8.6	V057-10-C	15.6	9.6
V076-5	13.2	22.1	--	--	--	V076-5-C	16.4	18.8
V076-10	28.4	18.6	--	--	--	V076-10-C	29.1	17.3
V083-5	12.7	15.6	--	--	--	V083-5-C	12.7	16.3
V083-10	14.2	18.7	--	--	--	V083-10-C	14.2	20.4
V089-5	3.7	8.3	--	--	--	V089-5-C	5	6.2
V089-10	9.5	89.3	--	--	--	V089-10-C	14.1	84.9
V096-5	0	0.1	--	--	--	V096-5-C	0	0
V096-10	4.2	3.5	--	--	--	V096-10-C	4.2	4
V098-5	1.2	1.3	--	--	--	V098-5-C	1.1	1.1
V098-10	1.8	1.6	V098-10D	1.8	1.7	V098-10-C	1.8	1.8
--	--	--	--	--	--	V098-10D-C	1.6	1.7
V105-5	0.1	0.3	--	--	--	--	--	--
V105-10	0	0.6	--	--	--	--	--	--
V111-5	0	0	--	--	--	--	--	--
V111-10	0	0	--	--	--	--	--	--
V121-5	6.5	7.3	V121-5D	3.8	7.1	V121-5-C	3.8	4.1
--	--	--	--	--	--	V121-5D-C	0.6	3.9
V121-10	99.9	99.9	--	--	--	V121-10-C	99.9	99.9
V124-5	0.2	33.6	--	--	--	V124-5-C	0.1	30.1
V124-10	99.9	99.9	--	--	--	V124-10-C	99.9	99.9
V132-5	0.5	0.4	--	--	--	V132-5-C	0.4	0.5
V132-10	7.2	11.6	--	--	--	V132-10-C	4.6	10.9

BLE 11
SUMMARY OF SOIL VAPOR METHANE RESULTS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Primary Sample Analysis			QA/QC Samples					
			Duplicate Sample Analysis			Confirmation Sample Analysis Using Second Meter		
Sample ID	Methane (%) Round 1 12/5/2005	Methane (%) Round 2 12/12/2005	Sample ID	Methane (%) Round 1 12/5/2005	Methane (%) Round 2 12/12/2005	Sample ID	Methane (%) Round 1 12/5/2005	Methane (%) Round 2 12/12/2005
V147-5	2.9	5.9	V147-5D	2.9	5.7	V147-5-C	2.9	4.5
--	--	--	--	--	--	V147-5D-C	2.9	4.4
V147-10	5.2	6.7	--	--	--	V147-10-C	5.1	4.8
V160-5	0.3	1.1	--	--	--	V160-5- C	0.3	1.3
V160-10	99.9	99.9	--	--	--	V160-10-C	99.9	99.9
V166-5	0.2	0.1	--	--	--	V166-5-C	0.3	0.2
V166-10	0.5	0.4	--	--	--	V166-10-C	0.4	0.3
V176-5	32.2	26.7	--	--	--	V176-5-C	65.6	26.8
V176-10	99.9	99.9	--	--	--	V176-10-C	99.9	99.9
V179-5	0.9	0.8	--	--	--	V179-5-C	0.7	0.4
V179-10	99.9	99.9	--	--	--	V179-10-C	99.9	99.9
V197-5	0.1	0.1	--	--	--	--	--	--
V197-10	0.1	0.1	--	--	--	--	--	--
V209-5	0	0.1	--	--	--	V209-5-C	0	0
V209-10	0	0	V209-10D	0	0	V209-10-C	0	0
--	--	--	--	--	--	V209-10D-C	0	0
V212-5	0	0	--	--	--	V212-5-C	0	0
V212-10	0	0	--	--	--	V212-10-C	0	0
V213-5	0	0	--	--	--	V213-5-C	0	0
V213-10	0	0	--	--	--	V213-10-C	0	0

NOTES:
QA/QC - Quality assurance/quality control
ID - Identification
% - Percent
D - Duplicate sample
C - Confirmation sample analyzed using a different Land Tech gas analyzer

TABLE 12
DETECTION FREQUENCY SUMMARY OF TOTAL PETROLEUM HYDROCARBONS IN SOIL

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Analyte	Depth (feet bgs)	Maximum Detected Concentration (mg/kg)	Minimum Detected Concentration (mg/kg)	Number of Detects	Number of Samples Analyzed	Percent Detection (%)
C06 - C10	2	5360	3	66	220	30.0
C06 - C10	5	2440	3	73	220	33.2
C06 - C10	10	4200	3	73	219	33.3
C06 - C10	15	10800	4	16	32	50.0
C06 - C10	20	8670	5.3	13	28	46.4
C06 - C10	30	1040	4	4	19	21.1
C06 - C10	40	19500	19500	1	2	50.0
C10 - C22	2	8150	3.2	90	220	40.9
C10 - C22	5	10000	3	76	220	34.5
C10 - C22	10	22900	3	74	219	33.8
C10 - C22	15	15600	3	28	32	87.5
C10 - C22	20	21000	4.8	24	28	85.7
C10 - C22	30	2790	3.2	19	19	100.0
C10 - C22	40	5.2	5.2	1	2	50.0
C22 - C36	2	19200	5	173	220	78.6
C22 - C36	5	20400	5	137	220	62.3
C22 - C36	10	14500	5	105	219	47.9
C22 - C36	15	5400	6.4	18	32	56.3
C22 - C36	20	10400	8.2	15	28	53.6
C22 - C36	30	2420	8.2	6	19	31.6
C22 - C36	40	8.2	8.2	1	2	50.0

NOTES:
bgs - Below ground surface
mg/kg - Milligrams per kilogram
% - Percent

TABLE 13
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
TOTAL PETROLEUM HYDROCARBONS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID	Depth (Feet bgs)	Date Collected	C06 - C10 (mg/kg)	C10 - C22 (mg/kg)	C22 - C36 (mg/kg)
B001	2	12/5/2005	ND(30)	ND(30)	158
	5	12/5/2005	4	3	105
	10	12/5/2005	ND(3)	4.3	114
B002	2	12/5/2005	3	4	53
	5	12/5/2005	ND(30)	ND(30)	475
	10	12/5/2005	3.2	ND(3)	ND(5)
B003	2	12/7/2005	ND(3)	ND(3)	ND(5)
	5	12/7/2005	111	293	7,590
	15	12/7/2005	ND(3)	6.1	62
	30	12/7/2005	4	51	33
B004	2	12/8/2005	ND(15)	ND(15)	116
	5	12/8/2005	ND(3)	ND(3)	5.3
	10	12/8/2005	3.2	ND(3)	ND(5)
B005	2	12/8/2005	ND(3)	3.7	59
	5	12/8/2005	ND(3)	ND(3)	ND(5)
	10	12/8/2005	ND(3)	ND(3)	ND(5)
B006	2	12/12/2005	3.3	ND(3)	7.3
	5	12/12/2005	ND(3)	ND(3)	ND(5)
	10	12/12/2005	4.3	ND(3)	ND(5)
B007	2	12/12/2005	3.5	ND(3)	ND(5)
	5	12/12/2005	ND(3)	ND(3)	ND(5)
	10	12/12/2005	ND(3)	ND(3)	ND(5)
B008	2	12/8/2005	ND(3)	ND(3)	ND(5)
	5	12/8/2005	3.3	ND(3)	5.7
	10	12/8/2005	ND(3)	ND(3)	ND(5)
B009	2	12/9/2005	ND(3)	ND(3)	49
	5	12/9/2005	ND(3)	ND(3)	ND(5)
	10	12/9/2005	4.6	ND(3)	ND(5)
B010	2	12/9/2005	ND(3)	ND(3)	ND(5)
	5	12/9/2005	3.8	ND(3)	ND(5)
	10	12/9/2005	ND(3)	ND(3)	ND(5)
B011	2	1/9/2006	ND(30)	ND(30)	247
	5	1/9/2006	3.3	ND(3)	ND(5)
	10	1/9/2006	ND(3)	ND(3)	ND(5)
B012	2	1/6/2006	ND(3)	ND(3)	8
	5	1/6/2006	ND(3)	ND(3)	9
	10	1/6/2006	ND(3)	ND(3)	7
B013	2	12/15/2005	ND(60)	ND(60)	256
	5	12/15/2005	ND(60)	ND(60)	320
	10	12/15/2005	ND(3)	ND(3)	6
B014	2	12/13/2005	ND(30)	ND(30)	569
	5	12/13/2005	ND(3)	ND(3)	ND(5)
	10	12/13/2005	3	ND(3)	ND(5)
B015	2	12/12/2005	ND(3)	ND(3)	96
	5	12/12/2005	6	ND(3)	ND(5)
	10	12/12/2005	4	6	ND(5)

TABLE 13
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
TOTAL PETROLEUM HYDROCARBONS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID	Depth (Feet bgs)	Date Collected	C06-C10 (mg/kg)	C10-C22 (mg/kg)	C22-C36 (mg/kg)
B016	2	12/13/2005	3.2	ND(3)	35
	5	12/13/2005	3.3	ND(3)	11
	10	12/13/2005	ND(3)	ND(3)	ND(5)
B017	2	12/29/2005	ND(3)	ND(3)	6.4
	5	12/29/2005	3.6	ND(3)	6.3
	10	12/29/2005	ND(3)	ND(3)	9.4
B018	2	12/29/2005	ND(3)	ND(3)	8
	5	12/29/2005	ND(3)	ND(3)	ND(5)
	10	12/29/2005	ND(3)	ND(3)	24
B019	2	12/28/2005	ND(3)	ND(3)	6
	5	12/28/2005	ND(3)	ND(3)	ND(5)
	10	12/28/2005	ND(3)	ND(3)	ND(5)
B020	2	12/12/2005	ND(30)	ND(30)	131
	5	12/12/2005	ND(3)	ND(3)	ND(5)
	10	12/12/2005	172	321	82
	15	12/12/2005	ND(3)	ND(3)	ND(5)
	20	12/12/2005	ND(3)	ND(3)	ND(5)
B021	2	12/28/2005	ND(3)	ND(3)	ND(5)
	5	12/28/2005	ND(3)	ND(3)	5.5
	10	12/28/2005	591	277	ND(100)
B022	2	12/28/2005	124	1,210	200
	5	12/28/2005	430	515	ND(100)
	10	12/28/2005	59	85	ND(50)
B023	2	12/28/2005	858	2,030	ND(500)
	5	12/28/2005	937	1,780	ND(500)
	10	12/28/2005	3,440	2,960	ND(500)
	15	12/28/2005	5.4	14	ND(5)
B024	2	12/16/2005	5.8	42	6.2
	5	12/16/2005	6	24	ND(5)
	10	12/16/2005	ND(3)	3.2	5.1
B025	2	12/15/2005	4.4	ND(3)	9.8
	5	12/15/2005	ND(3)	ND(3)	9.1
	10	12/15/2005	ND(3)	ND(3)	11
B026	2	12/15/2005	ND(60)	ND(60)	854
	5	12/15/2005	3.4	15	70
	10	12/15/2005	ND(3)	ND(3)	5.3
B027	2	12/14/2005	ND(150)	976	19,200
	5	12/15/2005	ND(300)	316	944
	10	12/15/2005	ND(600)	1,220	10,400
	15	12/15/2005	ND(1,200)	2,550	3,840
	20	12/15/2005	ND(300)	839	500
	30	12/15/2005	ND(600)	602	2,420
B028	2	12/13/2005	ND(30)	ND(30)	367
	5	12/13/2005	4	ND(3)	ND(5)
	10	12/13/2005	4	ND(3)	13

TABLE 13
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
TOTAL PETROLEUM HYDROCARBONS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID	Depth (feet bgs)	Date Collected	C06 - C10 (mg/kg)	C10 - C22 (mg/kg)	C22 - C44 (mg/kg)
B029	2	12/14/2005	379	230	2,000
	5	12/14/2005	ND(60)	ND(60)	2,260
	10	12/14/2005	ND(60)	ND(60)	362
B030	2	12/14/2005	ND(60)	ND(60)	556
	5	12/14/2005	ND(3)	ND(3)	ND(5)
	10	12/14/2005	3.7	ND(3)	ND(5)
B031	2	1/6/2006	ND(30)	ND(30)	191
	5	1/6/2006	4.2	ND(3)	90
	10	1/6/2006	ND(3)	ND(3)	6
B032	2	1/6/2006	ND(30)	ND(30)	100
	5	1/6/2006	ND(30)	314	336
	10	1/6/2006	ND(30)	401	686
B033	2	12/29/2005	ND(3)	10	45
	5	12/29/2005	ND(3)	ND(3)	18
	10	12/29/2005	ND(3)	4.3	30
B034	2	12/14/2005	4.1	ND(3)	13
	5	12/14/2005	5	ND(3)	ND(5)
	10	12/14/2005	ND(3)	ND(3)	5.2
B035	2	12/14/2005	ND(150)	ND(150)	3,100
	5	12/14/2005	4.6	ND(3)	50
	10	12/14/2005	ND(3)	ND(3)	6
B036	2	12/14/2005	ND(3)	4	29
	5	12/14/2005	ND(3)	ND(3)	ND(5)
	10	12/14/2005	4.4	ND(3)	ND(5)
	15	12/14/2005	4.2	ND(3)	ND(5)
B037	2	12/19/2005	ND(3)	ND(3)	6.3
	5	12/19/2005	ND(3)	ND(3)	6.7
	10	12/19/2005	3.3	3	8
B038	2	12/19/2005	27	1,570	ND(5)
	5	12/19/2005	3.6	25	50
	10	12/19/2005	ND(3)	4	21
B039	2	12/16/2005	4.3	ND(3)	ND(5)
	5	12/16/2005	ND(3)	ND(3)	ND(5)
	10	12/16/2005	4.7	ND(3)	ND(5)
B040	2	12/19/2005	ND(30)	171	317
	5	12/19/2005	ND(60)	ND(60)	263
	10	12/19/2005	ND(3)	5.7	12
B041	2	12/28/2005	13	ND(3)	ND(5)
	5	12/28/2005	ND(3)	6	ND(5)
	10	12/28/2005	ND(3)	ND(3)	ND(5)
B042	2	12/20/2005	32	1,960	267
	5	12/20/2005	84	442	50
	10	12/20/2005	3.8	3.6	ND(5)
B043	2	12/16/2005	ND(60)	888	808
	5	12/16/2005	ND(60)	2,050	957
	10	12/16/2005	ND(60)	1,110	343

TABLE 13
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
TOTAL PETROLEUM HYDROCARBONS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID	Depth (feet bgs)	Date Collected	C08-C10 (mg/kg)	C10-C22 (mg/kg)	C22-C36 (mg/kg)
B044	2	12/16/2005	6	ND(3)	ND(5)
	5	12/16/2005	ND(3)	ND(3)	5.6
	10	12/16/2005	3.8	ND(3)	ND(5)
B045	2	12/15/2005	102	6,110	ND(5)
	5	12/15/2005	6.4	463	ND(5)
	10	12/15/2005	250	651	ND(250)
	15	12/15/2005	ND(3)	ND(3)	ND(5)
	20	12/15/2005	480	96	ND(50)
	30	12/16/2005	1,040	109	ND(100)
B046	2	12/15/2005	ND(60)	1,350	10,600
	5	12/15/2005	ND(3)	6.7	24
	10	12/15/2005	3.4	ND(3)	5.1
B047	2	12/15/2005	ND(3)	ND(3)	7.4
	5	12/15/2005	ND(3)	ND(3)	5.3
	10	12/15/2005	ND(3)	ND(3)	5.4
B048	2	12/20/2005	ND(3)	70	55
	5	12/20/2005	3.1	94	40
	10	12/20/2005	ND(150)	1,360	462
	15	12/20/2005	ND(150)	1,250	ND(250)
	20	12/20/2005	ND(600)	10,700	ND(1,000)
	30	12/20/2005	ND(300)	919	ND(500)
B049	2	12/14/2005	4	ND(3)	ND(5)
	5	12/14/2005	3.7	ND(3)	ND(5)
	10	12/14/2005	ND(3)	ND(3)	ND(5)
B050	2	12/13/2005	ND(60)	ND(60)	714
	5	12/13/2005	ND(3)	ND(3)	ND(5)
	10	12/12/2005	ND(60)	149	1,100
	15	12/12/2005	ND(3)	3	ND(5)
	20	12/12/2005	ND(3)	ND(3)	ND(5)
B051	2	12/13/2005	ND(3)	ND(3)	7.8
	5	12/13/2005	ND(3)	ND(3)	50
	10	12/13/2005	ND(3)	9.2	7
B052	2	12/29/2005	ND(150)	ND(150)	778
	5	12/29/2005	ND(30)	ND(30)	156
	10	12/29/2005	ND(150)	ND(150)	828
B053	2	12/28/2005	ND(3)	ND(3)	50
	5	12/28/2005	ND(15)	ND(15)	65
	10	12/28/2005	ND(150)	165	504
B054	2	12/13/2005	ND(60)	ND(60)	1,330
	5	12/13/2005	ND(60)	ND(60)	655
	10	12/13/2005	ND(3)	ND(3)	ND(5)
	15	12/13/2005	ND(15)	150	82
	20	12/13/2005	ND(3)	ND(3)	12
B055	2	12/21/2005	288	1,260	846
	5	12/21/2005	253	1,230	303
	10	12/21/2005	525	5,870	505
	15	12/21/2005	512	4,570	694
	20	12/21/2005	1,340	1,340	10,400

TABLE 13
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
TOTAL PETROLEUM HYDROCARBONS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID	Depth (Feet bgs)	Date Collected	C06 - C10 (mg/kg)	C10 - C22 (mg/kg)	C22 - C36 (mg/kg)
	30	12/21/2005	ND(3)	4.3	ND(5)

TABLE 13
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
TOTAL PETROLEUM HYDROCARBONS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID	Depth (Feet bgs)	Date Collected	C10 - C20 (mg/kg)	C20 - C22 (mg/kg)	C22 - C36 (mg/kg)
B056	2	12/14/2005	45	26	ND(5)
	5	12/14/2005	550	100	ND(100)
	10	12/14/2005	ND(3)	ND(3)	ND(5)
B057	2	12/13/2005	ND(60)	ND(60)	1,620
	5	12/13/2005	ND(60)	ND(60)	236
	10	12/13/2005	ND(3)	ND(3)	ND(5)
	15	12/13/2005	ND(15)	ND(15)	ND(25)
B058	2	12/20/2005	111	5,250	1,060
	5	12/20/2005	7.4	1,940	52
	10	12/20/2005	1,190	4,010	163
	15	12/20/2005	ND(150)	4,070	476
	20	12/20/2005	ND(150)	4,960	280
	30	12/20/2005	ND(3)	73	ND(5)
B059	2	12/20/2005	50	ND(3)	19
	5	12/20/2005	3.6	ND(3)	ND(5)
	10	12/20/2005	ND(3)	ND(3)	ND(5)
B060	2	12/20/2005	ND(15)	21	71
	5	12/20/2005	5.5	583	98
	10	12/20/2005	47	1,030	356
	15	12/20/2005	ND(150)	1,990	497
	20	12/20/2005	689	6,750	1,470
	30	12/20/2005	ND(60)	360	ND(100)
B061	2	12/20/2005	ND(3)	ND(3)	16
	5	12/20/2005	ND(3)	ND(3)	ND(5)
	10	12/20/2005	ND(3)	ND(3)	ND(5)
B062	2	12/21/2005	3.4	48	28
	5	12/21/2005	ND(3)	77	17
	10	12/21/2005	ND(3)	ND(3)	ND(5)
B063	2	1/9/2006	12	43	13
	5	1/9/2006	5.6	18	8.6
	10	1/9/2006	ND(60)	891	268
B064	2	12/23/2005	ND(60)	ND(60)	214
	5	12/23/2005	ND(3)	ND(3)	5.8
	10	12/23/2005	ND(3)	ND(3)	ND(5)
B065	2	1/12/2006	4.1	3.2	110
	5	1/12/2006	3.4	ND(3)	43
	10	1/12/2006	ND(3)	ND(3)	ND(5)
B066	2	1/12/2006	3.7	ND(3)	ND(5)
	5	1/12/2006	ND(3)	ND(3)	ND(5)
	10	1/12/2006	4	ND(3)	ND(5)
B067	2	12/21/2005	90	2,640	167
	5	12/21/2005	188	2,280	116
	10	12/21/2005	ND(15)	34	105

TABLE 13
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
TOTAL PETROLEUM HYDROCARBONS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID	Depth (Feet bgs)	Date Collected	C06-C10 (mg/kg)	C10-C22 (mg/kg)	C22-C36 (mg/kg)
B068	2	12/21/2005	ND(30)	ND(30)	60
	5	12/21/2005	69	4,950	434
	10	12/21/2005	ND(30)	2,370	112
	15	12/21/2005	ND(150)	2,520	ND(250)
	20	12/21/2005	818	20,400	1,290
	30	12/21/2005	ND(600)	1,800	ND(1,000)
B069	2	12/22/2005	ND(3)	ND(3)	23
	5	12/22/2005	ND(3)	ND(3)	ND(5)
	10	12/22/2005	ND(3)	ND(3)	ND(5)
B070	2	12/22/2005	ND(150)	ND(150)	358
	5	12/22/2005	ND(3)	6.6	14
	10	12/22/2005	31	795	ND(250)
	15	12/22/2005	ND(150)	205	620
	20	12/22/2005	ND(30)	43	130
B071	2	12/21/2005	ND(3)	ND(3)	50
	5	12/21/2005	ND(3)	ND(3)	ND(5)
	10	12/21/2005	ND(3)	3.6	9.5
B072	2	12/21/2005	ND(150)	ND(150)	460
	5	12/21/2005	ND(3)	ND(3)	6
	10	12/21/2005	ND(3)	ND(3)	ND(5)
B073	2	1/30/2006	ND(3)	ND(3)	ND(5)
	5	1/30/2006	50	ND(3)	ND(5)
	10	1/30/2006	ND(3)	ND(3)	ND(5)
B074	2	1/11/2006	90	ND(3)	10
	5	1/11/2006	5.3	ND(3)	ND(5)
	10	1/11/2006	76	170	108
	15	1/11/2006	4.6	5.1	19
	20	1/11/2006	5.3	6.1	8.2
B075	2	1/11/2006	ND(3)	ND(3)	ND(5)
	5	1/11/2006	4	ND(3)	10
	10	1/11/2006	ND(3)	ND(3)	50
B076	2	12/22/2005	ND(150)	232	531
	5	12/22/2005	ND(150)	450	2,610
	10	12/22/2005	1,240	8,650	6,640
	15	12/22/2005	722	5,100	3,650
	20	12/22/2005	5.3	24	17
	30	12/22/2005	382	1,530	1,070
	40	12/22/2005	ND(3)	5.2	8.2
B077	2	12/23/2005	ND(3)	ND(3)	90
	5	12/23/2005	ND(3)	ND(3)	7
	10	12/23/2005	ND(3)	4	5.5
B078	2	12/23/2005	ND(15)	ND(15)	41
	5	12/23/2005	ND(60)	ND(60)	492
	10	12/23/2005	ND(3)	ND(3)	5.1
B079	2	12/23/2005	ND(60)	ND(60)	171
	5	12/23/2005	ND(60)	144	438
	10	12/23/2005	ND(3)	ND(3)	7

TABLE 13
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
TOTAL PETROLEUM HYDROCARBONS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID	Depth (Feet bgs)	Date Collected	C06 - C10 (mg/kg)	C10 - C22 (mg/kg)	C22 - C36 (mg/kg)
B080	2	12/22/2005	ND(150)	ND(150)	482
	5	12/22/2005	ND(150)	ND(150)	531
	10	12/22/2005	ND(3)	76	ND(5)
B081	2	12/22/2005	ND(30)	41	157
	5	12/22/2005	ND(3)	ND(3)	6
	10	12/22/2005	ND(3)	ND(3)	20
B082	2	12/23/2005	ND(60)	ND(60)	290
	5	12/23/2005	ND(3)	ND(3)	6.5
	10	12/23/2005	ND(3)	ND(3)	6.7
B083	2	1/4/2006	ND(150)	ND(150)	302
	5	1/4/2006	ND(3)	10	34
	10	1/4/2006	4.5	ND(3)	ND(5)
B084	2	1/5/2006	ND(60)	ND(60)	201
	5	1/5/2006	ND(60)	ND(60)	363
	10	1/5/2006	5.1	ND(3)	ND(5)
B085	2	12/28/2005	ND(3)	ND(3)	ND(5)
	5	12/28/2005	4.5	ND(3)	ND(5)
	10	12/28/2005	ND(3)	ND(3)	ND(5)
B086	2	1/11/2006	3.4	ND(3)	ND(5)
	5	1/11/2006	ND(3)	ND(3)	ND(5)
	10	1/11/2006	3.7	ND(3)	ND(5)
B087	2	1/11/2006	ND(3)	ND(3)	6
	5	1/11/2006	ND(3)	ND(3)	ND(5)
	10	1/11/2006	ND(3)	ND(3)	ND(5)
B088	2	1/18/2006	ND(30)	ND(30)	137
	5	1/18/2006	ND(30)	ND(30)	112
	10	1/18/2006	ND(3)	ND(3)	ND(5)
B089	2	1/9/2006	6	133	72
	5	1/9/2006	ND(60)	400	136
	10	1/9/2006	50	39	41
B090	2	1/10/2006	ND(3)	ND(3)	6.5
	5	1/10/2006	ND(3)	ND(3)	5.7
	10	1/10/2006	3.2	ND(3)	6
B091	2	1/10/2006	ND(30)	ND(30)	223
	5	1/10/2006	ND(3)	ND(3)	6
	10	1/10/2006	ND(3)	ND(3)	ND(5)
B092	2	1/5/2006	12	18	182
	5	1/5/2006	ND(60)	ND(60)	195
	10	1/5/2006	5.4	ND(3)	6
B093	2	1/5/2006	8	6.3	49
	5	1/5/2006	50	ND(3)	ND(5)
	10	1/5/2006	ND(3)	ND(3)	ND(5)
B094	2	1/5/2006	ND(60)	ND(60)	245
	5	1/5/2006	ND(30)	60	112
	10	1/5/2006	6.4	6	33

TABLE 13
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
TOTAL PETROLEUM HYDROCARBONS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID	Depth (feet bgs)	Date Collected	C6-C10 (mg/kg)	C10-C22 (mg/kg)	C22-C36 (mg/kg)
B095	2	1/4/2006	ND(30)	ND(30)	258
	5	1/4/2006	ND(3)	ND(3)	ND(5)
	10	1/4/2006	ND(3)	ND(3)	ND(5)
B096	2	12/28/2005	ND(60)	ND(60)	219
	5	12/28/2005	ND(3)	ND(3)	ND(5)
	10	12/28/2005	3.3	ND(3)	ND(5)
B097	2	1/5/2006	14	ND(3)	162
	5	1/5/2006	50	ND(3)	ND(5)
	10	1/5/2006	3.5	ND(3)	ND(5)
B098	2	1/4/2006	ND(150)	223	727
	5	1/4/2006	ND(3)	ND(3)	ND(5)
	10	1/4/2006	ND(3)	ND(3)	ND(5)
B099	2	1/3/2006	ND(15)	ND(15)	30
	5	1/3/2006	ND(3)	ND(3)	6
	10	1/3/2006	3.7	ND(3)	ND(5)
B100	2	1/10/2006	ND(3)	7	34
	5	1/10/2006	ND(3)	ND(3)	6.4
	10	1/10/2006	ND(3)	ND(3)	7
B101	2	1/10/2006	ND(3)	ND(3)	5.4
	5	1/10/2006	3.7	ND(3)	ND(5)
	10	1/10/2006	ND(3)	ND(3)	6
B102	2	1/9/2006	ND(30)	98	311
	5	1/9/2006	5.6	ND(3)	7
	10	1/9/2006	3.6	ND(3)	7.1
B103	2	1/6/2006	ND(3)	ND(3)	5.5
	5	1/6/2006	4	ND(3)	50
	10	1/6/2006	ND(3)	ND(3)	7
B104	2	2/3/2006	ND(3)	ND(3)	5.6
	5	2/3/2006	ND(3)	ND(3)	ND(5)
	10	2/3/2006	ND(3)	ND(3)	ND(5)
B105	2	1/10/2006	ND(3)	ND(3)	ND(5)
	5	1/10/2006	ND(3)	ND(3)	90
	10	1/10/2006	ND(3)	ND(3)	5.7
B106	2	12/29/2005	ND(30)	ND(30)	114
	5	12/29/2005	ND(3)	8.5	56
	10	12/29/2005	3	ND(3)	ND(5)
B107	2	1/4/2006	ND(3)	50	54
	5	1/4/2006	3.1	ND(3)	30
	10	1/4/2006	ND(3)	ND(3)	ND(5)
B108	2	1/9/2006	ND(3)	ND(3)	ND(5)
	5	1/9/2006	4	ND(3)	50
	10	1/9/2006	ND(3)	ND(3)	ND(5)
B109	2	1/4/2006	4.5	ND(3)	79
	5	1/4/2006	ND(3)	ND(3)	ND(5)
	10	1/4/2006	ND(3)	ND(3)	ND(5)

TABLE 13
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
TOTAL PETROLEUM HYDROCARBONS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID	Depth (feet bgs)	Date Collected	C06-C10 (mg/kg)	C10-C22 (mg/kg)	C22-C36 (mg/kg)
B110	2	12/28/2005	4	ND(3)	ND(5)
	5	12/28/2005	ND(3)	ND(3)	ND(5)
	10	12/28/2005	3.2	ND(3)	ND(5)
B111	2	12/28/2005	ND(15)	ND(15)	168
	5	12/28/2005	ND(15)	ND(15)	83
	10	12/28/2005	3.1	ND(3)	6
B112	2	12/29/2005	4.7	ND(3)	6.7
	5	12/29/2005	ND(3)	ND(3)	5.6
	10	12/29/2005	4	ND(3)	5.7
B113	2	12/29/2005	ND(3)	4.5	22
	5	12/29/2005	ND(3)	ND(3)	50
	10	12/29/2005	ND(3)	ND(3)	ND(5)
B114	2	1/3/2006	ND(150)	ND(150)	519
	5	1/3/2006	ND(60)	ND(60)	129
	10	1/3/2006	ND(3)	ND(3)	6
B115	2	1/3/2006	ND(150)	ND(150)	484
	5	1/3/2006	3.6	ND(3)	ND(5)
	10	1/3/2006	ND(150)	ND(150)	369
B116	2	1/4/2006	ND(3)	ND(3)	ND(5)
	5	1/4/2006	4.4	ND(3)	ND(5)
	10	1/4/2006	ND(3)	ND(3)	ND(5)
B117	2	1/6/2006	ND(3)	ND(3)	6
	5	1/6/2006	3.2	ND(3)	7.4
	10	1/6/2006	ND(3)	ND(3)	5.3
B118	2	1/6/2006	ND(3)	ND(3)	8
	5	1/6/2006	ND(3)	ND(3)	9.5
	10	1/6/2006	ND(3)	ND(3)	6.3
B119	2	1/27/2006	ND(3)	11	24
	5	1/27/2006	ND(3)	ND(3)	ND(5)
	10	1/27/2006	ND(3)	ND(3)	5.5
B120	2	1/30/2006	3.4	86	ND(5)
	5	1/30/2006	ND(30)	193	ND(50)
	10	1/30/2006	51	1,440	ND(50)
	15	1/30/2006	52	1,720	305
	20	1/30/2006	ND(3)	4.80	ND(5)
B121	2	2/1/2006	4.7	ND(3)	19
	5	2/1/2006	2,440	4,690	10,400
	10	2/1/2006	10	50	26
B122	2	1/23/2006	ND(30)	94	638
	5	1/23/2006	ND(600)	1,850	4,020
	10	1/23/2006	ND(3)	4.2	ND(5)
B123	2	1/20/2006	393	1,300	124
	5	1/20/2006	258	1,7.3	1,080
	10	1/19/2006	154	2,720	569
	15	1/19/2006	1,530	12,200	5,400
	20	1/19/2006	ND(150)	1,430	980
	30	1/19/2006	ND(3)	32	ND(5)

TABLE 13
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
TOTAL PETROLEUM HYDROCARBONS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID	Depth (Feet bgs)	Date Collected	C06-C10 (mg/kg)	C10-C22 (mg/kg)	C22-C36 (mg/kg)
B124	2	1/16/2006	ND(60)	61	2,070
	5	1/16/2006	ND(3)	ND(3)	5.2
	10	1/16/2006	ND(3)	ND(3)	5.1
B125	2	1/20/2006	ND(30)	45	135
	5	1/20/2006	ND(3)	ND(3)	5.6
	10	1/20/2006	ND(3)	ND(3)	ND(5)
B126	2	1/20/2006	ND(30)	289	458
	5	1/20/2006	ND(30)	48	84
	10	1/20/2006	ND(3)	ND(3)	ND(5)
B127	2	1/18/2006	8.5	5.4	6
	5	1/18/2006	ND(3)	ND(3)	7
	10	1/18/2006	3.5	ND(3)	ND(5)
B128	2	2/1/2006	ND(60)	1,790	1,780
	5	2/1/2006	ND(30)	123	132
	10	2/1/2006	ND(3)	ND(3)	6.8
B129	2	1/18/2006	3.6	5.2	54
	5	1/18/2006	ND(3)	3.6	15
	10	1/18/2006	3.5	ND(3)	ND(5)
B130	2	1/19/2006	1,500	1,040	2,440
	5	1/19/2006	ND(30)	75	56
	10	1/19/2006	6	23	37
B131	2	1/19/2006	ND(3)	ND(3)	ND(5)
	5	1/19/2006	4.5	ND(3)	ND(5)
	10	1/19/2006	ND(3)	ND(3)	ND(5)
B132	2	1/19/2006	3.2	ND(3)	ND(5)
	5	1/19/2006	ND(3)	ND(3)	5.3
	10	1/19/2006	3	ND(3)	ND(5)
B134	2	1/23/2006	ND(3)	11	17
	5	1/23/2006	ND(3)	ND(3)	ND(5)
	10	1/23/2006	ND(3)	ND(3)	ND(5)
B135	2	1/16/2006	3.3	ND(3)	7.2
	5	1/16/2006	ND(3)	ND(3)	ND(5)
	10	1/16/2006	ND(3)	ND(3)	ND(5)
B136	2	1/12/2006	ND(60)	377	119
	5	1/12/2006	ND(60)	355	ND(100)
	10	1/12/2006	211	949	146
	15	1/12/2006	4	3.5	6.4
	20	1/12/2006	9.4	18	ND(5)
B137	2	1/13/2006	ND(60)	147	162
	5	1/13/2006	9.5	181	76
	10	1/13/2006	ND(3)	8.2	ND(5)
B139	2	1/13/2006	ND(60)	72	221
	5	1/13/2006	ND(3)	3.5	ND(5)
	10	1/13/2006	3	64	33

TABLE 13
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
TOTAL PETROLEUM HYDROCARBONS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID	Depth (Feet bgs)	Date Collected	C06 - C10 (mg/kg)	C10 - C22 (mg/kg)	C22 - C36 (mg/kg)
B140	2	1/31/2006	ND(30)	68	321
	5	1/31/2006	ND(30)	20 J	269
	10	1/31/2006	ND(3)	ND(3)	ND(5)
B141	2	1/30/2006	ND(3)	6	62
	5	1/30/2006	ND(30)	78	73
	10	1/30/2006	ND(3)	ND(3)	ND(5)
B142	2	1/31/2006	9.2	8.7	43
	5	1/31/2006	ND(30)	96	173
	10	1/31/2006	965	ND(60)	102
	15	1/31/2006	21	28	56
	20	1/31/2006	75	22	65
B143	2	1/18/2006	ND(60)	245	240
	5	1/18/2006	ND(3)	16	35
	10	1/18/2006	ND(3)	ND(3)	10
B144	2	1/13/2006	ND(30)	94	379
	5	1/13/2006	ND(300)	745	1,820
	10	1/13/2006	ND(3)	3.1	9.5
B145	2	1/19/2006	3.4	266	32
	5	1/19/2006	3.6	ND(3)	ND(5)
	10	1/19/2006	ND(3)	ND(3)	5.2
B146	2	1/27/2006	ND(3)	22	ND(5)
	5	1/27/2006	ND(3)	ND(3)	ND(5)
	10	1/27/2006	ND(3)	ND(3)	5.2
B147	2	2/1/2006	40	21	ND(5)
	5	2/1/2006	202	198	ND(100)
	10	2/1/2006	18	10	35
B148	2	1/23/2006	1,270	2,580	2,380
	5	1/23/2006	369	1,070	365
	10	1/23/2006	4	8	6
B149	2	1/23/2006	711	8,140	632
	5	1/23/2006	1,030	8,370	1,080
	10	1/23/2006	ND(1,200)	6,650	1,790 J
	15	1/23/2006	2,220	13,000	1,420 J
	20	1/23/2006	2,990	9,740	1,470 J
	30	1/23/2006	36	79	ND(5)
B150	2	1/20/2006	ND(30)	499	144
	5	1/20/2006	ND(60)	1,990	103
	10	1/20/2006	ND(1,200)	22,900	ND(2,000)
	15	1/20/2006	628	15,600	ND(1,000)
	20	1/20/2006	ND(1,200)	21,000	ND(2,000)
	30	1/20/2006	ND(3)	32	ND(5)
B151	2	1/19/2006	ND(3)	ND(3)	37
	5	1/19/2006	ND(30)	70	1,300
	10	1/19/2006	ND(3)	ND(3)	ND(5)
B152	2	1/20/2006	ND(150)	637	4,440
	5	1/20/2006	ND(150)	421	ND(250)
	10	1/20/2006	10	76	ND(5)

TABLE 13
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
TOTAL PETROLEUM HYDROCARBONS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID	Depth (Feet bgs)	Date Collected	C10 - C16 (mg/kg)	C16 - C22 (mg/kg)	C22 - C36 (mg/kg)
B153	2	1/20/2006	ND(600)	1,750	1,140
	5	1/20/2006	ND(60)	737	120
	10	1/20/2006	ND(600)	3,160	997 J
	15	1/20/2006	ND(1,200)	8,800	ND(2,000)
	20	1/20/2006	ND(1,200)	10,200	ND(2,000)
	30	1/20/2006	ND(600)	2,550	ND(1,000)
B154	2	1/16/2006	ND(150)	739	2,820
	5	1/16/2006	ND(3)	ND(3)	6
	10	1/16/2006	3.5	ND(3)	8
B155	2	1/30/2006	1,860	8,150	1,190
	5	1/30/2006	268	838	ND(250)
	10	1/30/2006	3,280	10,600	ND(500)
	15	1/30/2006	3,080	5,560	ND(2,000)
	20	1/30/2006	ND(1,200)	3,270	ND(2,000)
	30	1/30/2006	104	53	ND(50)
B156	2	1/13/2006	31	ND(30)	233
	5	1/13/2006	ND(3)	90	7.1
	10	1/13/2006	573	2,440	376
	15	1/13/2006	432	555	ND(100)
	20	1/13/2006	1,470	917	ND(100)
	30	1/13/2006	8	3.2	8.4
B158	2	1/30/2006	ND(3)	ND(3)	ND(5)
	5	1/30/2006	27	130	48
	10	1/30/2006	3.7	50	ND(5)
B159	2	1/31/2006	ND(3)	ND(3)	ND(5)
	5	1/31/2006	ND(30)	ND(30)	96
	10	1/31/2006	ND(60)	116	ND(100)
	15	1/31/2006	ND(3)	3.7	ND(5)
	20	1/31/2006	ND(3)	ND(3)	ND(5)
B160	2	1/31/2006	5.2	ND(3)	5.4
	5	1/31/2006	3	ND(3)	5.7
	10	1/31/2006	ND(3)	ND(3)	ND(5)
B161	2	1/13/2006	8	46	10
	5	1/13/2006	1,070	7,750	1,540
	10	1/13/2006	ND(3)	12	ND(5)
B162	2	1/16/2006	3.6	ND(3)	ND(5)
	5	1/16/2006	ND(3)	ND(3)	ND(5)
	10	1/16/2006	ND(3)	ND(3)	9.4
B163	2	1/16/2006	ND(3)	ND(3)	ND(5)
	5	1/16/2006	ND(3)	ND(3)	6.5
	10	1/16/2006	189	1,140	ND(500)
	15	1/16/2006	11	8.3	8.4
	20	1/16/2006	316	613	ND(500)
	30	1/16/2006	54	103	8.2
B164	2	1/16/2006	3	ND(3)	ND(5)
	5	1/16/2006	ND(3)	ND(3)	6
	10	1/16/2006	ND(60)	225	116
	2	1/23/2006	ND(3)	4	9.1

TABLE 13
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
TOTAL PETROLEUM HYDROCARBONS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID	Depth (Feet bgs)	Date Collected	C08-C10 (mg/kg)	C10-C22 (mg/kg)	C22-C36 (mg/kg)
B165	5	1/23/2006	ND(30)	50	405
	10	1/23/2006	ND(3)	5.6	5.5

TABLE 13
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
TOTAL PETROLEUM HYDROCARBONS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID	Depth (Feet bgs)	Date Collected	C06 - C10 (mg/kg)	C10 - C22 (mg/kg)	C22 - C36 (mg/kg)
B166	2	1/24/2006	ND(3)	ND(3)	ND(5)
	5	1/24/2006	ND(3)	ND(3)	ND(5)
	10	1/24/2006	ND(3)	ND(3)	ND(5)
B167	2	1/17/2006	ND(3)	ND(3)	5.4
	5	1/17/2006	ND(3)	ND(3)	ND(5)
	10	1/17/2006	ND(3)	ND(3)	ND(5)
B168	2	1/17/2006	ND(300)	670	2,830
	5	1/17/2006	3.5	ND(3)	50
	10	1/17/2006	ND(3)	6	15
B169	2	1/17/2006	ND(600)	3,110	5,810
	5	1/17/2006	4.80	12	31
	10	1/17/2006	ND(3)	ND(3)	ND(5)
B170	2	1/18/2006	ND(3)	4.6	13
	5	1/18/2006	28	28	9.5
	10	1/18/2006	322	344	292
B171	2	1/11/2006	5,360	980	675
	5	1/11/2006	1,780	243	128
	10	1/11/2006	4,200	801	168
	15	1/11/2006	10,800	1,510	ND(500)
	20	1/11/2006	8,670	987	ND(500)
	30	1/11/2006	488	71	ND(100)
	40	1/11/2006	19,500	ND(300)	ND(500)
B172	2	1/12/2006	ND(60)	60	845
	5	1/12/2006	ND(3)	ND(3)	ND(5)
	10	1/12/2006	4.6	ND(3)	ND(5)
B173	2	1/12/2006	ND(3)	ND(3)	ND(5)
	5	1/12/2006	3.6	ND(3)	ND(5)
	10	1/12/2006	ND(3)	ND(3)	ND(5)
B174	2	1/12/2006	ND(60)	380	500
	5	1/12/2006	4	ND(3)	ND(5)
	10	1/12/2006	ND(3)	ND(3)	ND(5)
B175	2	2/7/2006	ND(3)	ND(3)	ND(5)
	5	2/7/2006	ND(3)	ND(3)	86
	10	2/7/2006	ND(3)	ND(3)	50
B176	2	2/7/2006	ND(60)	275	338
	5	2/7/2006	86	280	700
	10	2/7/2006	ND(30)	ND(30)	213
B177	2	2/2/2006	ND(3)	ND(3)	ND(5)
	5	2/2/2006	34	22	23
	10	2/2/2006	ND(3)	ND(3)	ND(5)
B178	2	2/2/2006	180	71	81 J
	5	2/2/2006	ND(3)	ND(3)	ND(5)
	10	2/2/2006	10	7	6
B179	2	1/26/2006	ND(150)	349	1,000
	5	1/26/2006	780	527	677
	10	1/26/2006	ND(150)	287	ND(250)

TABLE 13
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
TOTAL PETROLEUM HYDROCARBONS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID	Depth (feet bgs)	Date Collected	C06-C12 (mg/kg)	C13-C22 (mg/kg)	C23-C36 (mg/kg)
B180	2	1/26/2006	ND(3)	ND(3)	ND(5)
	5	1/26/2006	ND(3)	ND(3)	ND(5)
	10	1/26/2006	ND(3)	ND(3)	5.2
B181	2	2/6/2006	ND(3)	ND(3)	11
	5	2/6/2006	ND(150)	234	2,470
	10	2/6/2006	ND(3)	ND(3)	5.6
B182	2	1/24/2006	ND(3)	ND(3)	5.7
	5	1/25/2006	56	48	311
	10	1/25/2006	ND(3)	7	5.6
B183	2	1/25/2006	ND(150)	402	2,500
	5	1/25/2006	ND(60)	1,760	1,050
	10	1/25/2006	1,120	10,200	14,500
B184	2	1/25/2006	ND(150)	ND(150)	17.3
	5	1/25/2006	ND(3)	ND(3)	11
	10	1/25/2006	ND(3)	ND(3)	5.3
B185	2	1/26/2006	ND(60)	122	1,250
	5	1/26/2006	ND(3)	ND(3)	7.8
	10	1/26/2006	ND(3)	ND(3)	ND(5)
B186	2	1/27/2006	ND(60)	158	199
	5	1/27/2006	ND(3)	ND(3)	ND(5)
	10	1/27/2006	ND(3)	ND(3)	ND(5)
B187	2	1/27/2006	3.5	7.4	23
	5	1/27/2006	ND(3)	ND(3)	ND(5)
	10	1/27/2006	3.4	ND(3)	40
B188	2	2/7/2006	ND(3)	ND(3)	ND(5)
	5	2/7/2006	300	826	3,650
	10	2/7/2006	100	356	118
B189	2	2/7/2006	ND(3)	ND(3)	90
	5	2/7/2006	ND(30)	ND(30)	268
	10	2/7/2006	ND(3)	ND(3)	17
B190	2	2/8/2006	ND(3)	ND(3)	ND(5)
	5	2/8/2006	ND(3)	ND(3)	ND(5)
	10	2/8/2006	ND(3)	ND(3)	ND(5)
B191	2	2/1/2006	ND(60)	1,010	310
	5	2/1/2006	ND(60)	430	ND(100)
	10	2/1/2006	ND(60)	1,960	323
	15	2/1/2006	ND(3)	4.5	6.8
	20	2/1/2006	ND(3)	7.2	8.5
B192	2	2/1/2006	ND(60)	184	481
	5	2/1/2006	3.9	ND(3)	5.7
	10	2/1/2006	3.3	ND(3)	ND(5)

TABLE 13
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
TOTAL PETROLEUM HYDROCARBONS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID	Depth (feet bgs)	Date Collected	C08-C10 (mg/kg)	C10-C22 (mg/kg)	C22-C36 (mg/kg)
B193	2	2/6/2006	4.5	72	19
	5	2/6/2006	ND(3)	ND(3)	7.3
	10	2/6/2006	ND(3)	ND(3)	5.8
B194	2	2/3/2006	7	13	127
	5	2/3/2006	4.2	15	ND(5)
	10	2/3/2006	566	6,020	4,280
	15	2/3/2006	2,440	10,100	872
	20	2/3/2006	1,030	4,120	833
	30	2/3/2006	ND(600)	2,790	ND(1,000)
B195	2	2/3/2006	5.8	18	75
	5	2/3/2006	4.7	3.6	5.2
	10	2/3/2006	4	ND(3)	ND(5)
B196	2	1/25/2006	ND(3)	ND(3)	ND(5)
	5	1/25/2006	ND(3)	ND(3)	ND(5)
	10	1/25/2006	ND(3)	3.1	6.2
B197	2	2/1/2006	33	ND(3)	5.3
	5	2/1/2006	ND(3)	ND(3)	ND(5)
	10	2/1/2006	3.3	ND(3)	ND(5)
B198	2	1/26/2006	ND(3)	ND(3)	ND(5)
	5	1/26/2006	ND(3)	ND(3)	ND(5)
	10	1/26/2006	ND(3)	ND(3)	ND(5)
B199	2	1/23/2006	ND(60)	ND(60)	333
	5	1/23/2006	ND(600)	3,350	1,700
	10	1/23/2006	ND(300)	1,670	599
B200	2	1/24/2006	ND(3)	ND(3)	ND(5)
	5	1/24/2006	ND(3)	ND(3)	ND(5)
	10	1/24/2006	ND(3)	ND(3)	ND(5)
B201	2	1/25/2006	ND(3)	ND(3)	ND(5)
	5	1/25/2006	ND(3)	ND(3)	ND(5)
	10	1/25/2006	ND(3)	ND(3)	ND(5)
B202	2	1/25/2006	4.7	10	5.5
	5	1/25/2006	ND(3)	ND(3)	5.1
	10	1/25/2006	ND(3)	5.3	ND(5)
B203	2	2/7/2006	65	325	798
	5	2/7/2006	1,600	10,000	20,400
	10	2/7/2006	8.5	75	97
B204	2	2/6/2006	ND(3)	ND(3)	6.1
	5	2/6/2006	459	3,030	4,280
	10	2/6/2006	ND(3)	ND(3)	ND(5)
B205	2	2/7/2006	ND(30)	ND(30)	296
	5	2/7/2006	ND(3)	ND(3)	5.4
	10	2/7/2006	ND(3)	8.4	38
B206	2	2/8/2006	ND(30)	ND(30)	86
	5	2/8/2006	ND(3)	ND(3)	ND(5)
	10	2/8/2006	ND(3)	ND(3)	ND(5)

TABLE 13
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
TOTAL PETROLEUM HYDROCARBONS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID	Depth (feet bgs)	Date Collected	C08 - C10 (mg/kg)	C10 - C22 (mg/kg)	C22 - C36 (mg/kg)
B207	2	2/8/2006	ND(60)	61	429
	5	2/8/2006	ND(3)	ND(3)	ND(5)
	10	2/8/2006	ND(3)	ND(3)	ND(5)
B208	2	1/31/2006	ND(30)	ND(30)	180
	5	1/31/2006	ND(3)	ND(3)	ND(5)
	10	1/31/2006	ND(3)	ND(3)	ND(5)
B209	2	1/31/2006	ND(30)	ND(30)	438
	5	1/31/2006	ND(30)	ND(30)	274
	10	1/31/2006	ND(150)	1,200	1,740
	15	1/31/2006	ND(60)	1,150	1,160
	20	1/31/2006	ND(60)	1,970	1,910
	30	1/31/2006	50	85	59
B210	2	1/31/2006	ND(30)	ND(30)	330
	5	1/31/2006	ND(3)	ND(3)	5.3
	10	1/31/2006	ND(3)	ND(3)	ND(5)
B211	2	2/6/2006	ND(60)	ND(60)	530
	5	2/6/2006	ND(60)	140	715
	10	2/6/2006	ND(3)	7.4	102
B212	2	1/24/2006	ND(3)	ND(3)	5.1
	5	1/24/2006	ND(3)	ND(3)	6.6
	10	1/24/2006	ND(3)	ND(3)	ND(5)
B213	2	2/6/2006	4.6	ND(3)	32
	5	2/6/2006	ND(3)	ND(3)	7
	10	2/6/2006	3.6	ND(3)	6
B214	2	1/23/2006	65	219	2,180
	5	1/23/2006	ND(3)	ND(3)	5.8
	10	1/23/2006	ND(3)	ND(3)	5.8
B215	2	2/3/2006	4.4	23	68
	5	2/3/2006	3.5	ND(3)	ND(5)
	10	2/3/2006	4	ND(3)	ND(5)
B216	2	2/2/2006	ND(3)	ND(3)	6.1
	5	2/2/2006	ND(3)	ND(3)	50
	10	2/2/2006	ND(3)	ND(3)	ND(5)
B217	2	1/24/2006	ND(3)	ND(3)	ND(5)
	5	1/24/2006	ND(3)	ND(3)	ND(5)
	10	1/24/2006	ND(3)	ND(3)	ND(5)
B218	2	2/8/2006	ND(60)	ND(60)	707
	5	2/8/2006	ND(30)	675	566
	10	2/8/2006	ND(3)	ND(3)	ND(5)
B219	2	1/26/2006	ND(3)	ND(3)	5.6
	5	1/26/2006	ND(3)	ND(3)	ND(5)
	10	1/26/2006	ND(3)	ND(3)	ND(5)

TABLE 13
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
TOTAL PETROLEUM HYDROCARBONS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID	Depth (Feet bgs)	Date Collected	C10-C36 (mg/kg)	C10-C22 (mg/kg)	C22-C36 (mg/kg)
B220	2	1/26/2006	ND(60)	84	1,860
	5	1/26/2006	ND(30)	ND(30)	120
	10	1/26/2006	ND(3)	ND(3)	ND(5)
B221	2	1/27/2006	ND(3)	ND(3)	ND(5)
	5	1/27/2006	ND(3)	ND(3)	50
	10	1/27/2006	ND(3)	ND(3)	ND(5)
B222	2	2/3/2006	ND(3)	ND(3)	ND(5)
	5	2/3/2006	ND(3)	ND(3)	ND(5)
	10	2/3/2006	ND(3)	ND(3)	ND(5)
B223	2	2/3/2006	ND(3)	ND(3)	ND(5)
	5	2/3/2006	ND(3)	ND(3)	ND(5)
	10	2/3/2006	ND(3)	ND(3)	ND(5)

NOTES:
ID - Identification
bgs - Below ground surface
mg/kg - Milligrams per kilogram
ND(10) - Analyte not detected at reporting limit shown
J - Analyte present at trace concentrations

.BLE 14
DETECTION FREQUENCY SUMMARY OF VOLATILE ORGANIC COMPOUNDS IN SOIL

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Analyte	Depth (feet bgs)	Maximum Detected Concentrations (µg/kg)	Minimum Detected Concentrations (µg/kg)	Number of Detects	Number of Samples Analyzed	Percent Detection (%)
1,1,1,2-Tetrachloroethane	10	116	49	2	219	0.9
1,2,4-Trichlorobenzene	2	3.7	3.7	1	220	0.5
1,2,4-Trichlorobenzene	10	170	1.9	2	219	0.9
1,2,4-Trichlorobenzene	15	1.2	1.2	1	54	1.9
1,2,4-Trimethylbenzene	2	389000	1.1	51	220	23.2
1,2,4-Trimethylbenzene	5	239000	1.1	55	220	25.0
1,2,4-Trimethylbenzene	10	276000	1.1	70	219	32.0
1,2,4-Trimethylbenzene	15	237000	1.6	41	54	75.9
1,2,4-Trimethylbenzene	20	239000	1.2	37	49	75.5
1,2,4-Trimethylbenzene	30	215000	28	15	26	57.7
1,2,4-Trimethylbenzene	40	27600000	2840	3	4	75.0
1,2,4-Trimethylbenzene	50	54000	54000	1	1	100.0
1,2-Dichlorobenzene	2	103	103	1	220	0.5
1,2-Dichlorobenzene	10	220	220	1	219	0.5
1,2-Dichloroethane	10	2.7	1	3	219	1.4
1,2-Dichloroethane	15	1.7	1.7	1	54	1.9
1,2-Dichloroethane	30	8.1	8.1	1	26	3.8
1,2-Dichloropropane	2	2.2	2.2	1	220	0.5
1,2-Dichloropropane	10	2.8	2.8	1	219	0.5
1,3,5-Trimethylbenzene	2	170000	1.6	33	220	15.0
1,3,5-Trimethylbenzene	5	83400	1.1	37	220	16.8
1,3,5-Trimethylbenzene	10	96000	1	50	219	22.8
1,3,5-Trimethylbenzene	15	92000	2.4	32	54	59.3
1,3,5-Trimethylbenzene	20	74300	4	31	49	63.3
1,3,5-Trimethylbenzene	30	76100	5.7	15	26	57.7
1,3,5-Trimethylbenzene	40	143000	924	3	4	75.0
1,3,5-Trimethylbenzene	50	16100	16100	1	1	100.0
2-Butanone	2	34	20	2	220	0.9
2-Butanone	10	114	114	1	219	0.5
2-Butanone	20	55	55	1	49	2.0
2-Hexanone	2	2.5	1.3	2	220	0.9
2-Hexanone	10	4.7	4.7	1	219	0.5
4-Methyl-2-Pentanone	2	1.5	1.5	1	220	0.5
4-Methyl-2-Pentanone	5	6.7	6.7	1	220	0.5
4-Methyl-2-Pentanone	10	3.7	3.7	1	219	0.5

TABLE 14
DETECTION FREQUENCY SUMMARY OF VOLATILE ORGANIC COMPOUNDS IN SOIL

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Analyte	Depth (feet bgs)	Maximum Detected Concentration (µg/kg)	Minimum Detected Concentration (µg/kg)	Number of Detects	Number of Samples Analyzed	Percent Detection (%)
Acetone	2	112	56	12	220	5.5
Acetone	5	96	51	4	220	1.8
Acetone	10	157	157	1	219	0.5
Acetone	20	88	88	1	49	2.0
Benzene	2	12600	1.2	47	220	21.4
Benzene	5	9840	1	59	220	26.8
Benzene	10	27500	1	93	219	42.5
Benzene	15	18600	1.6	30	54	55.6
Benzene	20	27300	1.9	29	49	59.2
Benzene	30	19200	287	6	26	23.1
Benzene	40	33500	6200	2	4	50.0
Bromoform	10	15	14	3	219	1.4
c-1,2-Dichloroethene	2	14	4.2	2	220	0.9
c-1,2-Dichloroethene	5	3.4	3.4	1	220	0.5
c-1,2-Dichloroethene	10	12	3.2	2	219	0.9
Carbon Disulfide	5	2.3	1.2	3	220	1.4
Chloroethane	5	5.2	5.2	1	220	0.5
Chloromethane	2	1.7	1.7	1	220	0.5
Diisopropyl Ether (DIPE)	10	1.4	1.4	1	219	0.5
Ethylbenzene	2	63300	1.1	41	220	18.6
Ethylbenzene	5	29300	1	50	220	22.7
Ethylbenzene	10	97900	1	64	219	29.2
Ethylbenzene	15	70100	1.1	37	54	68.5
Ethylbenzene	20	89000	1	35	49	71.4
Ethylbenzene	30	114000	471	7	26	26.9
Ethylbenzene	40	174000	221	3	4	75.0
Ethylbenzene	50	11200	11200	1	1	100.0
Iodomethane	2	11	1.5	2	220	0.9
Iodomethane	5	4.4	1.8	4	220	1.8
Iodomethane	10	2.1	1.2	2	219	0.9
Isopropylbenzene	2	23500	1.1	39	220	17.7
Isopropylbenzene	5	4670	1.1	38	220	17.3
Isopropylbenzene	10	29300	1.1	46	219	21.0
Isopropylbenzene	15	20100	1	29	54	53.7
Isopropylbenzene	20	27900	1	26	49	53.1
Isopropylbenzene	30	9560	1.6	10	26	38.5

ABLE 14
DETECTION FREQUENCY SUMMARY OF VOLATILE ORGANIC COMPOUNDS IN SOIL

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Analyte	Depth (feet bgs)	Maximum Detected Concentration (µg/kg)	Minimum Detected Concentration (µg/kg)	Number of Detects	Number of Samples Analyzed	Percent Detection (%)
Isopropylbenzene	40	52000	4750	2	4	50.0
Isopropylbenzene	50	1710	1710	1	1	100.0
m and p-Xylene	2	309000	1	46	216	21.3
m and p-Xylene	5	194000	1	50	217	23.0
m and p-Xylene	10	542000	1.1	69	216	31.9
m and p-Xylene	15	356000	1.1	37	53	69.8
m and p-Xylene	20	375000	1.4	36	48	75.0
m and p-Xylene	30	478000	1110	13	27	48.1
m and p-Xylene	40	848000	660	3	4	75.0
m and p-Xylene	50	51600	51600	1	1	100.0
Methyl-tert-Butyl Ether (MTBE)	2	22	1.7	13	220	5.9
Methyl-tert-Butyl Ether (MTBE)	5	2280	1.2	21	220	9.5
Methyl-tert-Butyl Ether (MTBE)	10	1140	1.1	31	219	14.2
Methyl-tert-Butyl Ether (MTBE)	15	58	1.1	6	54	11.1
Methyl-tert-Butyl Ether (MTBE)	20	14	1.3	5	49	10.2
Methyl-tert-Butyl Ether (MTBE)	30	1040	1040	1	26	3.8
Naphthalene	2	76900	6.6	28	220	12.7
Naphthalene	5	38800	3	35	220	15.9
Naphthalene	10	43300	5.6	44	219	20.1
Naphthalene	15	112000	7	24	54	44.4
Naphthalene	20	54400	5.9	27	49	55.1
Naphthalene	30	19500	5.7	13	26	50.0
Naphthalene	40	11600	1930	2	4	50.0
Naphthalene	50	7330	7330	1	1	100.0
n-Butylbenzene	2	22700	7.5	22	220	10.0
n-Butylbenzene	5	11400	1.6	15	220	6.8
n-Butylbenzene	10	20000	1.4	30	219	13.7
n-Butylbenzene	15	26700	6.9	12	54	22.2
n-Butylbenzene	20	23900	2.5	8	49	16.3
n-Butylbenzene	30	6810	450	5	26	19.2
n-Butylbenzene	40	15500	3860	2	4	50.0
n-Butylbenzene	50	1600	1600	1	1	100.0
n-Propylbenzene	2	41900	1.5	42	220	19.1
n-Propylbenzene	5	22900	1	49	220	22.3
n-Propylbenzene	10	92500	1	60	219	27.4
n-Propylbenzene	15	40800	1.8	31	54	57.4
n-Propylbenzene	20	41500	1.8	31	49	63.3

ABLE 14
DETECTION FREQUENCY SUMMARY OF VOLATILE ORGANIC COMPOUNDS IN SOIL

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Analyte	Depth (feet bgs)	Maximum Detected Concentration (µg/kg)	Minimum Detected Concentration (µg/kg)	Number of Detects	Number of Samples Analyzed	Percent Detection (%)
n-Propylbenzene	30	38500	65	12	26	46.2
n-Propylbenzene	40	68400	344	3	4	75.0
n-Propylbenzene	50	7830	7830	1	1	100.0
o-Xylene	2	191000	0.8	26	216	12.0
o-Xylene	5	98700	1	28	217	12.9
o-Xylene	10	166000	0.8	46	216	21.3
o-Xylene	15	105000	1	26	53	49.1
o-Xylene	20	119000	1.7	24	48	50.0
o-Xylene	30	189000	46	9	27	33.3
o-Xylene	40	261000	422	2	4	50.0
o-Xylene	50	22500	22500	1	1	100.0
p-Isopropyltoluene	2	5480	1.6	24	220	10.9
p-Isopropyltoluene	5	3210	1.7	24	220	10.9
p-Isopropyltoluene	10	15300	1.2	34	219	15.5
p-Isopropyltoluene	15	14800	1.3	25	54	46.3
p-Isopropyltoluene	20	13200	1.6	23	49	46.9
p-Isopropyltoluene	30	2360	1.5	14	26	53.8
p-Isopropyltoluene	40	32900	533	3	4	75.0
p-Isopropyltoluene	50	1330	1330	1	1	100.0
sec-Butylbenzene	2	9050	1	32	220	14.5
sec-Butylbenzene	5	2600	1.1	41	220	18.6
sec-Butylbenzene	10	13900	1.2	39	219	17.8
sec-Butylbenzene	15	11700	1.6	24	54	44.4
sec-Butylbenzene	20	11900	1.2	21	49	42.9
sec-Butylbenzene	30	2830	189	9	26	34.6
sec-Butylbenzene	40	20700	1600	2	4	50.0
sec-Butylbenzene	50	772	772	1	1	100.0
Styrene	2	200	200	1	220	0.5
t-1,2-Dichloroethene	2	1.6	1.6	1	220	0.5
t-1,2-Dichloroethene	5	1.1	1.1	1	220	0.5
t-1,2-Dichloroethene	10	1	1	1	219	0.5
tert-Butyl Alcohol (TBA)	2	428	9.5	24	220	10.9
tert-Butyl Alcohol (TBA)	5	760	10	22	220	10.0
tert-Butyl Alcohol (TBA)	10	207	12	31	219	14.2
tert-Butyl Alcohol (TBA)	15	169	9.9	11	54	20.4
tert-Butyl Alcohol (TBA)	20	171	17	4	49	8.2
tert-Butyl Alcohol (TBA)	30	175	14	4	26	15.4

TABLE 14
DETECTION FREQUENCY SUMMARY OF VOLATILE ORGANIC COMPOUNDS IN SOIL

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Analyte	Depth (feet bgs)	Maximum Detected Concentration (µg/kg)	Minimum Detected Concentration (µg/kg)	Number of Detects	Number of Samples Analyzed	Percent Detection (%)
tert-Butylbenzene	5	117	117	1	220	0.5
Tetrachloroethene	5	122	122	1	220	0.5
Toluene	2	60700	1.1	29	220	13.2
Toluene	5	23200	1.1	30	220	13.6
Toluene	10	168000	1	64	219	29.2
Toluene	15	135000	1	24	54	44.4
Toluene	20	167000	1.3	21	49	42.9
Toluene	30	217000	1040	3	26	11.5
Toluene	40	347000	101000	2	4	50.0
Toluene	50	2540	2540	1	1	100.0
Trichloroethene	2	1.4	1.4	1	220	0.5
Trichloroethene	5	45	45	1	220	0.5
Trichloroethene	10	2.2	2.2	1	219	0.5
Xylenes, total	2	500000	1	48	220	21.8
Xylenes, total	5	292000	1	52	220	23.6
Xylenes, total	10	697000	1.1	72	219	32.9
Xylenes, total	15	461000	1.1	37	53	69.8
Xylenes, total	20	493000	1.1	39	49	79.6
Xylenes, total	30	667000	46	14	26	53.8
Xylenes, total	40	1109000	1080	3	4	75.0
Xylenes, total	50	74100	74100	1	1	100.0

NOTES:
bgs - Below ground surface
µg/kg - Micrograms per kilogram
% - Percent
c - Cis
m - Meta
n - Normal
o - Ortho
p - Para
sec - Secondary
t - Trans
tert - Tertiary

TABLE 15
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID	Units	B001	B001	B001	B002	B002	B002	B003	B003	B003	B003	B004	B004	B004	B004	B004	B004	B005	B005
Sample Depth (Feet bgs)		2	5	10	2	5	10	2	5	10	15	2	5	10	15	20	25	2	5
Date Collected		12/05/05	12/05/05	12/05/05	12/05/05	12/05/05	12/05/05	12/07/05	12/07/05	12/07/05	12/07/05	12/08/05	12/08/05	12/08/05	12/08/05	12/08/05	12/08/05	12/08/05	12/08/05
VOCs																			
1,1,1,2-Tetrachloroethane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,2,4-Trichlorobenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,2,4-Trimethylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,2-Dichlorobenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,2-Dichloroethane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,2-Dichloropropane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,3,5-Trimethylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
2-Butanone	µg/kg	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)
2-Hexanone	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
4-Methyl-2-Pentanone	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Acetone	µg/kg	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)
Benzene	µg/kg	ND(5.0)	1.8 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Bromoform	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
c-1,2-Dichloroethene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Carbon Disulfide	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Chloroethane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Chloromethane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Diisopropyl Ether (DIPE)	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Ethylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Iodomethane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Isopropylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
m and p-Xylene	µg/kg	1.2 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Methyl-t-Butyl Ether (MTBE)	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	2.5 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Naphthalene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	7.0	5.7	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
n-Butylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
n-Propylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
o-Xylene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
p-Isopropyltoluene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
sec-Butylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Styrene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
t-1,2-Dichloroethene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Tert-Butyl Alcohol (TBA)	µg/kg	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	78	56	65	14 J	120	680	210	170	140	ND(50)	ND(50)	ND(50)
tert-Butylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Tetrachloroethene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Toluene	µg/kg	ND(5.0)	1.1 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Trichloroethene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Xylenes, total	µg/kg	1.2 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)

NOTES:
ID - Identification
bgs - Below ground surface
VOCs - Volatile organic compounds
µg/kg - Micrograms per kilogram
ND(5.0) - Analyte not detected at
J - Analyte estimated concentration below
c - Cis
m - Meta
n - Normal
o - Ortho
p - Para
sec - Secondary
t - Trans
tert- Tertiary

TABLE 15
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID / Sample Depth (Feet bgs) / Date Collected	Units	B005 10 12/09/05	B006 2 12/09/05	B006 5 12/09/05	B006 10 12/09/05	B007 2 12/12/05	B007 5 12/12/05	B007 10 12/12/05	B008 2 12/09/05	B008 5 12/09/05	B008 10 12/09/05	B009 2 12/09/05	B009 5 12/09/05	B009 10 12/09/05	B010 2 12/09/05	B010 5 12/09/05	B010 10 12/09/05	B011 2 01/09/06
VOCs																		
1,1,1,2-Tetrachloroethane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,2,4-Trichlorobenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,2,4-Trimethylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,2-Dichlorobenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,2-Dichloroethane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,2-Dichloropropane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,3,5-Trimethylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
2-Butanone	µg/kg	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)
2-Hexanone	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
4-Methyl-2-Pentanone	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Acetone	µg/kg	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	60	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)
Benzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	1.0 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Bromoform	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
c-1,2-Dichloroethene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Carbon Disulfide	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Chloroethane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Chloromethane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Diisopropyl Ether (DIPE)	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Ethylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Iodomethane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Isopropylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
m and p-Xylene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Methyl-t-Butyl Ether (MTBE)	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Naphthalene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
n-Butylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
n-Propylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
o-Xylene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
p-Isopropyltoluene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
sec-Butylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Styrene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
t-1,2-Dichloroethene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Tert-Butyl Alcohol (TBA)	µg/kg	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	23 J	ND(50)	ND(50)	ND(50)	31 J	38 J	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)
tert-Butylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Tetrachloroethene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Toluene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Trichloroethene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Xylenes, total	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)

NOTES:
ID - Identification
bgs - Below ground surface
VOCs - Volatile organic compounds
µg/kg - Micrograms per kilogram
ND(5.0) - Analyte not detected at
J - Analyte estimated concentration below
c - Cis
m - Meta
n - Normal
o - Ortho
p - Para
sec - Secondary
t - Trans
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TABLE 15
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID: / Sample Depth (Feet bgs): / Date Collected:	Units	B011 2 01/06/06	B011 20 01/06/06	B012 2 01/06/06	B012 5 01/06/06	B012 10 01/06/06	B013 2 12/13/05	B013 5 12/13/05	B013 10 12/13/05	B014 2 12/13/05	B014 5 12/13/05	B014 10 12/13/05	B015 2 12/12/05	B015 5 12/12/05	B015 10 12/12/05	B016 2 12/13/05	B016 5 12/13/05	B016 10 12/13/05
VOCs																		
1,1,1,2-Tetrachloroethane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	49	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,2,4-Trichlorobenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	3.7 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,2,4-Trimethylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	1.7 J	2.5 J	ND(5.0)	ND(5.0)	ND(5.0)
1,2-Dichlorobenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,2-Dichloroethane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,2-Dichloropropane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,3,5-Trimethylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
2-Butanone	µg/kg	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)
2-Hexanone	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
4-Methyl-2-Pentanone	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Acetone	µg/kg	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	86	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	78	ND(50)	ND(50)
Benzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	3.2 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	1.3 J	ND(5.0)	ND(5.0)	ND(5.0)
Bromoform	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
c-1,2-Dichloroethene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Carbon Disulfide	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Chloroethane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Chloromethane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Diisopropyl Ether (DIPE)	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Ethylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Iodomethane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Isopropylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
m and p-Xylene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	1.1 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Methyl-t-Butyl Ether (MTBE)	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	1.9 J	ND(5.0)	7.7	10	ND(5.0)	ND(5.0)	ND(5.0)
Naphthalene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	5.6	ND(5.0)	ND(5.0)	ND(5.0)
n-Butylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
n-Propylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
o-Xylene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
p-Isopropyltoluene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
sec-Butylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Styrene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
t-1,2-Dichloroethene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Tert-Butyl Alcohol (TBA)	µg/kg	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	64	66	ND(50)	ND(50)	ND(50)
tert-Butylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Tetrachloroethene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Toluene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	1.7 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Trichloroethene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Xylenes, total	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	1.1 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)

NOTES:
ID - Identification
bgs - Below ground surface
VOCs - Volatile organic compounds
µg/kg - Micrograms per kilogram
ND(5.0) - Analyte not detected at
J - Analyte estimated concentration below
c - Cis
m - Meta
n - Normal
o - Ortho
p - Para
sec - Secondary
t - Trans
tert- Tertiary

TABLE 15
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID:		B017	B017	B017	B018	B018	B018	B019	B019	B019	B020	B020	B020	B020	B020	B021	B021	B021
Sample Depth (Feet bgs):		2	5	10	2	5	10	2	5	10	2	5	10	15	20	2	5	10
Date Collected:	Units	12/28/05	12/28/05	12/28/05	12/28/05	12/28/05	12/28/05	12/28/05	12/28/05	12/28/05	12/12/05	12/12/05	12/12/05	12/12/05	12/12/05	12/28/05	12/28/05	12/28/05
VOCs																		
1,1,1,2-Tetrachloroethane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(11,000)
1,2,4-Trichlorobenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(11,000)
1,2,4-Trimethylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	7,000	53	17	52	ND(5.0)	280,000
1,2-Dichlorobenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(11,000)
1,2-Dichloroethane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(11,000)
1,2-Dichloropropane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(11,000)
1,3,5-Trimethylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	1,900	11	4.0 J	12	ND(5.0)	80,000
2-Butanone	µg/kg	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(10,000)	ND(100)	ND(100)	ND(100)	ND(100)	ND(220,000)
2-Hexanone	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(11,000)
4-Methyl-2-Pentanone	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(11,000)
Acetone	µg/kg	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(5,000)	ND(50)	ND(50)	ND(50)	ND(50)	ND(110,000)
Benzene	µg/kg	ND(5.0)	ND(5.0)	1.0 J	ND(5.0)	ND(5.0)	1.0 J	ND(5.0)	ND(5.0)	2.7 J	ND(5.0)	ND(5.0)	ND(500)	11	5.5	3.0 J	ND(5.0)	7,200 J
Bromoform	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(11,000)
c-1,2-Dichloroethene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(11,000)
Carbon Disulfide	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(11,000)
Chloroethane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(11,000)
Chloromethane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(11,000)
Diisopropyl Ether (DIPE)	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(1,000)	ND(10)	ND(10)	ND(10)	ND(10)	ND(22,000)
Ethylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	1,900	32	6.4	29	ND(5.0)	98,000
Iodomethane	µg/kg	1.5 J	4.4 J	ND(5.0)	ND(5.0)	2.6 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(11,000)
Isopropylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	630	4.6 J	ND(5.0)	2.0 J	ND(5.0)	8,000 J
m and p-Xylene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	2,900	38	12	120	ND(5.0)	450,000
Methyl-t-Butyl Ether (MTBE)	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(11,000)
Naphthalene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	1,200	7.3	ND(5.0)	7.8	ND(5.0)	43,000
n-Butylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	890	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	12,000
n-Propylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	1,800	12	1.8 J	5.5	ND(5.0)	36,000
o-Xylene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	400 J	12	2.4 J	56	ND(5.0)	170,000
p-Isopropyltoluene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	150 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(11,000)
sec-Butylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	360 J	1.8 J	ND(5.0)	ND(5.0)	ND(5.0)	3,600 J
Styrene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(11,000)
t-1,2-Dichloroethene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(11,000)
Tert-Butyl Alcohol (TBA)	µg/kg	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(5,000)	10 J	ND(50)	ND(50)	ND(50)	ND(110,000)
tert-Butylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(11,000)
Tetrachloroethene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(11,000)
Toluene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	2.1 J	ND(5.0)	ND(5.0)	ND(500)	ND(5.0)	ND(5.0)	32	ND(5.0)	100,000
Trichloroethene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(11,000)
Xylenes, total	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	3,300	50	14	180	ND(5.0)	610,000

NOTES:
ID - Identification
bgs - Below ground surface
VOCs - Volatile organic compounds
µg/kg - Micrograms per kilogram
ND(5.0) - Analyte not detected at
J - Analyte estimated concentration below
c - Cis
m - Meta
n - Normal
o - Ortho
p - Para
sec - Secondary
t - Trans
tert- Tertiary

TABLE 15
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID:		B022	B022	B022	B022	B023	B023	B023	B023	B024	B024	B024	B024	B024	B025	B025
Sample Depth (feet bgs):		1	5	10	20	1	5	10	20	1	5	10	15	20	2	15
Date collected:	Units	12/28/05	12/28/05	12/28/05	12/28/05	12/28/05	12/28/05	12/28/05	12/28/05	12/16/05	12/16/05	12/16/05	12/16/05	12/16/05	12/16/05	12/16/05
VOCs																
1,1,1,2-Tetrachloroethane	µg/kg	ND(220)	ND(9,900)	ND(230)	ND(500)	ND(19,000)	ND(4,000)	ND(3,600)	ND(500)	ND(280)	ND(390)	ND(190)	ND(760)	ND(5.0)	ND(5.0)	ND(5.0)
1,2,4-Trichlorobenzene	µg/kg	ND(220)	ND(9,900)	ND(230)	ND(500)	ND(19,000)	ND(4,000)	ND(3,600)	ND(500)	ND(280)	ND(390)	ND(190)	ND(760)	ND(5.0)	ND(5.0)	ND(5.0)
1,2,4-Trimethylbenzene	µg/kg	3,100	240,000	870	460 J	390,000	120,000	160,000	1,600	14,000	1,400	1,300	1,600	1.2 J	ND(5.0)	ND(5.0)
1,2-Dichlorobenzene	µg/kg	ND(220)	ND(9,900)	ND(230)	ND(500)	ND(19,000)	ND(4,000)	ND(3,600)	ND(500)	ND(280)	ND(390)	ND(190)	ND(760)	ND(5.0)	ND(5.0)	ND(5.0)
1,2-Dichloroethane	µg/kg	ND(220)	ND(9,900)	ND(230)	ND(500)	ND(19,000)	ND(4,000)	ND(3,600)	ND(500)	ND(280)	ND(390)	ND(190)	ND(760)	ND(5.0)	ND(5.0)	ND(5.0)
1,2-Dichloropropane	µg/kg	ND(220)	ND(9,900)	ND(230)	ND(500)	ND(19,000)	ND(4,000)	ND(3,600)	ND(500)	ND(280)	ND(390)	ND(190)	ND(760)	ND(5.0)	ND(5.0)	ND(5.0)
1,3,5-Trimethylbenzene	µg/kg	2,600	83,000	240	150 J	170,000	44,000	46,000	450 J	5,000	410	420	480 J	ND(5.0)	ND(5.0)	ND(5.0)
2-Butanone	µg/kg	ND(4,400)	ND(200,000)	ND(4,500)	ND(10,000)	ND(390,000)	ND(80,000)	ND(73,000)	ND(10,000)	ND(5,500)	ND(7,800)	ND(3,700)	ND(15,000)	ND(100)	ND(100)	ND(100)
2-Hexanone	µg/kg	ND(220)	ND(9,900)	ND(230)	ND(500)	ND(19,000)	ND(4,000)	ND(3,600)	ND(500)	ND(280)	ND(390)	ND(190)	ND(760)	ND(5.0)	ND(5.0)	ND(5.0)
4-Methyl-2-Pentanone	µg/kg	ND(220)	ND(9,900)	ND(230)	ND(500)	ND(19,000)	ND(4,000)	ND(3,600)	ND(500)	ND(280)	ND(390)	ND(190)	ND(760)	ND(5.0)	ND(5.0)	ND(5.0)
Acetone	µg/kg	ND(2,200)	ND(99,000)	ND(2,300)	ND(5,000)	ND(190,000)	ND(40,000)	ND(36,000)	ND(5,000)	ND(2,800)	ND(3,900)	ND(1,900)	ND(7,600)	ND(50)	ND(50)	ND(50)
Benzene	µg/kg	ND(220)	ND(9,900)	230	ND(500)	ND(19,000)	950 J	6,200	ND(500)	ND(280)	ND(390)	38 J	ND(760)	ND(5.0)	3.1 J	ND(5.0)
Bromoform	µg/kg	ND(220)	ND(9,900)	ND(230)	ND(500)	ND(19,000)	ND(4,000)	ND(3,600)	ND(500)	ND(280)	ND(390)	ND(190)	ND(760)	ND(5.0)	ND(5.0)	ND(5.0)
c-1,2-Dichloroethene	µg/kg	ND(220)	ND(9,900)	ND(230)	ND(500)	ND(19,000)	ND(4,000)	ND(3,600)	ND(500)	ND(280)	ND(390)	ND(190)	ND(760)	ND(5.0)	ND(5.0)	ND(5.0)
Carbon Disulfide	µg/kg	ND(220)	ND(9,900)	ND(230)	ND(500)	ND(19,000)	ND(4,000)	ND(3,600)	ND(500)	ND(280)	ND(390)	ND(190)	ND(760)	ND(5.0)	ND(5.0)	ND(5.0)
Chloroethane	µg/kg	ND(220)	ND(9,900)	ND(230)	ND(500)	ND(19,000)	ND(4,000)	ND(3,600)	ND(500)	ND(280)	ND(390)	ND(190)	ND(760)	ND(5.0)	ND(5.0)	ND(5.0)
Chloromethane	µg/kg	ND(220)	ND(9,900)	ND(230)	ND(500)	ND(19,000)	ND(4,000)	ND(3,600)	ND(500)	ND(280)	ND(390)	ND(190)	ND(760)	ND(5.0)	ND(5.0)	ND(5.0)
Diisopropyl Ether (DIPE)	µg/kg	ND(440)	ND(20,000)	ND(450)	ND(1,000)	ND(39,000)	ND(8,000)	ND(7,300)	ND(1,000)	ND(550)	ND(780)	ND(370)	ND(1,500)	ND(10)	ND(10)	ND(10)
Ethylbenzene	µg/kg	ND(220)	28,000	270	ND(500)	63,000	29,000	68,000	220 J	67 J	ND(390)	310	ND(760)	ND(5.0)	ND(5.0)	ND(5.0)
Iodomethane	µg/kg	ND(220)	ND(9,900)	ND(230)	ND(500)	ND(19,000)	ND(4,000)	ND(3,600)	ND(500)	ND(280)	ND(390)	ND(190)	ND(760)	ND(5.0)	ND(5.0)	ND(5.0)
Isopropylbenzene	µg/kg	ND(220)	ND(9,900)	ND(230)	ND(500)	6,400 J	2,200 J	4,600	ND(500)	ND(280)	ND(390)	ND(190)	ND(760)	ND(5.0)	ND(5.0)	ND(5.0)
m and p-Xylene	µg/kg	160 J	190,000	1,500	380 J	310,000	160,000	290,000	1,100	6,000	630	2,300	1,000	ND(5.0)	1.0 J	1.0 J
Methyl-t-Butyl Ether (MTBE)	µg/kg	ND(220)	ND(9,900)	63 J	ND(500)	ND(19,000)	ND(4,000)	1,100 J	ND(500)	ND(280)	ND(390)	ND(190)	ND(760)	ND(5.0)	ND(5.0)	ND(5.0)
Naphthalene	µg/kg	830	39,000	330	ND(500)	77,000	14,000	20,000	610	1,500	510	360	ND(760)	ND(5.0)	8.4	ND(5.0)
n-Butylbenzene	µg/kg	ND(220)	11,000	ND(230)	ND(500)	23,000	ND(4,000)	6,100	160 J	2,100	280 J	48 J	160 J	ND(5.0)	ND(5.0)	ND(5.0)
n-Propylbenzene	µg/kg	ND(220)	23,000	92 J	ND(500)	42,000	10,000	21,000	160 J	110 J	ND(390)	110 J	ND(760)	ND(5.0)	ND(5.0)	ND(5.0)
o-Xylene	µg/kg	ND(220)	99,000	570	130 J	190,000	76,000	110,000	540	4,300	470	1,200	480 J	ND(5.0)	ND(5.0)	ND(5.0)
p-Isopropyltoluene	µg/kg	56 J	ND(9,900)	ND(230)	ND(500)	ND(19,000)	900 J	1,000 J	ND(500)	120 J	ND(390)	ND(190)	ND(760)	ND(5.0)	ND(5.0)	ND(5.0)
sec-Butylbenzene	µg/kg	ND(220)	ND(9,900)	ND(230)	ND(500)	ND(19,000)	1,300 J	2,000 J	ND(500)	ND(280)	ND(390)	ND(190)	ND(760)	ND(5.0)	ND(5.0)	ND(5.0)
Styrene	µg/kg	ND(220)	ND(9,900)	ND(230)	ND(500)	ND(19,000)	ND(4,000)	ND(3,600)	ND(500)	ND(280)	ND(390)	ND(190)	ND(760)	ND(5.0)	ND(5.0)	ND(5.0)
t-1,2-Dichloroethene	µg/kg	ND(220)	ND(9,900)	ND(230)	ND(500)	ND(19,000)	ND(4,000)	ND(3,600)	ND(500)	ND(280)	ND(390)	ND(190)	ND(760)	ND(5.0)	ND(5.0)	ND(5.0)
Tert-Butyl Alcohol (TBA)	µg/kg	ND(2,200)	ND(99,000)	ND(2,300)	ND(5,000)	ND(190,000)	ND(40,000)	ND(36,000)	ND(5,000)	ND(2,800)	ND(3,900)	ND(1,900)	ND(7,600)	ND(50)	ND(50)	ND(50)
tert-Butylbenzene	µg/kg	ND(220)	ND(9,900)	ND(230)	ND(500)	ND(19,000)	ND(4,000)	ND(3,600)	ND(500)	ND(280)	ND(390)	ND(190)	ND(760)	ND(5.0)	ND(5.0)	ND(5.0)
Tetrachloroethene	µg/kg	ND(220)	ND(9,900)	ND(230)	ND(500)	ND(19,000)	ND(4,000)	ND(3,600)	ND(500)	ND(280)	ND(390)	ND(190)	ND(760)	ND(5.0)	ND(5.0)	ND(5.0)
Toluene	µg/kg	ND(220)	11,000	210 J	ND(500)	61,000	23,000	150,000	350 J	ND(280)	ND(390)	250	ND(760)	ND(5.0)	1.5 J	ND(5.0)
Trichloroethene	µg/kg	ND(220)	ND(9,900)	ND(230)	ND(500)	ND(19,000)	ND(4,000)	ND(3,600)	ND(500)	ND(280)	ND(390)	ND(190)	ND(760)	ND(5.0)	ND(5.0)	ND(5.0)
Xylenes, total	µg/kg	160 J	290,000	2,100	510	500,000	240,000	410,000	1,600	10,000	1,100	2,500	1,500	1.1 J	1.0 J	1.0 J

NOTES:
ID - Identification
bgs - Below ground surface
VOCs - Volatile organic compounds
µg/kg - Micrograms per kilogram
ND(5.0) - Analyte not detected at
J - Analyte estimated concentration below
c - Cis
m - Meta
n - Normal
o - Ortho
p - Para
sec - Secondary
t - Trans
tert- Tertiary

TABLE 15
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID:	Units	B025	B026	B026	B026	B027	B027	B027	B027	B027	B028	B028	B028	B029	B029	B029	B030	B030
Sample Depth (Feet bgs):		10	2	5	10	2	5	10	15	20	2	5	10	2	5	10	2	5
Date Collected:		12/15/05	12/15/05	12/15/05	12/15/05	12/14/05	12/15/05	12/15/05	12/15/05	12/15/05	12/13/05	12/13/05	12/13/05	12/14/05	12/14/05	12/14/05	12/14/05	12/14/05
VOCs																		
1,1,1,2-Tetrachloroethane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,2,4-Trichlorobenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,2,4-Trimethylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	110	200	76	ND(5.0)	ND(5.0)	ND(5.0)	36,000	4.2 J	2.5 J	ND(5.0)	ND(5.0)
1,2-Dichlorobenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,2-Dichloroethane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,2-Dichloropropane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,3,5-Trimethylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	27	60	19	ND(5.0)	ND(5.0)	ND(5.0)	10,000	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
2-Butanone	µg/kg	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(10,000)	ND(100)	ND(100)	ND(100)	ND(100)
2-Hexanone	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
4-Methyl-2-Pentanone	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Acetone	µg/kg	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	84	ND(50)	ND(50)	ND(5,000)	ND(50)	ND(50)	ND(50)	ND(50)
Benzene	µg/kg	1.2 J	ND(5.0)	ND(5.0)	1.4 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	4.0 J	ND(5.0)	340 J	ND(5.0)	1.8 J	ND(5.0)	ND(5.0)
Bromoform	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	14	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
c-1,2-Dichloroethene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Carbon Disulfide	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Chloroethane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Chloromethane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Diisopropyl Ether (DIPE)	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(1,000)	ND(10)	ND(10)	ND(10)	ND(10)
Ethylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	28	25	1.6 J	ND(5.0)	ND(5.0)	ND(5.0)	11,000	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Iodomethane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Isopropylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	12	32	7.2	ND(5.0)	ND(5.0)	ND(5.0)	480 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
m and p-Xylene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	130	150	15	ND(5.0)	ND(5.0)	ND(5.0)	47,000	1.5 J	2.5 J	ND(5.0)	ND(5.0)
Methyl-t-Butyl Ether (MTBE)	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	2.8 J	1.5 J	1.3 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Naphthalene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	86	220	100	ND(5.0)	ND(5.0)	ND(5.0)	10,000	8.2	ND(5.0)	ND(5.0)	ND(5.0)
n-Butylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	2,000	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
n-Propylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	20	48	8.7	ND(5.0)	ND(5.0)	ND(5.0)	4,100	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
o-Xylene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	64	120	7.4	ND(5.0)	ND(5.0)	ND(5.0)	19,000	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
p-Isopropyltoluene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	12	46	17	ND(5.0)	ND(5.0)	ND(5.0)	520	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
sec-Butylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	30	10	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Styrene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
t-1,2-Dichloroethene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Tert-Butyl Alcohol (TBA)	µg/kg	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(5,000)	ND(50)	ND(50)	ND(50)	ND(50)
tert-Butylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Tetrachloroethene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Toluene	µg/kg	ND(5.0)	1.2 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	31	25	ND(5.0)	ND(5.0)	2.2 J	ND(5.0)	9,400	ND(5.0)	2.2 J	ND(5.0)	ND(5.0)
Trichloroethene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Xylenes, total	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	190	270	22	ND(5.0)	ND(5.0)	ND(5.0)	66,000	1.5 J	2.5 J	ND(5.0)	ND(5.0)

NOTES:
ID - Identification
bgs - Below ground surface
VOCs - Volatile organic compounds
µg/kg - Micrograms per kilogram
ND(5.0) - Analyte not detected at
J - Analyte estimated concentration below
c - Cis
m - Meta
n - Normal
o - Ortho
p - Para
sec - Secondary
t - Trans
tert- Tertiary

TABLE 15
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID:		B030	B031	B031	B031	B032	B032	B032	B033	B033	B033	B034	B034	B034	B035	B035	B035	B036
Sample Depth (Feet bgs):		10	2	5	10	2	5	10	2	5	10	2	5	10	2	5	10	2
Date Collected:	Units	12/14/05	01/06/06	01/06/06	01/06/06	01/06/06	01/06/06	01/06/06	12/29/05	12/29/05	12/29/05	12/14/05	12/14/05	12/14/05	12/14/05	12/14/05	12/14/05	12/14/05
VOCs																		
1,1,1,2-Tetrachloroethane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(410)	ND(5.0)	ND(5.0)	ND(5.0)	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,2,4-Trichlorobenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(410)	ND(5.0)	ND(5.0)	ND(5.0)	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,2,4-Trimethylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(410)	ND(5.0)	ND(5.0)	ND(5.0)	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,2-Dichlorobenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(410)	ND(5.0)	ND(5.0)	ND(5.0)	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,2-Dichloroethane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(410)	ND(5.0)	ND(5.0)	ND(5.0)	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,2-Dichloropropane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(410)	ND(5.0)	ND(5.0)	ND(5.0)	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,3,5-Trimethylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(410)	ND(5.0)	ND(5.0)	ND(5.0)	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
2-Butanone	µg/kg	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(8,100)	ND(100)	ND(100)	ND(100)	ND(4,600)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)
2-Hexanone	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(410)	ND(5.0)	ND(5.0)	ND(5.0)	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
4-Methyl-2-Pentanone	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(410)	ND(5.0)	ND(5.0)	ND(5.0)	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Acetone	µg/kg	ND(50)	58	51	ND(50)	ND(50)	ND(4,100)	ND(50)	ND(50)	ND(50)	ND(2,300)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)
Benzene	µg/kg	ND(5.0)	2.4 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(410)	ND(5.0)	ND(5.0)	ND(5.0)	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Bromoform	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(410)	ND(5.0)	ND(5.0)	ND(5.0)	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
c-1,2-Dichloroethene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(410)	ND(5.0)	ND(5.0)	ND(5.0)	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Carbon Disulfide	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(410)	ND(5.0)	ND(5.0)	ND(5.0)	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Chloroethane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(410)	ND(5.0)	ND(5.0)	ND(5.0)	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Chloromethane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(410)	ND(5.0)	ND(5.0)	ND(5.0)	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Diisopropyl Ether (DIPE)	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(810)	ND(10)	ND(10)	ND(10)	ND(460)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Ethylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(410)	ND(5.0)	ND(5.0)	ND(5.0)	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Iodomethane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(410)	ND(5.0)	ND(5.0)	ND(5.0)	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Isopropylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(410)	ND(5.0)	ND(5.0)	ND(5.0)	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
m and p-Xylene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(410)	ND(5.0)	ND(5.0)	ND(5.0)	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Methyl-t-Butyl Ether (MTBE)	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(410)	ND(5.0)	ND(5.0)	ND(5.0)	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Naphthalene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(410)	ND(5.0)	ND(5.0)	ND(5.0)	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
n-Butylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(410)	ND(5.0)	ND(5.0)	ND(5.0)	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
n-Propylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(410)	ND(5.0)	ND(5.0)	ND(5.0)	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
o-Xylene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(410)	ND(5.0)	ND(5.0)	ND(5.0)	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
p-Isopropyltoluene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(410)	ND(5.0)	ND(5.0)	ND(5.0)	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
sec-Butylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(410)	ND(5.0)	ND(5.0)	ND(5.0)	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Styrene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(410)	ND(5.0)	ND(5.0)	ND(5.0)	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
t-1,2-Dichloroethene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(410)	ND(5.0)	ND(5.0)	ND(5.0)	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Tert-Butyl Alcohol (TBA)	µg/kg	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(4,100)	ND(50)	ND(50)	ND(50)	ND(2,300)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)
tert-Butylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(410)	ND(5.0)	ND(5.0)	ND(5.0)	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Tetrachloroethene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(410)	ND(5.0)	ND(5.0)	ND(5.0)	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Toluene	µg/kg	ND(5.0)	1.5 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(410)	ND(5.0)	ND(5.0)	ND(5.0)	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Trichloroethene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(410)	ND(5.0)	ND(5.0)	ND(5.0)	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Xylenes, total	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(410)	ND(5.0)	ND(5.0)	ND(5.0)	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)

NOTES:
ID - Identification
bgs - Below ground surface
VOCs - Volatile organic compounds
µg/kg - Micrograms per kilogram
ND(5.0) - Analyte not detected at
J - Analyte estimated concentration below
c - Cis
m - Meta
n - Normal
o - Ortho
p - Para
sec - Secondary
t - Trans
tert- Tertiary

TABLE 15
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID:	Units	B036	B036	B036	B037	B037	B037	B038	B038	B038	B039	B039	B039	B040	B040	B040	B040	B040
Sample Depth (Feet bgs):		5	10	15	5	10	15	5	10	20	5	10	15	5	10	15	20	25
Date Collected:		12/14/05	12/14/05	12/14/05	12/19/05	12/19/05	12/19/05	12/19/05	12/19/05	12/19/05	12/16/05	12/16/05	12/16/05	12/19/05	12/19/05	12/19/05	12/19/05	12/19/05
VOCs																		
1,1,1,2-Tetrachloroethane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(210)	ND(5.0)	ND(210)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,2,4-Trichlorobenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(210)	ND(5.0)	ND(210)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,2,4-Trimethylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	1.6 J	ND(5.0)	2,100	16	320	ND(5.0)	ND(5.0)	58	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,2-Dichlorobenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(210)	ND(5.0)	ND(210)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,2-Dichloroethane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(210)	ND(5.0)	ND(210)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,2-Dichloropropane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(210)	ND(5.0)	ND(210)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,3,5-Trimethylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	1.2 J	ND(5.0)	720	4.0 J	100 J	ND(5.0)	ND(5.0)	16	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
2-Butanone	µg/kg	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(4,100)	ND(100)	ND(4,200)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)
2-Hexanone	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(210)	ND(5.0)	ND(210)	2.5 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
4-Methyl-2-Pentanone	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(210)	ND(5.0)	ND(210)	1.5 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Acetone	µg/kg	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(2,100)	ND(50)	ND(2,100)	95	ND(50)	ND(50)	79	ND(50)	ND(50)	ND(50)	ND(50)
Benzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(210)	15	ND(210)	ND(5.0)	ND(5.0)	ND(5.0)	1.2 J	ND(5.0)	10	ND(5.0)	ND(5.0)
Bromoform	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(210)	ND(5.0)	ND(210)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
c-1,2-Dichloroethene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(210)	ND(5.0)	ND(210)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Carbon Disulfide	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(210)	ND(5.0)	ND(210)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Chloroethane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(210)	ND(5.0)	ND(210)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Chloromethane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(210)	ND(5.0)	ND(210)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Diisopropyl Ether (DIPE)	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(410)	ND(10)	ND(420)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Ethylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	2,100	24	190 J	ND(5.0)	ND(5.0)	8.4	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Iodomethane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(210)	ND(5.0)	ND(210)	11	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Isopropylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	160 J	1.2 J	ND(210)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
m and p-Xylene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	1,400	11	160 J	ND(5.0)	ND(5.0)	33	ND(5.0)	ND(5.0)	1.3 J	ND(5.0)	ND(5.0)
Methyl-t-Butyl Ether (MTBE)	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(210)	32	ND(210)	ND(5.0)	ND(5.0)	3.4 J	ND(5.0)	ND(5.0)	5.6	ND(5.0)	ND(5.0)
Naphthalene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	3,000	12	410	ND(5.0)	ND(5.0)	26	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
n-Butylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	620	3.5 J	140 J	ND(5.0)	ND(5.0)	1.9 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
n-Propylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	550	4.8 J	70 J	ND(5.0)	ND(5.0)	5.1	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
o-Xylene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	150 J	ND(5.0)	ND(210)	ND(5.0)	ND(5.0)	3.0 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
p-Isopropyltoluene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	150 J	ND(5.0)	ND(210)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
sec-Butylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(210)	ND(5.0)	ND(210)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Styrene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(210)	ND(5.0)	ND(210)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
t-1,2-Dichloroethene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(210)	ND(5.0)	ND(210)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Tert-Butyl Alcohol (TBA)	µg/kg	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(2,100)	ND(50)	ND(2,100)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)
tert-Butylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(210)	ND(5.0)	ND(210)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Tetrachloroethene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(210)	ND(5.0)	ND(210)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Toluene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	72 J	ND(5.0)	ND(210)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	5.6	ND(5.0)	ND(5.0)
Trichloroethene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(210)	ND(5.0)	ND(210)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Xylenes, total	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	1,500	11	160 J	ND(5.0)	ND(5.0)	36	ND(5.0)	ND(5.0)	1.3 J	ND(5.0)	ND(5.0)

NOTES:
ID - Identification
bgs - Below ground surface
VOCs - Volatile organic compounds
µg/kg - Micrograms per kilogram
ND(5.0) - Analyte not detected at
J - Analyte estimated concentration below
c - Cis
m - Meta
n - Normal
o - Ortho
p - Para
sec - Secondary
t - Trans
tert- Tertiary

TABLE 15
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID:		B041	B041	B041	B042	B042	B042	B043	B043	B043	B043	B043	B044	B044	B044	B044	B044
Sample Depth (feet bgs):	Units:	1	5	10	1	5	10	1	5	10	1	5	1	5	10	15	20
Date Collected:		12/2/05	12/2/05	12/2/05	12/2/05	12/2/05	12/2/05	12/16/05	12/16/05	12/16/05	12/16/05	12/16/05	12/16/05	12/16/05	12/16/05	12/16/05	12/16/05
VOCs																	
1,1,1,2-Tetrachloroethane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(1,000)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(210)	ND(5,000)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(500)
1,2,4-Trichlorobenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(1,000)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(210)	ND(5,000)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(500)
1,2,4-Trimethylbenzene	µg/kg	ND(5.0)	ND(5.0)	64	14,000	25,000	120	160	15	120 J	3,600 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	2,800	5,100
1,2-Dichlorobenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(1,000)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(210)	ND(5,000)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(500)
1,2-Dichloroethane	µg/kg	ND(5.0)	ND(5.0)	2.2 J	ND(1,000)	ND(500)	1.0 J	ND(5.0)	ND(5.0)	ND(210)	ND(5,000)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(500)
1,2-Dichloropropane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(1,000)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(210)	ND(5,000)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(500)
1,3,5-Trimethylbenzene	µg/kg	ND(5.0)	ND(5.0)	16	1,200	7,800	34	57	8.2	ND(210)	ND(5,000)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	740	1,300
2-Butanone	µg/kg	ND(100)	ND(100)	ND(100)	ND(20,000)	ND(10,000)	ND(100)	ND(100)	ND(100)	ND(4,100)	ND(100,000)	ND(100)	ND(100)	ND(100)	ND(100)	ND(10,000)	ND(10,000)
2-Hexanone	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(1,000)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(210)	ND(5,000)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(500)
4-Methyl-2-Pentanone	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(1,000)	ND(500)	3.7 J	ND(5.0)	ND(5.0)	ND(210)	ND(5,000)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(500)
Acetone	µg/kg	ND(50)	ND(50)	ND(50)	ND(10,000)	ND(5,000)	ND(50)	63	ND(50)	ND(2,100)	ND(50,000)	ND(50)	ND(50)	ND(50)	ND(50)	ND(5,000)	ND(5,000)
Benzene	µg/kg	ND(5.0)	ND(5.0)	26	ND(1,000)	ND(500)	4.1 J	ND(5.0)	92	190 J	ND(5,000)	ND(5.0)	2.7 J	1.9 J	3.5 J	ND(500)	ND(500)
Bromoform	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(1,000)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(210)	ND(5,000)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(500)
c-1,2-Dichloroethene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(1,000)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(210)	ND(5,000)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(500)
Carbon Disulfide	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(1,000)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(210)	ND(5,000)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(500)
Chloroethane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(1,000)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(210)	ND(5,000)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(500)
Chloromethane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(1,000)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(210)	ND(5,000)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(500)
Diisopropyl Ether (DIPE)	µg/kg	ND(10)	ND(10)	ND(10)	ND(2,000)	ND(1,000)	ND(10)	ND(10)	ND(10)	ND(410)	ND(10,000)	ND(10)	ND(10)	ND(10)	ND(10)	ND(1,000)	ND(1,000)
Ethylbenzene	µg/kg	ND(5.0)	ND(5.0)	17	800 J	1,400	5.9	29	37	ND(210)	1,100 J	ND(5.0)	1.3 J	ND(5.0)	ND(5.0)	430 J	590
Iodomethane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(1,000)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(210)	ND(5,000)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(500)
Isopropylbenzene	µg/kg	ND(5.0)	ND(5.0)	1.1 J	260 J	450 J	1.6 J	6.2	5.7	ND(210)	ND(5,000)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	370 J	450 J
m and p-Xylene	µg/kg	ND(5.0)	ND(5.0)	99	1,100	4,000	43	120	59	ND(210)	1,900 J	ND(5.0)	1.9 J	ND(5.0)	ND(5.0)	710	1,600
Methyl-t-Butyl Ether (MTBE)	µg/kg	ND(5.0)	ND(5.0)	14	ND(1,000)	ND(500)	1.8 J	ND(5.0)	61	ND(210)	ND(5,000)	ND(5.0)	11	13	33	ND(500)	ND(500)
Naphthalene	µg/kg	ND(5.0)	ND(5.0)	31	3,200	4,300	39	32	ND(5.0)	ND(210)	ND(5,000)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	3,000
n-Butylbenzene	µg/kg	ND(5.0)	ND(5.0)	1.8 J	2,700	5,300	18	7.5	ND(5.0)	ND(210)	ND(5,000)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	650	ND(500)
n-Propylbenzene	µg/kg	ND(5.0)	ND(5.0)	4.5 J	240 J	1,100	5.6	16	6.9	41 J	ND(5,000)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	920
o-Xylene	µg/kg	ND(5.0)	ND(5.0)	45	ND(1,000)	790	8.5	57	18	ND(210)	ND(5,000)	ND(5.0)	0.80 J	ND(5.0)	ND(5.0)	ND(500)	490 J
p-Isopropyltoluene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	400 J	1,000	3.5 J	2.2 J	5.0	ND(210)	ND(5,000)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	600	990
sec-Butylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	340 J	460 J	ND(5.0)	3.8 J	7.9	110 J	ND(5,000)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	670
Styrene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(1,000)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(210)	ND(5,000)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(500)
t-1,2-Dichloroethene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(1,000)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(210)	ND(5,000)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(500)
Tert-Butyl Alcohol (TBA)	µg/kg	ND(50)	ND(50)	46 J	ND(10,000)	ND(5,000)	41 J	ND(50)	61	ND(2,100)	ND(50,000)	ND(50)	ND(50)	28 J	40 J	ND(5,000)	ND(5,000)
tert-Butylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(1,000)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(210)	ND(5,000)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(500)
Tetrachloroethene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(1,000)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(210)	ND(5,000)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(500)
Toluene	µg/kg	ND(5.0)	ND(5.0)	17	ND(1,000)	ND(500)	2.1 J	7.3	11	ND(210)	ND(5,000)	ND(5.0)	2.2 J	ND(5.0)	1.4 J	ND(500)	ND(500)
Trichloroethene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(1,000)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(210)	ND(5,000)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(500)
Xylenes, total	µg/kg	ND(5.0)	ND(5.0)	140	1,100	4,800	51	170	78	ND(210)	1,900 J	ND(5.0)	2.7 J	ND(5.0)	ND(5.0)	710	2,000

NOTES:
ID - Identification
bgs - Below ground surface
VOCs - Volatile organic compounds
µg/kg - Micrograms per kilogram
ND(5.0) - Analyte not detected at
J - Analyte estimated concentration below
c - Cis
m - Meta
n - Normal
o - Ortho
p - Para
sec - Secondary
t - Trans
tert- Tertiary

TABLE 15
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID		B043	B045	B045	B045	B045	B045	B045	B045	B045	B045	B045	B046	B046	B047	B047	B047	B048
Sample Depth (feet bgs)		30	2	5	10	15	20	30	10	20	30	2	5	10	2	5	10	2
Date Collected		12/6/05	12/15/05	12/15/05	12/15/05	12/15/05	12/15/05	12/15/05	12/6/05	12/6/05	12/6/05	12/15/05	12/15/05	12/15/05	12/15/05	12/15/05	12/15/05	12/20/05
VOCs																		
1,1,1,2-Tetrachloroethane	µg/kg	ND(500)	ND(5.0)	ND(5.0)	ND(440)	ND(5.0)	ND(580)	ND(2,400)	ND(2,800)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,2,4-Trichlorobenzene	µg/kg	ND(500)	ND(5.0)	ND(5.0)	ND(440)	ND(5.0)	ND(580)	ND(2,400)	ND(2,800)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,2,4-Trimethylbenzene	µg/kg	1,860	23	1.7 J	16,000	250	130,000	220,000	28,000,000	54,000	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	1.5 J	
1,2-Dichlorobenzene	µg/kg	ND(500)	ND(5.0)	ND(5.0)	ND(440)	ND(5.0)	ND(580)	ND(2,400)	ND(2,800)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,2-Dichloroethane	µg/kg	ND(500)	ND(5.0)	ND(5.0)	ND(440)	ND(5.0)	ND(580)	ND(2,400)	ND(2,800)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,2-Dichloropropane	µg/kg	ND(500)	ND(5.0)	ND(5.0)	ND(440)	ND(5.0)	ND(580)	ND(2,400)	ND(2,800)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,3,5-Trimethylbenzene	µg/kg	447	7.2	ND(5.0)	4,300	71	40,000	76,000	35,000	16,100	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
2-Butanone	µg/kg	ND(10,000)	ND(100)	ND(100)	ND(8,700)	ND(100)	ND(12,000)	ND(49,000)	ND(55,000)	ND(10,000)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)
2-Hexanone	µg/kg	ND(500)	ND(5.0)	ND(5.0)	ND(440)	ND(5.0)	ND(580)	ND(2,400)	ND(2,800)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
4-Methyl-2-Pentanone	µg/kg	ND(500)	ND(5.0)	ND(5.0)	ND(440)	ND(5.0)	ND(580)	ND(2,400)	ND(2,800)	ND(500)	ND(5.0)	6.7	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Acetone	µg/kg	ND(5,000)	ND(50)	ND(50)	ND(4,400)	ND(50)	ND(5,800)	ND(24,000)	ND(28,000)	ND(5,000)	59	96	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)
Benzene	µg/kg	ND(500)	13,000	2,000	4,600	100	4,500	19,000	6,200	ND(500)	ND(5.0)	ND(5.0)	16	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Bromoform	µg/kg	ND(500)	ND(5.0)	ND(5.0)	ND(440)	ND(5.0)	ND(580)	ND(2,400)	ND(2,800)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
c-1,2-Dichloroethene	µg/kg	ND(500)	ND(5.0)	ND(5.0)	ND(440)	ND(5.0)	ND(580)	ND(2,400)	ND(2,800)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Carbon Disulfide	µg/kg	ND(500)	ND(5.0)	ND(5.0)	ND(440)	ND(5.0)	ND(580)	ND(2,400)	ND(2,800)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Chloroethane	µg/kg	ND(500)	ND(5.0)	ND(5.0)	ND(440)	ND(5.0)	ND(580)	ND(2,400)	ND(2,800)	ND(500)	ND(5.0)	5.2	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Chloromethane	µg/kg	ND(500)	ND(5.0)	ND(5.0)	ND(440)	ND(5.0)	ND(580)	ND(2,400)	ND(2,800)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Diisopropyl Ether (DIPE)	µg/kg	ND(1,000)	ND(10)	ND(10)	ND(870)	ND(10)	ND(1,200)	ND(4,900)	ND(5,500)	ND(1,000)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Ethylbenzene	µg/kg	ND(500)	160	86	9,400	70	45,000	110,000	54,000	11,200	ND(5.0)	ND(5.0)	1.0 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Iodomethane	µg/kg	ND(500)	ND(5.0)	ND(5.0)	ND(440)	ND(5.0)	ND(580)	ND(2,400)	ND(2,800)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Isopropylbenzene	µg/kg	ND(500)	5.8	1.8 J	700	6.6	4,500	9,600	4,800	1,710	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
m and p-Xylene	µg/kg	140 J	70	14	35,000	270	200,000	480,000	230,000	51,600	ND(5.0)	ND(5.0)	1.5 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Methyl-t-Butyl Ether (MTBE)	µg/kg	ND(500)	ND(5.0)	1.8 J	ND(440)	ND(5.0)	ND(580)	ND(2,400)	ND(2,800)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Naphthalene	µg/kg	2,620	14,000	68	2,100	52	11,000	20,000	12,000	7,330	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
n-Butylbenzene	µg/kg	ND(500)	13	ND(5.0)	580	8.7	4,000	6,800	3,900	1,600	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
n-Propylbenzene	µg/kg	251 J	9.1	2.3 J	2,700	27	21,000	39,000	19,000	7,830	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
o-Xylene	µg/kg	ND(500)	9.3	3.2 J	14,000	140	8,100	190,000	87,000	22,500	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
p-Isopropyltoluene	µg/kg	503	4.0 J	1.7 J	130 J	2.0 J	770	1,200 J	660 J	1,330	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
sec-Butylbenzene	µg/kg	252 J	ND(5.0)	2.7 J	230 J	4.3 J	1,600	2,800	1,600 J	772	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Styrene	µg/kg	ND(500)	ND(5.0)	ND(5.0)	ND(440)	ND(5.0)	ND(580)	ND(2,400)	ND(2,800)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
t-1,2-Dichloroethene	µg/kg	ND(500)	ND(5.0)	ND(5.0)	ND(440)	ND(5.0)	ND(580)	ND(2,400)	ND(2,800)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Tert-Butyl Alcohol (TBA)	µg/kg	ND(5,000)	ND(50)	ND(50)	ND(4,400)	62	ND(5,800)	ND(24,000)	ND(28,000)	ND(5,000)	200	760	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)
tert-Butylbenzene	µg/kg	ND(500)	ND(5.0)	ND(5.0)	ND(440)	ND(5.0)	ND(580)	ND(2,400)	ND(2,800)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Tetrachloroethene	µg/kg	ND(500)	ND(5.0)	ND(5.0)	ND(440)	ND(5.0)	ND(580)	ND(2,400)	ND(2,800)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Toluene	µg/kg	ND(500)	2,800	130	16,000	190	53,000	220,000	100,000	2,540	ND(5.0)	ND(5.0)	7.6	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Trichloroethene	µg/kg	ND(500)	ND(5.0)	ND(5.0)	ND(440)	ND(5.0)	ND(580)	ND(2,400)	ND(2,800)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Xylenes, total	µg/kg	140 J	80	17	49,000	400	280,000	670,000	310,000	74,100	ND(5.0)	ND(5.0)	1.5 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	

NOTES:
ID - Identification
bgs - Below ground surface
VOCs - Volatile organic compounds
µg/kg - Micrograms per kilogram
ND(5.0) - Analyte not detected at
J - Analyte estimated concentration below
c - Cis
m - Meta
n - Normal
o - Ortho
p - Para
sec - Secondary
t - Trans
tert- Tertiary

TABLE 15
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID:	Units	B048	B048	B048	B048	B048	B049	B049	B049	B050	B050	B050	B051	B051	B051	B052	B052
Sample Depth (Feet bgs):		5	10	15	20	25	2	5	10	2	5	10	2	5	10	2	5
Date Collected:		12/20/05	12/20/05	12/20/05	12/20/05	12/20/05	12/14/05	12/14/05	12/14/05	12/13/05	12/13/05	12/13/05	12/13/05	12/13/05	12/13/05	12/29/05	12/29/05
VOCs																	
1,1,1,2-Tetrachloroethane	µg/kg	ND(500)	ND(500)	ND(500)	ND(5,000)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,2,4-Trichlorobenzene	µg/kg	ND(500)	ND(500)	ND(500)	ND(5,000)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,2,4-Trimethylbenzene	µg/kg	ND(500)	ND(500)	ND(500)	3,700 J	ND(500)	ND(5.0)	10	43	ND(5.0)	ND(5.0)	1.2 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,2-Dichlorobenzene	µg/kg	ND(500)	ND(500)	ND(500)	ND(5,000)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,2-Dichloroethane	µg/kg	ND(500)	ND(500)	ND(500)	ND(5,000)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,2-Dichloropropane	µg/kg	ND(500)	ND(500)	ND(500)	ND(5,000)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,3,5-Trimethylbenzene	µg/kg	ND(500)	ND(500)	ND(500)	ND(5,000)	ND(500)	1.6 J	5.2	10	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
2-Butanone	µg/kg	ND(10,000)	ND(10,000)	ND(10,000)	ND(100,000)	ND(10,000)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)
2-Hexanone	µg/kg	ND(500)	ND(500)	ND(500)	ND(5,000)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
4-Methyl-2-Pentanone	µg/kg	ND(500)	ND(500)	ND(500)	ND(5,000)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Acetone	µg/kg	ND(5,000)	ND(5,000)	ND(5,000)	ND(50,000)	ND(5,000)	71	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)
Benzene	µg/kg	ND(500)	ND(500)	ND(500)	ND(5,000)	ND(500)	13	15	24	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	1.2 J	ND(5.0)
Bromoform	µg/kg	ND(500)	ND(500)	ND(500)	ND(5,000)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
c-1,2-Dichloroethene	µg/kg	ND(500)	ND(500)	ND(500)	ND(5,000)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Carbon Disulfide	µg/kg	ND(500)	ND(500)	ND(500)	ND(5,000)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Chloroethane	µg/kg	ND(500)	ND(500)	ND(500)	ND(5,000)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Chloromethane	µg/kg	ND(500)	ND(500)	ND(500)	ND(5,000)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Diisopropyl Ether (DIPE)	µg/kg	ND(1,000)	ND(1,000)	ND(1,000)	ND(10,000)	ND(1,000)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Ethylbenzene	µg/kg	ND(500)	ND(500)	ND(500)	ND(5,000)	ND(500)	11	14	21	ND(5.0)	ND(5.0)	5.3	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Iodomethane	µg/kg	ND(500)	ND(500)	ND(500)	ND(5,000)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Isopropylbenzene	µg/kg	ND(500)	ND(500)	ND(500)	ND(5,000)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	2.0 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
m and p-Xylene	µg/kg	ND(500)	ND(500)	ND(500)	ND(5,000)	ND(500)	1.3 J	2.7 J	75	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Methyl-t-Butyl Ether (MTBE)	µg/kg	ND(500)	ND(500)	ND(500)	ND(5,000)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Naphthalene	µg/kg	ND(500)	ND(500)	ND(500)	37,000	ND(500)	ND(5.0)	15	36	ND(5.0)	ND(5.0)	51	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
n-Butylbenzene	µg/kg	ND(500)	ND(500)	ND(500)	ND(5,000)	ND(500)	ND(5.0)	1.6 J	3.2 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
n-Propylbenzene	µg/kg	ND(500)	ND(500)	ND(500)	1,900 J	ND(500)	1.9 J	2.2 J	2.7 J	ND(5.0)	ND(5.0)	2.8 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
o-Xylene	µg/kg	ND(500)	ND(500)	ND(500)	ND(5,000)	ND(500)	2.6 J	ND(5.0)	25	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
p-Isopropyltoluene	µg/kg	ND(500)	ND(500)	ND(500)	ND(5,000)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
sec-Butylbenzene	µg/kg	ND(500)	ND(500)	ND(500)	1,400 J	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Styrene	µg/kg	ND(500)	ND(500)	ND(500)	ND(5,000)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
t-1,2-Dichloroethene	µg/kg	ND(500)	ND(500)	ND(500)	ND(5,000)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Tert-Butyl Alcohol (TBA)	µg/kg	ND(5,000)	ND(5,000)	ND(5,000)	ND(50,000)	ND(5,000)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	19 J	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)
tert-Butylbenzene	µg/kg	ND(500)	ND(500)	ND(500)	ND(5,000)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Tetrachloroethene	µg/kg	ND(500)	ND(500)	ND(500)	ND(5,000)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Toluene	µg/kg	ND(500)	ND(500)	ND(500)	ND(5,000)	ND(500)	ND(5.0)	ND(5.0)	27	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Trichloroethene	µg/kg	ND(500)	ND(500)	ND(500)	ND(5,000)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Xylenes, total	µg/kg	ND(500)	ND(500)	ND(500)	ND(5,000)	ND(500)	3.9 J	2.7 J	110	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)

NOTES:
ID - Identification
bgs - Below ground surface
VOCs - Volatile organic compounds
µg/kg - Micrograms per kilogram
ND(5.0) - Analyte not detected at
J - Analyte estimated concentration below
c - Cis
m - Meta
n - Normal
o - Ortho
p - Para
sec - Secondary
t - Trans
tert- Tertiary

TABLE 15
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID		B052	B053	B053	B054	B054	B054	B054	B055	B055	B055	B055	B055	B055	B056	B056	B056
Sample Depth (Feet bgs)		10	5	10	5	10	5	10	5	10	5	10	20	30	2	5	10
Sample Date Collected		12/20/05	12/20/05	12/20/05	12/20/05	12/20/05	12/20/05	12/20/05	12/21/05	12/21/05	12/21/05	12/21/05	12/21/05	12/21/05	12/14/05	12/14/05	12/14/05
Units		µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg
VOCs																	
1,1,1,2-Tetrachloroethane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(1,000)	ND(1,000)	ND(1,200)	ND(1,200)	ND(1,100)	ND(5)	ND(500)	ND(500)	ND(5.0)
1,2,4-Trichlorobenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(1,000)	ND(1,000)	ND(1,200)	ND(1,200)	ND(1,100)	ND(5)	ND(500)	ND(500)	ND(5.0)
1,2,4-Trimethylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	39,000	1,900	16,000	240,000	95,000	ND(5)	11,000	24,000	6.5
1,2-Dichlorobenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(1,000)	ND(1,000)	ND(1,200)	ND(1,200)	ND(1,100)	ND(5)	ND(500)	ND(500)	ND(5.0)
1,2-Dichloroethane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(1,000)	ND(1,000)	ND(1,200)	ND(1,200)	ND(1,100)	ND(5)	ND(500)	ND(500)	ND(5.0)
1,2-Dichloropropane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(1,000)	ND(1,000)	ND(1,200)	ND(1,200)	ND(1,100)	ND(5)	ND(500)	ND(500)	ND(5.0)
1,3,5-Trimethylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	3,000	520 J	4,200	62,000	27,000	ND(5)	3,100	7,500	1.7 J
2-Butanone	µg/kg	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(21,000)	ND(20,000)	ND(23,000)	ND(23,000)	ND(22,000)	ND(100)	ND(10,000)	ND(10,000)	ND(100)
2-Hexanone	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(1,000)	ND(1,000)	ND(1,200)	ND(1,200)	ND(1,100)	ND(5)	ND(500)	ND(500)	ND(5.0)
4-Methyl-2-Pentanone	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(1,000)	ND(1,000)	ND(1,200)	ND(1,200)	ND(1,100)	ND(5)	ND(500)	ND(500)	ND(5.0)
Acetone	µg/kg	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(10,000)	ND(10,000)	ND(12,000)	ND(12,000)	ND(11,000)	ND(50)	ND(5,000)	ND(5,000)	ND(50)
Benzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	660 J	ND(1,000)	330 J	1,300	ND(1,100)	ND(5)	110 J	120 J	1.4 J
Bromoform	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(1,000)	ND(1,000)	ND(1,200)	ND(1,200)	ND(1,100)	ND(5)	ND(500)	ND(500)	ND(5.0)
c-1,2-Dichloroethene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(1,000)	ND(1,000)	ND(1,200)	ND(1,200)	ND(1,100)	ND(5)	ND(500)	ND(500)	ND(5.0)
Carbon Disulfide	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(1,000)	ND(1,000)	ND(1,200)	ND(1,200)	ND(1,100)	ND(5)	ND(500)	ND(500)	ND(5.0)
Chloroethane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(1,000)	ND(1,000)	ND(1,200)	ND(1,200)	ND(1,100)	ND(5)	ND(500)	ND(500)	ND(5.0)
Chloromethane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(1,000)	ND(1,000)	ND(1,200)	ND(1,200)	ND(1,100)	ND(5)	ND(500)	ND(500)	ND(5.0)
Diisopropyl Ether (DIPE)	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(2,100)	ND(2,000)	ND(2,300)	ND(2,300)	ND(2,200)	ND(10)	ND(1,000)	ND(1,000)	ND(10)
Ethylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	15,000	500 J	4,400	47,000	15,000	ND(5)	2,300	4,200	2.1 J
Iodomethane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(1,000)	ND(1,000)	ND(1,200)	ND(1,200)	ND(1,100)	ND(5)	ND(500)	ND(500)	ND(5.0)
Isopropylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	1,600	ND(1,000)	440 J	8,000	2,100	ND(5)	150 J	290 J	ND(5.0)
m and p-Xylene	µg/kg	1.4 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	5,900	1,100	12,000	180,000	59,000	ND(5)	15,000	28,000	10
Methyl-t-Butyl Ether (MTBE)	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(1,000)	ND(1,000)	ND(1,200)	ND(1,200)	ND(1,100)	ND(5)	ND(500)	ND(500)	ND(5.0)
Naphthalene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	36,000	ND(1,000)	7,600	110,000	54,000	ND(5)	3,400	8,500	6.8
n-Butylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	8,100	ND(1,000)	ND(1,200)	27,000	9,000	ND(5)	ND(500)	1,500	ND(5.0)
n-Propylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	8,600	270 J	2,200	41,000	10,000	ND(5)	1,000	2,600	ND(5.0)
o-Xylene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	1,100	ND(1,000)	4,400	79,000	27,000	ND(5)	5,700	12,000	3.5 J
p-Isopropyltoluene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	1,400	ND(1,000)	440 J	13,000	4,100	ND(5)	ND(500)	ND(500)	ND(5.0)
sec-Butylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	1,900	ND(1,000)	420 J	7,900	2,500	ND(5)	ND(500)	150 J	ND(5.0)
Styrene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(1,000)	ND(1,000)	ND(1,200)	ND(1,200)	ND(1,100)	ND(5)	ND(500)	ND(500)	ND(5.0)
t-1,2-Dichloroethene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(1,000)	ND(1,000)	ND(1,200)	ND(1,200)	ND(1,100)	ND(5)	ND(500)	ND(500)	ND(5.0)
Tert-Butyl Alcohol (TBA)	µg/kg	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(10,000)	ND(10,000)	ND(12,000)	ND(12,000)	ND(11,000)	ND(50)	ND(5,000)	ND(5,000)	25 J
tert-Butylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(1,000)	ND(1,000)	ND(1,200)	ND(1,200)	ND(1,100)	ND(5)	ND(500)	120 J	ND(5.0)
Tetrachloroethene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(1,000)	ND(1,000)	ND(1,200)	ND(1,200)	ND(1,100)	ND(5)	ND(500)	ND(500)	ND(5.0)
Toluene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(1,000)	ND(1,000)	650 J	9,800	1,400	ND(5)	1,100	2,300	4.4 J
Trichloroethene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(1,000)	ND(1,000)	ND(1,200)	ND(1,200)	ND(1,100)	ND(5)	ND(500)	ND(500)	ND(5.0)
Xylenes, total	µg/kg	1.4 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	7,000	1,100	16,000	260,000	85,000	ND(5)	21,000	40,000	14

NOTES:
ID - Identification
bgs - Below ground surface
VOCs - Volatile organic compounds
µg/kg - Micrograms per kilogram
ND(5.0) - Analyte not detected at
J - Analyte estimated concentration below
c - Cis
m - Meta
n - Normal
o - Ortho
p - Para
sec - Secondary
t - Trans
tert- Tertiary

TABLE 15
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID	Units	B057	B057	B057	B058	B058	B058	B058	B058	B058	B058	B059	B059	B059	B060	B060	B060
Sample Depth (Feet bgs)		2	5	10	2	5	10	20	30	40	50	2	5	10	2	5	10
Date Sample Collected		12/20/05	12/20/05	12/20/05	12/20/05	12/20/05	12/20/05	12/20/05	12/20/05	12/20/05	12/20/05	12/20/05	12/20/05	12/20/05	12/20/05	12/20/05	12/20/05
VOCs																	
1,1,1,2-Tetrachloroethane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5,000)	ND(1,000)	ND(1,000)	ND(5,000)	ND(5,000)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(500)
1,2,4-Trichlorobenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5,000)	ND(1,000)	ND(1,000)	ND(5,000)	ND(5,000)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(500)
1,2,4-Trimethylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	6,700	ND(1,000)	12,000	3,700 J	3,300 J	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	1.3 J	ND(500)	1,800
1,2-Dichlorobenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5,000)	ND(1,000)	ND(1,000)	ND(5,000)	ND(5,000)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(500)
1,2-Dichloroethane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5,000)	ND(1,000)	ND(1,000)	ND(5,000)	ND(5,000)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(500)
1,2-Dichloropropane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5,000)	ND(1,000)	ND(1,000)	ND(5,000)	ND(5,000)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(500)
1,3,5-Trimethylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	2,100 J	ND(1,000)	3,600	ND(5,000)	ND(5,000)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	520
2-Butanone	µg/kg	ND(100)	ND(100)	ND(100)	ND(100,000)	ND(20,000)	ND(20,000)	ND(100,000)	ND(100,000)	ND(10,000)	ND(100)	ND(100)	ND(100)	ND(100)	ND(10,000)	ND(10,000)
2-Hexanone	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5,000)	ND(1,000)	ND(1,000)	ND(5,000)	ND(5,000)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(500)
4-Methyl-2-Pentanone	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5,000)	ND(1,000)	ND(1,000)	ND(5,000)	ND(5,000)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(500)
Acetone	µg/kg	ND(50)	ND(50)	ND(50)	ND(50,000)	ND(10,000)	ND(10,000)	ND(50,000)	ND(50,000)	ND(5,000)	ND(50)	ND(50)	ND(50)	ND(50)	ND(5,000)	ND(5,000)
Benzene	µg/kg	ND(5.0)	ND(5.0)	2.3 J	ND(5,000)	ND(1,000)	ND(1,000)	ND(5,000)	ND(5,000)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(500)
Bromoform	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5,000)	ND(1,000)	ND(1,000)	ND(5,000)	ND(5,000)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(500)
c-1,2-Dichloroethene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5,000)	ND(1,000)	ND(1,000)	ND(5,000)	ND(5,000)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(500)
Carbon Disulfide	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5,000)	ND(1,000)	ND(1,000)	ND(5,000)	ND(5,000)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(500)
Chloroethane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5,000)	ND(1,000)	ND(1,000)	ND(5,000)	ND(5,000)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(500)
Chloromethane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5,000)	ND(1,000)	ND(1,000)	ND(5,000)	ND(5,000)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(500)
Diisopropyl Ether (DIPE)	µg/kg	ND(10)	ND(10)	ND(10)	ND(10,000)	ND(2,000)	ND(2,000)	ND(10,000)	ND(10,000)	ND(1,000)	ND(10)	ND(10)	ND(10)	ND(10)	ND(1,000)	ND(1,000)
Ethylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5,000)	800 J	1,100	ND(5,000)	ND(5,000)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	340 J
Iodomethane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5,000)	ND(1,000)	ND(1,000)	ND(5,000)	ND(5,000)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(500)
Isopropylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5,000)	360 J	650 J	ND(5,000)	ND(5,000)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(500)
m and p-Xylene	µg/kg	ND(5.0)	ND(5.0)	1.1 J	2,500 J	ND(1,000)	940 J	ND(5,000)	ND(5,000)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	660
Methyl-t-Butyl Ether (MTBE)	µg/kg	ND(5.0)	ND(5.0)	3.4 J	ND(5,000)	ND(1,000)	ND(1,000)	ND(5,000)	ND(5,000)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(500)
Naphthalene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	17,000	13,000	28,000	10,000	13,000	634	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	1,600
n-Butylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5,000)	ND(1,000)	1,700	ND(5,000)	ND(5,000)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(500)
n-Propylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5,000)	700 J	1,300	ND(5,000)	ND(5,000)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	270 J
o-Xylene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5,000)	ND(1,000)	ND(1,000)	ND(5,000)	ND(5,000)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	240 J
p-Isopropyltoluene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5,000)	ND(1,000)	1,400	ND(5,000)	ND(5,000)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	230 J
sec-Butylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5,000)	390 J	680 J	ND(5,000)	ND(5,000)	ND(500)	ND(5.0)	1.9 J	ND(5.0)	ND(5.0)	ND(500)	ND(500)
Styrene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5,000)	ND(1,000)	ND(1,000)	ND(5,000)	ND(5,000)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(500)
t-1,2-Dichloroethene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5,000)	ND(1,000)	ND(1,000)	ND(5,000)	ND(5,000)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(500)
Tert-Butyl Alcohol (TBA)	µg/kg	ND(50)	ND(50)	ND(50)	ND(50,000)	ND(10,000)	ND(10,000)	ND(50,000)	ND(50,000)	ND(5,000)	ND(50)	ND(50)	ND(50)	ND(50)	ND(5,000)	ND(5,000)
tert-Butylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5,000)	ND(1,000)	ND(1,000)	ND(5,000)	ND(5,000)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(500)
Tetrachloroethene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5,000)	ND(1,000)	ND(1,000)	ND(5,000)	ND(5,000)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(500)
Toluene	µg/kg	ND(5.0)	ND(5.0)	1.7 J	ND(5,000)	ND(1,000)	ND(1,000)	ND(5,000)	ND(5,000)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(500)
Trichloroethene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5,000)	ND(1,000)	ND(1,000)	ND(5,000)	ND(5,000)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(500)
Xylenes, total	µg/kg	ND(5.0)	ND(5.0)	1.1 J	2,500 J	ND(1,000)	940 J	ND(5,000)	ND(5,000)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	900

NOTES:
ID - Identification
bgs - Below ground surface
VOCs - Volatile organic compounds
µg/kg - Micrograms per kilogram
ND(5.0) - Analyte not detected at
J - Analyte estimated concentration below
c - Cis
m - Meta
n - Normal
o - Ortho
p - Para
sec - Secondary
t - Trans
tert- Tertiary

TABLE 15
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID: / Sample Depth (feet bgs): / Date Collected:	Units	B060 / 15 / 12/20/05	B060 / 20 / 12/20/05	B060 / 30 / 12/20/05	B061 / 2 / 12/20/05	B061 / 5 / 12/20/05	B061 / 10 / 12/20/05	B062 / 2 / 12/21/05	B062 / 5 / 12/21/05	B062 / 10 / 12/21/05	B062 / 15 / 12/21/05	B062 / 20 / 12/21/05	B063 / 2 / 01/09/06	B063 / 5 / 01/09/06	B063 / 10 / 01/09/06
VOCs															
1,1,1,2-Tetrachloroethane	µg/kg	ND(500)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,2,4-Trichlorobenzene	µg/kg	ND(500)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,2,4-Trimethylbenzene	µg/kg	6,300	8,300	28	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,2-Dichlorobenzene	µg/kg	ND(500)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,2-Dichloroethane	µg/kg	ND(500)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,2-Dichloropropane	µg/kg	ND(500)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,3,5-Trimethylbenzene	µg/kg	1,700	2,300	5.7	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
2-Butanone	µg/kg	ND(10,000)	ND(10,000)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)
2-Hexanone	µg/kg	ND(500)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
4-Methyl-2-Pentanone	µg/kg	ND(500)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Acetone	µg/kg	ND(5,000)	ND(5,000)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)
Benzene	µg/kg	ND(500)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Bromoform	µg/kg	ND(500)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
c-1,2-Dichloroethene	µg/kg	ND(500)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Carbon Disulfide	µg/kg	ND(500)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Chloroethane	µg/kg	ND(500)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Chloromethane	µg/kg	ND(500)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Diisopropyl Ether (DIPE)	µg/kg	ND(1,000)	ND(1,000)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Ethylbenzene	µg/kg	1,200	2,500	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Iodomethane	µg/kg	ND(500)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Isopropylbenzene	µg/kg	270 J	400 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	15
m and p-Xylene	µg/kg	3,000	5,900	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Methyl-t-Butyl Ether (MTBE)	µg/kg	ND(500)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	22	50	200	58	13	ND(5.0)	2.3 J	52
Naphthalene	µg/kg	4,900	5,700	110	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	69
n-Butylbenzene	µg/kg	ND(500)	1,400	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
n-Propylbenzene	µg/kg	880	1,200	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	36
o-Xylene	µg/kg	1,100	2,000	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
p-Isopropyltoluene	µg/kg	830	1,100	4.1 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
sec-Butylbenzene	µg/kg	330 J	420 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	4.7 J
Styrene	µg/kg	ND(500)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
t-1,2-Dichloroethene	µg/kg	ND(500)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Tert-Butyl Alcohol (TBA)	µg/kg	ND(5,000)	ND(5,000)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	87	69	ND(50)	52	39 J	100
tert-Butylbenzene	µg/kg	ND(500)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Tetrachloroethene	µg/kg	ND(500)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Toluene	µg/kg	ND(500)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	1.2 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Trichloroethene	µg/kg	ND(500)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Xylenes, total	µg/kg	4,100	8,000	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)

NOTES:
ID - Identification
bgs - Below ground surface
VOCs - Volatile organic compounds
µg/kg - Micrograms per kilogram
ND(5.0) - Analyte not detected at
J - Analyte estimated concentration below
c - Cis
m - Meta
n - Normal
o - Ortho
p - Para
sec - Secondary
t - Trans
tert- Tertiary

TABLE 15
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID: / Sample Depth (Feet bgs): / Date Collected:	Units	B064 / 2 / 12/23/05	B064 / 5 / 12/23/05	B064 / 10 / 12/23/05	B065 / 2 / 01/12/06	B065 / 5 / 01/12/06	B065 / 10 / 01/12/06	B066 / 2 / 01/11/06	B066 / 5 / 01/11/06	B066 / 10 / 01/11/06	B067 / 2 / 12/21/05	B067 / 5 / 12/21/05	B067 / 10 / 12/21/05	B068 / 2 / 12/21/05	B068 / 5 / 12/21/05	B068 / 10 / 12/21/05	B069 / 2 / 12/22/05	B069 / 5 / 12/22/05
VOCs																		
1,1,1,2-Tetrachloroethane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(610)	ND(5.0)	ND(5.0)	ND(1,000)	ND(470)	ND(5.0)	ND(5.0)
1,2,4-Trichlorobenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(610)	ND(5.0)	ND(5.0)	ND(1,000)	ND(470)	ND(5.0)	ND(5.0)
1,2,4-Trimethylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	4,600	9.5	2.2 J	ND(1,000)	ND(470)	ND(5.0)	ND(5.0)
1,2-Dichlorobenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(610)	ND(5.0)	ND(5.0)	ND(1,000)	ND(470)	ND(5.0)	ND(5.0)
1,2-Dichloroethane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(610)	ND(5.0)	ND(5.0)	ND(1,000)	ND(470)	ND(5.0)	ND(5.0)
1,2-Dichloropropane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(610)	ND(5.0)	ND(5.0)	ND(1,000)	ND(470)	ND(5.0)	ND(5.0)
1,3,5-Trimethylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	1,100	2.3 J	ND(5.0)	ND(1,000)	ND(470)	ND(5.0)	ND(5.0)
2-Butanone	µg/kg	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(12,000)	ND(100)	ND(100)	ND(20,000)	ND(9,400)	ND(100)	ND(100)
2-Hexanone	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(610)	ND(5.0)	ND(5.0)	ND(1,000)	ND(470)	ND(5.0)	ND(5.0)
4-Methyl-2-Pentanone	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(610)	ND(5.0)	ND(5.0)	ND(1,000)	ND(470)	ND(5.0)	ND(5.0)
Acetone	µg/kg	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	62	ND(6,100)	ND(50)	ND(50)	ND(10,000)	ND(4,700)	ND(50)	ND(50)
Benzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	1.8 J	ND(610)	ND(5.0)	2.1 J	ND(1,000)	ND(470)	ND(5.0)	ND(5.0)
Bromoform	µg/kg	ND(5.0)	ND(5.0)	14	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(610)	ND(5.0)	ND(5.0)	ND(1,000)	ND(470)	ND(5.0)	ND(5.0)
c-1,2-Dichloroethene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(610)	ND(5.0)	ND(5.0)	ND(1,000)	ND(470)	ND(5.0)	ND(5.0)
Carbon Disulfide	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(610)	ND(5.0)	ND(5.0)	ND(1,000)	ND(470)	ND(5.0)	ND(5.0)
Chloroethane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(610)	ND(5.0)	ND(5.0)	ND(1,000)	ND(470)	ND(5.0)	ND(5.0)
Chloromethane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	1.7 J	ND(610)	ND(5.0)	ND(5.0)	ND(1,000)	ND(470)	ND(5.0)	ND(5.0)
Disopropyl Ether (DIPE)	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(1,200)	ND(10)	ND(10)	ND(2,000)	ND(940)	ND(10)	ND(10)
Ethylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(610)	ND(5.0)	ND(5.0)	ND(1,000)	ND(470)	ND(5.0)	ND(5.0)
Iodomethane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(610)	ND(5.0)	ND(5.0)	ND(1,000)	ND(470)	ND(5.0)	ND(5.0)
Isopropylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(610)	ND(5.0)	ND(5.0)	220 J	ND(470)	ND(5.0)	ND(5.0)
m and p-Xylene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	320 J	ND(5.0)	ND(5.0)	ND(1,000)	ND(470)	ND(5.0)	ND(5.0)
Methyl-t-Butyl Ether (MTBE)	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(610)	ND(5.0)	ND(5.0)	ND(1,000)	ND(470)	ND(5.0)	ND(5.0)
Naphthalene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	5,400	12	ND(5.0)	ND(1,000)	ND(470)	ND(5.0)	ND(5.0)
n-Butylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(610)	ND(5.0)	ND(5.0)	ND(1,000)	ND(470)	ND(5.0)	ND(5.0)
n-Propylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	360 J	ND(5.0)	ND(5.0)	330 J	110 J	ND(5.0)	ND(5.0)
o-Xylene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(610)	ND(5.0)	ND(5.0)	ND(1,000)	ND(470)	ND(5.0)	ND(5.0)
p-Isopropyltoluene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	990	1.9 J	ND(5.0)	ND(1,000)	ND(470)	ND(5.0)	ND(5.0)
sec-Butylbenzene	µg/kg	ND(5.0)	1.2 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	540 J	1.2 J	ND(5.0)	220 J	100 J	ND(5.0)	ND(5.0)
Styrene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(610)	ND(5.0)	ND(5.0)	ND(1,000)	ND(470)	ND(5.0)	ND(5.0)
t-1,2-Dichloroethene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(610)	ND(5.0)	ND(5.0)	ND(1,000)	ND(470)	ND(5.0)	ND(5.0)
Tert-Butyl Alcohol (TBA)	µg/kg	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(6,100)	ND(50)	ND(50)	ND(10,000)	ND(4,700)	ND(50)	ND(50)
tert-Butylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(610)	ND(5.0)	ND(5.0)	ND(1,000)	ND(470)	ND(5.0)	ND(5.0)
Tetrachloroethene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(610)	ND(5.0)	ND(5.0)	ND(1,000)	ND(470)	ND(5.0)	ND(5.0)
Toluene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	1.9 J	160 J	ND(5.0)	2.2 J	ND(1,000)	ND(470)	ND(5.0)	ND(5.0)
Trichloroethene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(610)	ND(5.0)	ND(5.0)	ND(1,000)	ND(470)	ND(5.0)	ND(5.0)
Xylenes, total	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	320 J	ND(5.0)	ND(5.0)	ND(1,000)	ND(470)	ND(5.0)	ND(5.0)

NOTES:
ID - Identification
bgs - Below ground surface
VOCs - Volatile organic compounds
µg/kg - Micrograms per kilogram
ND(5.0) - Analyte not detected at
J - Analyte estimated concentration below
c - Cis
m - Meta
n - Normal
o - Ortho
p - Para
sec - Secondary
t - Trans
tert- Tertiary

TABLE 15
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID / Sample Depth (Feet bgs) / Date Collected	Units	B069 10 12/22/05	B070 2 12/22/05	B070 5 12/22/05	B070 10 12/22/05	B070 15 12/22/05	B070 20 12/22/05	B070 30 12/22/05	B070 40 12/22/05	B071 2 12/21/05	B071 5 12/21/05	B071 10 12/21/05	B072 2 12/21/05	B072 5 12/21/05	B072 10 12/21/05	B073 2 01/30/06	B073 5 01/30/06
VOCs																	
1,1,1,2-Tetrachloroethane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(530)	ND(5.0)	ND(560)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(280)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,2,4-Trichlorobenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(530)	ND(5.0)	ND(560)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(280)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,2,4-Trimethylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	1,400	6,000	19	5,900	2,840	ND(5.0)	ND(5.0)	ND(5.0)	130 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,2-Dichlorobenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(530)	ND(5.0)	ND(560)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(280)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,2-Dichloroethane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(530)	ND(5.0)	ND(560)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(280)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,2-Dichloropropane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(530)	ND(5.0)	ND(560)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(280)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,3,5-Trimethylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	440 J	1,400	5.0	1,300	924	ND(5.0)	ND(5.0)	ND(5.0)	ND(280)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
2-Butanone	µg/kg	ND(100)	ND(100)	ND(100)	ND(10,000)	ND(11,000)	ND(100)	ND(11,000)	ND(10,000)	ND(100)	ND(100)	ND(100)	ND(5,500)	ND(100)	ND(100)	ND(100)	ND(100)
2-Hexanone	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(530)	ND(5.0)	ND(560)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(280)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
4-Methyl-2-Pentanone	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(530)	ND(5.0)	ND(560)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(280)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Acetone	µg/kg	ND(50)	ND(50)	ND(50)	ND(5,000)	ND(5,300)	ND(50)	ND(5,600)	ND(5,000)	ND(50)	ND(50)	ND(50)	ND(2,800)	ND(50)	ND(50)	ND(50)	ND(50)
Benzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(530)	ND(5.0)	ND(560)	ND(500)	ND(5.0)	ND(5.0)	1.8 J	ND(280)	5.5	ND(5.0)	ND(5.0)	ND(5.0)
Bromoform	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(530)	ND(5.0)	ND(560)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(280)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
c-1,2-Dichloroethene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(530)	ND(5.0)	ND(560)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(280)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Carbon Disulfide	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(530)	ND(5.0)	ND(560)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(280)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Chloroethane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(530)	ND(5.0)	ND(560)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(280)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Chloromethane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(530)	ND(5.0)	ND(560)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(280)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Diisopropyl Ether (DIPE)	µg/kg	ND(10)	ND(10)	ND(10)	ND(1,000)	ND(1,100)	ND(10)	ND(1,100)	ND(1,000)	ND(10)	ND(10)	ND(10)	ND(550)	ND(10)	ND(10)	ND(10)	ND(10)
Ethylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	160 J	510 J	4.4 J	470 J	221 J	ND(5.0)	ND(5.0)	ND(5.0)	80 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Iodomethane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(530)	ND(5.0)	ND(560)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(280)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Isopropylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	200 J	ND(5.0)	170 J	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(280)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
m and p-Xylene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	290 J	970	NA	1,100	660	ND(5.0)	ND(5.0)	ND(5.0)	170 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Methyl-t-Butyl Ether (MTBE)	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(530)	ND(5.0)	ND(560)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(280)	2.7 J	ND(5.0)	ND(5.0)	3.1 J
Naphthalene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	740	3,200	12	2,500	1,930	ND(5.0)	ND(5.0)	ND(5.0)	ND(280)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
n-Butylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	1,900	ND(5.0)	1,000	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(280)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
n-Propylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	170 J	650	2.2 J	640	344 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(280)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
o-Xylene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	110 J	390 J	NA	500 J	422 J	ND(5.0)	ND(5.0)	ND(5.0)	69 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
p-Isopropyltoluene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	180 J	550	ND(5.0)	480 J	533	ND(5.0)	ND(5.0)	ND(5.0)	ND(280)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
sec-Butylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	310 J	ND(5.0)	240 J	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(280)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Styrene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(530)	ND(5.0)	ND(560)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(280)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
t-1,2-Dichloroethene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(530)	ND(5.0)	ND(560)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(280)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Tert-Butyl Alcohol (TBA)	µg/kg	ND(50)	ND(50)	ND(50)	ND(5,000)	ND(5,300)	ND(50)	ND(5,600)	ND(5,000)	ND(50)	ND(50)	ND(50)	ND(2,800)	170	27 J	47 J	ND(50)
tert-Butylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(530)	ND(5.0)	ND(560)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(280)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Tetrachloroethene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(530)	ND(5.0)	ND(560)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(280)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Toluene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(530)	ND(5.0)	ND(560)	ND(500)	ND(5.0)	ND(5.0)	1.1 J	ND(280)	3.3 J	ND(5.0)	ND(5.0)	ND(5.0)
Trichloroethene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(530)	ND(5.0)	ND(560)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(280)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Xylenes, total	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	400 J	1,400	8.2	1,600	1,080	ND(5.0)	ND(5.0)	ND(5.0)	240 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)

NOTES:
ID - Identification
bgs - Below ground surface
VOCs - Volatile organic compounds
µg/kg - Micrograms per kilogram
ND(5.0) - Analyte not detected at
J - Analyte estimated concentration below
c - Cis
m - Meta
n - Normal
o - Ortho
p - Para
sec - Secondary
t - Trans
tert- Tertiary

TABLE 15
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID:	Units	B073	B074	B074	B074	B074	B074	B075	B075	B075	B075	B076	B076	B076	B076	B076	B076
Sample Depth (Feet bgs):		10	2	5	10	15	20	2	5	10	15	2	3	10	15	20	30
Date Collected:		10/13/06	10/11/06	10/11/06	10/11/06	10/11/06	10/11/06	10/11/06	10/11/06	10/11/06	10/11/06	12/22/05	12/22/05	12/22/05	12/22/05	12/22/05	12/22/05
VOCs																	
1,1,1,2-Tetrachloroethane	µg/kg	ND(5.0)	ND(5.0)	ND(500)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(5.0)	ND(500)	ND(1,300)	ND(1,300)	ND(530)
1,2,4-Trichlorobenzene	µg/kg	ND(5.0)	ND(5.0)	ND(500)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(5.0)	ND(500)	ND(1,300)	ND(1,300)	ND(530)
1,2,4-Trimethylbenzene	µg/kg	ND(5.0)	ND(5.0)	940	7,000	10	24	ND(5.0)	ND(5.0)	ND(5.0)	1.8 J	680	69	5,600	6,800	9,900	3,900
1,2-Dichlorobenzene	µg/kg	ND(5.0)	ND(5.0)	ND(500)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(5.0)	ND(500)	ND(1,300)	ND(1,300)	ND(530)
1,2-Dichloroethane	µg/kg	ND(5.0)	ND(5.0)	ND(500)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(5.0)	ND(500)	ND(1,300)	ND(1,300)	ND(530)
1,2-Dichloropropane	µg/kg	ND(5.0)	ND(5.0)	ND(500)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(5.0)	ND(500)	ND(1,300)	ND(1,300)	ND(530)
1,3,5-Trimethylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(500)	2,000	2.4 J	6.4	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	120 J	17	1,200	850 J	2,000	1,200
2-Butanone	µg/kg	ND(100)	ND(100)	ND(10,000)	ND(10,000)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(10,000)	ND(100)	ND(10,000)	ND(26,000)	ND(25,000)	ND(11,000)
2-Hexanone	µg/kg	ND(5.0)	ND(5.0)	ND(500)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(5.0)	ND(500)	ND(1,300)	ND(1,300)	ND(530)
4-Methyl-2-Pentanone	µg/kg	ND(5.0)	ND(5.0)	ND(500)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(5.0)	ND(500)	ND(1,300)	ND(1,300)	ND(530)
Acetone	µg/kg	ND(50)	ND(50)	ND(5,000)	ND(5,000)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(5,000)	ND(50)	ND(5,000)	ND(13,000)	ND(13,000)	ND(5,300)
Benzene	µg/kg	ND(5.0)	ND(5.0)	ND(500)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(5.0)	ND(500)	ND(1,300)	ND(1,300)	ND(530)
Bromoform	µg/kg	ND(5.0)	ND(5.0)	ND(500)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(5.0)	ND(500)	ND(1,300)	ND(1,300)	ND(530)
c-1,2-Dichloroethene	µg/kg	ND(5.0)	ND(5.0)	ND(500)	ND(500)	NA	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(5.0)	ND(500)	ND(1,300)	ND(1,300)	ND(530)
Carbon Disulfide	µg/kg	ND(5.0)	ND(5.0)	ND(500)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(5.0)	ND(500)	ND(1,300)	ND(1,300)	ND(530)
Chloroethane	µg/kg	ND(5.0)	ND(5.0)	ND(500)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(5.0)	ND(500)	ND(1,300)	ND(1,300)	ND(530)
Chloromethane	µg/kg	ND(5.0)	ND(5.0)	ND(500)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(5.0)	ND(500)	ND(1,300)	ND(1,300)	ND(530)
Diisopropyl Ether (DIPE)	µg/kg	ND(10)	ND(10)	ND(1,000)	ND(1,000)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(1,000)	ND(10)	ND(1,000)	ND(2,600)	ND(2,500)	ND(1,100)
Ethylbenzene	µg/kg	ND(5.0)	ND(5.0)	1,500	1,700	2.9 J	3.8 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	310 J	34	750	600 J	1,700	570
Iodomethane	µg/kg	ND(5.0)	ND(5.0)	ND(500)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(5.0)	ND(500)	ND(1,300)	ND(1,300)	ND(530)
Isopropylbenzene	µg/kg	ND(5.0)	ND(5.0)	590	340 J	ND(5.0)	1.0 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	78 J	4.6 J	210 J	730 J	720 J	220 J
m and p-Xylene	µg/kg	ND(5.0)	3.8 J	ND(500)	2,900	3.1 J	8.0	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	140 J	53	1,600	770 J	3,000	2,400
Methyl-t-Butyl Ether (MTBE)	µg/kg	10	ND(5.0)	ND(500)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(5.0)	ND(500)	ND(1,300)	ND(1,300)	ND(530)
Naphthalene	µg/kg	ND(5.0)	ND(5.0)	ND(500)	500	ND(5.0)	5.9	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	14	ND(500)	3,700	3,600	ND(530)
n-Butylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(500)	1,900	ND(5.0)	2.5 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	240 J	8.4	770	2,500	2,900	450 J
n-Propylbenzene	µg/kg	ND(5.0)	ND(5.0)	2,100	1,400	1.8 J	3.8 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	280 J	14	780	1,700	2,000	460 J
o-Xylene	µg/kg	ND(5.0)	1.1 J	ND(500)	160 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	24	530	ND(1,300)	1,300	920
p-Isopropyltoluene	µg/kg	ND(5.0)	ND(5.0)	110 J	390 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(5.0)	340 J	710 J	610 J	280 J
sec-Butylbenzene	µg/kg	ND(5.0)	ND(5.0)	360 J	300 J	ND(5.0)	1.2 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	130 J	3.1 J	240 J	900 J	940 J	240 J
Styrene	µg/kg	ND(5.0)	ND(5.0)	ND(500)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(5.0)	ND(500)	ND(1,300)	ND(1,300)	ND(530)
t-1,2-Dichloroethene	µg/kg	ND(5.0)	ND(5.0)	ND(500)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(5.0)	ND(500)	ND(1,300)	ND(1,300)	ND(530)
Tert-Butyl Alcohol (TBA)	µg/kg	36 J	ND(50)	ND(5,000)	ND(5,000)	ND(50)	ND(50)	24 J	40 J	64	19 J	ND(5,000)	ND(50)	ND(5,000)	ND(13,000)	ND(13,000)	ND(5,300)
tert-Butylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(500)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(5.0)	ND(500)	ND(1,300)	ND(1,300)	ND(530)
Tetrachloroethene	µg/kg	ND(5.0)	ND(5.0)	ND(500)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(5.0)	ND(500)	ND(1,300)	ND(1,300)	ND(530)
Toluene	µg/kg	ND(5.0)	1.4 J	ND(500)	ND(500)	1.3 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(5.0)	ND(500)	ND(1,300)	ND(1,300)	ND(530)
Trichloroethene	µg/kg	ND(5.0)	ND(5.0)	ND(500)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(5.0)	ND(500)	ND(1,300)	ND(1,300)	ND(530)
Xylenes, total	µg/kg	ND(5.0)	4.9 J	ND(500)	3,100	3.1 J	8.0	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	140 J	77	2,100	770 J	4,300	3,300

NOTES:
ID - Identification
bgs - Below ground surface
VOCs - Volatile organic compounds
µg/kg - Micrograms per kilogram
ND(5.0) - Analyte not detected at
J - Analyte estimated concentration below
c - Cis
m - Meta
n - Normal
o - Ortho
p - Para
sec - Secondary
t - Trans
tert- Tertiary

TABLE 15
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID		B076	B077	B077	B077	B078	B078	B078	B079	B079	B079	B080	B080	B080	B081	B081	B081	B082
Sample Depth (Feet bgs)		10	2	5	10	2	5	10	2	5	10	2	5	10	2	5	10	2
Date Collected		12/22/05	12/23/05	12/23/05	12/23/05	12/23/05	12/23/05	12/23/05	12/23/05	12/23/05	12/23/05	12/22/05	12/22/05	12/22/05	12/22/05	12/22/05	12/22/05	12/23/05
VOCs																		
1,1,1,2-Tetrachloroethane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,2,4-Trichlorobenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,2,4-Trimethylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	1.6 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	1.1 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,2-Dichlorobenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,2-Dichloroethane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,2-Dichloropropane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,3,5-Trimethylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
2-Butanone	µg/kg	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)
2-Hexanone	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
4-Methyl-2-Pentanone	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Acetone	µg/kg	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)
Benzene	µg/kg	ND(5.0)	47	1.3 J	11	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Bromoform	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
c-1,2-Dichloroethene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Carbon Disulfide	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Chloroethane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Chloromethane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Diisopropyl Ether (DIPE)	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Ethylbenzene	µg/kg	ND(5.0)	26	32	66	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Iodomethane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Isopropylbenzene	µg/kg	ND(5.0)	1.1 J	2.5 J	5.4	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
m and p-Xylene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	3.3 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Methyl-t-Butyl Ether (MTBE)	µg/kg	ND(5.0)	4.0 J	4.1 J	6.0	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	5.0	1.8 J	2.6 J	ND(5.0)	ND(5.0)
Naphthalene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	10	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
n-Butylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	3.0 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
n-Propylbenzene	µg/kg	ND(5.0)	1.9 J	4.4 J	12	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
o-Xylene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	1.0 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
p-Isopropyltoluene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
sec-Butylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	1.7 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Styrene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
t-1,2-Dichloroethene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Tert-Butyl Alcohol (TBA)	µg/kg	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)
tert-Butylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Tetrachloroethene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Toluene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Trichloroethene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Xylenes, total	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	4.3 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)

NOTES:
ID - Identification
bgs - Below ground surface
VOCs - Volatile organic compounds
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p - Para
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TABLE 15
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID		B082	B082	B083	B083	B083	B084	B084	B084	B085	B085	B085	B086	B086	B086	B087	B087	B087
Sample Depth (Feet bgs)		5	10	2	5	10	2	5	10	2	5	10	2	5	10	2	5	10
Date Collected	Units	12/23/05	12/23/05	01/04/06	01/04/06	01/04/06	01/05/06	01/05/06	01/05/06	12/28/05	12/28/05	12/28/05	01/11/06	01/11/06	01/11/06	01/11/06	01/11/06	01/11/06
VOCs																		
1,1,1,2-Tetrachloroethane	µg/kg	ND(5.0)	ND(5.0)	ND(210)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,2,4-Trichlorobenzene	µg/kg	ND(5.0)	ND(5.0)	ND(210)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,2,4-Trimethylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(210)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	1.1 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,2-Dichlorobenzene	µg/kg	ND(5.0)	ND(5.0)	ND(210)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,2-Dichloroethane	µg/kg	ND(5.0)	ND(5.0)	ND(210)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,2-Dichloropropane	µg/kg	ND(5.0)	ND(5.0)	ND(210)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,3,5-Trimethylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(210)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
2-Butanone	µg/kg	ND(100)	ND(100)	ND(4,100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)
2-Hexanone	µg/kg	ND(5.0)	ND(5.0)	ND(210)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
4-Methyl-2-Pentanone	µg/kg	ND(5.0)	ND(5.0)	ND(210)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Acetone	µg/kg	ND(50)	ND(50)	ND(2,100)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)
Benzene	µg/kg	ND(5.0)	ND(5.0)	ND(210)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	1.0 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Bromoform	µg/kg	ND(5.0)	ND(5.0)	ND(210)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
c-1,2-Dichloroethene	µg/kg	ND(5.0)	ND(5.0)	ND(210)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Carbon Disulfide	µg/kg	ND(5.0)	ND(5.0)	ND(210)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Chloroethane	µg/kg	ND(5.0)	ND(5.0)	ND(210)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Chloromethane	µg/kg	ND(5.0)	ND(5.0)	ND(210)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Diisopropyl Ether (DIPE)	µg/kg	ND(10)	ND(10)	ND(410)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Ethylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(210)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Iodomethane	µg/kg	ND(5.0)	ND(5.0)	ND(210)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Isopropylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(210)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
m and p-Xylene	µg/kg	ND(5.0)	ND(5.0)	ND(210)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	1.6 J	ND(5.0)
Methyl-t-Butyl Ether (MTBE)	µg/kg	ND(5.0)	ND(5.0)	ND(210)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Naphthalene	µg/kg	ND(5.0)	ND(5.0)	ND(210)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
n-Butylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(210)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
n-Propylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(210)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
o-Xylene	µg/kg	ND(5.0)	ND(5.0)	ND(210)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
p-Isopropyltoluene	µg/kg	ND(5.0)	ND(5.0)	ND(210)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
sec-Butylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(210)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Styrene	µg/kg	ND(5.0)	ND(5.0)	ND(210)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
t-1,2-Dichloroethene	µg/kg	ND(5.0)	ND(5.0)	ND(210)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Tert-Butyl Alcohol (TBA)	µg/kg	ND(50)	ND(50)	ND(2,100)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)
tert-Butylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(210)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Tetrachloroethene	µg/kg	ND(5.0)	ND(5.0)	ND(210)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Toluene	µg/kg	ND(5.0)	ND(5.0)	ND(210)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	1.1 J	ND(5.0)
Trichloroethene	µg/kg	ND(5.0)	ND(5.0)	ND(210)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Xylenes, total	µg/kg	ND(5.0)	ND(5.0)	ND(210)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	1.6 J	ND(5.0)

NOTES:
ID - Identification
bgs - Below ground surface
VOCs - Volatile organic compounds
µg/kg - Micrograms per kilogram
ND(5.0) - Analyte not detected at
J - Analyte estimated concentration below
c - Cis
m - Meta
n - Normal
o - Ortho
p - Para
sec - Secondary
t - Trans
tert- Tertiary

TABLE 15
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID: / Sample Depth (Feet bgs) / Date Collected:	Units	B088 2 01/13/06	B088 5 01/13/06	B088 10 01/13/06	B089 2 01/09/06	B089 5 01/09/06	B089 10 01/09/06	B090 2 01/10/06	B090 5 01/10/06	B090 10 01/10/06	B091 2 01/10/06	B091 5 01/10/06	B091 10 01/10/06	B092 2 01/05/06	B092 5 01/05/06	B092 10 01/05/06	B093 2 01/05/06	B093 5 01/05/06
VOCs																		
1,1,1,2-Tetrachloroethane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(1,000)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,2,4-Trichlorobenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(1,000)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,2,4-Trimethylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	1.2 J	ND(1,000)	2.8 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,2-Dichlorobenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(1,000)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,2-Dichloroethane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(1,000)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,2-Dichloropropane	µg/kg	2.2 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(1,000)	2.8 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,3,5-Trimethylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(1,000)	4.4 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
2-Butanone	µg/kg	ND(100)	ND(100)	ND(100)	ND(100)	ND(20,000)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)
2-Hexanone	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(1,000)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
4-Methyl-2-Pentanone	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(1,000)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Acetone	µg/kg	ND(50)	ND(50)	ND(50)	ND(50)	ND(10,000)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)
Benzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(1,000)	1.4 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	5.2	ND(5.0)	ND(5.0)	2.1 J	ND(5.0)	ND(5.0)	ND(5.0)
Bromoform	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(1,000)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
c-1,2-Dichloroethene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(1,000)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Carbon Disulfide	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(1,000)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Chloroethane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(1,000)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Chloromethane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(1,000)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Diisopropyl Ether (DIPE)	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(2,000)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Ethylbenzene	µg/kg	ND(5.0)	ND(5.0)	1.0 J	ND(5.0)	240 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Iodomethane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(1,000)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Isopropylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(1,000)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
m and p-Xylene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(1,000)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Methyl-t-Butyl Ether (MTBE)	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(1,000)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Naphthalene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(1,000)	16	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
n-Butylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	9.5	ND(1,000)	2.7 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
n-Propylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	210 J	1.2 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
o-Xylene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(1,000)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
p-Isopropyltoluene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(1,000)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
sec-Butylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(1,000)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Styrene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(1,000)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
t-1,2-Dichloroethene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(1,000)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Tert-Butyl Alcohol (TBA)	µg/kg	44 J	120	61	ND(50)	ND(10,000)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)
tert-Butylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(1,000)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Tetrachloroethene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(1,000)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Toluene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(1,000)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	3.0 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Trichloroethene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(1,000)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Xylenes, total	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(1,000)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)

NOTES:
ID - Identification
bgs - Below ground surface
VOCs - Volatile organic compounds
µg/kg - Micrograms per kilogram
ND(5.0) - Analyte not detected at
J - Analyte estimated concentration below
c - Cis
m - Meta
n - Normal
o - Ortho
p - Para
sec - Secondary
t - Trans
tert- Tertiary

TABLE 15
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID: / Sample Depth (Feet bgs): / Date Collected:	Units	B093 10 01/05/06	B094 2 01/05/06	B094 5 01/05/06	B094 10 01/05/06	B095 2 01/04/06	B095 5 01/04/06	B095 10 01/04/06	B096 2 12/28/05	B096 5 12/28/05	B096 10 12/28/05	B097 2 01/05/06	B097 5 01/05/06	B097 10 01/05/06	B098 2 01/04/06	B098 5 01/04/06	B098 10 01/04/06	B099 2 01/03/06
VOCs																		
1,1,1,2-Tetrachloroethane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(210)	ND(5.0)	ND(5.0)	ND(5.0)
1,2,4-Trichlorobenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(210)	ND(5.0)	ND(5.0)	ND(5.0)
1,2,4-Trimethylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(210)	ND(5.0)	ND(5.0)	ND(5.0)
1,2-Dichlorobenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	100 J	ND(5.0)	ND(5.0)	ND(5.0)
1,2-Dichloroethane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(210)	ND(5.0)	ND(5.0)	ND(5.0)
1,2-Dichloropropane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(210)	ND(5.0)	ND(5.0)	ND(5.0)
1,3,5-Trimethylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(210)	ND(5.0)	ND(5.0)	ND(5.0)
2-Butanone	µg/kg	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(4,100)	ND(100)	ND(100)	ND(100)
2-Hexanone	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(210)	ND(5.0)	ND(5.0)	ND(5.0)
4-Methyl-2-Pentanone	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(210)	ND(5.0)	ND(5.0)	ND(5.0)
Acetone	µg/kg	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(2,100)	ND(50)	ND(50)	ND(50)
Benzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	2.3 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(210)	1.4 J	ND(5.0)	ND(5.0)
Bromoform	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(210)	ND(5.0)	ND(5.0)	ND(5.0)
c-1,2-Dichloroethene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(210)	ND(5.0)	ND(5.0)	ND(5.0)
Carbon Disulfide	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(210)	ND(5.0)	ND(5.0)	ND(5.0)
Chloroethane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(210)	ND(5.0)	ND(5.0)	ND(5.0)
Chloromethane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(210)	ND(5.0)	ND(5.0)	ND(5.0)
Diisopropyl Ether (DIPE)	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(410)	ND(10)	ND(10)	ND(10)
Ethylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(210)	ND(5.0)	ND(5.0)	ND(5.0)
Iodomethane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(210)	ND(5.0)	ND(5.0)	ND(5.0)
Isopropylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(210)	ND(5.0)	ND(5.0)	ND(5.0)
m and p-Xylene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(210)	ND(5.0)	ND(5.0)	ND(5.0)
Methyl-t-Butyl Ether (MTBE)	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(210)	ND(5.0)	ND(5.0)	ND(5.0)
Naphthalene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(210)	ND(5.0)	ND(5.0)	ND(5.0)
n-Butylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(210)	ND(5.0)	ND(5.0)	ND(5.0)
n-Propylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(210)	ND(5.0)	ND(5.0)	ND(5.0)
o-Xylene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(210)	ND(5.0)	ND(5.0)	ND(5.0)
p-Isopropyltoluene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(210)	ND(5.0)	ND(5.0)	ND(5.0)
sec-Butylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(210)	ND(5.0)	ND(5.0)	ND(5.0)
Styrene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(210)	ND(5.0)	ND(5.0)	ND(5.0)
t-1,2-Dichloroethene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(210)	ND(5.0)	ND(5.0)	ND(5.0)
Tert-Butyl Alcohol (TBA)	µg/kg	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	15 J	10 J	18 J	ND(2,100)	ND(50)	ND(50)	ND(50)
tert-Butylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(210)	ND(5.0)	ND(5.0)	ND(5.0)
Tetrachloroethene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(210)	ND(5.0)	ND(5.0)	ND(5.0)
Toluene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	1.2 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(210)	ND(5.0)	ND(5.0)	ND(5.0)
Trichloroethene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(210)	ND(5.0)	ND(5.0)	ND(5.0)
Xylenes, total	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(210)	ND(5.0)	ND(5.0)	ND(5.0)

NOTES:
ID - Identification
bgs - Below ground surface
VOCs - Volatile organic compounds
µg/kg - Micrograms per kilogram
ND(5.0) - Analyte not detected at
J - Analyte estimated concentration below
c - Cis
m - Meta
n - Normal
o - Ortho
p - Para
sec - Secondary
t - Trans
tert- Tertiary

TABLE 15
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID: / Sample Depth (Feet bgs) / Date Collected	Units	B099 / 2 / 01/06/06	B099 / 10 / 01/06/06	B100 / 2 / 01/10/06	B100 / 5 / 01/10/06	B100 / 10 / 01/10/06	B101 / 2 / 01/10/06	B101 / 5 / 01/10/06	B101 / 10 / 01/10/06	B102 / 2 / 01/09/06	B102 / 5 / 01/09/06	B102 / 10 / 01/09/06	B103 / 2 / 01/06/06	B103 / 5 / 01/06/06	B103 / 10 / 01/06/06	B104 / 2 / 02/03/06	B104 / 5 / 02/03/06	B104 / 10 / 02/03/06
VOCs																		
1,1,1,2-Tetrachloroethane	µg/kg	ND(5.0)	ND(5.0)	ND(200)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,2,4-Trichlorobenzene	µg/kg	ND(5.0)	ND(5.0)	ND(200)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,2,4-Trimethylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(200)	ND(5.0)	2.8 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,2-Dichlorobenzene	µg/kg	ND(5.0)	ND(5.0)	ND(200)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,2-Dichloroethane	µg/kg	ND(5.0)	ND(5.0)	ND(200)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,2-Dichloropropane	µg/kg	ND(5.0)	ND(5.0)	ND(200)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,3,5-Trimethylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(200)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
2-Butanone	µg/kg	ND(100)	ND(100)	ND(3,900)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)
2-Hexanone	µg/kg	ND(5.0)	ND(5.0)	ND(200)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
4-Methyl-2-Pentanone	µg/kg	ND(5.0)	ND(5.0)	ND(200)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Acetone	µg/kg	ND(50)	ND(50)	ND(2,000)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)
Benzene	µg/kg	ND(5.0)	ND(5.0)	ND(200)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	7.9	ND(5.0)	ND(5.0)	ND(5.0)
Bromoform	µg/kg	ND(5.0)	ND(5.0)	ND(200)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
c-1,2-Dichloroethene	µg/kg	ND(5.0)	ND(5.0)	ND(200)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Carbon Disulfide	µg/kg	ND(5.0)	ND(5.0)	ND(200)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Chloroethane	µg/kg	ND(5.0)	ND(5.0)	ND(200)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Chloromethane	µg/kg	ND(5.0)	ND(5.0)	ND(200)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Diisopropyl Ether (DIPE)	µg/kg	ND(10)	ND(10)	ND(390)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Ethylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(200)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Iodomethane	µg/kg	ND(5.0)	ND(5.0)	ND(200)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Isopropylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(200)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
m and p-Xylene	µg/kg	ND(5.0)	ND(5.0)	ND(200)	ND(5.0)	1.9 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Methyl-t-Butyl Ether (MTBE)	µg/kg	ND(5.0)	ND(5.0)	ND(200)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Naphthalene	µg/kg	ND(5.0)	ND(5.0)	ND(200)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
n-Butylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(200)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
n-Propylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(200)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
o-Xylene	µg/kg	ND(5.0)	ND(5.0)	ND(200)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
p-Isopropyltoluene	µg/kg	ND(5.0)	ND(5.0)	ND(200)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
sec-Butylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(200)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Styrene	µg/kg	ND(5.0)	ND(5.0)	ND(200)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
t-1,2-Dichloroethene	µg/kg	ND(5.0)	ND(5.0)	ND(200)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Tert-Butyl Alcohol (TBA)	µg/kg	ND(50)	ND(50)	ND(2,000)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	17 J	ND(50)	ND(50)	ND(50)	ND(50)
tert-Butylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(200)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Tetrachloroethene	µg/kg	ND(5.0)	ND(5.0)	ND(200)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Toluene	µg/kg	ND(5.0)	ND(5.0)	ND(200)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	4.4 J	ND(5.0)	ND(5.0)	ND(5.0)
Trichloroethene	µg/kg	ND(5.0)	ND(5.0)	ND(200)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Xylenes, total	µg/kg	ND(5.0)	ND(5.0)	ND(200)	ND(5.0)	1.9 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)

NOTES:
ID - Identification
bgs - Below ground surface
VOCs - Volatile organic compounds
µg/kg - Micrograms per kilogram
ND(5.0) - Analyte not detected at
J - Analyte estimated concentration below
c - Cis
m - Meta
n - Normal
o - Ortho
p - Para
sec - Secondary
t - Trans
tert- Tertiary

TABLE 15
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID:	Units	B105	B105	B105	B106	B106	B106	B107	B107	B107	B108	B108	B108	B109	B109	B109	B110	B110
Sample Depth (Feet bgs):		2	5	10	2	5	10	2	5	10	2	5	10	2	5	10	2	5
Date Collected:		01/04/06	01/04/06	01/04/06	12/28/05	12/28/05	12/28/05	01/04/06	01/04/06	01/04/06	01/09/06	01/09/06	01/09/06	01/04/06	01/04/06	01/04/06	12/28/05	12/28/05
VOCs																		
1,1,1,2-Tetrachloroethane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,2,4-Trichlorobenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,2,4-Trimethylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,2-Dichlorobenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,2-Dichloroethane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,2-Dichloropropane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,3,5-Trimethylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
2-Butanone	µg/kg	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)
2-Hexanone	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
4-Methyl-2-Pentanone	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Acetone	µg/kg	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)
Benzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	1.5 J	2.3 J	2.6 J	ND(5.0)	1.2 J	ND(5.0)	3.2 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	37
Bromoform	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
c-1,2-Dichloroethene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Carbon Disulfide	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Chloroethane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Chloromethane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Diisopropyl Ether (DIPE)	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Ethylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	3.3 J
Iodomethane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Isopropylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
m and p-Xylene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	4.3 J
Methyl-t-Butyl Ether (MTBE)	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Naphthalene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	5.4
n-Butylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
n-Propylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
o-Xylene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	1.7 J
p-Isopropyltoluene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
sec-Butylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Styrene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
t-1,2-Dichloroethene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Tert-Butyl Alcohol (TBA)	µg/kg	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)
tert-Butylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Tetrachloroethene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Toluene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	1.7 J	ND(5.0)	ND(5.0)	ND(5.0)	1.5 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	22
Trichloroethene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Xylenes, total	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	6.0

NOTES:
ID - Identification
bgs - Below ground surface
VOCs - Volatile organic compounds
µg/kg - Micrograms per kilogram
ND(5.0) - Analyte not detected at
J - Analyte estimated concentration below
c - Cis
m - Meta
n - Normal
o - Ortho
p - Para
sec - Secondary
t - Trans
tert- Tertiary

TABLE 15
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID: Sample Depth (Feet bgs): Date Collected:	Units	B110 10 12/28/05	B111 2 12/28/05	B111 5 12/28/05	B111 10 12/28/05	B112 2 12/28/05	B112 5 12/28/05	B112 10 12/28/05	B113 2 12/28/05	B113 10 12/28/05	B114 2 12/28/05	B114 10 12/28/05	B114 2 01/03/06	B114 5 01/03/06	B114 10 01/03/06	B115 2 01/03/06	B115 5 01/03/06	B115 10 01/03/06	B116 21 01/04/06
VOCs																			
1,1,1,2-Tetrachloroethane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(5.0)
1,2,4-Trichlorobenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	170 J	ND(5.0)
1,2,4-Trimethylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	1.7 J	ND(5.0)	ND(500)	ND(5.0)
1,2-Dichlorobenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	220 J	ND(5.0)
1,2-Dichloroethane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(5.0)
1,2-Dichloropropane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(5.0)
1,3,5-Trimethylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	1.6 J	ND(5.0)	ND(500)	ND(5.0)
2-Butanone	µg/kg	ND(100)	34 J	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(10,000)	ND(100)
2-Hexanone	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(5.0)
4-Methyl-2-Pentanone	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(5.0)
Acetone	µg/kg	ND(50)	110	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(5,000)	ND(50)
Benzene	µg/kg	ND(5.0)	ND(5.0)	1.0 J	ND(5.0)	1.5 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	1.8 J	ND(5.0)	1.1 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(5.0)
Bromoform	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(5.0)
c-1,2-Dichloroethene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(5.0)
Carbon Disulfide	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(5.0)
Chloroethane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(5.0)
Chloromethane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(5.0)
Diisopropyl Ether (DIPE)	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(1,000)	ND(10)
Ethylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(5.0)
Iodomethane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(5.0)
Isopropylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(5.0)
m and p-Xylene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(5.0)
Methyl-t-Butyl Ether (MTBE)	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(5.0)
Naphthalene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(5.0)
n-Butylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(5.0)
n-Propylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(5.0)
o-Xylene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(5.0)
p-Isopropyltoluene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	1.9 J	ND(5.0)	ND(500)	ND(5.0)
sec-Butylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(5.0)
Styrene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(5.0)
t-1,2-Dichloroethene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(5.0)
Tert-Butyl Alcohol (TBA)	µg/kg	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	51	25 J	ND(5,000)	ND(50)
tert-Butylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(5.0)
Tetrachloroethene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(5.0)
Toluene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(5.0)
Trichloroethene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(5.0)
Xylenes, total	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(5.0)

NOTES:
ID - Identification
bgs - Below ground surface
VOCs - Volatile organic compounds
µg/kg - Micrograms per kilogram
ND(5.0) - Analyte not detected at
J - Analyte estimated concentration below
c - Cis
m - Meta
n - Normal
o - Ortho
p - Para
sec - Secondary
t - Trans
tert- Tertiary

TABLE 15
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID:	Units	B115	B116	B117	B117	B117	B118	B118	B118	B119	B119	B119	B120	B120	B120	B120	B121	B121	B121
Sample Depth (Feet bgs):		2	10	2	5	10	2	5	10	2	5	10	2	5	10	2	5	10	2
Date Collected:		01/04/06	01/04/06	01/06/06	01/06/06	01/06/06	01/06/06	01/06/06	01/06/06	01/27/06	01/27/06	01/27/06	01/30/06	01/30/06	01/30/06	01/30/06	02/01/06	02/01/06	02/01/06
VOCs																			
1,1,1,2-Tetrachloroethane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(190)	ND(5.0)	ND(1,900)	ND(5.0)	ND(5.0)	ND(5.0)
1,2,4-Trichlorobenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(190)	ND(5.0)	ND(1,900)	ND(5.0)	ND(5.0)	ND(5.0)
1,2,4-Trimethylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	240	ND(5.0)	ND(1,900)	ND(5.0)	42	94
1,2-Dichlorobenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(190)	ND(5.0)	ND(1,900)	ND(5.0)	ND(5.0)	ND(5.0)
1,2-Dichloroethane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(190)	ND(5.0)	ND(1,900)	ND(5.0)	ND(5.0)	ND(5.0)
1,2-Dichloropropane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(190)	ND(5.0)	ND(1,900)	ND(5.0)	ND(5.0)	ND(5.0)
1,3,5-Trimethylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(190)	ND(5.0)	ND(1,900)	ND(5.0)	12	25
2-Butanone	µg/kg	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(3,700)	ND(100)	ND(37,000)	20 J	ND(100)	ND(100)
2-Hexanone	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(190)	ND(5.0)	ND(1,900)	1.3 J	ND(5.0)	ND(5.0)
4-Methyl-2-Pentanone	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(190)	ND(5.0)	ND(1,900)	ND(5.0)	ND(5.0)	ND(5.0)
Acetone	µg/kg	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(1,900)	ND(50)	ND(19,000)	56	ND(50)	ND(50)
Benzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(190)	ND(5.0)	ND(1,900)	ND(5.0)	40	5.6
Bromoform	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(190)	ND(5.0)	ND(1,900)	ND(5.0)	ND(5.0)	ND(5.0)
c-1,2-Dichloroethene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(190)	ND(5.0)	ND(1,900)	ND(5.0)	ND(5.0)	ND(5.0)
Carbon Disulfide	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(190)	ND(5.0)	ND(1,900)	ND(5.0)	ND(5.0)	ND(5.0)
Chloroethane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(190)	ND(5.0)	ND(1,900)	ND(5.0)	ND(5.0)	ND(5.0)
Chloromethane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(190)	ND(5.0)	ND(1,900)	ND(5.0)	ND(5.0)	ND(5.0)
Diisopropyl Ether (DIPE)	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(370)	ND(10)	ND(3,700)	ND(10)	ND(10)	ND(10)
Ethylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	78 J	ND(5.0)	ND(1,900)	ND(5.0)	25	14
Iodomethane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(190)	ND(5.0)	ND(1,900)	ND(5.0)	ND(5.0)	ND(5.0)
Isopropylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	83 J	ND(5.0)	ND(1,900)	ND(5.0)	3.3 J	1.9 J
m and p-Xylene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(190)	ND(5.0)	ND(1,900)	1.0 J	84	50
Methyl-t-Butyl Ether (MTBE)	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(190)	ND(5.0)	ND(1,900)	ND(5.0)	2,300	210
Naphthalene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(190)	ND(5.0)	ND(1,900)	ND(5.0)	5.0	32
n-Butylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(190)	ND(5.0)	ND(1,900)	ND(5.0)	ND(5.0)	16
n-Propylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	120 J	ND(5.0)	ND(1,900)	ND(5.0)	9.3	8.4
o-Xylene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(190)	ND(5.0)	ND(1,900)	ND(5.0)	18	20
p-Isopropyltoluene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	79 J	ND(5.0)	ND(1,900)	ND(5.0)	ND(5.0)	2.3 J
sec-Butylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	120 J	ND(5.0)	ND(1,900)	ND(5.0)	ND(5.0)	1.6 J
Styrene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(190)	ND(5.0)	ND(1,900)	ND(5.0)	ND(5.0)	ND(5.0)
t-1,2-Dichloroethene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(190)	ND(5.0)	ND(1,900)	ND(5.0)	ND(5.0)	ND(5.0)
Tert-Butyl Alcohol (TBA)	µg/kg	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	35 J	ND(50)	ND(50)	ND(50)	ND(1,900)	ND(50)	ND(19,000)	ND(50)	38 J	100	
tert-Butylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(190)	ND(5.0)	ND(1,900)	ND(5.0)	ND(5.0)	ND(5.0)
Tetrachloroethene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(190)	ND(5.0)	ND(1,900)	ND(5.0)	ND(5.0)	ND(5.0)
Toluene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(190)	ND(5.0)	ND(1,900)	ND(5.0)	8.5	4.8 J
Trichloroethene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(190)	ND(5.0)	ND(1,900)	ND(5.0)	ND(5.0)	ND(5.0)
Xylenes, total	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(190)	ND(5.0)	ND(1,900)	1.0 J	100	70

NOTES:
ID - Identification
bgs - Below ground surface
VOCs - Volatile organic compounds
µg/kg - Micrograms per kilogram
ND(5.0) - Analyte not detected at
J - Analyte estimated concentration below
c - Cis
m - Meta
n - Normal
o - Ortho
p - Para
sec - Secondary
t - Trans
tert- Tertiary

TABLE 15
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID Sample Depth (feet bgs) Date Collected	Units	B122 10 01/22/06	B122 20 01/22/06	B122 30 01/22/06	B122 40 01/22/06	B122 50 01/22/06	B123 5 01/20/06	B123 10 01/20/06	B123 15 01/20/06	B123 20 01/20/06	B123 25 01/20/06	B123 30 01/20/06	B124 2 01/16/06	B124 5 01/16/06	B124 10 01/16/06	B124 15 01/16/06	B124 20 01/16/06
VOCs																	
1,1,1,2-Tetrachloroethane	µg/kg	ND(5.0)	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	ND(910)	ND(1,400)	ND(2,300)	ND(2,400)	ND(2,500)	ND(5)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(1,300)
1,2,4-Trichlorobenzene	µg/kg	ND(5.0)	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	ND(910)	ND(1,400)	ND(2,300)	ND(2,400)	ND(2,500)	ND(5)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(1,300)
1,2,4-Trimethylbenzene	µg/kg	ND(5.0)	640	1.2 J	ND(5.0)	ND(5.0)	37,000	1,700	5,000	11,000	4,200	ND(5)	ND(5.0)	ND(5.0)	ND(5.0)	34	1,900
1,2-Dichlorobenzene	µg/kg	ND(5.0)	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	ND(910)	ND(1,400)	ND(2,300)	ND(2,400)	ND(2,500)	ND(5)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(1,300)
1,2-Dichloroethane	µg/kg	ND(5.0)	ND(230)	2.7 J	ND(5.0)	ND(5.0)	ND(910)	ND(1,400)	ND(2,300)	ND(2,400)	ND(2,500)	8.1	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(1,300)
1,2-Dichloropropane	µg/kg	ND(5.0)	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	ND(910)	ND(1,400)	ND(2,300)	ND(2,400)	ND(2,500)	ND(5)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(1,300)
1,3,5-Trimethylbenzene	µg/kg	ND(5.0)	190 J	ND(5.0)	ND(5.0)	ND(5.0)	13,000	340 J	1,100 J	2,900	1,100 J	ND(5)	ND(5.0)	ND(5.0)	ND(5.0)	12	1,100 J
2-Butanone	µg/kg	ND(100)	ND(4,600)	ND(100)	ND(100)	ND(100)	ND(18,000)	ND(28,000)	ND(45,000)	ND(48,000)	ND(49,000)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(26,000)
2-Hexanone	µg/kg	ND(5.0)	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	ND(910)	ND(1,400)	ND(2,300)	ND(2,400)	ND(2,500)	ND(5)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(1,300)
4-Methyl-2-Pentanone	µg/kg	ND(5.0)	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	ND(910)	ND(1,400)	ND(2,300)	ND(2,400)	ND(2,500)	ND(5)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(1,300)
Acetone	µg/kg	ND(50)	ND(2,300)	ND(50)	ND(50)	ND(50)	ND(9,100)	ND(14,000)	ND(23,000)	ND(24,000)	ND(25,000)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(13,000)
Benzene	µg/kg	ND(5.0)	290	15	1.6 J	2.1 J	2,800	1,700	4,400	14,000	3,600	ND(5)	30	28	31	12	1,300 J
Bromoform	µg/kg	ND(5.0)	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	ND(910)	ND(1,400)	ND(2,300)	ND(2,400)	ND(2,500)	ND(5)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(1,300)
c-1,2-Dichloroethene	µg/kg	ND(5.0)	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	ND(910)	ND(1,400)	ND(2,300)	ND(2,400)	ND(2,500)	ND(5)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(1,300)
Carbon Disulfide	µg/kg	ND(5.0)	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	ND(910)	ND(1,400)	ND(2,300)	ND(2,400)	ND(2,500)	ND(5)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(1,300)
Chloroethane	µg/kg	ND(5.0)	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	ND(910)	ND(1,400)	ND(2,300)	ND(2,400)	ND(2,500)	ND(5)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(1,300)
Chloromethane	µg/kg	ND(5.0)	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	ND(910)	ND(1,400)	ND(2,300)	ND(2,400)	ND(2,500)	ND(5)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(1,300)
Diisopropyl Ether (DIPE)	µg/kg	ND(10)	ND(460)	ND(10)	ND(10)	ND(10)	ND(1,800)	ND(2,800)	ND(4,500)	ND(4,800)	ND(4,900)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(2,600)
Ethylbenzene	µg/kg	ND(5.0)	59 J	1.7 J	ND(5.0)	ND(5.0)	9,000	1,100 J	4,200	10,000	2,800	ND(5)	ND(5.0)	ND(5.0)	ND(5.0)	22	1,200 J
Iodomethane	µg/kg	ND(5.0)	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	ND(910)	ND(1,400)	ND(2,300)	ND(2,400)	ND(2,500)	ND(5)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(1,300)
Isopropylbenzene	µg/kg	ND(5.0)	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	2,500	ND(1,400)	1,100 J	3,100	970 J	ND(5)	ND(5.0)	ND(5.0)	ND(5.0)	4.8 J	310 J
m and p-Xylene	µg/kg	ND(5.0)	430	ND(5.0)	ND(5.0)	ND(5.0)	43,000	2,100	9,100	26,000	7,800	ND(5)	ND(5.0)	ND(5.0)	1.3 J	77	2,000
Methyl-t-Butyl Ether (MTBE)	µg/kg	ND(5.0)	ND(230)	83	34	14	ND(910)	ND(1,400)	ND(2,300)	ND(2,400)	ND(2,500)	ND(5)	ND(5.0)	ND(5.0)	ND(5.0)	1.1 J	ND(1,300)
Naphthalene	µg/kg	ND(5.0)	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	13,000	3,700	6,300	17,000	5,500	ND(5)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(1,300)
n-Butylbenzene	µg/kg	ND(5.0)	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	ND(910)	ND(1,400)	ND(2,300)	ND(2,400)	ND(2,500)	ND(5)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(1,300)
n-Propylbenzene	µg/kg	ND(5.0)	65 J	ND(5.0)	ND(5.0)	ND(5.0)	3,800	450 J	1,800 J	4,600	1,500 J	ND(5)	ND(5.0)	ND(5.0)	ND(5.0)	5.0	520 J
o-Xylene	µg/kg	ND(5.0)	68 J	ND(5.0)	ND(5.0)	ND(5.0)	13,000	ND(1,400)	2,000 J	5,200	1,300 J	ND(5)	ND(5.0)	ND(5.0)	ND(5.0)	20	ND(1,300)
p-Isopropyltoluene	µg/kg	ND(5.0)	66 J	ND(5.0)	ND(5.0)	ND(5.0)	3,800	1,200 J	1,000 J	2,100 J	870 J	ND(5)	ND(5.0)	ND(5.0)	ND(5.0)	1.5 J	730 J
sec-Butylbenzene	µg/kg	ND(5.0)	49 J	ND(5.0)	ND(5.0)	ND(5.0)	1,500	ND(1,400)	780 J	2,200 J	680 J	ND(5)	ND(5.0)	ND(5.0)	ND(5.0)	1.6 J	380 J
Styrene	µg/kg	ND(5.0)	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	ND(910)	ND(1,400)	ND(2,300)	ND(2,400)	ND(2,500)	ND(5)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(1,300)
t-1,2-Dichloroethene	µg/kg	ND(5.0)	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	ND(910)	ND(1,400)	ND(2,300)	ND(2,400)	ND(2,500)	ND(5)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(1,300)
Tert-Butyl Alcohol (TBA)	µg/kg	ND(50)	ND(2,300)	ND(50)	ND(50)	ND(50)	ND(9,100)	ND(14,000)	ND(23,000)	ND(24,000)	ND(25,000)	49 J	ND(50)	ND(50)	19 J	ND(50)	ND(13,000)
tert-Butylbenzene	µg/kg	ND(5.0)	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	ND(910)	ND(1,400)	ND(2,300)	ND(2,400)	ND(2,500)	ND(5)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(1,300)
Tetrachloroethene	µg/kg	ND(5.0)	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	ND(910)	ND(1,400)	ND(2,300)	ND(2,400)	ND(2,500)	ND(5)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(1,300)
Toluene	µg/kg	ND(5.0)	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	4,100	370 J	2,100 J	5,700	1,400 J	ND(5)	ND(5.0)	ND(5.0)	ND(5.0)	9.5	ND(1,300)
Trichloroethene	µg/kg	ND(5.0)	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	ND(910)	ND(1,400)	ND(2,300)	ND(2,400)	ND(2,500)	ND(5)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(1,300)
Xylenes, total	µg/kg	ND(5.0)	490	ND(5.0)	ND(5.0)	ND(5.0)	57,000	2,100	11,000	31,000	9,100	ND(5)	ND(5.0)	ND(5.0)	1.3 J	97	2,000

NOTES:
ID - Identification
bgs - Below ground surface
VOCs - Volatile organic compounds
µg/kg - Micrograms per kilogram
ND(5.0) - Analyte not detected at
J - Analyte estimated concentration below
c - Cis
m - Meta
n - Normal
o - Ortho
p - Para
sec - Secondary
t - Trans
tert- Tertiary

TABLE 15
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID / Sample Depth (Feet bgs) / Date Collected	Units	B124 / 10 / 01/12/06	B125 / 2 / 01/12/06	B125 / 5.5 / 01/12/06	B125 / 10 / 01/12/06	B126 / 2 / 01/12/06	B126 / 5 / 01/12/06	B126 / 10 / 01/12/06	B127 / 2 / 01/18/06	B127 / 5 / 01/18/06	B127 / 10 / 01/18/06	B128 / 2 / 02/01/06	B128 / 5 / 02/01/06	B128 / 10 / 02/01/06	B129 / 2 / 01/18/06	B129 / 5 / 01/18/06	B129 / 10 / 01/18/06
VOCs																	
1,1,1,2-Tetrachloroethane	µg/kg	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,2,4-Trichlorobenzene	µg/kg	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,2,4-Trimethylbenzene	µg/kg	2,530	1.6 J	3.1 J	ND(5.0)	ND(5.0)	3.5 J	ND(5.0)	ND(5.0)	ND(5.0)	12	ND(500)	ND(500)	3.3 J	1.3 J	1.8 J	1.8 J
1,2-Dichlorobenzene	µg/kg	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,2-Dichloroethane	µg/kg	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,2-Dichloropropane	µg/kg	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,3,5-Trimethylbenzene	µg/kg	736	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	5.1	ND(500)	ND(500)	1.0 J	ND(5.0)	ND(5.0)	ND(5.0)
2-Butanone	µg/kg	ND(10,000)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(10,000)	ND(10,000)	ND(100)	ND(100)	ND(100)	ND(100)
2-Hexanone	µg/kg	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
4-Methyl-2-Pentanone	µg/kg	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Acetone	µg/kg	ND(5,000)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(5,000)	ND(5,000)	ND(50)	ND(50)	ND(50)	ND(50)
Benzene	µg/kg	446 J	3.8 J	2.5 J	14	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	1.9 J	ND(500)	ND(500)	5.0	ND(5.0)	ND(5.0)	2.2 J
Bromoform	µg/kg	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
c-1,2-Dichloroethene	µg/kg	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Carbon Disulfide	µg/kg	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Chloroethane	µg/kg	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Chloromethane	µg/kg	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Diisopropyl Ether (DIPE)	µg/kg	ND(1,000)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	1.4 J	ND(1,000)	ND(1,000)	ND(10)	ND(10)	ND(10)	ND(10)
Ethylbenzene	µg/kg	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	5.4	ND(500)	ND(500)	3.2 J	ND(5.0)	ND(5.0)	ND(5.0)
Iodomethane	µg/kg	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(500)	ND(5.0)	ND(5.0)	1.8 J	2.1 J
Isopropylbenzene	µg/kg	273 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	1.6 J	ND(500)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
m and p-Xylene	µg/kg	1,470	2.9 J	2.2 J	1.4 J	ND(5.0)	1.4 J	ND(5.0)	NA	ND(5.0)	28	ND(500)	ND(500)	12	1.0 J	4.6 J	3.2 J
Methyl-t-Butyl Ether (MTBE)	µg/kg	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	6.0	ND(500)	ND(500)	120	1.7 J	ND(5.0)	ND(5.0)
Naphthalene	µg/kg	7,860	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	2,500	ND(500)	34	ND(5.0)	ND(5.0)	ND(5.0)
n-Butylbenzene	µg/kg	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
n-Propylbenzene	µg/kg	465 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	1.5 J	110 J	ND(500)	2.8 J	ND(5.0)	ND(5.0)	ND(5.0)
o-Xylene	µg/kg	403 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	NA	ND(5.0)	9.4	ND(500)	ND(500)	4.8 J	ND(5.0)	1.3 J	0.90 J
p-Isopropyltoluene	µg/kg	358 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
sec-Butylbenzene	µg/kg	356 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Styrene	µg/kg	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
t-1,2-Dichloroethene	µg/kg	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Tert-Butyl Alcohol (TBA)	µg/kg	ND(5,000)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	51	ND(5,000)	ND(5,000)	12 J	ND(50)	ND(50)	ND(50)
tert-Butylbenzene	µg/kg	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Tetrachloroethene	µg/kg	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Toluene	µg/kg	1,040	ND(5.0)	ND(5.0)	1.7 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	10	ND(500)	ND(500)	22	ND(5.0)	1.8 J	2.1 J
Trichloroethene	µg/kg	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Xylenes, total	µg/kg	1,870	2.9 J	2.2 J	1.4 J	ND(5.0)	1.4 J	ND(5.0)	ND(5.0)	ND(5.0)	38	ND(500)	ND(500)	17	1.0 J	5.8	4.1 J

NOTES:
ID - Identification
bgs - Below ground surface
VOCs - Volatile organic compounds
µg/kg - Micrograms per kilogram
ND(5.0) - Analyte not detected at
J - Analyte estimated concentration below
c - Cis
m - Meta
n - Normal
o - Ortho
p - Para
sec - Secondary
t - Trans
tert- Tertiary

TABLE 15
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID (Depth bgs)	Units	B130 2 (1/12/06)	B130 5 (1/12/06)	B130 10 (1/12/06)	B131 2 (1/12/06)	B131 5 (1/12/06)	B131 10 (1/12/06)	B132 2 (1/12/06)	B132 5 (1/12/06)	B132 10 (1/12/06)
VOCs										
1,1,1,2-Tetrachloroethane	µg/kg	ND(1,300)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,2,4-Trichlorobenzene	µg/kg	ND(1,300)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,2,4-Trimethylbenzene	µg/kg	46,000	32,000	1.5 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,2-Dichlorobenzene	µg/kg	ND(1,300)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,2-Dichloroethane	µg/kg	ND(1,300)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,2-Dichloropropane	µg/kg	ND(1,300)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,3,5-Trimethylbenzene	µg/kg	17,000	9,400	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
2-Butanone	µg/kg	ND(25,000)	ND(10,000)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)
2-Hexanone	µg/kg	ND(1,300)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
4-Methyl-2-Pentanone	µg/kg	ND(1,300)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Acetone	µg/kg	ND(13,000)	ND(5,000)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)
Benzene	µg/kg	ND(1,300)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	4.8 J
Bromoform	µg/kg	ND(1,300)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
c-1,2-Dichloroethene	µg/kg	ND(1,300)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Carbon Disulfide	µg/kg	ND(1,300)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Chloroethane	µg/kg	ND(1,300)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Chloromethane	µg/kg	ND(1,300)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Diisopropyl Ether (DIPE)	µg/kg	ND(2,500)	ND(1,000)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Ethylbenzene	µg/kg	15,000	9,000	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Iodomethane	µg/kg	ND(1,300)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Isopropylbenzene	µg/kg	5,000	3,400	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
m and p-Xylene	µg/kg	62,000	26,000	3.6 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Methyl-t-Butyl Ether (MTBE)	µg/kg	ND(1,300)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Naphthalene	µg/kg	7,800	6,300	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	13	ND(5.0)	ND(5.0)
n-Butylbenzene	µg/kg	5,500	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
n-Propylbenzene	µg/kg	7,400	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
o-Xylene	µg/kg	7,200	1,300	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
p-Isopropyltoluene	µg/kg	4,100	3,100	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
sec-Butylbenzene	µg/kg	2,600	1,900	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Styrene	µg/kg	ND(1,300)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
t-1,2-Dichloroethene	µg/kg	ND(1,300)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Tert-Butyl Alcohol (TBA)	µg/kg	ND(13,000)	ND(5,000)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)
tert-Butylbenzene	µg/kg	ND(1,300)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Tetrachloroethene	µg/kg	ND(1,300)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Toluene	µg/kg	ND(1,300)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	2.9 J
Trichloroethene	µg/kg	ND(1,300)	ND(500)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Xylenes, total	µg/kg	69,000	28,000	3.6 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)

NOTES:
ID - Identification
bgs - Below ground surface
VOCs - Volatile organic compounds
µg/kg - Micrograms per kilogram
ND(5.0) - Analyte not detected at
J - Analyte estimated concentration below
c - Cis
m - Meta
n - Normal
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sec - Secondary
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TABLE 15
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID		B134	B134	B134	B134	B134	B135	B136	B136	B136	B136	B136	B136	B137	B137	B137	B137
Sample Depth (Feet bgs)		2	5	10	15	20	2	2	5	10	15	20	25	2	5	10	15
Date Collected		01/12/06	01/12/06	01/12/06	01/12/06	01/12/06	01/11/06	01/12/06	01/12/06	01/12/06	01/12/06	01/12/06	01/12/06	01/13/06	01/13/06	01/13/06	01/13/06
VOCs																	
1,1,1,2-Tetrachloroethane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(360)	ND(5.0)	ND(210)	ND(5.0)	ND(5,000)	ND(5)	ND(210)	ND(260)	ND(240)	ND(5,000)
1,2,4-Trichlorobenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(360)	ND(5.0)	ND(210)	ND(5.0)	ND(5,000)	ND(5)	ND(210)	ND(260)	ND(240)	ND(5,000)
1,2,4-Trimethylbenzene	µg/kg	ND(5.0)	4.8 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	370	ND(5.0)	330	1.9 J	17,000	ND(5)	60 J	ND(260)	91 J	14,000
1,2-Dichlorobenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(360)	ND(5.0)	ND(210)	ND(5.0)	ND(5,000)	ND(5)	ND(210)	ND(260)	ND(240)	ND(5,000)
1,2-Dichloroethane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(360)	ND(5.0)	ND(210)	ND(5.0)	ND(5,000)	ND(5)	ND(210)	ND(260)	ND(240)	ND(5,000)
1,2-Dichloropropane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(360)	ND(5.0)	ND(210)	ND(5.0)	ND(5,000)	ND(5)	ND(210)	ND(260)	ND(240)	ND(5,000)
1,3,5-Trimethylbenzene	µg/kg	ND(5.0)	2.0 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	81 J	ND(5.0)	130 J	ND(5.0)	8,500	ND(5)	ND(210)	ND(260)	ND(240)	4,900 J
2-Butanone	µg/kg	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(7,100)	ND(100)	ND(4,100)	ND(100)	ND(100,000)	ND(100)	ND(4,100)	ND(5,100)	ND(4,800)	ND(100,000)
2-Hexanone	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(360)	ND(5.0)	ND(210)	ND(5.0)	ND(5,000)	ND(5)	ND(210)	ND(260)	ND(240)	ND(5,000)
4-Methyl-2-Pentanone	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(360)	ND(5.0)	ND(210)	ND(5.0)	ND(5,000)	ND(5)	ND(210)	ND(260)	ND(240)	ND(5,000)
Acetone	µg/kg	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(3,600)	ND(50)	ND(2,100)	ND(50)	ND(50,000)	ND(50)	ND(2,100)	ND(2,600)	ND(2,400)	ND(50,000)
Benzene	µg/kg	ND(5.0)	ND(5.0)	4.5 J	ND(5.0)	2.7 J	2.2 J	630	84	420	36	4,100 J	ND(5)	44 J	150 J	160 J	2,200 J
Bromoform	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(360)	ND(5.0)	ND(210)	ND(5.0)	ND(5,000)	ND(5)	ND(210)	ND(260)	ND(240)	ND(5,000)
c-1,2-Dichloroethene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(360)	ND(5.0)	ND(210)	ND(5.0)	ND(5,000)	ND(5)	ND(210)	ND(260)	ND(240)	ND(5,000)
Carbon Disulfide	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(360)	ND(5.0)	ND(210)	ND(5.0)	ND(5,000)	ND(5)	ND(210)	ND(260)	ND(240)	ND(5,000)
Chloroethane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(360)	ND(5.0)	ND(210)	ND(5.0)	ND(5,000)	ND(5)	ND(210)	ND(260)	ND(240)	ND(5,000)
Chloromethane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(360)	ND(5.0)	ND(210)	ND(5.0)	ND(5,000)	ND(5)	ND(210)	ND(260)	ND(240)	ND(5,000)
Diisopropyl Ether (DIPE)	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(710)	ND(10)	ND(410)	ND(10)	ND(10,000)	ND(10)	ND(410)	ND(510)	ND(480)	ND(10,000)
Ethylbenzene	µg/kg	ND(5.0)	1.0 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	690	8.0	830	3.3 J	6,000	ND(5)	ND(210)	65 J	85 J	3,300 J
Iodomethane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(360)	ND(5.0)	ND(210)	ND(5.0)	ND(5,000)	ND(5)	ND(210)	ND(260)	ND(240)	ND(5,000)
Isopropylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	360	6.3	690	1.0 J	4,600 J	ND(5)	48 J	ND(260)	59 J	1,300 J
m and p-Xylene	µg/kg	ND(5.0)	5.5	1.2 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(360)	ND(5.0)	340	1.9 J	5,600	ND(5)	ND(210)	ND(260)	ND(240)	3,700 J
Methyl-t-Butyl Ether (MTBE)	µg/kg	4.4 J	13	4.0 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(360)	ND(5.0)	ND(210)	ND(5.0)	ND(5,000)	ND(5)	ND(210)	ND(260)	ND(240)	ND(5,000)
Naphthalene	µg/kg	ND(5.0)	3.0 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(360)	ND(5.0)	ND(210)	ND(5.0)	ND(5,000)	ND(5)	ND(210)	ND(260)	ND(240)	ND(5,000)
n-Butylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	200 J	ND(5.0)	ND(210)	ND(5.0)	ND(5,000)	ND(5)	ND(210)	ND(260)	ND(240)	2,300 J
n-Propylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	400	2.4 J	620	ND(5.0)	6,000	ND(5)	66 J	73 J	110 J	2,300 J
o-Xylene	µg/kg	ND(5.0)	1.7 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(360)	ND(5.0)	ND(210)	ND(5.0)	ND(5,000)	ND(5)	ND(210)	ND(260)	ND(240)	ND(5,000)
p-Isopropyltoluene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	190 J	ND(5.0)	190 J	ND(5.0)	5,700	ND(5)	ND(210)	ND(260)	73 J	1,800 J
sec-Butylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	220 J	3.2 J	420	ND(5.0)	3,600 J	ND(5)	75 J	56 J	110 J	ND(5,000)
Styrene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(360)	ND(5.0)	ND(210)	ND(5.0)	ND(5,000)	ND(5)	ND(210)	ND(260)	ND(240)	ND(5,000)
t-1,2-Dichloroethene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(360)	ND(5.0)	ND(210)	ND(5.0)	ND(5,000)	ND(5)	ND(210)	ND(260)	ND(240)	ND(5,000)
Tert-Butyl Alcohol (TBA)	µg/kg	32 J	13 J	29 J	ND(50)	ND(50)	ND(50)	ND(3,600)	ND(50)	ND(2,100)	36 J	ND(50,000)	14 J	ND(2,100)	ND(2,600)	ND(2,400)	ND(50,000)
tert-Butylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(360)	ND(5.0)	ND(210)	ND(5.0)	ND(5,000)	ND(5)	ND(210)	ND(260)	ND(240)	ND(5,000)
Tetrachloroethene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(360)	ND(5.0)	ND(210)	ND(5.0)	ND(5,000)	ND(5)	ND(210)	ND(260)	ND(240)	ND(5,000)
Toluene	µg/kg	ND(5.0)	ND(5.0)	2.8 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(360)	ND(5.0)	ND(210)	1.2 J	ND(5,000)	ND(5)	ND(210)	ND(260)	ND(240)	ND(5,000)
Trichloroethene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(360)	ND(5.0)	ND(210)	ND(5.0)	ND(5,000)	ND(5)	ND(210)	ND(260)	ND(240)	ND(5,000)
Xylenes, total	µg/kg	ND(5.0)	7.2	1.2 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(360)	ND(5.0)	340	1.9 J	5,600	ND(5)	ND(210)	ND(260)	ND(240)	3,700 J

NOTES:
ID - Identification
bgs - Below ground surface
VOCs - Volatile organic compounds
µg/kg - Micrograms per kilogram
ND(5.0) - Analyte not detected at
J - Analyte estimated concentration below
c - Cis
m - Meta
n - Normal
o - Ortho
p - Para
sec - Secondary
t - Trans
tert- Tertiary

TABLE 15
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID:	Units	B137	B137	B138	B138	B139	B139	B140	B140	B140	B141	B141	B141	B142	B142	B142	B142
Sample Depth (Feet bgs)		20	30	2	5	2	5	5	10	15	5	10	15	5	10	15	20
Date Collected		01/31/06	01/31/06	01/31/06	01/31/06	01/31/06	01/31/06	01/31/06	01/31/06	01/31/06	01/30/06	01/30/06	01/31/06	01/31/06	01/31/06	01/31/06	01/31/06
VOCs																	
1,1,1,2-Tetrachloroethane	µg/kg	ND(5,000)	ND(500)	ND(190)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(240)	ND(5.0)	ND(5.0)	ND(340)	ND(1,000)	ND(2,200)	ND(2,700)
1,2,4-Trichlorobenzene	µg/kg	ND(5,000)	ND(500)	ND(190)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(240)	ND(5.0)	ND(5.0)	ND(340)	ND(1,000)	ND(2,200)	ND(2,700)
1,2,4-Trimethylbenzene	µg/kg	17,000	20,300	380	ND(5.0)	3.7 J	22	ND(5.0)	1.1 J	ND(5.0)	380	100	3.7 J	ND(340)	270 J	510 J	ND(2,700)
1,2-Dichlorobenzene	µg/kg	ND(5,000)	ND(500)	ND(190)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(240)	ND(5.0)	ND(5.0)	ND(340)	ND(1,000)	ND(2,200)	ND(2,700)
1,2-Dichloroethane	µg/kg	ND(5,000)	ND(500)	ND(190)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(240)	ND(5.0)	ND(5.0)	ND(340)	ND(1,000)	ND(2,200)	ND(2,700)
1,2-Dichloropropane	µg/kg	ND(5,000)	ND(500)	ND(190)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(240)	ND(5.0)	ND(5.0)	ND(340)	ND(1,000)	ND(2,200)	ND(2,700)
1,3,5-Trimethylbenzene	µg/kg	6,200	7,020	99 J	ND(5.0)	ND(5.0)	11	ND(5.0)	ND(5.0)	ND(5.0)	91 J	27	1.8 J	ND(340)	ND(1,000)	ND(2,200)	ND(2,700)
2-Butanone	µg/kg	ND(100,000)	ND(10,000)	ND(3,800)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(4,800)	ND(100)	ND(100)	ND(6,700)	ND(20,000)	ND(45,000)	ND(55,000)
2-Hexanone	µg/kg	ND(5,000)	ND(500)	ND(190)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(240)	ND(5.0)	ND(5.0)	ND(340)	ND(1,000)	ND(2,200)	ND(2,700)
4-Methyl-2-Pentanone	µg/kg	ND(5,000)	ND(500)	ND(190)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(240)	ND(5.0)	ND(5.0)	ND(340)	ND(1,000)	ND(2,200)	ND(2,700)
Acetone	µg/kg	ND(50,000)	ND(5,000)	ND(1,900)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(2,400)	ND(50)	ND(50)	ND(3,400)	ND(10,000)	ND(22,000)	ND(27,000)
Benzene	µg/kg	2,500 J	267 J	720	25	2.9 J	2.1 J	ND(5.0)	4.0 J	ND(5.0)	ND(240)	1.8 J	130	160 J	11,000	12,000	26,000
Bromoform	µg/kg	ND(5,000)	ND(500)	ND(190)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(240)	ND(5.0)	ND(5.0)	ND(340)	ND(1,000)	ND(2,200)	ND(2,700)
c-1,2-Dichloroethene	µg/kg	ND(5,000)	ND(500)	ND(190)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(240)	ND(5.0)	ND(5.0)	ND(340)	ND(1,000)	ND(2,200)	ND(2,700)
Carbon Disulfide	µg/kg	ND(5,000)	ND(500)	ND(190)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(240)	ND(5.0)	ND(5.0)	ND(340)	ND(1,000)	ND(2,200)	ND(2,700)
Chloroethane	µg/kg	ND(5,000)	ND(500)	ND(190)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(240)	ND(5.0)	ND(5.0)	ND(340)	ND(1,000)	ND(2,200)	ND(2,700)
Chloromethane	µg/kg	ND(5,000)	ND(500)	ND(190)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(240)	ND(5.0)	ND(5.0)	ND(340)	ND(1,000)	ND(2,200)	ND(2,700)
Diisopropyl Ether (DIPE)	µg/kg	ND(10,000)	ND(1,000)	ND(380)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(480)	ND(10)	ND(10)	ND(670)	ND(2,000)	ND(4,500)	ND(5,500)
Ethylbenzene	µg/kg	3,200 J	2,220	93 J	ND(5.0)	ND(5.0)	95	ND(5.0)	ND(5.0)	ND(5.0)	57 J	21	35	170 J	3,000	2,800	1,700 J
Iodomethane	µg/kg	ND(5,000)	ND(500)	ND(190)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(240)	ND(5.0)	ND(5.0)	ND(340)	ND(1,000)	ND(2,200)	ND(2,700)
Isopropylbenzene	µg/kg	1,300 J	1,540	ND(190)	ND(5.0)	ND(5.0)	8.2	ND(5.0)	ND(5.0)	ND(5.0)	ND(240)	5.5	3.8 J	ND(340)	ND(1,000)	ND(2,200)	ND(2,700)
m and p-Xylene	µg/kg	4,000 J	5,950	600	2.5 J	2.0 J	11	ND(5.0)	2.8 J	ND(5.0)	140 J	43	37	220 J	8,100	9,200	5,600
Methyl-t-Butyl Ether (MTBE)	µg/kg	ND(5,000)	ND(500)	ND(190)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(240)	ND(5.0)	ND(5.0)	ND(340)	ND(1,000)	ND(2,200)	ND(2,700)
Naphthalene	µg/kg	8,400	4,460	ND(190)	8.2	8.0	100	ND(5.0)	ND(5.0)	ND(5.0)	310	30	ND(5.0)	ND(340)	ND(1,000)	ND(2,200)	ND(2,700)
n-Butylbenzene	µg/kg	ND(5,000)	4,610	58 J	ND(5.0)	ND(5.0)	9.0	ND(5.0)	ND(5.0)	ND(5.0)	71 J	3.5 J	ND(5.0)	ND(340)	ND(1,000)	ND(2,200)	ND(2,700)
n-Propylbenzene	µg/kg	2,300 J	2,780	ND(190)	ND(5.0)	ND(5.0)	40	ND(5.0)	ND(5.0)	ND(5.0)	ND(240)	14	2.9 J	ND(340)	ND(1,000)	ND(2,200)	ND(2,700)
o-Xylene	µg/kg	ND(5,000)	ND(500)	280	2.5 J	0.80 J	1.2 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(240)	6.3	1.5 J	ND(340)	1,300	2,000 J	1,100 J
p-Isopropyltoluene	µg/kg	2,500 J	2,360	ND(190)	ND(5.0)	ND(5.0)	1.6 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(240)	2.3 J	ND(5.0)	ND(340)	ND(1,000)	ND(2,200)	ND(2,700)
sec-Butylbenzene	µg/kg	ND(5,000)	1,080	ND(190)	ND(5.0)	ND(5.0)	2.4 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(240)	4.4 J	ND(5.0)	ND(340)	ND(1,000)	ND(2,200)	ND(2,700)
Styrene	µg/kg	ND(5,000)	ND(500)	200	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(240)	ND(5.0)	ND(5.0)	ND(340)	ND(1,000)	ND(2,200)	ND(2,700)
t-1,2-Dichloroethene	µg/kg	ND(5,000)	ND(500)	ND(190)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(240)	ND(5.0)	ND(5.0)	ND(340)	ND(1,000)	ND(2,200)	ND(2,700)
Tert-Butyl Alcohol (TBA)	µg/kg	ND(50,000)	ND(5,000)	ND(1,900)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(2,400)	ND(50)	51	ND(3,400)	ND(10,000)	ND(22,000)	ND(27,000)
tert-Butylbenzene	µg/kg	ND(5,000)	ND(500)	ND(190)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(240)	ND(5.0)	ND(5.0)	ND(340)	ND(1,000)	ND(2,200)	ND(2,700)
Tetrachloroethene	µg/kg	ND(5,000)	ND(500)	ND(190)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(240)	ND(5.0)	ND(5.0)	ND(340)	ND(1,000)	ND(2,200)	ND(2,700)
Toluene	µg/kg	ND(5,000)	ND(500)	850	9.1	1.6 J	1.6 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(240)	1.4 J	36	ND(340)	110,000	120,000	150,000
Trichloroethene	µg/kg	ND(5,000)	ND(500)	ND(190)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(240)	ND(5.0)	ND(5.0)	ND(340)	ND(1,000)	ND(2,200)	ND(2,700)
Xylenes, total	µg/kg	4,000 J	5,950	880	5.0	2.8 J	12	ND(5.0)	2.8 J	ND(5.0)	140 J	49	39	220 J	9,400	11,000	6,700

NOTES:
ID - Identification
bgs - Below ground surface
VOCs - Volatile organic compounds
µg/kg - Micrograms per kilogram
ND(5.0) - Analyte not detected at
J - Analyte estimated concentration below
c - Cis
m - Meta
n - Normal
o - Ortho
p - Para
sec - Secondary
t - Trans
tert- Tertiary

TABLE 15
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID: / Sample Depth (Feet bgs): / Date Collected:	Units	B142 30 01/13/06	B143 2 01/18/06	B143 10 01/18/06	B143 15 01/18/06	B144 2 01/18/06	B144 5 01/18/06	B144 10 01/18/06	B145 2 01/19/06	B145 5 01/19/06	B145 10 01/19/06	B145 15 01/19/06	B145 20 01/19/06	B146 2 01/27/06	B146 5 01/27/06	B146 10 01/27/06	B147 2 02/01/06
VOCs																	
1,1,1,2-Tetrachloroethane	µg/kg	ND(5)	ND(5.0)	ND(5.0)	ND(5.0)	ND(510)	ND(260)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(470)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5,000)
1,2,4-Trichlorobenzene	µg/kg	ND(5)	ND(5.0)	ND(5.0)	ND(5.0)	ND(510)	ND(260)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(470)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5,000)
1,2,4-Trimethylbenzene	µg/kg	ND(5)	ND(5.0)	ND(5.0)	ND(5.0)	ND(510)	ND(260)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	720	ND(5.0)	3.7 J	17	13,000
1,2-Dichlorobenzene	µg/kg	ND(5)	ND(5.0)	ND(5.0)	ND(5.0)	ND(510)	ND(260)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(470)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5,000)
1,2-Dichloroethane	µg/kg	ND(5)	ND(5.0)	ND(5.0)	ND(5.0)	ND(510)	ND(260)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(470)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5,000)
1,2-Dichloropropane	µg/kg	ND(5)	ND(5.0)	ND(5.0)	ND(5.0)	ND(510)	ND(260)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(470)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5,000)
1,3,5-Trimethylbenzene	µg/kg	12	ND(5.0)	ND(5.0)	ND(5.0)	ND(510)	ND(260)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	310 J	ND(5.0)	1.4 J	6.8	4,500 J
2-Butanone	µg/kg	ND(100)	ND(100)	ND(100)	ND(100)	ND(10,000)	ND(5,100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(9,400)	ND(100)	ND(100)	ND(100)	ND(100,000)
2-Hexanone	µg/kg	ND(5)	ND(5.0)	ND(5.0)	ND(5.0)	ND(510)	ND(260)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(470)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5,000)
4-Methyl-2-Pentanone	µg/kg	ND(5)	ND(5.0)	ND(5.0)	ND(5.0)	ND(510)	ND(260)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(470)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5,000)
Acetone	µg/kg	ND(50)	ND(50)	ND(50)	ND(50)	ND(5,100)	ND(2,600)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(4,700)	ND(50)	ND(50)	ND(50)	ND(50,000)
Benzene	µg/kg	ND(5)	1.4 J	ND(5.0)	ND(5.0)	ND(510)	ND(260)	3.4 J	130	110	110	8.8	ND(470)	38	43	14	ND(5,000)
Bromoform	µg/kg	ND(5)	ND(5.0)	ND(5.0)	ND(5.0)	ND(510)	ND(260)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(470)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5,000)
c-1,2-Dichloroethene	µg/kg	ND(5)	14	ND(5.0)	ND(5.0)	ND(510)	ND(260)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(470)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5,000)
Carbon Disulfide	µg/kg	ND(5)	ND(5.0)	ND(5.0)	ND(5.0)	ND(510)	ND(260)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(470)	ND(5.0)	1.3 J	ND(5.0)	ND(5,000)
Chloroethane	µg/kg	ND(5)	ND(5.0)	ND(5.0)	ND(5.0)	ND(510)	ND(260)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(470)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5,000)
Chloromethane	µg/kg	ND(5)	ND(5.0)	ND(5.0)	ND(5.0)	ND(510)	ND(260)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(470)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5,000)
Diisopropyl Ether (DIPE)	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(1,000)	ND(510)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(940)	ND(10)	ND(10)	ND(10)	ND(10,000)
Ethylbenzene	µg/kg	ND(5)	ND(5.0)	ND(5.0)	ND(5.0)	ND(510)	ND(260)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	150 J	7.3	15	18	1,100 J
Iodomethane	µg/kg	ND(5)	ND(5.0)	ND(5.0)	ND(5.0)	ND(510)	ND(260)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(470)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5,000)
Isopropylbenzene	µg/kg	1.6 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(510)	ND(260)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(470)	ND(5.0)	1.4 J	3.5 J	ND(5,000)
m and p-Xylene	µg/kg	ND(5)	ND(5.0)	ND(5.0)	ND(5.0)	ND(510)	ND(260)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	730	12	40	64	9,800
Methyl-t-Butyl Ether (MTBE)	µg/kg	ND(5)	ND(5.0)	ND(5.0)	ND(5.0)	ND(510)	ND(260)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(470)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5,000)
Naphthalene	µg/kg	ND(5)	ND(5.0)	ND(5.0)	ND(5.0)	ND(510)	ND(260)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(470)	30	ND(5.0)	ND(5.0)	3,400 J
n-Butylbenzene	µg/kg	ND(5)	ND(5.0)	ND(5.0)	ND(5.0)	ND(510)	ND(260)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(470)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5,000)
n-Propylbenzene	µg/kg	ND(5)	ND(5.0)	ND(5.0)	ND(5.0)	ND(510)	ND(260)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(470)	ND(5.0)	1.1 J	3.4 J	ND(5,000)
o-Xylene	µg/kg	46	ND(5.0)	ND(5.0)	ND(5.0)	ND(510)	ND(260)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	140 J	ND(5.0)	1.0 J	12	4,300 J
p-Isopropyltoluene	µg/kg	1.5 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(510)	ND(260)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(470)	ND(5.0)	ND(5.0)	ND(5.0)	1,900 J
sec-Butylbenzene	µg/kg	ND(5)	ND(5.0)	ND(5.0)	ND(5.0)	ND(510)	ND(260)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(470)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5,000)
Styrene	µg/kg	ND(5)	ND(5.0)	ND(5.0)	ND(5.0)	ND(510)	ND(260)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(470)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5,000)
t-1,2-Dichloroethene	µg/kg	ND(5)	ND(5.0)	ND(5.0)	ND(5.0)	ND(510)	ND(260)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(470)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5,000)
Tert-Butyl Alcohol (TBA)	µg/kg	175	ND(50)	ND(50)	ND(50)	ND(5,100)	ND(2,600)	28 J	42 J	32 J	28 J	ND(50)	ND(4,700)	61	46 J	27 J	ND(50,000)
tert-Butylbenzene	µg/kg	ND(5)	ND(5.0)	ND(5.0)	ND(5.0)	ND(510)	ND(260)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(470)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5,000)
Tetrachloroethene	µg/kg	ND(5)	ND(5.0)	ND(5.0)	ND(5.0)	ND(510)	ND(260)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(470)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5,000)
Toluene	µg/kg	ND(5)	ND(5.0)	ND(5.0)	ND(5.0)	ND(510)	ND(260)	1.2 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(470)	1.4 J	2.3 J	4.0 J	860 J
Trichloroethene	µg/kg	ND(5)	ND(5.0)	ND(5.0)	ND(5.0)	ND(510)	ND(260)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(470)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5,000)
Xylenes, total	µg/kg	46	ND(5.0)	ND(5.0)	ND(5.0)	ND(510)	ND(260)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	870	12	41	76	14,000

NOTES:
ID - Identification
bgs - Below ground surface
VOCs - Volatile organic compounds
µg/kg - Micrograms per kilogram
ND(5.0) - Analyte not detected at
J - Analyte estimated concentration below
c - Cis
m - Meta
n - Normal
o - Ortho
p - Para
sec - Secondary
t - Trans
tert- Tertiary

TABLE 15
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID: / Sample Depth (Feet bgs): / Date Collected:	Units	B147 / 5 / 02/01/06	B147 / 10 / 02/01/06	B147 / 15 / 02/01/06	B147 / 20 / 02/01/06	B145 / 5 / 01/23/06	B145 / 10 / 01/23/06	B145 / 15 / 01/23/06	B145 / 20 / 01/23/06	B148 / 5 / 01/23/06	B148 / 10 / 01/23/06	B148 / 15 / 01/23/06	B149 / 2 / 01/23/06	B149 / 5 / 01/23/06	B149 / 10 / 01/23/06	B149 / 15 / 01/23/06
VOCs																
1,1,1,2-Tetrachloroethane	µg/kg	ND(5,000)	ND(500)	ND(250)	ND(220)	ND(5,000)	ND(250)	ND(5.0)	ND(280)	ND(1,300)	ND(1,300)	ND(5,000)	ND(5,000)	120 J	ND(1,500)
1,2,4-Trichlorobenzene	µg/kg	ND(5,000)	ND(500)	ND(250)	ND(220)	ND(5,000)	ND(250)	ND(5.0)	ND(280)	ND(1,300)	ND(1,300)	ND(5,000)	ND(5,000)	ND(5,000)	ND(1,500)
1,2,4-Trimethylbenzene	µg/kg	9,400	880	410	360	34,000	1,100	38	810	51,000	27,000	26,000	17,000	42,000	24,000
1,2-Dichlorobenzene	µg/kg	ND(5,000)	ND(500)	ND(250)	ND(220)	ND(5,000)	ND(250)	ND(5.0)	ND(280)	ND(1,300)	ND(1,300)	ND(5,000)	ND(5,000)	ND(5,000)	ND(1,500)
1,2-Dichloroethane	µg/kg	ND(5,000)	ND(500)	ND(250)	ND(220)	ND(5,000)	ND(250)	ND(5.0)	ND(280)	ND(1,300)	ND(1,300)	ND(5,000)	ND(5,000)	ND(5,000)	ND(1,500)
1,2-Dichloropropane	µg/kg	ND(5,000)	ND(500)	ND(250)	ND(220)	ND(5,000)	ND(250)	ND(5.0)	ND(280)	ND(1,300)	ND(1,300)	ND(5,000)	ND(5,000)	ND(5,000)	ND(1,500)
1,3,5-Trimethylbenzene	µg/kg	3,400 J	320 J	120 J	97 J	12,000	380	12	240 J	20,000	12,000	10,000	590 J	14,000	7,400
2-Butanone	µg/kg	ND(100,000)	ND(10,000)	ND(4,900)	ND(4,400)	ND(100,000)	ND(5,000)	ND(100)	ND(5,600)	ND(27,000)	ND(25,000)	ND(100,000)	ND(100,000)	ND(100,000)	ND(29,000)
2-Hexanone	µg/kg	ND(5,000)	ND(500)	ND(250)	ND(220)	ND(5,000)	ND(250)	ND(5.0)	ND(280)	ND(1,300)	ND(1,300)	ND(5,000)	ND(5,000)	ND(5,000)	ND(1,500)
4-Methyl-2-Pentanone	µg/kg	ND(5,000)	ND(500)	ND(250)	ND(220)	ND(5,000)	ND(250)	ND(5.0)	ND(280)	ND(1,300)	ND(1,300)	ND(5,000)	ND(5,000)	ND(5,000)	ND(1,500)
Acetone	µg/kg	ND(50,000)	ND(5,000)	ND(2,500)	ND(2,200)	ND(50,000)	ND(2,500)	ND(50)	ND(2,800)	ND(13,000)	ND(13,000)	ND(50,000)	ND(50,000)	ND(50,000)	ND(15,000)
Benzene	µg/kg	ND(5,000)	96 J	ND(250)	ND(220)	2,300 J	220 J	98	94 J	3,200	520 J	2,800 J	2,900 J	4,400 J	1,900
Bromoform	µg/kg	ND(5,000)	ND(500)	ND(250)	ND(220)	ND(5,000)	ND(250)	ND(5.0)	ND(280)	ND(1,300)	ND(1,300)	ND(5,000)	ND(5,000)	ND(5,000)	ND(1,500)
c-1,2-Dichloroethene	µg/kg	ND(5,000)	ND(500)	ND(250)	ND(220)	ND(5,000)	ND(250)	ND(5.0)	ND(280)	ND(1,300)	ND(1,300)	ND(5,000)	ND(5,000)	ND(5,000)	ND(1,500)
Carbon Disulfide	µg/kg	ND(5,000)	ND(500)	ND(250)	ND(220)	ND(5,000)	ND(250)	ND(5.0)	ND(280)	ND(1,300)	ND(1,300)	ND(5,000)	ND(5,000)	ND(5,000)	ND(1,500)
Chloroethane	µg/kg	ND(5,000)	ND(500)	ND(250)	ND(220)	ND(5,000)	ND(250)	ND(5.0)	ND(280)	ND(1,300)	ND(1,300)	ND(5,000)	ND(5,000)	ND(5,000)	ND(1,500)
Chloromethane	µg/kg	ND(5,000)	ND(500)	ND(250)	ND(220)	ND(5,000)	ND(250)	ND(5.0)	ND(280)	ND(1,300)	ND(1,300)	ND(5,000)	ND(5,000)	ND(5,000)	ND(1,500)
Diisopropyl Ether (DIPE)	µg/kg	ND(10,000)	ND(1,000)	ND(490)	ND(440)	ND(10,000)	ND(500)	ND(10)	ND(560)	ND(2,700)	ND(2,500)	ND(10,000)	ND(10,000)	ND(10,000)	ND(2,900)
Ethylbenzene	µg/kg	1,800 J	160 J	79 J	ND(220)	6,700	350	23	170 J	14,000	9,000	4,400 J	5,500	13,000	14,000
Iodomethane	µg/kg	ND(5,000)	ND(500)	ND(250)	ND(220)	ND(5,000)	ND(250)	ND(5.0)	ND(280)	ND(1,300)	ND(1,300)	ND(5,000)	ND(5,000)	ND(5,000)	ND(1,500)
Isopropylbenzene	µg/kg	ND(5,000)	ND(500)	ND(250)	ND(220)	1,300 J	77 J	3.2 J	ND(280)	3,900	2,400	ND(5,000)	900 J	1,900 J	1,900
m and p-Xylene	µg/kg	3,100 J	520	260	170 J	28,000	930	62	630	80,000	60,000	19,000	28,000	61,000	61,000
Methyl-t-Butyl Ether (MTBE)	µg/kg	ND(5,000)	ND(500)	ND(250)	ND(220)	ND(5,000)	ND(250)	9.2	ND(280)	ND(1,300)	ND(1,300)	ND(5,000)	ND(5,000)	ND(5,000)	ND(1,500)
Naphthalene	µg/kg	6,300	480 J	430	270	17,000	240 J	27	320	11,000	6,400	16,000	19,000	37,000	30,000
n-Butylbenzene	µg/kg	ND(5,000)	ND(500)	ND(250)	ND(220)	4,700 J	ND(250)	ND(5.0)	ND(280)	ND(1,300)	2,000	4,500 J	2,800 J	5,300	ND(1,500)
n-Propylbenzene	µg/kg	1,100 J	90 J	ND(250)	ND(220)	2,800 J	140 J	4.6 J	75 J	5,400	3,300	1,900 J	1,700 J	4,400 J	3,100
o-Xylene	µg/kg	2,600 J	340 J	140 J	92 J	10,000	330	21	200 J	25,000	920 J	10,000	12,000	24,000	22,000
p-Isopropyltoluene	µg/kg	1,200 J	140 J	ND(250)	54 J	2,900 J	80 J	2.7 J	67 J	3,200	1,600	2,900 J	2,100 J	3,300 J	1,900
sec-Butylbenzene	µg/kg	ND(5,000)	ND(500)	ND(250)	ND(220)	1,700 J	60 J	1.3 J	ND(280)	1,800	1,100 J	1,200 J	800 J	1,500 J	610 J
Styrene	µg/kg	ND(5,000)	ND(500)	ND(250)	ND(220)	ND(5,000)	ND(250)	ND(5.0)	ND(280)	ND(1,300)	ND(1,300)	ND(5,000)	ND(5,000)	ND(5,000)	ND(1,500)
t-1,2-Dichloroethene	µg/kg	ND(5,000)	ND(500)	ND(250)	ND(220)	ND(5,000)	ND(250)	ND(5.0)	ND(280)	ND(1,300)	ND(1,300)	ND(5,000)	ND(5,000)	ND(5,000)	ND(1,500)
Tert-Butyl Alcohol (TBA)	µg/kg	ND(50,000)	ND(5,000)	ND(2,500)	ND(2,200)	ND(50,000)	ND(2,500)	66	ND(2,800)	ND(13,000)	ND(13,000)	ND(50,000)	ND(50,000)	ND(50,000)	ND(15,000)
tert-Butylbenzene	µg/kg	ND(5,000)	ND(500)	ND(250)	ND(220)	ND(5,000)	ND(250)	ND(5.0)	ND(280)	ND(1,300)	ND(1,300)	ND(5,000)	ND(5,000)	ND(5,000)	ND(1,500)
Tetrachloroethene	µg/kg	ND(5,000)	ND(500)	ND(250)	ND(220)	ND(5,000)	ND(250)	ND(5.0)	ND(280)	ND(1,300)	ND(1,300)	ND(5,000)	ND(5,000)	ND(5,000)	ND(1,500)
Toluene	µg/kg	ND(5,000)	110 J	57 J	ND(220)	4,700 J	130 J	16	64 J	10,000	ND(1,300)	4,900 J	7,700	21,000	17,000
Trichloroethene	µg/kg	ND(5,000)	ND(500)	ND(250)	ND(220)	ND(5,000)	ND(250)	ND(5.0)	ND(280)	ND(1,300)	ND(1,300)	ND(5,000)	ND(5,000)	ND(5,000)	ND(1,500)
Xylenes, total	µg/kg	5,600	850	390	260	38,000	1,300	83	830	110,000	61,000	30,000	40,000	85,000	82,000

NOTES:
ID - Identification
bgs - Below ground surface
VOCs - Volatile organic compounds
µg/kg - Micrograms per kilogram
ND(5.0) - Analyte not detected at
J - Analyte estimated concentration below
c - Cis
m - Meta
n - Normal
o - Ortho
p - Para
sec - Secondary
t - Trans
tert- Tertiary

TABLE 15
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID / Sample Depth (Feet bgs) / Date Collected	Units	B149 20 01/22/06	B149 50 01/22/06	B150 2 01/20/06	B150 5 01/20/06	B150 10 01/20/06	B150 15 01/20/06	B150 20 01/20/06	B150 50 01/20/06	B151 2 01/19/06	B151 5 01/19/06	B151 10 01/19/06	B152 2 01/20/06	B152 5 01/20/06	B152 10 01/20/06	B153 2 01/20/06
VOCs																
1,1,1,2-Tetrachloroethane	µg/kg	ND(1,300)	ND(250)	ND(470)	ND(410)	ND(1,200)	ND(2,400)	ND(1,200)	ND(250)	ND(5.0)	ND(5.0)	ND(5.0)	ND(440)	ND(190)	ND(5.0)	ND(1,000)
1,2,4-Trichlorobenzene	µg/kg	ND(1,300)	ND(250)	ND(470)	ND(410)	ND(1,200)	ND(2,400)	ND(1,200)	ND(250)	ND(5.0)	ND(5.0)	ND(5.0)	ND(440)	ND(190)	1.9 J	ND(1,000)
1,2,4-Trimethylbenzene	µg/kg	27,000	ND(250)	180 J	710	12,000	14,000	5,600	590	ND(5.0)	ND(5.0)	ND(5.0)	320 J	240	ND(5.0)	6,900
1,2-Dichlorobenzene	µg/kg	ND(1,300)	ND(250)	ND(470)	ND(410)	ND(1,200)	ND(2,400)	ND(1,200)	ND(250)	ND(5.0)	ND(5.0)	ND(5.0)	ND(440)	ND(190)	ND(5.0)	ND(1,000)
1,2-Dichloroethane	µg/kg	ND(1,300)	ND(250)	ND(470)	ND(410)	ND(1,200)	ND(2,400)	ND(1,200)	ND(250)	ND(5.0)	ND(5.0)	ND(5.0)	ND(440)	ND(190)	ND(5.0)	ND(1,000)
1,2-Dichloropropane	µg/kg	ND(1,300)	ND(250)	ND(470)	ND(410)	ND(1,200)	ND(2,400)	ND(1,200)	ND(250)	ND(5.0)	ND(5.0)	ND(5.0)	ND(440)	ND(190)	ND(5.0)	ND(1,000)
1,3,5-Trimethylbenzene	µg/kg	9,800	ND(250)	ND(470)	220 J	3,200	3,600	1,400	156 J	ND(5.0)	ND(5.0)	ND(5.0)	120 J	74 J	ND(5.0)	1,900
2-Butanone	µg/kg	ND(25,000)	ND(5,000)	ND(9,300)	ND(8,200)	ND(25,000)	ND(48,000)	ND(23,000)	ND(5,000)	ND(100)	ND(100)	ND(100)	ND(8,800)	ND(3,800)	110	ND(20,000)
2-Hexanone	µg/kg	ND(1,300)	ND(250)	ND(470)	ND(410)	ND(1,200)	ND(2,400)	ND(1,200)	ND(250)	ND(5.0)	ND(5.0)	ND(5.0)	ND(440)	ND(190)	4.7 J	ND(1,000)
4-Methyl-2-Pentanone	µg/kg	ND(1,300)	ND(250)	ND(470)	ND(410)	ND(1,200)	ND(2,400)	ND(1,200)	ND(250)	ND(5.0)	ND(5.0)	ND(5.0)	ND(440)	ND(190)	ND(5.0)	ND(1,000)
Acetone	µg/kg	ND(13,000)	ND(2,500)	ND(4,700)	ND(4,100)	ND(12,000)	ND(24,000)	ND(12,000)	ND(2,500)	ND(50)	ND(50)	ND(50)	ND(4,400)	ND(1,900)	160	ND(10,000)
Benzene	µg/kg	1,800	ND(250)	ND(470)	100 J	2,100	2,200 J	710 J	ND(250)	ND(5.0)	ND(5.0)	ND(5.0)	ND(440)	ND(190)	4.1 J	ND(1,000)
Bromoform	µg/kg	ND(1,300)	ND(250)	ND(470)	ND(410)	ND(1,200)	ND(2,400)	ND(1,200)	ND(250)	ND(5.0)	ND(5.0)	ND(5.0)	ND(440)	ND(190)	ND(5.0)	ND(1,000)
c-1,2-Dichloroethene	µg/kg	ND(1,300)	ND(250)	ND(470)	ND(410)	ND(1,200)	ND(2,400)	ND(1,200)	ND(250)	ND(5.0)	ND(5.0)	ND(5.0)	ND(440)	ND(190)	12	ND(1,000)
Carbon Disulfide	µg/kg	ND(1,300)	ND(250)	ND(470)	ND(410)	ND(1,200)	ND(2,400)	ND(1,200)	ND(250)	ND(5.0)	ND(5.0)	ND(5.0)	ND(440)	ND(190)	ND(5.0)	ND(1,000)
Chloroethane	µg/kg	ND(1,300)	ND(250)	ND(470)	ND(410)	ND(1,200)	ND(2,400)	ND(1,200)	ND(250)	ND(5.0)	ND(5.0)	ND(5.0)	ND(440)	ND(190)	ND(5.0)	ND(1,000)
Chloromethane	µg/kg	ND(1,300)	ND(250)	ND(470)	ND(410)	ND(1,200)	ND(2,400)	ND(1,200)	ND(250)	ND(5.0)	ND(5.0)	ND(5.0)	ND(440)	ND(190)	ND(5.0)	ND(1,000)
Diisopropyl Ether (DIPE)	µg/kg	ND(2,500)	ND(500)	ND(930)	ND(820)	ND(2,500)	ND(4,800)	ND(2,300)	ND(500)	ND(10)	ND(10)	ND(10)	ND(880)	ND(380)	ND(10)	ND(2,000)
Ethylbenzene	µg/kg	18,000	ND(250)	ND(470)	ND(410)	1,900	2,200 J	630 J	ND(250)	ND(5.0)	ND(5.0)	ND(5.0)	ND(440)	49 J	2.0 J	1,600
Iodomethane	µg/kg	ND(1,300)	ND(250)	ND(470)	ND(410)	ND(1,200)	ND(2,400)	ND(1,200)	ND(250)	ND(5.0)	ND(5.0)	ND(5.0)	ND(440)	ND(190)	ND(5.0)	ND(1,000)
Isopropylbenzene	µg/kg	3,200	ND(250)	ND(470)	ND(410)	1,300	1,300 J	400 J	ND(250)	ND(5.0)	ND(5.0)	ND(5.0)	ND(440)	ND(190)	ND(5.0)	430 J
m and p-Xylene	µg/kg	80,000	ND(250)	ND(470)	270 J	4,600	5,000	1,700	117 J	ND(5.0)	ND(5.0)	ND(5.0)	400 J	160 J	4.3 J	6,900
Methyl-t-Butyl Ether (MTBE)	µg/kg	ND(1,300)	ND(250)	ND(470)	ND(410)	ND(1,200)	ND(2,400)	ND(1,200)	ND(250)	ND(5.0)	ND(5.0)	ND(5.0)	ND(440)	ND(190)	ND(5.0)	ND(1,000)
Naphthalene	µg/kg	16,000	190 J	ND(470)	ND(410)	43,000	55,000	22,000	2,530	ND(5.0)	ND(5.0)	ND(5.0)	ND(440)	ND(190)	ND(5.0)	33,000
n-Butylbenzene	µg/kg	ND(1,300)	ND(250)	ND(470)	ND(410)	ND(1,200)	ND(2,400)	ND(1,200)	ND(250)	ND(5.0)	ND(5.0)	ND(5.0)	ND(440)	130 J	ND(5.0)	ND(1,000)
n-Propylbenzene	µg/kg	4,800	ND(250)	ND(470)	100 J	2,300	2,400	680 J	65 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(440)	ND(190)	ND(5.0)	740 J
o-Xylene	µg/kg	30,000	ND(250)	ND(470)	130 J	2,400	2,100 J	430 J	ND(250)	ND(5.0)	ND(5.0)	ND(5.0)	230 J	63 J	1.3 J	2,500
p-Isopropyltoluene	µg/kg	2,400	ND(250)	110 J	130 J	2,200	3,000	900 J	142 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(440)	44 J	ND(5.0)	910 J
sec-Butylbenzene	µg/kg	560 J	ND(250)	ND(470)	94 J	1,900	1,900 J	670 J	ND(250)	ND(5.0)	1.1 J	ND(5.0)	ND(440)	ND(190)	ND(5.0)	590 J
Styrene	µg/kg	ND(1,300)	ND(250)	ND(470)	ND(410)	ND(1,200)	ND(2,400)	ND(1,200)	ND(250)	ND(5.0)	ND(5.0)	ND(5.0)	ND(440)	ND(190)	ND(5.0)	ND(1,000)
t-1,2-Dichloroethene	µg/kg	ND(1,300)	ND(250)	ND(470)	ND(410)	ND(1,200)	ND(2,400)	ND(1,200)	ND(250)	ND(5.0)	ND(5.0)	ND(5.0)	ND(440)	ND(190)	ND(5.0)	ND(1,000)
Tert-Butyl Alcohol (TBA)	µg/kg	ND(13,000)	ND(2,500)	ND(4,700)	ND(4,100)	ND(12,000)	ND(24,000)	ND(12,000)	ND(2,500)	ND(50)	ND(50)	ND(50)	ND(4,400)	ND(1,900)	ND(50)	ND(10,000)
tert-Butylbenzene	µg/kg	ND(1,300)	ND(250)	ND(470)	ND(410)	ND(1,200)	ND(2,400)	ND(1,200)	ND(250)	ND(5.0)	ND(5.0)	ND(5.0)	ND(440)	ND(190)	ND(5.0)	ND(1,000)
Tetrachloroethene	µg/kg	ND(1,300)	ND(250)	ND(470)	ND(410)	ND(1,200)	ND(2,400)	ND(1,200)	ND(250)	ND(5.0)	ND(5.0)	ND(5.0)	ND(440)	ND(190)	ND(5.0)	ND(1,000)
Toluene	µg/kg	16,000	ND(250)	ND(470)	ND(410)	940 J	910 J	240 J	ND(250)	ND(5.0)	ND(5.0)	ND(5.0)	260 J	ND(190)	3.1 J	3,700
Trichloroethene	µg/kg	ND(1,300)	ND(250)	ND(470)	ND(410)	ND(1,200)	ND(2,400)	ND(1,200)	ND(250)	ND(5.0)	ND(5.0)	ND(5.0)	ND(440)	ND(190)	2.2 J	ND(1,000)
Xylenes, total	µg/kg	110,000	ND(250)	ND(470)	400 J	7,100	7,100	2,100	117 J	ND(5.0)	ND(5.0)	ND(5.0)	630	220	5.6	9,300

NOTES:
ID - Identification
bgs - Below ground surface
VOCs - Volatile organic compounds
µg/kg - Micrograms per kilogram
ND(5.0) - Analyte not detected at
J - Analyte estimated concentration below
c - Cis
m - Meta
n - Normal
o - Ortho
p - Para
sec - Secondary
t - Trans
tert- Tertiary

TABLE 15
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID: / Sample Depth (Feet bgs): / Date Collected:	Units	B153 / 2.5 / 01/20/06	B153 / 10 / 01/20/06	B153 / 15 / 01/20/06	B153 / 20 / 01/20/06	B153 / 30 / 01/20/06	B154 / 2 / 01/18/06	B154 / 5 / 01/18/06	B154 / 10 / 01/18/06	B155 / 2 / 01/30/06	B155 / 5 / 01/30/06	B155 / 10 / 01/30/06	B155 / 15 / 01/30/06	B155 / 20 / 01/30/06	B155 / 30 / 01/30/06	B156 / 2 / 01/13/06
VOCs																
1,1,1,2-Tetrachloroethane	µg/kg	ND(1,000)	ND(1,300)	ND(2,700)	ND(1,700)	ND(500)	ND(270)	ND(5.0)	ND(5.0)	ND(410)	ND(510)	ND(1,200)	ND(2,600)	ND(2,600)	ND(500)	ND(230)
1,2,4-Trichlorobenzene	µg/kg	ND(1,000)	ND(1,300)	ND(2,700)	ND(1,700)	ND(500)	ND(270)	ND(5.0)	ND(5.0)	ND(410)	ND(510)	ND(1,200)	ND(2,600)	ND(2,600)	ND(500)	ND(230)
1,2,4-Trimethylbenzene	µg/kg	1,400	5,400	11,000	5,800	1,940	ND(270)	ND(5.0)	2.8 J	3,800	3,100	32,000	91,000	60,000	694	ND(230)
1,2-Dichlorobenzene	µg/kg	ND(1,000)	ND(1,300)	ND(2,700)	ND(1,700)	ND(500)	ND(270)	ND(5.0)	ND(5.0)	ND(410)	ND(510)	ND(1,200)	ND(2,600)	ND(2,600)	ND(500)	ND(230)
1,2-Dichloroethane	µg/kg	ND(1,000)	ND(1,300)	ND(2,700)	ND(1,700)	ND(500)	ND(270)	ND(5.0)	ND(5.0)	ND(410)	ND(510)	ND(1,200)	ND(2,600)	ND(2,600)	ND(500)	ND(230)
1,2-Dichloropropane	µg/kg	ND(1,000)	ND(1,300)	ND(2,700)	ND(1,700)	ND(500)	ND(270)	ND(5.0)	ND(5.0)	ND(410)	ND(510)	ND(1,200)	ND(2,600)	ND(2,600)	ND(500)	ND(230)
1,3,5-Trimethylbenzene	µg/kg	400 J	1,600	3,000	1,400 J	590	ND(270)	ND(5.0)	ND(5.0)	1,200	920	9,800	28,000	17,000	210 J	ND(230)
2-Butanone	µg/kg	ND(20,000)	ND(26,000)	ND(53,000)	ND(34,000)	ND(10,000)	ND(5,300)	ND(100)	ND(100)	ND(8,200)	ND(10,000)	ND(24,000)	ND(53,000)	ND(53,000)	ND(10,000)	ND(4,600)
2-Hexanone	µg/kg	ND(1,000)	ND(1,300)	ND(2,700)	ND(1,700)	ND(500)	ND(270)	ND(5.0)	ND(5.0)	ND(410)	ND(510)	ND(1,200)	ND(2,600)	ND(2,600)	ND(500)	ND(230)
4-Methyl-2-Pentanone	µg/kg	ND(1,000)	ND(1,300)	ND(2,700)	ND(1,700)	ND(500)	ND(270)	ND(5.0)	ND(5.0)	ND(410)	ND(510)	ND(1,200)	ND(2,600)	ND(2,600)	ND(500)	ND(230)
Acetone	µg/kg	ND(10,000)	ND(13,000)	ND(27,000)	ND(17,000)	ND(5,000)	ND(2,700)	ND(50)	ND(50)	ND(4,100)	ND(5,100)	ND(12,000)	ND(26,000)	ND(26,000)	ND(5,000)	ND(2,300)
Benzene	µg/kg	ND(1,000)	ND(1,300)	ND(2,700)	ND(1,700)	ND(500)	ND(270)	ND(5.0)	1.3 J	390 J	310 J	2,200	6,100	3,600	ND(500)	ND(230)
Bromoform	µg/kg	ND(1,000)	ND(1,300)	ND(2,700)	ND(1,700)	ND(500)	ND(270)	ND(5.0)	ND(5.0)	ND(410)	ND(510)	ND(1,200)	ND(2,600)	ND(2,600)	ND(500)	ND(230)
c-1,2-Dichloroethene	µg/kg	ND(1,000)	ND(1,300)	ND(2,700)	ND(1,700)	ND(500)	ND(270)	ND(5.0)	ND(5.0)	ND(410)	ND(510)	ND(1,200)	ND(2,600)	ND(2,600)	ND(500)	ND(230)
Carbon Disulfide	µg/kg	ND(1,000)	ND(1,300)	ND(2,700)	ND(1,700)	ND(500)	ND(270)	ND(5.0)	ND(5.0)	ND(410)	ND(510)	ND(1,200)	ND(2,600)	ND(2,600)	ND(500)	ND(230)
Chloroethane	µg/kg	ND(1,000)	ND(1,300)	ND(2,700)	ND(1,700)	ND(500)	ND(270)	ND(5.0)	ND(5.0)	ND(410)	ND(510)	ND(1,200)	ND(2,600)	ND(2,600)	ND(500)	ND(230)
Chloromethane	µg/kg	ND(1,000)	ND(1,300)	ND(2,700)	ND(1,700)	ND(500)	ND(270)	ND(5.0)	ND(5.0)	ND(410)	ND(510)	ND(1,200)	ND(2,600)	ND(2,600)	ND(500)	ND(230)
Diisopropyl Ether (DIPE)	µg/kg	ND(2,000)	ND(2,600)	ND(5,300)	ND(3,400)	ND(1,000)	ND(530)	ND(10)	ND(10)	ND(820)	ND(1,000)	ND(2,400)	ND(5,300)	ND(5,300)	ND(1,000)	ND(460)
Ethylbenzene	µg/kg	260 J	400 J	550 J	ND(1,700)	ND(500)	ND(270)	ND(5.0)	1.7 J	1,400	1,100	11,000	27,000	19,000	ND(500)	55 J
Iodomethane	µg/kg	ND(1,000)	ND(1,300)	ND(2,700)	ND(1,700)	ND(500)	ND(270)	ND(5.0)	ND(5.0)	ND(410)	ND(510)	ND(1,200)	ND(2,600)	ND(2,600)	ND(500)	ND(230)
Isopropylbenzene	µg/kg	ND(1,000)	ND(1,300)	ND(2,700)	ND(1,700)	ND(500)	ND(270)	ND(5.0)	ND(5.0)	250 J	220 J	2,200	5,900	4,300	ND(500)	130 J
m and p-Xylene	µg/kg	1,000	1,800	2,300 J	890 J	379 J	ND(270)	ND(5.0)	2.8 J	6,300	4,700	45,000	110,000	83,000	284 J	ND(230)
Methyl-t-Butyl Ether (MTBE)	µg/kg	ND(1,000)	ND(1,300)	ND(2,700)	ND(1,700)	ND(500)	ND(270)	ND(5.0)	ND(5.0)	ND(410)	ND(510)	ND(1,200)	ND(2,600)	ND(2,600)	1,040	ND(230)
Naphthalene	µg/kg	6,500	24,000	53,000	29,000	9,640	ND(270)	ND(5.0)	ND(5.0)	4,100	2,300	23,000	55,000	33,000	ND(500)	ND(230)
n-Butylbenzene	µg/kg	ND(1,000)	ND(1,300)	ND(2,700)	ND(1,700)	ND(500)	ND(270)	ND(5.0)	ND(5.0)	1,200	ND(510)	12,000	ND(2,600)	ND(2,600)	ND(500)	ND(230)
n-Propylbenzene	µg/kg	ND(1,000)	530 J	1,200 J	490 J	147 J	ND(270)	ND(5.0)	ND(5.0)	450	340 J	3,700	9,600	6,300	ND(500)	180 J
o-Xylene	µg/kg	ND(1,000)	720 J	ND(2,700)	ND(1,700)	147 J	ND(270)	ND(5.0)	ND(5.0)	2,600	1,900	19,000	47,000	33,000	ND(500)	ND(230)
p-Isopropyltoluene	µg/kg	ND(1,000)	730 J	1,700 J	1,000 J	312 J	ND(270)	ND(5.0)	ND(5.0)	520	490 J	4,600	13,000	7,900	ND(500)	ND(230)
sec-Butylbenzene	µg/kg	ND(1,000)	480 J	1,200 J	520 J	ND(500)	ND(270)	ND(5.0)	ND(5.0)	83 J	ND(510)	610 J	2,100 J	ND(2,600)	ND(500)	67 J
Styrene	µg/kg	ND(1,000)	ND(1,300)	ND(2,700)	ND(1,700)	ND(500)	ND(270)	ND(5.0)	ND(5.0)	ND(410)	ND(510)	ND(1,200)	ND(2,600)	ND(2,600)	ND(500)	ND(230)
t-1,2-Dichloroethene	µg/kg	ND(1,000)	ND(1,300)	ND(2,700)	ND(1,700)	ND(500)	ND(270)	ND(5.0)	ND(5.0)	ND(410)	ND(510)	ND(1,200)	ND(2,600)	ND(2,600)	ND(500)	ND(230)
Tert-Butyl Alcohol (TBA)	µg/kg	ND(10,000)	ND(13,000)	ND(27,000)	ND(17,000)	ND(5,000)	ND(2,700)	ND(50)	ND(50)	ND(4,100)	ND(5,100)	ND(12,000)	ND(26,000)	ND(26,000)	ND(5,000)	ND(2,300)
tert-Butylbenzene	µg/kg	ND(1,000)	ND(1,300)	ND(2,700)	ND(1,700)	ND(500)	ND(270)	ND(5.0)	ND(5.0)	ND(410)	ND(510)	ND(1,200)	ND(2,600)	ND(2,600)	ND(500)	ND(230)
Tetrachloroethene	µg/kg	ND(1,000)	ND(1,300)	ND(2,700)	ND(1,700)	ND(500)	ND(270)	ND(5.0)	ND(5.0)	ND(410)	ND(510)	ND(1,200)	ND(2,600)	ND(2,600)	ND(500)	ND(230)
Toluene	µg/kg	770 J	790 J	ND(2,700)	ND(1,700)	ND(500)	ND(270)	ND(5.0)	ND(5.0)	3,200	2,500	22,000	60,000	40,000	ND(500)	ND(230)
Trichloroethene	µg/kg	ND(1,000)	ND(1,300)	ND(2,700)	ND(1,700)	ND(500)	ND(270)	ND(5.0)	ND(5.0)	ND(410)	ND(510)	ND(1,200)	ND(2,600)	ND(2,600)	ND(500)	ND(230)
Xylenes, total	µg/kg	1,000	2,500	2,300 J	890 J	526	ND(270)	ND(5.0)	2.8 J	9,000	6,600	64,000	160,000	120,000	284 J	ND(230)

NOTES:
ID - Identification
bgs - Below ground surface
VOCs - Volatile organic compounds
µg/kg - Micrograms per kilogram
ND(5.0) - Analyte not detected at
J - Analyte estimated concentration below
c - Cis
m - Meta
n - Normal
o - Ortho
p - Para
sec - Secondary
t - Trans
tert- Tertiary

TABLE 15
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID: / Sample Depth (Feet bgs): / Date Collected:	Units	B156 5 01/13/06	B156 10 01/13/06	B156 15 01/13/06	B156 20 01/13/06	B158 5 01/13/06	B158 10 01/13/06	B158 5 01/30/06	B158 10 01/30/06	B158 15 01/30/06	B158 20 01/30/06	B159 2 01/31/06	B159 5 01/31/06	B159 10 01/31/06	B160 2 01/31/06	B160 5 01/31/06	B160 10 01/31/06
VOCs																	
1,1,1,2-Tetrachloroethane	µg/kg	ND(5.0)	ND(2,300)	ND(500)	ND(5,000)	ND(500)	ND(200)	ND(5.0)	ND(5.0)	ND(240)	ND(240)	ND(5.0)	ND(5.0)	ND(280)	ND(5.0)	ND(5.0)	ND(5.0)
1,2,4-Trichlorobenzene	µg/kg	ND(5.0)	ND(2,300)	ND(500)	ND(5,000)	ND(500)	ND(200)	ND(5.0)	ND(5.0)	ND(240)	ND(240)	ND(5.0)	ND(5.0)	ND(280)	ND(5.0)	ND(5.0)	ND(5.0)
1,2,4-Trimethylbenzene	µg/kg	ND(5.0)	550 J	140,000	240,000	1620	58 J	120	330	450	300	ND(5.0)	150	4,200	ND(5.0)	ND(5.0)	ND(5.0)
1,2-Dichlorobenzene	µg/kg	ND(5.0)	ND(2,300)	ND(500)	ND(5,000)	ND(500)	ND(200)	ND(5.0)	ND(5.0)	ND(240)	ND(240)	ND(5.0)	ND(5.0)	ND(280)	ND(5.0)	ND(5.0)	ND(5.0)
1,2-Dichloroethane	µg/kg	ND(5.0)	ND(2,300)	ND(500)	ND(5,000)	ND(500)	ND(200)	ND(5.0)	ND(5.0)	ND(240)	ND(240)	ND(5.0)	ND(5.0)	ND(280)	ND(5.0)	ND(5.0)	ND(5.0)
1,2-Dichloropropane	µg/kg	ND(5.0)	ND(2,300)	ND(500)	ND(5,000)	ND(500)	ND(200)	ND(5.0)	ND(5.0)	ND(240)	ND(240)	ND(5.0)	ND(5.0)	ND(280)	ND(5.0)	ND(5.0)	ND(5.0)
1,3,5-Trimethylbenzene	µg/kg	ND(5.0)	ND(2,300)	2,700	74,000	881	ND(200)	ND(5.0)	68	120 J	88 J	ND(5.0)	45	1,300	ND(5.0)	ND(5.0)	ND(5.0)
2-Butanone	µg/kg	ND(100)	ND(45,000)	ND(10,000)	ND(100,000)	ND(10,000)	ND(3,900)	ND(100)	ND(100)	ND(4,700)	ND(4,800)	ND(100)	ND(100)	ND(5,500)	ND(100)	ND(100)	ND(100)
2-Hexanone	µg/kg	ND(5.0)	ND(2,300)	ND(500)	ND(5,000)	ND(500)	ND(200)	ND(5.0)	ND(5.0)	ND(240)	ND(240)	ND(5.0)	ND(5.0)	ND(280)	ND(5.0)	ND(5.0)	ND(5.0)
4-Methyl-2-Pentanone	µg/kg	ND(5.0)	ND(2,300)	ND(500)	ND(5,000)	ND(500)	ND(200)	ND(5.0)	ND(5.0)	ND(240)	ND(240)	ND(5.0)	ND(5.0)	ND(280)	ND(5.0)	ND(5.0)	ND(5.0)
Acetone	µg/kg	ND(50)	ND(23,000)	ND(5,000)	ND(50,000)	ND(5,000)	ND(2,000)	ND(50)	ND(50)	ND(2,400)	ND(2,400)	ND(50)	ND(50)	ND(2,800)	ND(50)	ND(50)	ND(50)
Benzene	µg/kg	6.1	2,400	2,400	9,100	ND(500)	170 J	370	240	130 J	190 J	ND(5.0)	ND(5.0)	ND(280)	ND(5.0)	ND(5.0)	1.8 J
Bromoform	µg/kg	ND(5.0)	ND(2,300)	ND(500)	ND(5,000)	ND(500)	ND(200)	ND(5.0)	ND(5.0)	ND(240)	ND(240)	ND(5.0)	ND(5.0)	ND(280)	ND(5.0)	ND(5.0)	ND(5.0)
c-1,2-Dichloroethene	µg/kg	ND(5.0)	ND(2,300)	ND(500)	ND(5,000)	ND(500)	ND(200)	ND(5.0)	ND(5.0)	ND(240)	ND(240)	ND(5.0)	ND(5.0)	ND(280)	4.2 J	3.4 J	3.2 J
Carbon Disulfide	µg/kg	ND(5.0)	ND(2,300)	ND(500)	ND(5,000)	ND(500)	ND(200)	ND(5.0)	ND(5.0)	ND(240)	ND(240)	ND(5.0)	ND(5.0)	ND(280)	ND(5.0)	ND(5.0)	ND(5.0)
Chloroethane	µg/kg	ND(5.0)	ND(2,300)	ND(500)	ND(5,000)	ND(500)	ND(200)	ND(5.0)	ND(5.0)	ND(240)	ND(240)	ND(5.0)	ND(5.0)	ND(280)	ND(5.0)	ND(5.0)	ND(5.0)
Chloromethane	µg/kg	ND(5.0)	ND(2,300)	ND(500)	ND(5,000)	ND(500)	ND(200)	ND(5.0)	ND(5.0)	ND(240)	ND(240)	ND(5.0)	ND(5.0)	ND(280)	ND(5.0)	ND(5.0)	ND(5.0)
Diisopropyl Ether (DIPE)	µg/kg	ND(10)	ND(4,500)	ND(1,000)	ND(10,000)	ND(1,000)	ND(390)	ND(10)	ND(10)	ND(470)	ND(480)	ND(10)	ND(10)	ND(550)	ND(10)	ND(10)	ND(10)
Ethylbenzene	µg/kg	ND(5.0)	38,000	21,000	52,000	ND(500)	ND(200)	80	94	110 J	150 J	ND(5.0)	ND(5.0)	160 J	ND(5.0)	ND(5.0)	ND(5.0)
Iodomethane	µg/kg	ND(5.0)	ND(2,300)	ND(500)	ND(5,000)	ND(500)	ND(200)	ND(5.0)	ND(5.0)	ND(240)	ND(240)	ND(5.0)	ND(5.0)	ND(280)	ND(5.0)	ND(5.0)	ND(5.0)
Isopropylbenzene	µg/kg	ND(5.0)	29,000	7,000	13,000	145 J	160 J	410	9.5	ND(240)	ND(240)	ND(5.0)	ND(5.0)	ND(280)	ND(5.0)	ND(5.0)	ND(5.0)
m and p-Xylene	µg/kg	ND(5.0)	ND(2,300)	ND(500)	84,000	836	52 J	240	300	550	760	ND(5.0)	65	940	ND(5.0)	ND(5.0)	ND(5.0)
Methyl-t-Butyl Ether (MTBE)	µg/kg	1.5 J	ND(2,300)	ND(500)	ND(5,000)	ND(500)	ND(200)	ND(5.0)	ND(5.0)	ND(240)	ND(240)	ND(5.0)	ND(5.0)	ND(280)	ND(5.0)	ND(5.0)	ND(5.0)
Naphthalene	µg/kg	ND(5.0)	28,000	23,000	54,000	ND(500)	ND(200)	ND(5.0)	69	ND(240)	ND(240)	ND(5.0)	ND(5.0)	1,700	ND(5.0)	ND(5.0)	ND(5.0)
n-Butylbenzene	µg/kg	ND(5.0)	15,000	8,400	24,000	ND(500)	160 J	720	6.8	ND(240)	ND(240)	ND(5.0)	18	220 J	ND(5.0)	ND(5.0)	ND(5.0)
n-Propylbenzene	µg/kg	ND(5.0)	93,000	24,000	42,000	216 J	670	2,200	38	ND(240)	ND(240)	ND(5.0)	1.7 J	230 J	ND(5.0)	ND(5.0)	ND(5.0)
o-Xylene	µg/kg	ND(5.0)	ND(2,300)	ND(500)	ND(5,000)	ND(500)	ND(200)	ND(5.0)	71	180 J	270	ND(5.0)	7.7	280	ND(5.0)	ND(5.0)	ND(5.0)
p-Isopropyltoluene	µg/kg	ND(5.0)	ND(2,300)	1,700	10,000	1,760	ND(200)	ND(5.0)	ND(5.0)	ND(240)	ND(240)	ND(5.0)	ND(5.0)	ND(280)	ND(5.0)	ND(5.0)	ND(5.0)
sec-Butylbenzene	µg/kg	ND(5.0)	14,000	4,600	ND(5,000)	ND(500)	67 J	340	3.0 J	ND(240)	ND(240)	ND(5.0)	ND(5.0)	ND(280)	ND(5.0)	ND(5.0)	ND(5.0)
Styrene	µg/kg	ND(5.0)	ND(2,300)	ND(500)	ND(5,000)	ND(500)	ND(200)	ND(5.0)	ND(5.0)	ND(240)	ND(240)	ND(5.0)	ND(5.0)	ND(280)	ND(5.0)	ND(5.0)	ND(5.0)
t-1,2-Dichloroethene	µg/kg	ND(5.0)	ND(2,300)	ND(500)	ND(5,000)	ND(500)	ND(200)	ND(5.0)	ND(5.0)	ND(240)	ND(240)	ND(5.0)	ND(5.0)	ND(280)	1.6 J	1.1 J	1.0 J
Tert-Butyl Alcohol (TBA)	µg/kg	ND(50)	ND(23,000)	ND(5,000)	ND(50,000)	ND(5,000)	ND(2,000)	ND(50)	ND(50)	ND(2,400)	ND(2,400)	ND(50)	ND(50)	ND(2,800)	18 J	ND(50)	ND(50)
tert-Butylbenzene	µg/kg	ND(5.0)	ND(2,300)	ND(500)	ND(5,000)	ND(500)	ND(200)	ND(5.0)	ND(5.0)	ND(240)	ND(240)	ND(5.0)	ND(5.0)	ND(280)	ND(5.0)	ND(5.0)	ND(5.0)
Tetrachloroethene	µg/kg	ND(5.0)	ND(2,300)	ND(500)	ND(5,000)	ND(500)	ND(200)	ND(5.0)	ND(5.0)	ND(240)	ND(240)	ND(5.0)	ND(5.0)	ND(280)	ND(5.0)	ND(5.0)	ND(5.0)
Toluene	µg/kg	ND(5.0)	ND(2,300)	ND(500)	ND(5,000)	ND(500)	ND(200)	ND(5.0)	13	55 J	68 J	ND(5.0)	ND(5.0)	ND(280)	ND(5.0)	ND(5.0)	ND(5.0)
Trichloroethene	µg/kg	ND(5.0)	ND(2,300)	ND(500)	ND(5,000)	ND(500)	ND(200)	ND(5.0)	ND(5.0)	ND(240)	ND(240)	ND(5.0)	ND(5.0)	ND(280)	1.4 J	ND(5.0)	ND(5.0)
Xylenes, total	µg/kg	ND(5.0)	ND(2,300)	ND(500)	84,000	836	52 J	240	370	NA	1,000	ND(5.0)	72	1,200	ND(5.0)	ND(5.0)	ND(5.0)

NOTES:
ID - Identification
bgs - Below ground surface
VOCs - Volatile organic compounds
µg/kg - Micrograms per kilogram
ND(5.0) - Analyte not detected at
J - Analyte estimated concentration below
c - Cis
m - Meta
n - Normal
o - Ortho
p - Para
sec - Secondary
t - Trans
tert- Tertiary

TABLE 15
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID		B161	B161	B161	B161	B161	B161	B162	B162	B162	B162	B162	B163	B163	B163	B163	B163	B163
Sample Depth (Feet bgs)		2	5	10	15	20	30	2	5	10	15	20	2	5	10	15	20	30
Date Collected	Units	01/13/06	01/13/06	01/13/06	01/13/06	01/13/06	01/13/06	01/16/06	01/16/06	01/16/06	01/16/06	01/16/06	01/16/06	01/16/06	01/16/06	01/16/06	01/16/06	01/16/06
VOCs																		
1,1,1,2-Tetrachloroethane	µg/kg	ND(5.0)	ND(4,100)	ND(5.0)	ND(5.0)	ND(5.0)	ND(250)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(530)	ND(480)	ND(500)
1,2,4-Trichlorobenzene	µg/kg	ND(5.0)	ND(4,100)	ND(5.0)	ND(5.0)	ND(5.0)	ND(250)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(530)	ND(480)	ND(500)
1,2,4-Trimethylbenzene	µg/kg	ND(5.0)	ND(4,100)	2.0 J	4.3 J	54	65 J	ND(5.0)	ND(5.0)	5.5	10	8.0	ND(5.0)	ND(5.0)	16	5,200	5,000	1,620
1,2-Dichlorobenzene	µg/kg	ND(5.0)	ND(4,100)	ND(5.0)	ND(5.0)	ND(5.0)	ND(250)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(530)	ND(480)	ND(500)
1,2-Dichloroethane	µg/kg	ND(5.0)	ND(4,100)	ND(5.0)	ND(5.0)	ND(5.0)	ND(250)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(530)	ND(480)	ND(500)
1,2-Dichloropropane	µg/kg	ND(5.0)	ND(4,100)	ND(5.0)	ND(5.0)	ND(5.0)	ND(250)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(530)	ND(480)	ND(500)
1,3,5-Trimethylbenzene	µg/kg	ND(5.0)	ND(4,100)	ND(5.0)	ND(5.0)	16	ND(250)	ND(5.0)	ND(5.0)	1.3 J	3.1 J	4.5 J	ND(5.0)	ND(5.0)	3.9 J	1,600	1,600	662
2-Butanone	µg/kg	ND(100)	ND(82,000)	ND(100)	ND(100)	ND(100)	ND(5,000)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(11,000)	ND(9,600)	ND(10,000)
2-Hexanone	µg/kg	ND(5.0)	ND(4,100)	ND(5.0)	ND(5.0)	ND(5.0)	ND(250)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(530)	ND(480)	ND(500)
4-Methyl-2-Pentanone	µg/kg	ND(5.0)	ND(4,100)	ND(5.0)	ND(5.0)	ND(5.0)	ND(250)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(530)	ND(480)	ND(500)
Acetone	µg/kg	ND(50)	ND(41,000)	ND(50)	ND(50)	ND(50)	ND(2,500)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(5,300)	ND(4,800)	ND(5,000)
Benzene	µg/kg	7.6	ND(4,100)	64	17	680	ND(250)	19	31	19	16	39	76	180	83	510 J	180 J	390 J
Bromoform	µg/kg	ND(5.0)	ND(4,100)	ND(5.0)	ND(5.0)	ND(5.0)	ND(250)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(530)	ND(480)	ND(500)
c-1,2-Dichloroethene	µg/kg	ND(5.0)	ND(4,100)	ND(5.0)	ND(5.0)	ND(5.0)	ND(250)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(530)	ND(480)	ND(500)
Carbon Disulfide	µg/kg	ND(5.0)	ND(4,100)	ND(5.0)	ND(5.0)	ND(5.0)	ND(250)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(530)	ND(480)	ND(500)
Chloroethane	µg/kg	ND(5.0)	ND(4,100)	ND(5.0)	ND(5.0)	ND(5.0)	ND(250)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(530)	ND(480)	ND(500)
Chloromethane	µg/kg	ND(5.0)	ND(4,100)	ND(5.0)	ND(5.0)	ND(5.0)	ND(250)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(530)	ND(480)	ND(500)
Diisopropyl Ether (DIPE)	µg/kg	ND(10)	ND(8,200)	ND(10)	ND(10)	ND(10)	ND(500)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(1,100)	ND(960)	ND(1,000)
Ethylbenzene	µg/kg	ND(5.0)	ND(4,100)	2.0 J	ND(5.0)	67	ND(250)	2.7 J	2.2 J	5.1	8.2	13	6.7	8.0	16	2,200	1,900	644
Iodomethane	µg/kg	ND(5.0)	ND(4,100)	ND(5.0)	ND(5.0)	ND(5.0)	ND(250)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(530)	ND(480)	ND(500)
Isopropylbenzene	µg/kg	2.2 J	1,900 J	13	2.6 J	9.8	ND(250)	ND(5.0)	ND(5.0)	ND(5.0)	1.4 J	1.7 J	1.5 J	1.1 J	1.8 J	500 J	540	266 J
m and p-Xylene	µg/kg	ND(5.0)	ND(4,100)	5.0	1.6 J	52	ND(250)	1.7 J	2.7 J	7.3	11	15	ND(5.0)	ND(5.0)	18	4,800	5,600	1,550
Methyl-t-Butyl Ether (MTBE)	µg/kg	2.2 J	ND(4,100)	3.3 J	ND(5.0)	ND(5.0)	ND(250)	ND(5.0)	ND(5.0)	ND(5.0)	1.3 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(530)	ND(480)	ND(500)
Naphthalene	µg/kg	ND(5.0)	ND(4,100)	ND(5.0)	8.0	17	ND(250)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	6.4	6.6	13	27	3,000	2,600	733
n-Butylbenzene	µg/kg	ND(5.0)	ND(4,100)	ND(5.0)	ND(5.0)	ND(5.0)	ND(250)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	3.3 J	ND(530)	ND(480)	ND(500)
n-Propylbenzene	µg/kg	3.2 J	3,500 J	24	5.2	21	ND(250)	ND(5.0)	ND(5.0)	1.0 J	1.8 J	1.9 J	1.8 J	1.0 J	2.7 J	930	1,000	484 J
o-Xylene	µg/kg	ND(5.0)	ND(4,100)	ND(5.0)	ND(5.0)	6.8	ND(250)	ND(5.0)	ND(5.0)	ND(5.0)	1.0 J	1.7 J	ND(5.0)	ND(5.0)	6.3	1,900	2,200	219 J
p-Isopropyltoluene	µg/kg	ND(5.0)	ND(4,100)	ND(5.0)	ND(5.0)	ND(5.0)	ND(250)	ND(5.0)	ND(5.0)	ND(5.0)	1.4 J	1.6 J	ND(5.0)	ND(5.0)	1.2 J	400 J	4,100	221 J
sec-Butylbenzene	µg/kg	1.5 J	1,700 J	4.8 J	ND(5.0)	ND(5.0)	ND(250)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	1.0 J	ND(5.0)	ND(5.0)	350 J	380 J	189 J
Styrene	µg/kg	ND(5.0)	ND(4,100)	ND(5.0)	ND(5.0)	ND(5.0)	ND(250)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(530)	ND(480)	ND(500)
t-1,2-Dichloroethene	µg/kg	ND(5.0)	ND(4,100)	ND(5.0)	ND(5.0)	ND(5.0)	ND(250)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(530)	ND(480)	ND(500)
Tert-Butyl Alcohol (TBA)	µg/kg	280	ND(41,000)	75	68	170	ND(2,500)	43 J	32 J	32 J	ND(50)	57	ND(50)	ND(50)	ND(50)	ND(5,300)	ND(4,800)	ND(5,000)
tert-Butylbenzene	µg/kg	ND(5.0)	ND(4,100)	ND(5.0)	ND(5.0)	ND(5.0)	ND(250)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(530)	ND(480)	ND(500)
Tetrachloroethene	µg/kg	ND(5.0)	ND(4,100)	ND(5.0)	ND(5.0)	ND(5.0)	ND(250)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(530)	ND(480)	ND(500)
Toluene	µg/kg	ND(5.0)	ND(4,100)	6.6	1.0 J	14	ND(250)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	2.1 J	ND(5.0)	ND(5.0)	1.7 J	310 J	570	ND(500)
Trichloroethene	µg/kg	ND(5.0)	ND(4,100)	ND(5.0)	ND(5.0)	ND(5.0)	ND(250)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(530)	ND(480)	ND(500)
Xylenes, total	µg/kg	ND(5.0)	ND(4,100)	5.0	1.6 J	59	ND(250)	1.7 J	2.7 J	7.3	12	17	ND(5.0)	ND(5.0)	24	6,700	7,800	1,770

NOTES:
ID - Identification
bgs - Below ground surface
VOCs - Volatile organic compounds
µg/kg - Micrograms per kilogram
ND(5.0) - Analyte not detected at
J - Analyte estimated concentration below
c - Cis
m - Meta
n - Normal
o - Ortho
p - Para
sec - Secondary
t - Trans
tert- Tertiary

TABLE 15
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID Sample Depth (Feet bgs) Date Collected	Units	B164 2 01/12/06	B164 5 01/12/06	B164 10 01/12/06	B165 2 01/12/06	B165 5 01/12/06	B165 10 01/12/06	B165 15 01/12/06	B165 20 01/12/06	B166 2 01/12/06	B166 5 01/12/06	B166 10 01/12/06	B167 2 01/17/06	B167 5 01/17/06	B167 10 01/17/06	B168 2 01/17/06	B168 5 01/17/06	B168 10 01/17/06
VOCs																		
1,1,1,2-Tetrachloroethane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,2,4-Trichlorobenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,2,4-Trimethylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,2-Dichlorobenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,2-Dichloroethane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,2-Dichloropropane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,3,5-Trimethylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
2-Butanone	µg/kg	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)
2-Hexanone	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
4-Methyl-2-Pentanone	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Acetone	µg/kg	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)
Benzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	12	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	6.4	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	1.0 J
Bromoform	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
c-1,2-Dichloroethene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Carbon Disulfide	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Chloroethane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Chloromethane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Diisopropyl Ether (DIPE)	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Ethylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	1.0 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Iodomethane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Isopropylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
m and p-Xylene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	1.7 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	1.2 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Methyl-t-Butyl Ether (MTBE)	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	1.3 J	ND(5.0)	ND(5.0)	1.1 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Naphthalene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
n-Butylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
n-Propylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
o-Xylene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
p-Isopropyltoluene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
sec-Butylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Styrene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
t-1,2-Dichloroethene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Tert-Butyl Alcohol (TBA)	µg/kg	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	17 J	ND(50)	ND(50)
tert-Butylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Tetrachloroethene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Toluene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	6.8	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	4.0 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Trichloroethene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Xylenes, total	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	1.7 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	1.2 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)

NOTES:
ID - Identification
bgs - Below ground surface
VOCs - Volatile organic compounds
µg/kg - Micrograms per kilogram
ND(5.0) - Analyte not detected at
J - Analyte estimated concentration below
c - Cis
m - Meta
n - Normal
o - Ortho
p - Para
sec - Secondary
t - Trans
tert- Tertiary

TABLE 15
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID:	Units	B169	B169	B169	B169	B169	B170	B170	B170	B170	B170	B170	B171	B171	B171	B171
Sample Depth (Feet bgs):		2	5	10	15	20	2	5	10	15	20	30	2	5	10	15
Date Collected:		01/17/06	01/17/06	01/17/06	01/17/06	01/17/06	01/18/06	01/18/06	01/18/06	01/18/06	01/18/06	01/18/06	01/11/06	01/11/06	01/11/06	01/11/06
VOCs																
1,1,1,2-Tetrachloroethane	µg/kg	ND(5,000)	ND(5.0)	ND(5.0)	ND(5.0)	ND(550)	ND(190)	ND(5.0)	ND(210)	ND(2,200)	ND(1,300)	ND(250)	ND(5,000)	ND(5,000)	ND(25,000)	ND(4,500)
1,2,4-Trichlorobenzene	µg/kg	ND(5,000)	ND(5.0)	ND(5.0)	1.2 J	ND(550)	ND(190)	ND(5.0)	ND(210)	ND(2,200)	ND(1,300)	ND(250)	ND(5,000)	ND(5,000)	ND(25,000)	ND(4,500)
1,2,4-Trimethylbenzene	µg/kg	12,000	43	71	ND(5.0)	37,000	ND(190)	9.7	30,000	180,000	170,000	ND(250)	47,000	32,000	230,000	150,000
1,2-Dichlorobenzene	µg/kg	ND(5,000)	ND(5.0)	ND(5.0)	ND(5.0)	ND(550)	ND(190)	ND(5.0)	ND(210)	ND(2,200)	ND(1,300)	ND(250)	ND(5,000)	ND(5,000)	ND(25,000)	ND(4,500)
1,2-Dichloroethane	µg/kg	ND(5,000)	ND(5.0)	ND(5.0)	1.7 J	ND(550)	ND(190)	ND(5.0)	ND(210)	ND(2,200)	ND(1,300)	ND(250)	ND(5,000)	ND(5,000)	ND(25,000)	ND(4,500)
1,2-Dichloropropane	µg/kg	ND(5,000)	ND(5.0)	ND(5.0)	ND(5.0)	ND(550)	ND(190)	ND(5.0)	ND(210)	ND(2,200)	ND(1,300)	ND(250)	ND(5,000)	ND(5,000)	ND(25,000)	ND(4,500)
1,3,5-Trimethylbenzene	µg/kg	2,800 J	10	20	ND(5.0)	14,000	ND(190)	3.5 J	11,000	92,000	69,000	ND(250)	6,100	14,000	96,000	62,000
2-Butanone	µg/kg	ND(100,000)	ND(100)	ND(100)	ND(100)	ND(11,000)	ND(3,700)	ND(100)	ND(4,100)	ND(43,000)	ND(26,000)	ND(5,000)	ND(100,000)	ND(100,000)	ND(500,000)	ND(89,000)
2-Hexanone	µg/kg	ND(5,000)	ND(5.0)	ND(5.0)	ND(5.0)	ND(550)	ND(190)	ND(5.0)	ND(210)	ND(2,200)	ND(1,300)	ND(250)	ND(5,000)	ND(5,000)	ND(25,000)	ND(4,500)
4-Methyl-2-Pentanone	µg/kg	ND(5,000)	ND(5.0)	ND(5.0)	ND(5.0)	ND(550)	ND(190)	ND(5.0)	ND(210)	ND(2,200)	ND(1,300)	ND(250)	ND(5,000)	ND(5,000)	ND(25,000)	ND(4,500)
Acetone	µg/kg	ND(50,000)	ND(50)	ND(50)	ND(50)	ND(5,500)	ND(1,900)	ND(50)	ND(2,100)	ND(22,000)	ND(13,000)	ND(2,500)	ND(50,000)	ND(50,000)	ND(250,000)	ND(45,000)
Benzene	µg/kg	ND(5,000)	24	12	30	210 J	ND(190)	8.6	970	9,000	14,000	ND(250)	ND(5,000)	1,000 J	28,000	19,000
Bromoform	µg/kg	ND(5,000)	ND(5.0)	ND(5.0)	ND(5.0)	ND(550)	ND(190)	ND(5.0)	ND(210)	ND(2,200)	ND(1,300)	ND(250)	ND(5,000)	ND(5,000)	ND(25,000)	ND(4,500)
c-1,2-Dichloroethene	µg/kg	ND(5,000)	ND(5.0)	ND(5.0)	ND(5.0)	ND(550)	ND(190)	ND(5.0)	ND(210)	ND(2,200)	ND(1,300)	ND(250)	ND(5,000)	ND(5,000)	ND(25,000)	ND(4,500)
Carbon Disulfide	µg/kg	ND(5,000)	ND(5.0)	ND(5.0)	ND(5.0)	ND(550)	ND(190)	ND(5.0)	ND(210)	ND(2,200)	ND(1,300)	ND(250)	ND(5,000)	ND(5,000)	ND(25,000)	ND(4,500)
Chloroethane	µg/kg	ND(5,000)	ND(5.0)	ND(5.0)	ND(5.0)	ND(550)	ND(190)	ND(5.0)	ND(210)	ND(2,200)	ND(1,300)	ND(250)	ND(5,000)	ND(5,000)	ND(25,000)	ND(4,500)
Chloromethane	µg/kg	ND(5,000)	ND(5.0)	ND(5.0)	ND(5.0)	ND(550)	ND(190)	ND(5.0)	ND(210)	ND(2,200)	ND(1,300)	ND(250)	ND(5,000)	ND(5,000)	ND(25,000)	ND(4,500)
Diisopropyl Ether (DIPE)	µg/kg	ND(10,000)	ND(10)	ND(10)	ND(10)	ND(1,100)	ND(370)	ND(10)	ND(410)	ND(4,300)	ND(2,600)	ND(500)	ND(10,000)	ND(10,000)	ND(50,000)	ND(8,900)
Ethylbenzene	µg/kg	6,400	20	22	1.1 J	8,400	ND(190)	14	7,500	56,000	66,000	ND(250)	36,000	17,000	ND(25,000)	70,000
Iodomethane	µg/kg	ND(5,000)	ND(5.0)	ND(5.0)	ND(5.0)	ND(550)	ND(190)	ND(5.0)	ND(210)	ND(2,200)	ND(1,300)	ND(250)	ND(5,000)	ND(5,000)	ND(25,000)	ND(4,500)
Isopropylbenzene	µg/kg	2,000 J	4.4 J	6.5	ND(5.0)	3,500	38 J	9.7	3,900	18,000	19,000	ND(250)	24,000	4,700 J	29,000	20,000
m and p-Xylene	µg/kg	19,000	68	80	1.9 J	38,000	ND(190)	23	22,000	230,000	330,000	ND(250)	25,000	69,000	540,000	360,000
Methyl-t-Butyl Ether (MTBE)	µg/kg	ND(5,000)	ND(5.0)	ND(5.0)	ND(5.0)	ND(550)	ND(190)	ND(5.0)	ND(210)	ND(2,200)	ND(1,300)	ND(250)	ND(5,000)	ND(5,000)	ND(25,000)	ND(4,500)
Naphthalene	µg/kg	ND(5,000)	ND(5.0)	ND(5.0)	ND(5.0)	ND(550)	210	ND(5.0)	4,600	17,000	14,000	ND(250)	ND(5,000)	ND(5,000)	ND(25,000)	ND(4,500)
n-Butylbenzene	µg/kg	ND(5,000)	ND(5.0)	11	ND(5.0)	ND(550)	ND(190)	ND(5.0)	5,600	ND(2,200)	ND(1,300)	ND(250)	ND(5,000)	ND(5,000)	20,000 J	ND(4,500)
n-Propylbenzene	µg/kg	2,000 J	4.3 J	8.6	ND(5.0)	5,000	38 J	9.6	6,300	27,000	25,000	ND(250)	31,000	6,200	40,000	24,000
o-Xylene	µg/kg	1,600 J	1.1 J	14	ND(5.0)	11,000	ND(190)	2.6 J	2,500	35,000	74,000	ND(250)	ND(5,000)	12,000	160,000	110,000
p-Isopropyltoluene	µg/kg	ND(5,000)	1.9 J	4.7 J	ND(5.0)	2,200	ND(190)	ND(5.0)	3,600	15,000	11,000	ND(250)	5,500	2,500 J	15,000 J	8,900
sec-Butylbenzene	µg/kg	ND(5,000)	1.6 J	3.9 J	ND(5.0)	1,800	45 J	5.2	3,200	12,000	9,500	ND(250)	9,100	1,900 J	12,000 J	7,800
Styrene	µg/kg	ND(5,000)	ND(5.0)	ND(5.0)	ND(5.0)	ND(550)	ND(190)	ND(5.0)	ND(210)	ND(2,200)	ND(1,300)	ND(250)	ND(5,000)	ND(5,000)	ND(25,000)	ND(4,500)
t-1,2-Dichloroethene	µg/kg	ND(5,000)	ND(5.0)	ND(5.0)	ND(5.0)	ND(550)	ND(190)	ND(5.0)	ND(210)	ND(2,200)	ND(1,300)	ND(250)	ND(5,000)	ND(5,000)	ND(25,000)	ND(4,500)
Tert-Butyl Alcohol (TBA)	µg/kg	ND(50,000)	27 J	22 J	ND(50)	ND(5,500)	ND(1,900)	ND(50)	ND(2,100)	ND(22,000)	ND(13,000)	ND(2,500)	ND(50,000)	ND(50,000)	ND(250,000)	ND(45,000)
tert-Butylbenzene	µg/kg	ND(5,000)	ND(5.0)	ND(5.0)	ND(5.0)	ND(550)	ND(190)	ND(5.0)	ND(210)	ND(2,200)	ND(1,300)	ND(250)	ND(5,000)	ND(5,000)	ND(25,000)	ND(4,500)
Tetrachloroethene	µg/kg	ND(5,000)	ND(5.0)	ND(5.0)	ND(5.0)	ND(550)	ND(190)	ND(5.0)	ND(210)	ND(2,200)	ND(1,300)	ND(250)	ND(5,000)	ND(5,000)	ND(25,000)	ND(4,500)
Toluene	µg/kg	ND(5,000)	ND(5.0)	3.9 J	1.2 J	1,900	ND(190)	ND(5.0)	ND(210)	ND(2,200)	28,000	ND(250)	ND(5,000)	ND(5,000)	170,000	140,000
Trichloroethene	µg/kg	ND(5,000)	ND(5.0)	ND(5.0)	ND(5.0)	ND(550)	ND(190)	ND(5.0)	ND(210)	ND(2,200)	ND(1,300)	ND(250)	ND(5,000)	ND(5,000)	ND(25,000)	ND(4,500)
Xylenes, total	µg/kg	21,000	69	94	1.9 J	48,000	ND(190)	26	25,000	270,000	400,000	ND(250)	25,000	80,000	700,000	460,000

NOTES:
ID - Identification
bgs - Below ground surface
VOCs - Volatile organic compounds
µg/kg - Micrograms per kilogram
ND(5.0) - Analyte not detected at
J - Analyte estimated concentration below
c - Cis
m - Meta
n - Normal
o - Ortho
p - Para
sec - Secondary
t - Trans
tert- Tertiary

TABLE 15
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID:	B171	B171	B171	B172	B172	B172	B172	B173	B173	B173	B173	B174	B174	B174	B174	B174	B175	B175	B175
Sample Depth (Feet bgs):	20	30	40	2	5	10	15	2	5	10	15	2	5	10	15	20	2	5	10
Date Collected:	01/11/06	01/11/06	01/11/06	01/12/06	01/12/06	01/12/06	01/12/06	01/12/06	01/12/06	01/12/06	01/12/06	01/12/06	01/12/06	01/12/06	01/12/06	01/12/06	02/07/06	02/07/06	02/07/06
VOCs																			
1,1,1,2-Tetrachloroethane	µg/kg	ND(2,100)	ND(400)	ND(5,000)	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,2,4-Trichlorobenzene	µg/kg	ND(2,100)	ND(400)	ND(5,000)	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,2,4-Trimethylbenzene	µg/kg	150,000	18,000	337,000	82 J	ND(5.0)	3.5 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	2.7 J	3.6 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,2-Dichlorobenzene	µg/kg	ND(2,100)	ND(400)	ND(5,000)	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,2-Dichloroethane	µg/kg	ND(2,100)	ND(400)	ND(5,000)	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,2-Dichloropropane	µg/kg	ND(2,100)	ND(400)	ND(5,000)	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,3,5-Trimethylbenzene	µg/kg	74,000	7,300	143,000	ND(230)	ND(5.0)	1.3 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	1.1 J	1.1 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
2-Butanone	µg/kg	ND(41,000)	ND(8,000)	ND(100,000)	ND(4,500)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)
2-Hexanone	µg/kg	ND(2,100)	ND(400)	ND(5,000)	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
4-Methyl-2-Pentanone	µg/kg	ND(2,100)	ND(400)	ND(5,000)	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Acetone	µg/kg	ND(21,000)	ND(4,000)	ND(50,000)	ND(2,300)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)
Benzene	µg/kg	27,000	2,800	33,500	1,100	98	68	ND(5.0)	ND(5.0)	1.3 J	ND(5.0)	ND(5.0)	1.5 J	ND(5.0)	ND(5.0)	ND(5.0)	1.5 J	3.8 J	
Bromoform	µg/kg	ND(2,100)	ND(400)	ND(5,000)	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
c-1,2-Dichloroethene	µg/kg	ND(2,100)	ND(400)	ND(5,000)	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Carbon Disulfide	µg/kg	ND(2,100)	ND(400)	ND(5,000)	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Chloroethane	µg/kg	ND(2,100)	ND(400)	ND(5,000)	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Chloromethane	µg/kg	ND(2,100)	ND(400)	ND(5,000)	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Diisopropyl Ether (DIPE)	µg/kg	ND(4,100)	ND(800)	ND(10,000)	ND(450)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Ethylbenzene	µg/kg	89,000	8,900	174,000	160 J	8.9	6.6	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	2.4 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Iodomethane	µg/kg	ND(2,100)	ND(400)	ND(5,000)	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Isopropylbenzene	µg/kg	28,000	2,700	52,000	70 J	4.3 J	4.2 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
m and p-Xylene	µg/kg	380,000	43,000	848,000	390	4.8 J	21	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	2.7 J	15	ND(5.0)	2.2 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Methyl-t-Butyl Ether (MTBE)	µg/kg	ND(2,100)	ND(400)	ND(5,000)	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Naphthalene	µg/kg	ND(2,100)	ND(400)	ND(5,000)	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
n-Butylbenzene	µg/kg	ND(2,100)	ND(400)	15,500	ND(230)	ND(5.0)	2.0 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
n-Propylbenzene	µg/kg	34,000	3,000	68,400	ND(230)	1.4 J	2.0 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
o-Xylene	µg/kg	120,000	14,000	261,000	120 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	4.9 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
p-Isopropyltoluene	µg/kg	13,000	1,100	32,900	ND(230)	ND(5.0)	3.6 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
sec-Butylbenzene	µg/kg	12,000	1,100	20,700	ND(230)	3.0 J	4.3 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Styrene	µg/kg	ND(2,100)	ND(400)	ND(5,000)	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
t-1,2-Dichloroethene	µg/kg	ND(2,100)	ND(400)	ND(5,000)	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Tert-Butyl Alcohol (TBA)	µg/kg	ND(21,000)	ND(4,000)	ND(50,000)	ND(2,300)	52	26 J	65	98	ND(50)	430	360	150	9.9 J	ND(50)	ND(50)	ND(50)	ND(50)	
tert-Butylbenzene	µg/kg	ND(2,100)	ND(400)	ND(5,000)	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Tetrachloroethene	µg/kg	ND(2,100)	ND(400)	ND(5,000)	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Toluene	µg/kg	170,000	15,000	347,000	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	6.6	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Trichloroethene	µg/kg	ND(2,100)	ND(400)	ND(5,000)	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Xylenes, total	µg/kg	490,000	57,000	1,109,000	520	4.8 J	21	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	2.7 J	20	ND(5.0)	2.2 J	ND(5.0)	ND(5.0)	ND(5.0)	

NOTES:
ID - Identification
bgs - Below ground surface
VOCs - Volatile organic compounds
µg/kg - Micrograms per kilogram
ND(5.0) - Analyte not detected at
J - Analyte estimated concentration below
c - Cis
m - Meta
n - Normal
o - Ortho
p - Para
sec - Secondary
t - Trans
tert- Tertiary

TABLE 15
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID	Units	B176	B176	B176	B176	B176	B177	B177	B177	B177	B177	B178	B178	B178	B178	B178	B178
Sample Depth (Feet bgs)		2	5	10	15	20	2	5	10	15	20	2	5	10	15	20	30
Date Collected		02/07/06	02/07/06	02/07/06	02/07/06	02/07/06	02/02/06	02/02/06	02/02/06	02/02/06	02/02/06	02/02/06	02/02/06	02/02/06	02/02/06	02/02/06	02/02/06
VOCs																	
1,1,1,2-Tetrachloroethane	µg/kg	ND(1,000)	ND(200)	ND(180)	ND(5.0)	ND(5.0)	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(200)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(5)
1,2,4-Trichlorobenzene	µg/kg	ND(1,000)	ND(200)	ND(180)	ND(5.0)	ND(5.0)	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(200)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(5)
1,2,4-Trimethylbenzene	µg/kg	310 J	89 J	ND(180)	ND(5.0)	ND(5.0)	6,500	95	1.7 J	1.6 J	4.3 J	3,600	100	230	55	8,300	ND(5)
1,2-Dichlorobenzene	µg/kg	ND(1,000)	ND(200)	ND(180)	ND(5.0)	ND(5.0)	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(200)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(5)
1,2-Dichloroethane	µg/kg	ND(1,000)	ND(200)	ND(180)	ND(5.0)	ND(5.0)	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(200)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(5)
1,2-Dichloropropane	µg/kg	ND(1,000)	ND(200)	ND(180)	ND(5.0)	ND(5.0)	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(200)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(5)
1,3,5-Trimethylbenzene	µg/kg	ND(1,000)	ND(200)	ND(180)	ND(5.0)	ND(5.0)	300	2.0 J	ND(5.0)	ND(5.0)	ND(5.0)	1,400	31	83	20	3,300	ND(5)
2-Butanone	µg/kg	ND(20,000)	ND(4,000)	ND(3,600)	ND(100)	ND(100)	ND(4,500)	ND(100)	ND(100)	ND(100)	ND(100)	ND(3,900)	ND(100)	ND(100)	ND(100)	ND(10,000)	ND(100)
2-Hexanone	µg/kg	ND(1,000)	ND(200)	ND(180)	ND(5.0)	ND(5.0)	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(200)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(5)
4-Methyl-2-Pentanone	µg/kg	ND(1,000)	ND(200)	ND(180)	ND(5.0)	ND(5.0)	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(200)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(5)
Acetone	µg/kg	ND(10,000)	ND(2,000)	ND(1,800)	ND(50)	ND(50)	ND(2,300)	ND(50)	ND(50)	ND(50)	ND(50)	ND(2,000)	ND(50)	ND(50)	ND(50)	ND(5,000)	ND(50)
Benzene	µg/kg	ND(1,000)	560	340	14	22	ND(230)	ND(5.0)	120	30	38	240	100	110	100	1,200	ND(5)
Bromoform	µg/kg	ND(1,000)	ND(200)	ND(180)	ND(5.0)	ND(5.0)	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(200)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(5)
c-1,2-Dichloroethene	µg/kg	ND(1,000)	ND(200)	ND(180)	ND(5.0)	ND(5.0)	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(200)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(5)
Carbon Disulfide	µg/kg	ND(1,000)	ND(200)	ND(180)	ND(5.0)	ND(5.0)	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(200)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(5)
Chloroethane	µg/kg	ND(1,000)	ND(200)	ND(180)	ND(5.0)	ND(5.0)	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(200)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(5)
Chloromethane	µg/kg	ND(1,000)	ND(200)	ND(180)	ND(5.0)	ND(5.0)	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(200)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(5)
Diisopropyl Ether (DIPE)	µg/kg	ND(2,000)	ND(400)	ND(360)	ND(10)	ND(10)	ND(450)	ND(10)	ND(10)	ND(10)	ND(10)	ND(390)	ND(10)	ND(10)	ND(10)	ND(1,000)	ND(10)
Ethylbenzene	µg/kg	ND(1,000)	150 J	ND(180)	ND(5.0)	1.0 J	260	2.3 J	ND(5.0)	ND(5.0)	ND(5.0)	1,900	100	140	68	6,800	ND(5)
Iodomethane	µg/kg	ND(1,000)	ND(200)	ND(180)	ND(5.0)	ND(5.0)	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(200)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(5)
Isopropylbenzene	µg/kg	690 J	180 J	120 J	ND(5.0)	ND(5.0)	1,500	11	1.9 J	ND(5.0)	ND(5.0)	570	17	32	9.7	1,600	ND(5)
m and p-Xylene	µg/kg	ND(1,000)	ND(200)	ND(180)	1.1 J	1.4 J	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	2.7 J	4,600	200	440	260	25,000	ND(5)
Methyl-t-Butyl Ether (MTBE)	µg/kg	ND(1,000)	ND(200)	ND(180)	9.7	ND(5.0)	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(200)	1.2 J	1.5 J	ND(5.0)	ND(500)	ND(5)
Naphthalene	µg/kg	ND(1,000)	ND(200)	ND(180)	ND(5.0)	ND(5.0)	2,000	13	ND(5.0)	ND(5.0)	ND(5.0)	390	19	19	9.5	550	ND(5)
n-Butylbenzene	µg/kg	1,000	ND(200)	100 J	ND(5.0)	ND(5.0)	1,200	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(200)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(5)
n-Propylbenzene	µg/kg	1,600	140 J	200	ND(5.0)	ND(5.0)	2,200	14	ND(5.0)	ND(5.0)	ND(5.0)	870	22	44	12	2,900	ND(5)
o-Xylene	µg/kg	ND(1,000)	ND(200)	ND(180)	ND(5.0)	ND(5.0)	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	1,800	79	170	120	9,000	ND(5)
p-Isopropyltoluene	µg/kg	ND(1,000)	ND(200)	ND(180)	ND(5.0)	ND(5.0)	1,100	8.1	1.3 J	ND(5.0)	ND(5.0)	310	6.3	15	3.1 J	720	ND(5)
sec-Butylbenzene	µg/kg	870 J	160 J	98 J	ND(5.0)	ND(5.0)	2,300	14	3.3 J	ND(5.0)	ND(5.0)	300	6.4	16	3.5 J	710	ND(5)
Styrene	µg/kg	ND(1,000)	ND(200)	ND(180)	ND(5.0)	ND(5.0)	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(200)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(5)
t-1,2-Dichloroethene	µg/kg	ND(1,000)	ND(200)	ND(180)	ND(5.0)	ND(5.0)	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(200)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(5)
Tert-Butyl Alcohol (TBA)	µg/kg	ND(10,000)	ND(2,000)	ND(1,800)	12 J	ND(50)	ND(2,300)	ND(50)	ND(50)	ND(50)	ND(50)	ND(2,000)	ND(50)	ND(50)	10 J	ND(5,000)	ND(50)
tert-Butylbenzene	µg/kg	ND(1,000)	ND(200)	ND(180)	ND(5.0)	ND(5.0)	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(200)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(5)
Tetrachloroethene	µg/kg	ND(1,000)	120 J	ND(180)	ND(5.0)	ND(5.0)	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(200)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(5)
Toluene	µg/kg	ND(1,000)	ND(200)	ND(180)	ND(5.0)	1.4 J	ND(230)	ND(5.0)	ND(5.0)	1.0 J	1.7 J	ND(200)	69	230	350	12,000	ND(5)
Trichloroethene	µg/kg	ND(1,000)	45 J	ND(180)	ND(5.0)	ND(5.0)	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(200)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(5)
Xylenes, total	µg/kg	ND(1,000)	ND(200)	ND(180)	1.1 J	1.4 J	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	2.7 J	6,300	280	620	380	34,000	ND(5)

NOTES:
ID - Identification
bgs - Below ground surface
VOCs - Volatile organic compounds
µg/kg - Micrograms per kilogram
ND(5.0) - Analyte not detected at
J - Analyte estimated concentration below
c - Cis
m - Meta
n - Normal
o - Ortho
p - Para
sec - Secondary
t - Trans
tert- Tertiary

TABLE 15
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID:		B179	B179	B179	B179	B179	B180	B180	B180	B181	B181	B181	B182	B182	B182	B183	B183
Sample Depth (Feet bgs):		2	5	10	15	20	2	5	10	2	5	10	2	5	10	2	5
Date Collected:	Units	01/25/06	01/25/06	01/25/06	01/25/06	01/25/06	01/25/06	01/25/06	01/25/06	01/25/06	01/25/06	01/25/06	01/25/06	01/25/06	01/25/06	01/25/06	01/25/06
VOCs																	
1,1,1,2-Tetrachloroethane	µg/kg	ND(250)	ND(270)	ND(320)	ND(510)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,2,4-Trichlorobenzene	µg/kg	ND(250)	ND(270)	ND(320)	ND(510)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,2,4-Trimethylbenzene	µg/kg	ND(250)	21,000	900	3,000	22	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	1.8 J
1,2-Dichlorobenzene	µg/kg	ND(250)	ND(270)	ND(320)	ND(510)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,2-Dichloroethane	µg/kg	ND(250)	ND(270)	ND(320)	ND(510)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,2-Dichloropropane	µg/kg	ND(250)	ND(270)	ND(320)	ND(510)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,3,5-Trimethylbenzene	µg/kg	ND(250)	7,500	280 J	1,100	7.2	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
2-Butanone	µg/kg	ND(4,900)	ND(5,400)	ND(6,400)	ND(10,000)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)
2-Hexanone	µg/kg	ND(250)	ND(270)	ND(320)	ND(510)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
4-Methyl-2-Pentanone	µg/kg	ND(250)	ND(270)	ND(320)	ND(510)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Acetone	µg/kg	ND(2,500)	ND(2,700)	ND(3,200)	ND(5,100)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)
Benzene	µg/kg	ND(250)	190 J	65 J	ND(510)	110	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Bromoform	µg/kg	ND(250)	ND(270)	ND(320)	ND(510)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
c-1,2-Dichloroethene	µg/kg	ND(250)	ND(270)	ND(320)	ND(510)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Carbon Disulfide	µg/kg	ND(250)	ND(270)	ND(320)	ND(510)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Chloroethane	µg/kg	ND(250)	ND(270)	ND(320)	ND(510)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Chloromethane	µg/kg	ND(250)	ND(270)	ND(320)	ND(510)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Diisopropyl Ether (DIPE)	µg/kg	ND(490)	ND(540)	ND(640)	ND(1,000)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Ethylbenzene	µg/kg	ND(250)	3,300	180 J	420 J	39	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Iodomethane	µg/kg	ND(250)	ND(270)	ND(320)	ND(510)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Isopropylbenzene	µg/kg	ND(250)	2,600	90 J	340 J	5.1	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	7.5
m and p-Xylene	µg/kg	ND(250)	12,000	730	1,700	130	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Methyl-t-Butyl Ether (MTBE)	µg/kg	ND(250)	ND(270)	ND(320)	ND(510)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	2.1 J	27
Naphthalene	µg/kg	ND(250)	950	ND(320)	ND(510)	6.1	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
n-Butylbenzene	µg/kg	ND(250)	ND(270)	ND(320)	ND(510)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
n-Propylbenzene	µg/kg	ND(250)	3,600	130 J	500 J	4.3 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	7.5
o-Xylene	µg/kg	ND(250)	2,200	200 J	330 J	49	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
p-Isopropyltoluene	µg/kg	ND(250)	2,300	78 J	360 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	3.6 J
sec-Butylbenzene	µg/kg	ND(250)	2,600	ND(320)	370 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	5.0
Styrene	µg/kg	ND(250)	ND(270)	ND(320)	ND(510)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
t-1,2-Dichloroethene	µg/kg	ND(250)	ND(270)	ND(320)	ND(510)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Tert-Butyl Alcohol (TBA)	µg/kg	ND(2,500)	ND(2,700)	ND(3,200)	ND(5,100)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	9.5 J	ND(50)
tert-Butylbenzene	µg/kg	ND(250)	ND(270)	ND(320)	ND(510)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Tetrachloroethene	µg/kg	ND(250)	ND(270)	ND(320)	ND(510)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Toluene	µg/kg	ND(250)	1,300	190 J	220 J	150	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Trichloroethene	µg/kg	ND(250)	ND(270)	ND(320)	ND(510)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Xylenes, total	µg/kg	ND(250)	15,000	930	2,000	180	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)

NOTES:
ID - Identification
bgs - Below ground surface
VOCs - Volatile organic compounds
µg/kg - Micrograms per kilogram
ND(5.0) - Analyte not detected at
J - Analyte estimated concentration below
c - Cis
m - Meta
n - Normal
o - Ortho
p - Para
sec - Secondary
t - Trans
tert- Tertiary

TABLE 15
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID		B183	B183	B183	B184	B184	B184	B185	B185	B185	B186	B186	B186	B187	B187	B187	B187	B187
Sample Depth (Feet bgs)		10	15	20	2	5	10	2	5	10	2	5	10	2	5	10	15	20
Date Collected		01/27/06	01/27/06	01/27/06	01/27/06	01/27/06	01/27/06	01/27/06	01/27/06	01/27/06	01/27/06	01/27/06	01/27/06	01/27/06	01/27/06	01/27/06	01/27/06	01/27/06
VOCs																		
1,1,1,2-Tetrachloroethane	µg/kg	ND(2,500)	ND(2,200)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,2,4-Trichlorobenzene	µg/kg	ND(2,500)	ND(2,200)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,2,4-Trimethylbenzene	µg/kg	2,100 J	6,900	2.9 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	160 J	1.9 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	2.1 J	ND(5.0)
1,2-Dichlorobenzene	µg/kg	ND(2,500)	ND(2,200)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,2-Dichloroethane	µg/kg	ND(2,500)	ND(2,200)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,2-Dichloropropane	µg/kg	ND(2,500)	ND(2,200)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,3,5-Trimethylbenzene	µg/kg	700 J	1,500 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
2-Butanone	µg/kg	ND(50,000)	ND(43,000)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(4,600)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)
2-Hexanone	µg/kg	ND(2,500)	ND(2,200)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
4-Methyl-2-Pentanone	µg/kg	ND(2,500)	ND(2,200)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Acetone	µg/kg	ND(25,000)	ND(22,000)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(2,300)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)
Benzene	µg/kg	ND(2,500)	480 J	4.4 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	72 J	3.5 J	16	110	120	130	170	820
Bromoform	µg/kg	ND(2,500)	ND(2,200)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
c-1,2-Dichloroethene	µg/kg	ND(2,500)	ND(2,200)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Carbon Disulfide	µg/kg	ND(2,500)	ND(2,200)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(230)	1.2 J	ND(5.0)	ND(5.0)	2.3 J	ND(5.0)	ND(5.0)	ND(5.0)
Chloroethane	µg/kg	ND(2,500)	ND(2,200)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Chloromethane	µg/kg	ND(2,500)	ND(2,200)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Diisopropyl Ether (DIPE)	µg/kg	ND(5,000)	ND(4,300)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(460)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Ethylbenzene	µg/kg	9,300	2,900	2.6 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	210 J	ND(5.0)	1.3 J	1.1 J	1.3 J	5.0	12	ND(5.0)
Iodomethane	µg/kg	ND(2,500)	ND(2,200)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Isopropylbenzene	µg/kg	2,800	680 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	130 J	1.3 J	1.8 J	1.6 J	ND(5.0)	1.2 J	4.5 J	ND(5.0)
m and p-Xylene	µg/kg	ND(2,500)	3,400	3.2 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	48 J	ND(5.0)	1.5 J	ND(5.0)	1.3 J	5.1	5.4	ND(5.0)
Methyl-t-Butyl Ether (MTBE)	µg/kg	ND(2,500)	ND(2,200)	1.9 J	ND(5.0)	ND(5.0)	1.1 J	1.7 J	4.2 J	2.4 J	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	3.3 J	ND(5.0)	ND(5.0)
Naphthalene	µg/kg	20,000	8,600	7.9	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(230)	6.2	8.4	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
n-Butylbenzene	µg/kg	ND(2,500)	ND(2,200)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
n-Propylbenzene	µg/kg	5,000	1,300 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	300	1.8 J	1.9 J	ND(5.0)	ND(5.0)	ND(5.0)	3.9 J	ND(5.0)
o-Xylene	µg/kg	ND(2,500)	530 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	1.7 J	ND(5.0)	ND(5.0)
p-Isopropyltoluene	µg/kg	1,700 J	560 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	1.3 J	ND(5.0)
sec-Butylbenzene	µg/kg	1,800 J	440 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	240	2.3 J	1.3 J	2.1 J	ND(5.0)	ND(5.0)	2.9 J	ND(5.0)
Styrene	µg/kg	ND(2,500)	ND(2,200)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
t-1,2-Dichloroethene	µg/kg	ND(2,500)	ND(2,200)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Tert-Butyl Alcohol (TBA)	µg/kg	ND(25,000)	ND(22,000)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(2,300)	ND(50)	ND(50)	ND(50)	ND(50)	27 J	ND(50)	ND(50)
tert-Butylbenzene	µg/kg	ND(2,500)	ND(2,200)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Tetrachloroethene	µg/kg	ND(2,500)	ND(2,200)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Toluene	µg/kg	ND(2,500)	ND(2,200)	1.3 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(230)	ND(5.0)	5.2	ND(5.0)	1.4 J	12	3.4 J	ND(5.0)
Trichloroethene	µg/kg	ND(2,500)	ND(2,200)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Xylenes, total	µg/kg	ND(2,500)	4,000	3.2 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	48 J	ND(5.0)	1.5 J	ND(5.0)	1.3 J	6.8	5.4	ND(5.0)

NOTES:
ID - Identification
bgs - Below ground surface
VOCs - Volatile organic compounds
µg/kg - Micrograms per kilogram
ND(5.0) - Analyte not detected at
J - Analyte estimated concentration below
c - Cis
m - Meta
n - Normal
o - Ortho
p - Para
sec - Secondary
t - Trans
tert- Tertiary

TABLE 15
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID		B187	B188	B188	B188	B188	B188	B189	B189	B189	B190	B190	B190	B191	B191	B191	B191
Sample Depth (Feet bgs)	Units	30	2	5	10	15	20	2	5	10	2	5	10	2	5	10	15
Date Collected		02/07/06	02/07/06	02/07/06	02/07/06	02/07/06	02/07/06	02/07/06	02/07/06	02/07/06	02/08/06	02/08/06	02/08/06	02/01/06	02/01/06	02/01/06	02/01/06
VOCs																	
1,1,1,2-Tetrachloroethane	µg/kg	ND(5)	ND(200)	ND(2,100)	ND(560)	ND(5,000)	ND(5.0)	ND(210)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(210)	ND(240)	ND(320)	ND(5.0)
1,2,4-Trichlorobenzene	µg/kg	ND(5)	ND(200)	ND(2,100)	ND(560)	ND(5,000)	ND(5.0)	ND(210)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(210)	ND(240)	ND(320)	ND(5.0)
1,2,4-Trimethylbenzene	µg/kg	ND(5)	ND(200)	1,000 J	1,900	28,000	57	ND(210)	ND(5.0)	ND(5.0)	ND(5.0)	2.7 J	18	76 J	ND(240)	81 J	5.5
1,2-Dichlorobenzene	µg/kg	ND(5)	ND(200)	ND(2,100)	ND(560)	ND(5,000)	ND(5.0)	ND(210)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(210)	ND(240)	ND(320)	ND(5.0)
1,2-Dichloroethane	µg/kg	ND(5)	ND(200)	ND(2,100)	ND(560)	ND(5,000)	ND(5.0)	ND(210)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(210)	ND(240)	ND(320)	ND(5.0)
1,2-Dichloropropane	µg/kg	ND(5)	ND(200)	ND(2,100)	ND(560)	ND(5,000)	ND(5.0)	ND(210)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(210)	ND(240)	ND(320)	ND(5.0)
1,3,5-Trimethylbenzene	µg/kg	ND(5)	ND(200)	ND(2,100)	430 J	9,300	16	ND(210)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	4.7 J	ND(210)	ND(240)	ND(320)	ND(5.0)
2-Butanone	µg/kg	ND(100)	ND(3,900)	ND(41,000)	ND(11,000)	ND(100,000)	55 J	ND(4,200)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(4,200)	ND(4,700)	ND(6,300)	ND(100)
2-Hexanone	µg/kg	ND(5)	ND(200)	ND(2,100)	ND(560)	ND(5,000)	ND(5.0)	ND(210)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(210)	ND(240)	ND(320)	ND(5.0)
4-Methyl-2-Pentanone	µg/kg	ND(5)	ND(200)	ND(2,100)	ND(560)	ND(5,000)	ND(5.0)	ND(210)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(210)	ND(240)	ND(320)	ND(5.0)
Acetone	µg/kg	ND(50)	ND(2,000)	ND(21,000)	ND(5,600)	ND(50,000)	88	ND(2,100)	ND(50)	ND(50)	ND(50)	56	ND(50)	ND(2,100)	ND(2,400)	ND(3,200)	ND(50)
Benzene	µg/kg	ND(5)	370	9,800	800	5,300	4.2 J	52 J	5.8	22	ND(5.0)	ND(5.0)	11	ND(210)	ND(240)	73 J	4.3 J
Bromoform	µg/kg	ND(5)	ND(200)	ND(2,100)	ND(560)	ND(5,000)	ND(5.0)	ND(210)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(210)	ND(240)	ND(320)	ND(5.0)
c-1,2-Dichloroethene	µg/kg	ND(5)	ND(200)	ND(2,100)	ND(560)	ND(5,000)	ND(5.0)	ND(210)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(210)	ND(240)	ND(320)	ND(5.0)
Carbon Disulfide	µg/kg	ND(5)	ND(200)	ND(2,100)	ND(560)	ND(5,000)	ND(5.0)	ND(210)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(210)	ND(240)	ND(320)	ND(5.0)
Chloroethane	µg/kg	ND(5)	ND(200)	ND(2,100)	ND(560)	ND(5,000)	ND(5.0)	ND(210)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(210)	ND(240)	ND(320)	ND(5.0)
Chloromethane	µg/kg	ND(5)	ND(200)	ND(2,100)	ND(560)	ND(5,000)	ND(5.0)	ND(210)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(210)	ND(240)	ND(320)	ND(5.0)
Diisopropyl Ether (DIPE)	µg/kg	ND(10)	ND(390)	ND(4,100)	ND(1,100)	ND(10,000)	ND(10)	ND(420)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(420)	ND(470)	ND(630)	ND(10)
Ethylbenzene	µg/kg	ND(5)	ND(200)	7,400	1,000	15,000	24	ND(210)	ND(5.0)	12	ND(5.0)	ND(5.0)	ND(5.0)	460	290	160 J	15
Iodomethane	µg/kg	ND(5)	ND(200)	ND(2,100)	ND(560)	ND(5,000)	ND(5.0)	ND(210)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(210)	ND(240)	ND(320)	ND(5.0)
Isopropylbenzene	µg/kg	ND(5)	ND(200)	730 J	130 J	1,800 J	2.6 J	ND(210)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	1.7 J	120 J	130 J	ND(320)	3.8 J
m and p-Xylene	µg/kg	ND(5)	ND(200)	7,100	2,100	72,000	130	80 J	ND(5.0)	4.6 J	ND(5.0)	2.4 J	18	ND(210)	ND(240)	ND(320)	ND(5.0)
Methyl-t-Butyl Ether (MTBE)	µg/kg	ND(5)	ND(200)	ND(2,100)	ND(560)	ND(5,000)	ND(5.0)	ND(210)	2.0 J	4.1 J	ND(5.0)	ND(5.0)	2.4 J	ND(210)	ND(240)	ND(320)	ND(5.0)
Naphthalene	µg/kg	ND(5)	ND(200)	ND(2,100)	ND(560)	ND(5,000)	7.8	ND(210)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(210)	ND(240)	ND(320)	ND(5.0)
n-Butylbenzene	µg/kg	ND(5)	ND(200)	ND(2,100)	ND(560)	3,700 J	4.3 J	ND(210)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	4.7 J	130 J	110 J	ND(320)	6.9
n-Propylbenzene	µg/kg	ND(5)	ND(200)	1,300 J	300 J	4,200 J	5.3	ND(210)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	3.6 J	200 J	280	91 J	12
o-Xylene	µg/kg	ND(5)	ND(200)	ND(2,100)	460 J	24,000	58	ND(210)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	2.5 J	ND(210)	ND(240)	ND(320)	ND(5.0)
p-Isopropyltoluene	µg/kg	ND(5)	ND(200)	ND(2,100)	ND(560)	ND(5,000)	ND(5.0)	ND(210)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(210)	ND(240)	76 J	ND(5.0)
sec-Butylbenzene	µg/kg	ND(5)	ND(200)	760 J	ND(560)	ND(5,000)	1.7 J	ND(210)	ND(5.0)	ND(5.0)	ND(5.0)	1.7 J	ND(5.0)	46 J	250	220 J	3.4 J
Styrene	µg/kg	ND(5)	ND(200)	ND(2,100)	ND(560)	ND(5,000)	ND(5.0)	ND(210)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(210)	ND(240)	ND(320)	ND(5.0)
t-1,2-Dichloroethene	µg/kg	ND(5)	ND(200)	ND(2,100)	ND(560)	ND(5,000)	ND(5.0)	ND(210)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(210)	ND(240)	ND(320)	ND(5.0)
Tert-Butyl Alcohol (TBA)	µg/kg	ND(50)	ND(2,000)	ND(21,000)	ND(5,600)	ND(50,000)	17 J	ND(2,100)	ND(50)	ND(50)	60	ND(50)	ND(50)	ND(2,100)	ND(2,400)	ND(3,200)	ND(50)
tert-Butylbenzene	µg/kg	ND(5)	ND(200)	ND(2,100)	ND(560)	ND(5,000)	ND(5.0)	ND(210)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(210)	ND(240)	ND(320)	ND(5.0)
Tetrachloroethene	µg/kg	ND(5)	ND(200)	ND(2,100)	ND(560)	ND(5,000)	ND(5.0)	ND(210)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(210)	ND(240)	ND(320)	ND(5.0)
Toluene	µg/kg	ND(5)	ND(200)	2,600	570	24,000	34	ND(210)	ND(5.0)	ND(5.0)	ND(5.0)	4.0 J	4.5 J	ND(210)	ND(240)	ND(320)	ND(5.0)
Trichloroethene	µg/kg	ND(5)	ND(200)	ND(2,100)	ND(560)	ND(5,000)	ND(5.0)	ND(210)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(210)	ND(240)	ND(320)	ND(5.0)
Xylenes, total	µg/kg	ND(5)	ND(200)	7,100	2,600	96,000	190	80 J	ND(5.0)	4.6 J	ND(5.0)	2.4 J	21	ND(210)	ND(240)	ND(320)	ND(5.0)

NOTES:
ID - Identification
bgs - Below ground surface
VOCs - Volatile organic compounds
µg/kg - Micrograms per kilogram
ND(5.0) - Analyte not detected at
J - Analyte estimated concentration below
c - Cis
m - Meta
n - Normal
o - Ortho
p - Para
sec - Secondary
t - Trans
tert- Tertiary

TABLE 15
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID	Sample Depth (Feet bgs)	Date Sampled	Units	EXCITE 20 [illegible]
VOCs				
1,1,1,2-Tetrachloroethane			µg/kg	ND(5.0)
1,2,4-Trichlorobenzene			µg/kg	ND(5.0)
1,2,4-Trimethylbenzene			µg/kg	ND(5.0)
1,2-Dichlorobenzene			µg/kg	ND(5.0)
1,2-Dichloroethane			µg/kg	ND(5.0)
1,2-Dichloropropane			µg/kg	ND(5.0)
1,3,5-Trimethylbenzene			µg/kg	ND(5.0)
2-Butanone			µg/kg	ND(100)
2-Hexanone			µg/kg	ND(5.0)
4-Methyl-2-Pentanone			µg/kg	ND(5.0)
Acetone			µg/kg	ND(50)
Benzene			µg/kg	1.9 J
Bromoform			µg/kg	ND(5.0)
c-1,2-Dichloroethene			µg/kg	ND(5.0)
Carbon Disulfide			µg/kg	ND(5.0)
Chloroethane			µg/kg	ND(5.0)
Chloromethane			µg/kg	ND(5.0)
Diisopropyl Ether (DIPE)			µg/kg	ND(10)
Ethylbenzene			µg/kg	4.5 J
Iodomethane			µg/kg	ND(5.0)
Isopropylbenzene			µg/kg	ND(5.0)
m and p-Xylene			µg/kg	ND(5.0)
Methyl-t-Butyl Ether (MTBE)			µg/kg	ND(5.0)
Naphthalene			µg/kg	ND(5.0)
n-Butylbenzene			µg/kg	3.1 J
n-Propylbenzene			µg/kg	4.1 J
o-Xylene			µg/kg	ND(5.0)
p-Isopropyltoluene			µg/kg	ND(5.0)
sec-Butylbenzene			µg/kg	ND(5.0)
Styrene			µg/kg	ND(5.0)
t-1,2-Dichloroethene			µg/kg	ND(5.0)
Tert-Butyl Alcohol (TBA)			µg/kg	ND(50)
tert-Butylbenzene			µg/kg	ND(5.0)
Tetrachloroethene			µg/kg	ND(5.0)
Toluene			µg/kg	ND(5.0)
Trichloroethene			µg/kg	ND(5.0)
Xylenes, total			µg/kg	ND(5.0)

NOTES:
ID - Identification
bgs - Below ground surface
VOCs - Volatile organic compounds
µg/kg - Micrograms per kilogram
ND(5.0) - Analyte not detected at
J - Analyte estimated concentration below
c - Cis
m - Meta
n - Normal
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t - Trans
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TABLE 15
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID: / Sample Depth (Feet bgs): / Date Collected:	Units	B192 2 02/03/06	B192 5 02/03/06	B192 10 02/03/06	B192 15 02/03/06	B192 20 02/03/06	B193 2 02/03/06	B193 5 02/03/06	B193 10 02/03/06	B193 15 02/03/06	B194 2 02/03/06	B194 10 02/03/06	B194 15 02/03/06	B194 20 02/03/06	B195 2 02/03/06	B195 5 02/03/06	B195 10 02/03/06
VOCs																	
1,1,1,2-Tetrachloroethane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(500)	ND(5.0)	ND(630)	ND(5.0)	ND(960)	ND(5,000)	ND(5,000)	ND(5.0)	ND(5.0)	ND(5.0)
1,2,4-Trichlorobenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(500)	ND(5.0)	ND(630)	ND(5.0)	ND(960)	ND(5,000)	ND(5,000)	ND(5.0)	ND(5.0)	ND(5.0)
1,2,4-Trimethylbenzene	µg/kg	ND(5.0)	1.8 J	12	130	ND(5.0)	ND(500)	130 J	ND(5.0)	ND(630)	2.4 J	ND(960)	ND(5,000)	2,400 J	ND(5.0)	ND(5.0)	ND(5.0)
1,2-Dichlorobenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(500)	ND(5.0)	ND(630)	ND(5.0)	ND(960)	ND(5,000)	ND(5,000)	ND(5.0)	ND(5.0)	ND(5.0)
1,2-Dichloroethane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(500)	ND(5.0)	ND(630)	ND(5.0)	ND(960)	ND(5,000)	ND(5,000)	ND(5.0)	ND(5.0)	ND(5.0)
1,2-Dichloropropane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(500)	ND(5.0)	ND(630)	ND(5.0)	ND(960)	ND(5,000)	ND(5,000)	ND(5.0)	ND(5.0)	ND(5.0)
1,3,5-Trimethylbenzene	µg/kg	ND(5.0)	ND(5.0)	3.8 J	42	ND(5.0)	ND(500)	ND(500)	ND(5.0)	ND(630)	ND(5.0)	ND(960)	ND(5,000)	ND(5,000)	ND(5.0)	ND(5.0)	ND(5.0)
2-Butanone	µg/kg	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(10,000)	ND(10,000)	ND(100)	ND(13,000)	ND(100)	ND(19,000)	ND(100,000)	ND(100,000)	ND(100)	ND(100)	ND(100)
2-Hexanone	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(500)	ND(5.0)	ND(630)	ND(5.0)	ND(960)	ND(5,000)	ND(5,000)	ND(5.0)	ND(5.0)	ND(5.0)
4-Methyl-2-Pentanone	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(500)	ND(5.0)	ND(630)	ND(5.0)	ND(960)	ND(5,000)	ND(5,000)	ND(5.0)	ND(5.0)	ND(5.0)
Acetone	µg/kg	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(5,000)	ND(5,000)	ND(50)	ND(6,300)	ND(50)	ND(9,600)	ND(50,000)	ND(50,000)	ND(50)	ND(50)	ND(50)
Benzene	µg/kg	25	18	41	32	7.0	ND(500)	ND(500)	24	ND(630)	4.0 J	ND(960)	ND(5,000)	ND(5,000)	ND(5.0)	ND(5.0)	7.8
Bromoform	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(500)	ND(5.0)	ND(630)	ND(5.0)	ND(960)	ND(5,000)	ND(5,000)	ND(5.0)	ND(5.0)	ND(5.0)
c-1,2-Dichloroethene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(500)	ND(5.0)	ND(630)	ND(5.0)	ND(960)	ND(5,000)	ND(5,000)	ND(5.0)	ND(5.0)	ND(5.0)
Carbon Disulfide	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(500)	ND(5.0)	ND(630)	ND(5.0)	ND(960)	ND(5,000)	ND(5,000)	ND(5.0)	ND(5.0)	ND(5.0)
Chloroethane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(500)	ND(5.0)	ND(630)	ND(5.0)	ND(960)	ND(5,000)	ND(5,000)	ND(5.0)	ND(5.0)	ND(5.0)
Chloromethane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(500)	ND(5.0)	ND(630)	ND(5.0)	ND(960)	ND(5,000)	ND(5,000)	ND(5.0)	ND(5.0)	ND(5.0)
Diisopropyl Ether (DIPE)	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(1,000)	ND(1,000)	ND(10)	ND(1,300)	ND(10)	ND(1,900)	ND(10,000)	ND(10,000)	ND(10)	ND(10)	ND(10)
Ethylbenzene	µg/kg	ND(5.0)	2.4 J	11	38	1.0 J	ND(500)	ND(500)	1.8 J	ND(630)	ND(5.0)	ND(960)	1,100 J	1,100 J	ND(5.0)	ND(5.0)	ND(5.0)
Iodomethane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(500)	ND(5.0)	ND(630)	ND(5.0)	ND(960)	ND(5,000)	ND(5,000)	ND(5.0)	ND(5.0)	ND(5.0)
Isopropylbenzene	µg/kg	ND(5.0)	ND(5.0)	2.1 J	9.6	ND(5.0)	330 J	ND(500)	1.2 J	ND(630)	6.2	2,700	3,100 J	900 J	ND(5.0)	ND(5.0)	ND(5.0)
m and p-Xylene	µg/kg	ND(5.0)	2.2 J	18	130	1.6 J	ND(500)	ND(500)	1.2 J	200 J	ND(5.0)	ND(960)	ND(5,000)	940 J	ND(5.0)	ND(5.0)	ND(5.0)
Methyl-t-Butyl Ether (MTBE)	µg/kg	5.9	2.7 J	4.4 J	ND(5.0)	ND(5.0)	ND(500)	ND(500)	ND(5.0)	ND(630)	ND(5.0)	ND(960)	ND(5,000)	ND(5,000)	ND(5.0)	ND(5.0)	ND(5.0)
Naphthalene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(500)	ND(5.0)	ND(630)	16	18,000	36,000	ND(5,000)	ND(5.0)	ND(5.0)	ND(5.0)
n-Butylbenzene	µg/kg	ND(5.0)	ND(5.0)	1.4 J	21	ND(5.0)	650	ND(500)	ND(5.0)	ND(630)	ND(5.0)	ND(960)	ND(5,000)	ND(5,000)	ND(5.0)	ND(5.0)	ND(5.0)
n-Propylbenzene	µg/kg	ND(5.0)	ND(5.0)	3.3 J	18	ND(5.0)	1,400	ND(500)	1.0 J	ND(630)	5.4	4,500	5,000	1,500 J	ND(5.0)	ND(5.0)	ND(5.0)
o-Xylene	µg/kg	ND(5.0)	ND(5.0)	3.5 J	34	ND(5.0)	ND(500)	ND(500)	ND(5.0)	ND(630)	ND(5.0)	ND(960)	ND(5,000)	ND(5,000)	ND(5.0)	ND(5.0)	ND(5.0)
p-Isopropyltoluene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	2.2 J	ND(5.0)	ND(500)	ND(500)	ND(5.0)	ND(630)	ND(5.0)	ND(960)	ND(5,000)	ND(5,000)	ND(5.0)	ND(5.0)	ND(5.0)
sec-Butylbenzene	µg/kg	2.0 J	1.3 J	1.4 J	10	ND(5.0)	530	ND(500)	1.3 J	ND(630)	4.3 J	2,600	2,900 J	ND(5,000)	ND(5.0)	ND(5.0)	ND(5.0)
Styrene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(500)	ND(5.0)	ND(630)	ND(5.0)	ND(960)	ND(5,000)	ND(5,000)	ND(5.0)	ND(5.0)	ND(5.0)
t-1,2-Dichloroethene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(500)	ND(5.0)	ND(630)	ND(5.0)	ND(960)	ND(5,000)	ND(5,000)	ND(5.0)	ND(5.0)	ND(5.0)
Tert-Butyl Alcohol (TBA)	µg/kg	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(5,000)	ND(5,000)	ND(50)	ND(6,300)	ND(50)	ND(9,600)	ND(50,000)	ND(50,000)	ND(50)	ND(50)	ND(50)
tert-Butylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(500)	ND(5.0)	ND(630)	ND(5.0)	ND(960)	ND(5,000)	ND(5,000)	ND(5.0)	ND(5.0)	ND(5.0)
Tetrachloroethene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(500)	ND(5.0)	ND(630)	ND(5.0)	ND(960)	ND(5,000)	ND(5,000)	ND(5.0)	ND(5.0)	ND(5.0)
Toluene	µg/kg	ND(5.0)	11	3.8 J	ND(5.0)	ND(5.0)	ND(500)	ND(500)	3.7 J	ND(630)	ND(5.0)	ND(960)	ND(5,000)	ND(5,000)	ND(5.0)	ND(5.0)	3.8 J
Trichloroethene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(500)	ND(500)	ND(5.0)	ND(630)	ND(5.0)	ND(960)	ND(5,000)	ND(5,000)	ND(5.0)	ND(5.0)	ND(5.0)
Xylenes, total	µg/kg	ND(5.0)	2.2 J	21	170	1.6 J	ND(500)	ND(500)	1.2 J	200 J	ND(5.0)	ND(960)	ND(5,000)	940 J	ND(5.0)	ND(5.0)	ND(5.0)

NOTES:
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TABLE 15
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID / Sample Depth (Feet bgs) / Date Collected	Units	B190 / 2 / 01/25/06	B190 / 5 / 01/25/06	B196 / 10 / 01/25/06	B197 / 2 / 02/01/06	B197 / 5 / 02/01/06	B197 / 10 / 02/01/06	B198 / 2 / 01/25/06	B198 / 5 / 01/25/06	B198 / 10 / 01/25/06	B199 / 2 / 01/23/06	B199 / 5 / 01/23/06	B199 / 10 / 01/23/06	B200 / 2 / 01/24/06	B200 / 5 / 01/24/06	B200 / 10 / 01/24/06	B201 / 2 / 01/25/06	B201 / 5 / 01/25/06
VOCs																		
1,1,1,2-Tetrachloroethane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5,500)	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,2,4-Trichlorobenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5,500)	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,2,4-Trimethylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	1.7 J	24,000	410	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,2-Dichlorobenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5,500)	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,2-Dichloroethane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5,500)	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,2-Dichloropropane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5,500)	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,3,5-Trimethylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	2.1 J	8,200	110 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
2-Butanone	µg/kg	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(110,000)	ND(4,500)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)
2-Hexanone	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5,500)	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
4-Methyl-2-Pentanone	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5,500)	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Acetone	µg/kg	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(55,000)	ND(2,300)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)
Benzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	25	ND(5,500)	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Bromoform	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5,500)	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
c-1,2-Dichloroethene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5,500)	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Carbon Disulfide	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5,500)	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Chloroethane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5,500)	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Chloromethane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5,500)	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Diisopropyl Ether (DIPE)	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(11,000)	ND(450)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Ethylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	7,800	110 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Iodomethane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5,500)	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Isopropylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	4.8 J	2,200 J	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
m and p-Xylene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	2.3 J	29,000	420	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Methyl-t-Butyl Ether (MTBE)	µg/kg	2.8 J	5.1	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5,500)	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Naphthalene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	11,000	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
n-Butylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5,500)	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
n-Propylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	3.6 J	3,200 J	50 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
o-Xylene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	10,000	170 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
p-Isopropyltoluene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	3,200 J	57 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
sec-Butylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	1.2 J	1,200 J	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Styrene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5,500)	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
t-1,2-Dichloroethene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5,500)	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Tert-Butyl Alcohol (TBA)	µg/kg	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(55,000)	ND(2,300)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)
tert-Butylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5,500)	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Tetrachloroethene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5,500)	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Toluene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	2.2 J	10,000	120 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Trichloroethene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5,500)	ND(230)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Xylenes, total	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	2.3 J	39,000	590	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)

NOTES:
ID - Identification
bgs - Below ground surface
VOCs - Volatile organic compounds
µg/kg - Micrograms per kilogram
ND(5.0) - Analyte not detected at reporting limit shown
J - Analyte estimated concentration below reporting limit
c - Cis
m - Meta
n - Normal
o - Ortho
p - Para
sec - Secondary
t - Trans
tert- Tertiary

TABLE 15
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID	Units	B201	B202	B203	B203	B203	B203	B204	B204	B204	B204	B205	B205	B205	B205	B206	B206	B206	B207
Sample Depth (feet bgs)		0	0	0	5	10	15	2	5	10	15	2	5	10	15	2	5	10	2
Date Collected		01/25/06	01/25/06	01/25/06	01/25/06	02/07/06	02/07/06	02/06/06	02/06/06	02/06/06	02/06/06	02/07/06	02/07/06	02/07/06	02/07/06	02/08/06	02/08/06	02/08/06	02/08/06
VOCs																			
1,1,1,2-Tetrachloroethane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(380)	ND(1,300)	ND(1,800)	ND(5.0)	ND(560)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,2,4-Trichlorobenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(380)	ND(1,300)	ND(1,800)	ND(5.0)	ND(560)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,2,4-Trimethylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(380)	ND(1,300)	ND(1,800)	ND(5.0)	21,000	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,2-Dichlorobenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(380)	ND(1,300)	ND(1,800)	ND(5.0)	ND(560)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,2-Dichloroethane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(380)	ND(1,300)	ND(1,800)	ND(5.0)	ND(560)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,2-Dichloropropane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(380)	ND(1,300)	ND(1,800)	ND(5.0)	ND(560)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,3,5-Trimethylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(380)	ND(1,300)	ND(1,800)	ND(5.0)	5,800	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
2-Butanone	µg/kg	ND(100)	ND(100)	ND(100)	ND(100)	ND(7,500)	ND(26,000)	ND(36,000)	ND(100)	ND(11,000)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)
2-Hexanone	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(380)	ND(1,300)	ND(1,800)	ND(5.0)	ND(560)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
4-Methyl-2-Pentanone	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(380)	ND(1,300)	ND(1,800)	ND(5.0)	ND(560)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Acetone	µg/kg	ND(50)	ND(50)	ND(50)	ND(50)	ND(3,800)	ND(13,000)	ND(18,000)	ND(50)	ND(5,600)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)
Benzene	µg/kg	ND(5.0)	2.3 J	ND(5.0)	ND(5.0)	ND(380)	ND(1,300)	ND(1,800)	ND(5.0)	ND(560)	1.3 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	7.0	ND(5.0)
Bromoform	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(380)	ND(1,300)	ND(1,800)	ND(5.0)	ND(560)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
c-1,2-Dichloroethene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(380)	ND(1,300)	ND(1,800)	ND(5.0)	ND(560)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Carbon Disulfide	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(380)	ND(1,300)	ND(1,800)	ND(5.0)	ND(560)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Chloroethane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(380)	ND(1,300)	ND(1,800)	ND(5.0)	ND(560)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Chloromethane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(380)	ND(1,300)	ND(1,800)	ND(5.0)	ND(560)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Diisopropyl Ether (DIPE)	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(750)	ND(2,600)	ND(3,600)	ND(10)	ND(1,100)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Ethylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(380)	900 J	ND(1,800)	ND(5.0)	860	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Iodomethane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(380)	ND(1,300)	ND(1,800)	ND(5.0)	ND(560)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Isopropylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	180 J	1,200 J	ND(1,800)	ND(5.0)	2,800	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
m and p-Xylene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(380)	ND(1,300)	ND(1,800)	ND(5.0)	3,500	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Methyl-t-Butyl Ether (MTBE)	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(380)	ND(1,300)	ND(1,800)	ND(5.0)	ND(560)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Naphthalene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(380)	6,200	ND(1,800)	ND(5.0)	14,000	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
n-Butylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(380)	ND(1,300)	ND(1,800)	ND(5.0)	2,200	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
n-Propylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	260 J	1,600	ND(1,800)	ND(5.0)	4,200	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
o-Xylene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(380)	ND(1,300)	ND(1,800)	ND(5.0)	ND(560)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
p-Isopropyltoluene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(380)	ND(1,300)	ND(1,800)	ND(5.0)	2,500	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
sec-Butylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	190 J	760 J	ND(1,800)	ND(5.0)	2,100	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Styrene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(380)	ND(1,300)	ND(1,800)	ND(5.0)	ND(560)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
t-1,2-Dichloroethene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(380)	ND(1,300)	ND(1,800)	ND(5.0)	ND(560)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Tert-Butyl Alcohol (TBA)	µg/kg	ND(50)	ND(50)	ND(50)	ND(50)	ND(3,800)	ND(13,000)	ND(18,000)	ND(50)	ND(5,600)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)
tert-Butylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(380)	ND(1,300)	ND(1,800)	ND(5.0)	ND(560)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Tetrachloroethene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(380)	ND(1,300)	ND(1,800)	ND(5.0)	ND(560)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Toluene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(380)	ND(1,300)	ND(1,800)	ND(5.0)	ND(560)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	3.9 J	ND(5.0)
Trichloroethene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(380)	ND(1,300)	ND(1,800)	ND(5.0)	ND(560)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Xylenes, total	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(380)	ND(1,300)	ND(1,800)	ND(5.0)	3,500	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)

NOTES:
ID - Identification
bgs - Below ground surface
VOCs - Volatile organic compounds
µg/kg - Micrograms per kilogram
ND(5.0) - Analyte not detected at reporting limit shown
J - Analyte estimated concentration below reporting limit
c - Cis
m - Meta
n - Normal
o - Ortho
p - Para
sec - Secondary
t - Trans
tert- Tertiary

TABLE 15
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID	Units	B207	B207	B208	B208	B208	B209	B209	B209	B210	B210	B210	B211	B211	B211	B212	B212	B212	B212	B213
Sample Depth (Feet bgs)		2	10	2	5	10	2	5	10	2	5	10	2	5	10	2	5	10	10	2
Date Collected		02/06/06	02/06/06	01/16/06	01/16/06	01/16/06	01/16/06	01/16/06	01/16/06	01/16/06	01/16/06	01/16/06	02/06/06	02/06/06	02/06/06	01/24/06	01/24/06	01/24/06	01/24/06	02/06/06
VOCs																				
1,1,1,2-Tetrachloroethane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,2,4-Trichlorobenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,2,4-Trimethylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	1.7 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,2-Dichlorobenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,2-Dichloroethane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,2-Dichloropropane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,3,5-Trimethylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
2-Butanone	µg/kg	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)
2-Hexanone	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
4-Methyl-2-Pentanone	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Acetone	µg/kg	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)
Benzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	3.1 J	1.7 J	1.1 J	4.9 J	6.7	2.9 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Bromoform	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
c-1,2-Dichloroethene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Carbon Disulfide	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Chloroethane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Chloromethane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Diisopropyl Ether (DIPE)	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Ethylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Iodomethane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Isopropylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	1.4 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
m and p-Xylene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Methyl-t-Butyl Ether (MTBE)	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Naphthalene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
n-Butylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
n-Propylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
o-Xylene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
p-Isopropyltoluene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
sec-Butylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Styrene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
t-1,2-Dichloroethene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Tert-Butyl Alcohol (TBA)	µg/kg	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)
tert-Butylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Tetrachloroethene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Toluene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	1.2 J	ND(5.0)	ND(5.0)	2.7 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Trichloroethene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Xylenes, total	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)

NOTES:
ID - Identification
bgs - Below ground surface
VOCs - Volatile organic compounds
µg/kg - Micrograms per kilogram
ND(5.0) - Analyte not detected at reporting limit shown
J - Analyte estimated concentration below reporting limit
c - Cis
m - Meta
n - Normal
o - Ortho
p - Para
sec - Secondary
t - Trans
tert- Tertiary

TABLE 15
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID: Sample Depth (Feet bgs): Date Collected	Units	B213 10 02/08/06	B213 15 02/08/06	B214 2 02/08/06	B214 5 02/08/06	B214 10 02/08/06	B215 2 02/08/06	B215 5 02/08/06	B216 2 02/08/06	B216 5 02/08/06	B216 10 02/08/06	B216 15 02/08/06	B217 2 02/24/06	B217 5 02/24/06	B217 10 02/24/06	B218 2 02/08/06	B218 5 02/08/06	B218 10 02/08/06	B219 2 02/26/06
VOCs																			
1,1,1,2-Tetrachloroethane	µg/kg	ND(5.0)	ND(5.0)	ND(210)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(380)	ND(5.0)	ND(5.0)
1,2,4-Trichlorobenzene	µg/kg	ND(5.0)	ND(5.0)	ND(210)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(380)	ND(5.0)	ND(5.0)
1,2,4-Trimethylbenzene	µg/kg	ND(5.0)	ND(5.0)	150 J	ND(5.0)	1.2 J	ND(5.0)	ND(5.0)	ND(5.0)	2.0 J	ND(5.0)	ND(5.0)	4.9 J	3.0 J	ND(5.0)	ND(5.0)	6,500	1.4 J	ND(5.0)
1,2-Dichlorobenzene	µg/kg	ND(5.0)	ND(5.0)	ND(210)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(380)	ND(5.0)	ND(5.0)
1,2-Dichloroethane	µg/kg	ND(5.0)	ND(5.0)	ND(210)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(380)	ND(5.0)	ND(5.0)
1,2-Dichloropropane	µg/kg	ND(5.0)	ND(5.0)	ND(210)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(380)	ND(5.0)	ND(5.0)
1,3,5-Trimethylbenzene	µg/kg	ND(5.0)	ND(5.0)	46 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	1,900	ND(5.0)	ND(5.0)
2-Butanone	µg/kg	ND(100)	ND(100)	ND(4,100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(7,600)	ND(100)	ND(100)
2-Hexanone	µg/kg	ND(5.0)	ND(5.0)	ND(210)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(380)	ND(5.0)	ND(5.0)
4-Methyl-2-Pentanone	µg/kg	ND(5.0)	ND(5.0)	ND(210)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(380)	ND(5.0)	ND(5.0)
Acetone	µg/kg	ND(50)	ND(50)	ND(2,100)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(3,800)	ND(50)	ND(50)
Benzene	µg/kg	2.1 J	1.9 J	ND(210)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	210 J	1.2 J	ND(5.0)
Bromoform	µg/kg	ND(5.0)	ND(5.0)	ND(210)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(380)	ND(5.0)	ND(5.0)
c-1,2-Dichloroethene	µg/kg	ND(5.0)	ND(5.0)	ND(210)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(380)	ND(5.0)	ND(5.0)
Carbon Disulfide	µg/kg	ND(5.0)	ND(5.0)	ND(210)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(380)	ND(5.0)	ND(5.0)
Chloroethane	µg/kg	ND(5.0)	ND(5.0)	ND(210)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(380)	ND(5.0)	ND(5.0)
Chloromethane	µg/kg	ND(5.0)	ND(5.0)	ND(210)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(380)	ND(5.0)	ND(5.0)
Diisopropyl Ether (DIPE)	µg/kg	ND(10)	ND(10)	ND(410)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(760)	ND(10)	ND(10)
Ethylbenzene	µg/kg	ND(5.0)	ND(5.0)	71 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	1.4 J	ND(5.0)	ND(5.0)	ND(5.0)	1,900	2.0 J	ND(5.0)
Iodomethane	µg/kg	ND(5.0)	1.2 J	ND(210)	ND(5.0)	ND(5.0)	ND(5.0)	4.0 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(380)	ND(5.0)	ND(5.0)
Isopropylbenzene	µg/kg	ND(5.0)	ND(5.0)	49 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	400	ND(5.0)	ND(5.0)
m and p-Xylene	µg/kg	ND(5.0)	ND(5.0)	53	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	1.2 J	ND(5.0)	ND(5.0)	1.4 J	8,900	7.6	ND(5.0)
Methyl-t-Butyl Ether (MTBE)	µg/kg	ND(5.0)	ND(5.0)	ND(210)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	2.3 J	1.4 J	ND(5.0)	ND(5.0)	ND(380)	ND(5.0)	ND(5.0)
Naphthalene	µg/kg	ND(5.0)	ND(5.0)	ND(210)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	6.3	ND(5.0)	ND(5.0)	400	ND(5.0)	ND(5.0)
n-Butylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(210)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	420	ND(5.0)	ND(5.0)
n-Propylbenzene	µg/kg	ND(5.0)	ND(5.0)	54 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	1.5 J	1.2 J	ND(5.0)	ND(5.0)	720	ND(5.0)	ND(5.0)
o-Xylene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	3,100	2.3 J	ND(5.0)
p-Isopropyltoluene	µg/kg	ND(5.0)	ND(5.0)	ND(210)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	1.7 J	ND(5.0)	ND(5.0)	ND(5.0)	250 J	ND(5.0)	ND(5.0)
sec-Butylbenzene	µg/kg	ND(5.0)	ND(5.0)	57 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	1.4 J	ND(5.0)	ND(5.0)	ND(5.0)	210 J	ND(5.0)	ND(5.0)
Styrene	µg/kg	ND(5.0)	ND(5.0)	ND(210)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(380)	ND(5.0)	ND(5.0)
t-1,2-Dichloroethene	µg/kg	ND(5.0)	ND(5.0)	ND(210)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(380)	ND(5.0)	ND(5.0)
Tert-Butyl Alcohol (TBA)	µg/kg	ND(50)	ND(50)	ND(2,100)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(3,800)	ND(50)	ND(50)
tert-Butylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(210)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(380)	ND(5.0)	ND(5.0)
Tetrachloroethene	µg/kg	ND(5.0)	ND(5.0)	ND(210)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(380)	ND(5.0)	ND(5.0)
Toluene	µg/kg	ND(5.0)	ND(5.0)	ND(210)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	1.3 J	2,500	5.8	ND(5.0)
Trichloroethene	µg/kg	ND(5.0)	ND(5.0)	ND(210)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(380)	ND(5.0)	ND(5.0)
Xylenes, total	µg/kg	ND(5.0)	ND(5.0)	53 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	1.2 J	ND(5.0)	ND(5.0)	1.4 J	12,000	9.8	ND(5.0)

NOTES:
ID - Identification
bgs - Below ground surface
VOCs - Volatile organic compounds
µg/kg - Micrograms per kilogram
ND(5.0) - Analyte not detected at reporting limit shown
J - Analyte estimated concentration below reporting limit
c - Cis
m - Meta
n - Normal
o - Ortho
p - Para
sec - Secondary
t - Trans
tert- Tertiary

TABLE 15
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID	Units	B219	B219	B220	B220	B220	B221	B221	B221	B222	B222	B222	B223	B223	B223
Sample Depth (Feet bgs)		5	10	5	10	10	5	10	10	5	5	10	5	5	10
Date Collected		02/20/06	02/20/06	02/20/06	02/20/06	02/20/06	02/20/06	02/20/06	02/20/06	02/20/06	02/20/06	02/20/06	02/20/06	02/20/06	02/20/06
VOCs															
1,1,1,2-Tetrachloroethane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,2,4-Trichlorobenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,2,4-Trimethylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,2-Dichlorobenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,2-Dichloroethane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,2-Dichloropropane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
1,3,5-Trimethylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
2-Butanone	µg/kg	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)
2-Hexanone	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
4-Methyl-2-Pentanone	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Acetone	µg/kg	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)
Benzene	µg/kg	ND(5.0)	1.9 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	1.6 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Bromoform	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	15	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
c-1,2-Dichloroethene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Carbon Disulfide	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Chloroethane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Chloromethane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Diisopropyl Ether (DIPE)	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Ethylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Iodomethane	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Isopropylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
m and p-Xylene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Methyl-t-Butyl Ether (MTBE)	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Naphthalene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
n-Butylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
n-Propylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
o-Xylene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
p-Isopropyltoluene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
sec-Butylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Styrene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
t-1,2-Dichloroethene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Tert-Butyl Alcohol (TBA)	µg/kg	ND(50)	ND(50)	11 J	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)
tert-Butylbenzene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Tetrachloroethene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Toluene	µg/kg	ND(5.0)	1.0 J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Trichloroethene	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Xylenes, total	µg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)

NOTES:
ID - Identification
bgs - Below ground surface
VOCs - Volatile organic compounds
µg/kg - Micrograms per kilogram
ND(5.0) - Analyte not detected at reporting limit shown
J - Analyte estimated concentration below reporting limit
c - Cis
m - Meta
n - Normal
o - Ortho
p - Para
sec - Secondary
t - Trans
tert- Tertiary

TABLE 16
DETECTION FREQUENCY SUMMARY OF POLYNUCLEAR AROMATIC HYDROCARBONS IN SOIL

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Analyte	Depth (feet bgs)	Maximum Detected Concentration (ug/kg)	Minimum Detected Concentration (ug/kg)	Number of Detects	Number of Samples Analyzed	Percent Detection (%)
Acenaphthene	2	3390	2	53	220	24.1
Acenaphthene	5	2420	2.7	46	220	20.9
Acenaphthene	10	9300	2.5	35	219	16.0
Acenaphthene	15	4060	2.8	14	23	60.9
Acenaphthene	20	3750	28	13	19	68.4
Acenaphthene	30	85	85	1	4	25.0
Acenaphthene	40	141	141	1	1	100
Acenaphthylene	2	2777	2.3	26	220	11.8
Acenaphthylene	5	1000	3.5	23	220	10.5
Acenaphthylene	10	1704	4.1	13	219	5.9
Acenaphthylene	15	324	2.4	6	23	26.1
Acenaphthylene	20	552	26	5	19	26.3
Acenaphthylene	30	68	68	1	4	25.0
Acenaphthylene	40	55	55	1	1	100.0
Anthracene	2	4140	2	57	220	25.9
Anthracene	5	2790	2.3	38	220	17.3
Anthracene	10	7775	2.4	31	219	14.2
Anthracene	15	1730	10	10	23	43.5
Anthracene	20	543	4.3	10	19	52.6
Anthracene	40	100	100	1	1	100.0
Benzo(a)anthracene	2	3090	2	68	220	30.9
Benzo(a)anthracene	5	1000	3	46	220	20.9
Benzo(a)anthracene	10	1347	2	26	219	11.9
Benzo(a)anthracene	15	1170	4	7	23	30.4
Benzo(a)anthracene	20	748	3.5	6	19	31.6
Benzo(a)anthracene	30	79	79	1	4	25.0
Benzo(a)anthracene	40	78	78	1	1	100.0
Benzo(a)pyrene	2	2640	2.5	72	220	32.7
Benzo(a)pyrene	5	1260	2.5	41	220	18.6
Benzo(a)pyrene	10	1266	3	20	219	9.1
Benzo(a)pyrene	15	926	13	4	23	17.4
Benzo(a)pyrene	20	336	15	2	19	10.5
Benzo(a)pyrene	30	105	105	1	4	25.0

TABLE 16
DETECTION FREQUENCY SUMMARY OF POLYNUCLEAR AROMATIC HYDROCARBONS IN SOIL

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Analyte	Depth (feet bgs)	Maximum Detected Concentration (ug/kg)	Minimum Detected Concentration (ug/kg)	Number of Detects	Number of Samples Analyzed	Percent Detection (%)
Benzo(b)fluoranthene	2	2120	2	61	220	27.7
Benzo(b)fluoranthene	5	1140	2	39	220	17.7
Benzo(b)fluoranthene	10	490	3.2	15	219	6.8
Benzo(b)fluoranthene	15	294	8	4	23	17.4
Benzo(b)fluoranthene	20	296	23	2	19	10.5
Benzo(b)fluoranthene	40	26	26	1	1	100.0
Benzo(ghi)perylene	2	1070	2.1	83	220	37.7
Benzo(ghi)perylene	5	929	2.5	51	220	23.2
Benzo(ghi)perylene	10	472	2.5	25	219	11.4
Benzo(ghi)perylene	15	906	9	4	23	17.4
Benzo(ghi)perylene	20	197	11	2	19	10.5
Benzo(ghi)perylene	30	25	25	1	4	25.0
Benzo(ghi)perylene	40	20	20	1	1	100.0
Benzo(k)fluoranthene	2	2060	2	56	220	25.5
Benzo(k)fluoranthene	5	812	2.3	27	220	12.3
Benzo(k)fluoranthene	10	424	3	15	219	6.8
Benzo(k)fluoranthene	15	118	7	2	23	8.7
Benzo(k)fluoranthene	20	8	8	1	19	5.3
Chrysene	2	3880	2.3	112	220	50.9
Chrysene	5	3440	3	71	220	32.3
Chrysene	10	8936	2	46	219	21.0
Chrysene	15	3000	4	10	23	43.5
Chrysene	20	2390	5	7	19	36.8
Chrysene	30	264	4.5	2	4	50.0
Chrysene	40	295	295	1	1	100.0
Dibenzo(a,h)anthracene	2	179	2.3	17	220	7.7
Dibenzo(a,h)anthracene	5	311	2.5	9	220	4.1
Dibenzo(a,h)anthracene	10	245	3.5	3	219	1.4
Dibenzo(a,h)anthracene	15	288	136	2	23	8.7
Dibenzo(a,h)anthracene	30	8.8	8.8	1	4	25.0
Fluoranthene	2	10500	2	77	220	35.0
Fluoranthene	5	3360	2.5	45	220	20.5
Fluoranthene	10	743	2.3	25	219	11.4

TABLE 16
DETECTION FREQUENCY SUMMARY OF POLYNUCLEAR AROMATIC HYDROCARBONS IN SOIL

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Analyte	Depth (feet bgs)	Maximum Detected Concentration (ug/kg)	Minimum Detected Concentration (ug/kg)	Number of Detects	Number of Samples Analyzed	Percent Detection (%)
Fluoranthene	15	571	3	9	23	39.1
Fluoranthene	20	94	2.5	7	19	36.8
Fluoranthene	30	25	25	1	4	25.0
Fluoranthene	40	45	45	1	1	100.0
Fluorene	2	7380	2.2	66	220	30.0
Fluorene	5	8260	3.5	50	220	22.7
Fluorene	10	15460	2	47	219	21.5
Fluorene	15	7350	3.5	17	23	73.9
Fluorene	20	7230	6.5	15	19	78.9
Fluorene	30	382	34	2	4	50.0
Fluorene	40	491	491	1	1	100.0
Indeno(1,2,3-cd)pyrene	2	1620	2	37	220	16.8
Indeno(1,2,3-cd)pyrene	5	826	2.5	12	220	5.5
Indeno(1,2,3-cd)pyrene	10	46	2.5	4	219	1.8
Indeno(1,2,3-cd)pyrene	15	291	3.5	3	23	13.0
Naphthalene	2	64200	2	88	220	40.0
Naphthalene	5	23200	2.4	70	220	31.8
Naphthalene	10	63100	2	67	219	30.6
Naphthalene	15	32300	2	17	23	73.9
Naphthalene	20	41100	2.5	16	19	84.2
Naphthalene	30	282	3.5	3	4	75.0
Naphthalene	40	1370	1370	1	1	100.0
Phenanthrene	2	19100	2.5	107	220	48.6
Phenanthrene	5	18800	2	78	220	35.5
Phenanthrene	10	42368	2.5	64	219	29.2
Phenanthrene	15	13200	3	18	23	78.3
Phenanthrene	20	9290	18	15	19	78.9
Phenanthrene	30	1320	54	2	4	50.0
Phenanthrene	40	2680	2680	1	1	100.0
Pyrene	2	9270	2.3	110	220	50.0
Pyrene	5	5740	2	75	220	34.1
Pyrene	10	5054	2.9	47	219	21.5
Pyrene	15	2620	2.3	14	23	60.9

TABLE 16
DETECTION FREQUENCY SUMMARY OF POLYNUCLEAR AROMATIC HYDROCARBONS IN SOIL

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Analyte	Depth (feet bgs)	Maximum Detected Concentration (µg/kg)	Minimum Detected Concentration (µg/kg)	Number of Detects	Number of Samples Analyzed	Percent Detection (%)
Pyrene	20	995	3	12	19	63.2
Pyrene	30	177	2.5	2	4	50.0
Pyrene	40	228	228	1	1	100.0

NOTES:
bgs - Below ground surface
µg/kg - Micrograms per kilogram
% - Percent

TABLE 17
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
POLYNUCLEAR AROMATIC HYDROCARBONS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID	Units	B001	B001	B001	B002	B002	B002	B003	B003	B003	B003	B004	B004	B004
Sample Depth (Feet bgs)		2	5	10	2	5	10	2	5	15	30	2	5	10
Date Collected		12/05/05	12/05/05	12/05/05	12/05/05	12/05/05	12/05/05	12/07/05	12/07/05	12/07/05	12/07/05	12/08/05	12/08/05	12/08/05
PAHs														
Acenaphthene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Acenaphthylene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Anthracene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	14	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Benzo(a)anthracene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Benzo(a)pyrene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	151	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Benzo(b)fluoranthene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Benzo(ghi)perylene	µg/kg	31	ND(10)	ND(10)	ND(10)	15	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	5.5	ND(10)	ND(10)
Benzo(k)fluoranthene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Chrysene	µg/kg	22	ND(10)	ND(10)	ND(10)	18	ND(10)	ND(10)	70	ND(10)	4.5	5.5	ND(10)	ND(10)
Dibenzo(a,h)anthracene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Fluoranthene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Fluorene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	11	34	ND(10)	ND(10)	ND(10)
Indeno(1,2,3-cd)pyrene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Naphthalene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	10	ND(10)	ND(10)	ND(10)	3.5	ND(10)	ND(10)	ND(10)
Phenanthrene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	12	17	54	4	ND(10)	ND(10)
Pyrene	µg/kg	24	ND(10)	ND(10)	ND(10)	16	ND(10)	ND(10)	30	ND(10)	2.5	3.5	ND(10)	ND(10)

NOTES:
ID - Identification
bgs- Below ground surface
PAHs - Polynuclear aromatic hydrocarbons
µg/kg - Micrograms per kilogram
ND(10) - Analyte not detected at reporting limit shown
J - Analyte estimated concentration below reporting limit

TABLE 17
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
POLYNUCLEAR AROMATIC HYDROCARBONS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID Sample Depth (Feet bgs) Date Collected	Units	B005 2 12/08/05	B005 5 12/08/05	B005 10 12/08/05	B006 2 12/08/05	B006 5 12/08/05	B006 10 12/08/05	B007 2 12/12/05	B007 5 12/12/05	B007 10 12/12/05	B008 2 12/08/05	B008 5 12/08/05	B008 10 12/08/05	B009 2 12/09/05
PAHs														
Acenaphthene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Acenaphthylene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Anthracene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Benzo(a)anthracene	µg/kg	14	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Benzo(a)pyrene	µg/kg	13	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Benzo(b)fluoranthene	µg/kg	14	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Benzo(ghi)perylene	µg/kg	9.5	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Benzo(k)fluoranthene	µg/kg	12	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Chrysene	µg/kg	22	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Dibenzo(a,h)anthracene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Fluoranthene	µg/kg	34	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Fluorene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Indeno(1,2,3-cd)pyrene	µg/kg	9	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Naphthalene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Phenanthrene	µg/kg	10	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Pyrene	µg/kg	34	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)

NOTES:
ID - Identification
bgs- Below ground surface
PAHs - Polynuclear aromatic hydrocarbons
µg/kg - Micrograms per kilogram
ND(10) - Analyte not detected at reporting limit shown
J - Analyte estimated concentration below reporting limit

TABLE 17
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
POLYNUCLEAR AROMATIC HYDROCARBONS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID Sample Depth (Feet bgs) Date Collected	Units	B009 5 12/09/05	B009 10 12/09/05	B010 2 12/09/05	B010 5 12/09/05	B010 11 12/09/05	B011 2 01/09/06	B011 5 01/09/06	B011 10 01/09/06	B012 2 01/06/06	B012 5 01/06/06	B012 10 01/06/06	B013 2 12/15/05	B013 5 12/15/05
PAHs														
Acenaphthene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(250)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	5 J	ND(100)
Acenaphthylene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(250)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(100)
Anthracene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(250)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	6 J	ND(100)
Benzo(a)anthracene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(250)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	5 J	ND(100)
Benzo(a)pyrene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(250)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	9.5 J	ND(100)
Benzo(b)fluoranthene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(250)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	12.5	ND(100)
Benzo(ghi)perylene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	80 J	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	18	ND(100)
Benzo(k)fluoranthene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(250)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	6.5 J	ND(100)
Chrysene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(250)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	25.5	21 J
Dibenzo(a,h)anthracene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(250)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(100)
Fluoranthene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(250)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	10	ND(100)
Fluorene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(250)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	5.5 J	ND(100)
Indeno(1,2,3-cd)pyrene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(250)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	10	ND(100)
Naphthalene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(250)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	7.5 J	ND(100)
Phenanthrene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(250)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	15	ND(100)
Pyrene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(250)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	17.5	ND(100)

NOTES:
ID - Identification
bgs- Below ground surface
PAHs - Polynuclear aromatic hydrocarbons
µg/kg - Micrograms per kilogram
ND(10) - Analyte not detected at reporting limit shown
J - Analyte estimated concentration below reporting limit

TABLE 17
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
POLYNUCLEAR AROMATIC HYDROCARBONS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID Sample Depth (Feet bgs) Date Collected	Units	B013 10 12/15/05	B014 2 12/13/05	B014 5 12/13/05	B014 10 12/13/05	B015 2 12/12/05	B015 5 12/12/05	B015 10 12/12/05	B016 2 12/13/05	B016 5 12/13/05	B016 10 12/13/05	B017 2 12/29/05	B017 5 12/29/05	B017 10 12/29/05
PAHs														
Acenaphthene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Acenaphthylene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Anthracene	µg/kg	ND(10)	12	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Benzo(a)anthracene	µg/kg	ND(10)	10	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Benzo(a)pyrene	µg/kg	ND(10)	48	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Benzo(b)fluoranthene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Benzo(ghi)perylene	µg/kg	ND(10)	46	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Benzo(k)fluoranthene	µg/kg	ND(10)	29	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Chrysene	µg/kg	ND(10)	45	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Dibenzo(a,h)anthracene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Fluoranthene	µg/kg	ND(10)	14	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Fluorene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Indeno(1,2,3-cd)pyrene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Naphthalene	µg/kg	ND(10)	45	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Phenanthrene	µg/kg	ND(10)	28	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Pyrene	µg/kg	ND(10)	27	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)

NOTES:
ID - Identification
bgs- Below ground surface
PAHs - Polynuclear aromatic hydrocarbons
µg/kg - Micrograms per kilogram
ND(10) - Analyte not detected at reporting limit shown
J - Analyte estimated concentration below reporting limit

TABLE 17
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
POLYNUCLEAR AROMATIC HYDROCARBONS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID Sample Depth (Feet bgs) Date Collected	Units	B018 2 12/29/05	B018 5 12/29/05	B018 10 12/29/05	B019 2 12/28/05	B019 5 12/28/05	B019 10 12/28/05	B020 2 12/12/05	B020 5 12/12/05	B020 10 12/12/05	B020 15 12/12/05	B020 20 12/12/05	B021 2 12/28/05	B021 5 12/28/05
PAHs														
Acenaphthene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	33	ND(10)	ND(10)	ND(10)	ND(10)
Acenaphthylene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Anthracene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	3 J	ND(10)
Benzo(a)anthracene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Benzo(a)pyrene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Benzo(b)fluoranthene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Benzo(ghi)perylene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	2.5	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Benzo(k)fluoranthene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Chrysene	µg/kg	ND(10)	ND(10)	4.5 J	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	25	ND(10)	ND(10)	ND(10)	ND(10)
Dibenzo(a,h)anthracene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Fluoranthene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Fluorene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	38	ND(10)	ND(10)	ND(10)	ND(10)
Indeno(1,2,3-cd)pyrene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Naphthalene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	702	ND(10)	ND(10)	20	8 J
Phenanthrene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	129	ND(10)	ND(10)	3 J	ND(10)
Pyrene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	7	ND(10)	ND(10)	ND(10)	ND(10)

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TABLE 17
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
POLYNUCLEAR AROMATIC HYDROCARBONS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID: Sample Depth (Feet bgs) Date Collected	Units	B021 10 12/28/05	B022 2 12/28/05	B022 5 12/28/05	B022 10 12/28/05	B022 13 12/28/05	B023 2 12/28/05	B023 5 12/28/05	B023 10 12/28/05	B023 15 12/28/05	B024 2 12/16/05	B024 5 12/16/05	B024 10 12/16/05
PAHs													
Acenaphthene	µg/kg	ND(500)	ND(200)	ND(500)	ND(100)	ND(10)	ND(2,500)	684 J	ND(2,000)	2.8 J	ND(20)	ND(10)	ND(10)
Acenaphthylene	µg/kg	ND(500)	ND(200)	ND(500)	ND(100)	ND(10)	ND(2,500)	ND(1,000)	ND(2,000)	2.4 J	ND(20)	ND(10)	ND(10)
Anthracene	µg/kg	ND(500)	ND(200)	ND(500)	ND(100)	ND(10)	ND(2,500)	ND(1,000)	ND(2,000)	ND(10)	ND(20)	ND(10)	ND(10)
Benzo(a)anthracene	µg/kg	ND(500)	ND(200)	ND(500)	ND(100)	ND(10)	ND(2,500)	ND(1,000)	ND(2,000)	ND(10)	ND(20)	ND(10)	ND(10)
Benzo(a)pyrene	µg/kg	ND(500)	ND(200)	ND(500)	ND(100)	ND(10)	ND(2,500)	ND(1,000)	ND(2,000)	ND(10)	ND(20)	ND(10)	ND(10)
Benzo(b)fluoranthene	µg/kg	ND(500)	ND(200)	ND(500)	ND(100)	ND(10)	ND(2,500)	ND(1,000)	ND(2,000)	ND(10)	ND(20)	ND(10)	ND(10)
Benzo(ghi)perylene	µg/kg	ND(500)	ND(200)	ND(500)	ND(100)	ND(10)	ND(2,500)	ND(1,000)	ND(2,000)	ND(10)	ND(20)	4.5 J	ND(10)
Benzo(k)fluoranthene	µg/kg	ND(500)	ND(200)	ND(500)	ND(100)	ND(10)	ND(2,500)	ND(1,000)	ND(2,000)	ND(10)	ND(20)	ND(10)	ND(10)
Chrysene	µg/kg	ND(500)	ND(200)	ND(500)	ND(100)	ND(10)	ND(2,500)	ND(1,000)	ND(2,000)	ND(10)	ND(20)	ND(10)	ND(10)
Dibenzo(a,h)anthracene	µg/kg	ND(500)	ND(200)	ND(500)	ND(100)	ND(10)	ND(2,500)	ND(1,000)	ND(2,000)	ND(10)	ND(20)	ND(10)	ND(10)
Fluoranthene	µg/kg	ND(500)	ND(200)	ND(500)	ND(100)	ND(10)	ND(2,500)	ND(1,000)	ND(2,000)	ND(10)	ND(20)	ND(10)	ND(10)
Fluorene	µg/kg	ND(500)	197 J	ND(500)	ND(100)	ND(10)	ND(2,500)	1,380	ND(2,000)	9.8 J	ND(20)	ND(10)	ND(10)
Indeno(1,2,3-cd)pyrene	µg/kg	ND(500)	ND(200)	ND(500)	ND(100)	ND(10)	ND(2,500)	ND(1,000)	ND(2,000)	ND(10)	ND(20)	ND(10)	ND(10)
Naphthalene	µg/kg	15,300	4,450	18,300	2,730	2 J	64,200	15,500	47,500	162	619	232	54
Phenanthrene	µg/kg	ND(500)	422	178 J	26 J	ND(10)	1,710 J	3,440	2,000	14	ND(20)	2.5 J	ND(10)
Pyrene	µg/kg	ND(500)	ND(200)	ND(500)	ND(100)	ND(10)	ND(2,500)	ND(1,000)	ND(2,000)	2.3 J	ND(20)	ND(10)	ND(10)

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TABLE 17
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
POLYNUCLEAR AROMATIC HYDROCARBONS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID Sample Depth (Feet bgs) Date Collected	Units	B025 2 12/15/05	B025 5 12/15/05	B025 10 12/15/05	B026 2 12/15/05	B026 5 12/15/05	B026 10 12/15/05	B027 2 12/14/05	B027 5 12/15/05	B027 10 12/15/05	B027 15 12/15/05	B027 20 12/15/05	B027 30 12/15/05	B027 40 12/15/05
PAHs														
Acenaphthene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(100)	128	191 J	54	638	85	141
Acenaphthylene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(100)	ND(10)	ND(500)	ND(50)	ND(500)	68	55
Anthracene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(100)	168	ND(500)	ND(50)	448 J	ND(10)	100
Benzo(a)anthracene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	3.5 J	ND(10)	ND(100)	213	496 J	48 J	748	79	78
Benzo(a)pyrene	µg/kg	ND(10)	ND(10)	ND(10)	23	11	ND(10)	128	141	255 J	23 J	336 J	105	ND(20)
Benzo(b)fluoranthene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(100)	122	ND(500)	24 J	296 J	ND(10)	26
Benzo(ghi)perylene	µg/kg	ND(10)	ND(10)	ND(10)	17	6.5 J	ND(10)	45	74	170 J	16 J	197 J	25	20
Benzo(k)fluoranthene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	88	38	ND(500)	ND(50)	ND(500)	ND(10)	ND(20)
Chrysene	µg/kg	ND(10)	ND(10)	ND(10)	10	10	2.5 J	270	806	1,690	228	2,390	264	295
Dibenzo(a,h)anthracene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(100)	46	ND(500)	ND(50)	ND(500)	8.8 J	ND(20)
Fluoranthene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(100)	ND(10)	ND(500)	ND(50)	ND(500)	25	45
Fluorene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	56	230	446 J	360	1,490	382	491
Indeno(1,2,3-cd)pyrene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(100)	ND(10)	ND(500)	ND(50)	ND(500)	ND(10)	ND(20)
Naphthalene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	34	559	966	233	1,640	282	1,370
Phenanthrene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	12	3 J	227	1,510	2,940	1,170	5,490	1,320	2,680
Pyrene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	4 J	ND(10)	175	243	772	79	995	177	228

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TABLE 17
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
POLYNUCLEAR AROMATIC HYDROCARBONS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID Sample Depth (Feet bgs) Date Collected	Units	B028 2 12/13/05	B028 5 12/13/05	B028 10 12/13/05	B029 2 12/14/05	B029 5 12/14/05	B029 10 12/14/05	B030 2 12/14/05	B030 5 12/14/05	B030 10 12/14/05	B031 2 01/06/06	B031 5 01/06/06	B031 10 01/06/06	B032 2 01/06/06
PAHs														
Acenaphthene	µg/kg	ND(10)	ND(10)	ND(10)	44	ND(100)	ND(50)	ND(50)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Acenaphthylene	µg/kg	ND(10)	ND(10)	ND(10)	ND(100)	ND(100)	ND(50)	ND(50)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Anthracene	µg/kg	3.5	ND(10)	ND(10)	40	ND(100)	ND(50)	ND(50)	ND(10)	ND(10)	9 J	ND(10)	ND(10)	ND(10)
Benzo(a)anthracene	µg/kg	2.5	ND(10)	ND(10)	86	ND(100)	ND(50)	ND(50)	ND(10)	ND(10)	2.5 J	ND(10)	ND(10)	ND(10)
Benzo(a)pyrene	µg/kg	27	ND(10)	ND(10)	66	ND(100)	ND(50)	22	ND(10)	ND(10)	2.5 J	ND(10)	ND(10)	ND(10)
Benzo(b)fluoranthene	µg/kg	ND(10)	ND(10)	ND(10)	47	ND(100)	ND(50)	ND(50)	ND(10)	ND(10)	5 J	ND(10)	ND(10)	ND(10)
Benzo(ghi)perylene	µg/kg	39	ND(10)	ND(10)	69	59	18	44	ND(10)	ND(10)	30	ND(10)	ND(10)	12
Benzo(k)fluoranthene	µg/kg	13	ND(10)	ND(10)	ND(100)	ND(100)	ND(50)	ND(50)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Chrysene	µg/kg	20	ND(10)	ND(10)	294	27	64	28	ND(10)	ND(10)	8.5 J	ND(10)	ND(10)	4.5 J
Dibenzo(a,h)anthracene	µg/kg	ND(10)	ND(10)	ND(10)	ND(100)	ND(100)	ND(50)	ND(50)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Fluoranthene	µg/kg	4	ND(10)	ND(10)	67	ND(100)	10	ND(50)	ND(10)	ND(10)	3.5 J	ND(10)	ND(10)	ND(10)
Fluorene	µg/kg	ND(10)	ND(10)	ND(10)	111	ND(100)	13	ND(50)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Indeno(1,2,3-cd)pyrene	µg/kg	ND(10)	ND(10)	ND(10)	ND(100)	ND(100)	ND(50)	16	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Naphthalene	µg/kg	2.5	ND(10)	ND(10)	2,850	88	409	ND(50)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Phenanthrene	µg/kg	5.5	ND(10)	ND(10)	780	31	84	ND(50)	ND(10)	ND(10)	3 J	ND(10)	ND(10)	ND(10)
Pyrene	µg/kg	8	ND(10)	ND(10)	214	34	39	28	ND(10)	ND(10)	5.5 J	ND(10)	ND(10)	ND(10)

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POLYNUCLEAR AROMATIC HYDROCARBONS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID: / Sample Depth (Feet bgs): / Date Collected:	Units	B032 5 01/06/06	B032 10 01/06/06	B033 2 12/29/05	B033 5 12/29/05	B033 10 12/29/05	B034 2 12/14/05	B034 5 12/14/05	B034 10 12/14/05	B035 2 12/14/05	B035 5 12/14/05	B035 10 12/14/05	B036 2 12/14/05	B036 5 12/14/05
PAHs														
Acenaphthene	µg/kg	ND(10)	90	ND(10)	ND(10)	10	ND(10)	ND(10)	ND(10)	ND(50)	ND(10)	ND(10)	ND(10)	ND(10)
Acenaphthylene	µg/kg	ND(10)	ND(50)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(50)	ND(10)	ND(10)	ND(10)	ND(10)
Anthracene	µg/kg	ND(10)	40 J	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(50)	ND(10)	ND(10)	ND(10)	ND(10)
Benzo(a)anthracene	µg/kg	ND(10)	37 J	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(50)	ND(10)	ND(10)	ND(10)	ND(10)
Benzo(a)pyrene	µg/kg	109	46 J	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	175	ND(10)	ND(10)	ND(10)	ND(10)
Benzo(b)fluoranthene	µg/kg	42	42 J	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	46	ND(10)	ND(10)	ND(10)	ND(10)
Benzo(ghi)perylene	µg/kg	56	50	3 J	3 J	5 J	ND(10)	ND(10)	ND(10)	76	ND(10)	3	ND(10)	ND(10)
Benzo(k)fluoranthene	µg/kg	21	26 J	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	16	ND(10)	ND(10)	ND(10)	ND(10)
Chrysene	µg/kg	167	189	5 J	ND(10)	3.5 J	ND(10)	ND(10)	ND(10)	264	ND(10)	7.5	4	ND(10)
Dibenzo(a,h)anthracene	µg/kg	ND(10)	ND(50)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(50)	ND(10)	ND(10)	ND(10)	ND(10)
Fluoranthene	µg/kg	ND(10)	ND(50)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(50)	ND(10)	ND(10)	ND(10)	ND(10)
Fluorene	µg/kg	ND(10)	53	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(50)	ND(10)	ND(10)	ND(10)	ND(10)
Indeno(1,2,3-cd)pyrene	µg/kg	ND(10)	ND(50)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(50)	ND(10)	ND(10)	ND(10)	ND(10)
Naphthalene	µg/kg	16	23 J	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(50)	ND(10)	ND(10)	ND(10)	ND(10)
Phenanthrene	µg/kg	100	253	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(50)	ND(10)	ND(10)	3	ND(10)
Pyrene	µg/kg	249	359	2.5 J	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	61	ND(10)	ND(10)	ND(10)	ND(10)

NOTES:
ID - Identification
bgs- Below ground surface
PAHs - Polynuclear aromatic hydrocarbons
µg/kg - Micrograms per kilogram
ND(10) - Analyte not detected at reporting limit shown
J - Analyte estimated concentration below reporting limit

TABLE 17
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
POLYNUCLEAR AROMATIC HYDROCARBONS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID: / Sample Depth (Feet bgs): / Date Collected:	Units	B036 / 10 / 12/14/05	B036 / 15 / 12/14/05	B037 / 2 / 12/19/05	B037 / 5 / 12/19/05	B037 / 10 / 12/19/05	B038 / 2 / 12/19/05	B038 / 5 / 12/19/05	B038 / 10 / 12/19/05	B039 / 2 / 12/16/05	B039 / 5 / 12/16/05	B039 / 10 / 12/16/05	B040 / 2 / 12/19/05	B040 / 5 / 12/19/05
PAHs														
Acenaphthene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(100)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(50)	ND(10)
Acenaphthylene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(100)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(50)	ND(10)
Anthracene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(100)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(50)	4 J
Benzo(a)anthracene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(100)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(50)	3 J
Benzo(a)pyrene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(100)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(50)	ND(10)
Benzo(b)fluoranthene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(100)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(50)	ND(10)
Benzo(ghi)perylene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(100)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(50)	6.5 J
Benzo(k)fluoranthene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(100)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(50)	ND(10)
Chrysene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(100)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	36 J	11
Dibenzo(a,h)anthracene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(100)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(50)	ND(10)
Fluoranthene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(100)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(50)	ND(10)
Fluorene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	1,280	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	100	ND(10)
Indeno(1,2,3-cd)pyrene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(100)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(50)	ND(10)
Naphthalene	µg/kg	ND(10)	2.5	ND(10)	ND(10)	ND(10)	2,820	8.5 J	ND(10)	ND(10)	ND(10)	12	68	3 J
Phenanthrene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	1,740	10	ND(10)	ND(10)	ND(10)	ND(10)	612	9 J
Pyrene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	66 J	2.5 J	ND(10)	ND(10)	ND(10)	ND(10)	30 J	10

NOTES:
ID - Identification
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ND(10) - Analyte not detected at reporting limit shown
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TABLE 17
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
POLYNUCLEAR AROMATIC HYDROCARBONS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID Sample Depth (Feet bgs) Date Collected	Units	B040 10 12/19/05	B041 2 12/28/05	B041 5 12/28/05	B041 10 12/28/05	B042 2 12/20/05	B042 5 12/20/05	B042 10 12/20/05	B043 2 12/16/05	B043 5 12/16/05	B043 10 12/16/05	B044 2 12/16/05	B044 5 12/16/05	B044 10 12/16/05
PAHs														
Acenaphthene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(200)	ND(100)	ND(10)	88	346	94	ND(10)	ND(10)	ND(10)
Acenaphthylene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(200)	ND(100)	ND(10)	ND(50)	ND(200)	ND(10)	ND(10)	ND(10)	ND(10)
Anthracene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(200)	ND(100)	ND(10)	ND(50)	ND(200)	ND(10)	ND(10)	ND(10)	ND(10)
Benzo(a)anthracene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(200)	ND(100)	ND(10)	32 J	ND(200)	9.5 J	ND(10)	ND(10)	ND(10)
Benzo(a)pyrene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(200)	ND(100)	ND(10)	90	ND(200)	ND(10)	ND(10)	ND(10)	ND(10)
Benzo(b)fluoranthene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(200)	ND(100)	ND(10)	93	ND(200)	ND(10)	ND(10)	ND(10)	ND(10)
Benzo(ghi)perylene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(200)	ND(100)	ND(10)	59	ND(200)	ND(10)	ND(10)	ND(10)	2.5 J
Benzo(k)fluoranthene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(200)	ND(100)	ND(10)	ND(50)	ND(200)	ND(10)	ND(10)	ND(10)	ND(10)
Chrysene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(200)	ND(100)	ND(10)	195	ND(200)	34	ND(10)	ND(10)	ND(10)
Dibenzo(a,h)anthracene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(200)	ND(100)	ND(10)	ND(50)	ND(200)	ND(10)	ND(10)	ND(10)	3.5 J
Fluoranthene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(200)	ND(100)	ND(10)	ND(50)	ND(200)	ND(10)	ND(10)	ND(10)	ND(10)
Fluorene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	1,780	186	ND(10)	378	590	237	ND(10)	ND(10)	ND(10)
Indeno(1,2,3-cd)pyrene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(200)	ND(100)	ND(10)	ND(50)	ND(200)	ND(10)	ND(10)	ND(10)	2.5 J
Naphthalene	µg/kg	ND(10)	44	ND(10)	6 J	3,410	2,970	4	639	98 J	40	ND(10)	ND(10)	ND(10)
Phenanthrene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	2,590	458	2.5	1,260	3,790	63	ND(10)	ND(10)	ND(10)
Pyrene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(200)	ND(100)	ND(10)	227	70 J	ND(10)	ND(10)	ND(10)	ND(10)

NOTES:
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TABLE 17
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
POLYNUCLEAR AROMATIC HYDROCARBONS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID: Sample Depth (Feet bgs): Date Collected:	Units	B045 2 12/15/05	B045 5 12/15/05	B045 10 12/15/05	B045 15 12/15/05	B045 20 12/15/05	B046 2 12/15/05	B046 5 12/15/05	B046 10 12/15/05	B047 2 12/15/05	B047 5 12/15/05	B047 10 12/15/05	B048 2 12/20/05	B048 5 12/20/05
PAHs														
Acenaphthene	µg/kg	ND(1,000)	ND(100)	30.5	ND(10)	ND(200)	ND(100)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Acenaphthylene	µg/kg	ND(1,000)	ND(100)	ND(10)	ND(10)	ND(200)	ND(100)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Anthracene	µg/kg	ND(1,000)	ND(100)	ND(10)	ND(10)	ND(200)	ND(100)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Benzo(a)anthracene	µg/kg	ND(1,000)	ND(100)	ND(10)	ND(10)	ND(200)	109	ND(10)	3 J	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Benzo(a)pyrene	µg/kg	ND(1,000)	ND(100)	ND(10)	ND(10)	ND(200)	245	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Benzo(b)fluoranthene	µg/kg	ND(1,000)	ND(100)	ND(10)	ND(10)	ND(200)	ND(100)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Benzo(ghi)perylene	µg/kg	ND(1,000)	ND(100)	2.5 J	ND(10)	ND(200)	ND(100)	ND(10)	ND(10)	3 J	ND(10)	ND(10)	ND(10)	ND(10)
Benzo(k)fluoranthene	µg/kg	ND(1,000)	ND(100)	ND(10)	ND(10)	ND(200)	ND(100)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Chrysene	µg/kg	ND(1,000)	ND(100)	ND(10)	ND(10)	ND(200)	928	4 J	18	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Dibenzo(a,h)anthracene	µg/kg	ND(1,000)	ND(100)	ND(10)	ND(10)	ND(200)	ND(100)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Fluoranthene	µg/kg	ND(1,000)	ND(100)	ND(10)	ND(10)	ND(200)	ND(100)	ND(10)	6.5 J	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Fluorene	µg/kg	3,830	ND(100)	113	ND(10)	78 J	ND(100)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Indeno(1,2,3-cd)pyrene	µg/kg	ND(1,000)	ND(100)	ND(10)	ND(10)	ND(200)	ND(100)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Naphthalene	µg/kg	5,900	329	387	8 J	5,600	ND(100)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Phenanthrene	µg/kg	2,660	1,190	142	3 J	103 J	3,120	8.5 J	19.5	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Pyrene	µg/kg	ND(1,000)	ND(100)	6.5 J	ND(10)	ND(200)	604	ND(10)	9 J	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)

NOTES:
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ND(10) - Analyte not detected at reporting limit shown
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TABLE 17
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
POLYNUCLEAR AROMATIC HYDROCARBONS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID Sample Depth (Feet bgs) Date Collected	Units	B048 10 12/20/05	B048 15 12/20/05	B048 20 12/20/05	B049 2 12/14/05	B049 5 12/14/05	B049 10 12/14/05	B050 2 12/13/05	B050 5 12/13/05	B050 10 12/12/05	B050 15 12/12/05	B050 20 12/12/05	B051 2 12/13/05	B051 5 12/13/05
PAHs														
Acenaphthene	µg/kg	ND(100)	156	1,890	ND(10)	ND(10)	ND(10)	ND(100)	ND(10)	79	ND(10)	ND(10)	ND(10)	ND(10)
Acenaphthylene	µg/kg	ND(100)	72	517	ND(10)	ND(10)	ND(10)	ND(100)	ND(10)	ND(100)	ND(10)	ND(10)	ND(10)	ND(10)
Anthracene	µg/kg	ND(100)	19	170	ND(10)	ND(10)	ND(10)	31	ND(10)	117	ND(10)	ND(10)	ND(10)	ND(10)
Benzo(a)anthracene	µg/kg	33	9 J	49 J	ND(10)	ND(10)	ND(10)	143	ND(10)	107	ND(10)	ND(10)	ND(10)	ND(10)
Benzo(a)pyrene	µg/kg	32	ND(10)	ND(100)	ND(10)	ND(10)	ND(10)	213	ND(10)	168	ND(10)	ND(10)	ND(10)	ND(10)
Benzo(b)fluoranthene	µg/kg	ND(100)	ND(10)	ND(100)	ND(10)	ND(10)	ND(10)	169	ND(10)	60	ND(10)	ND(10)	ND(10)	ND(10)
Benzo(ghi)perylene	µg/kg	64	ND(10)	ND(100)	ND(10)	ND(10)	ND(10)	175	ND(10)	139	ND(10)	ND(10)	ND(10)	ND(10)
Benzo(k)fluoranthene	µg/kg	ND(100)	ND(10)	ND(100)	ND(10)	ND(10)	ND(10)	163	ND(10)	ND(100)	ND(10)	ND(10)	ND(10)	ND(10)
Chrysene	µg/kg	146	24	100	ND(10)	ND(10)	ND(10)	269	ND(10)	411	ND(10)	ND(10)	ND(10)	ND(10)
Dibenzo(a,h)anthracene	µg/kg	ND(100)	ND(10)	ND(100)	ND(10)	ND(10)	ND(10)	41	ND(10)	ND(100)	ND(10)	ND(10)	ND(10)	ND(10)
Fluoranthene	µg/kg	ND(100)	11	50 J	ND(10)	ND(10)	ND(10)	256	ND(10)	52	ND(10)	ND(10)	ND(10)	ND(10)
Fluorene	µg/kg	2,820	1,060	7,230	ND(10)	ND(10)	ND(10)	ND(100)	ND(10)	102	ND(10)	ND(10)	ND(10)	ND(10)
Indeno(1,2,3-cd)pyrene	µg/kg	ND(100)	ND(10)	ND(100)	ND(10)	ND(10)	ND(10)	148	ND(10)	ND(100)	ND(10)	ND(10)	ND(10)	ND(10)
Naphthalene	µg/kg	1,050	ND(10)	11,500	6.7	12	3.5	ND(100)	ND(10)	354	ND(10)	ND(10)	ND(10)	ND(10)
Phenanthrene	µg/kg	2,850	1,213	9,290	ND(10)	ND(10)	ND(10)	159	ND(10)	32	ND(10)	ND(10)	ND(10)	ND(10)
Pyrene	µg/kg	134	63	80 J	ND(10)	ND(10)	ND(10)	296	ND(10)	324	ND(10)	ND(10)	ND(10)	ND(10)

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TABLE 17
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
POLYNUCLEAR AROMATIC HYDROCARBONS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID Sample Depth (Feet bgs) Date Collected	Units	B051 10 12/13/05	B052 2 12/29/05	B052 5 12/29/05	B052 10 12/29/05	B053 2 12/28/05	B053 5 12/28/05	B053 10 12/28/05	B054 2 12/13/05	B054 5 12/13/05	B054 10 12/13/05	B055 2 12/21/05	B055 5 12/21/05
PAHs													
Acenaphthene	µg/kg	ND(10)	ND(500)	ND(20)	ND(500)	ND(10)	ND(10)	9.5 J	ND(100)	ND(100)	ND(10)	ND(1,000)	543
Acenaphthylene	µg/kg	ND(10)	ND(500)	ND(20)	ND(500)	ND(10)	ND(10)	ND(10)	ND(100)	ND(100)	ND(10)	ND(1,000)	ND(200)
Anthracene	µg/kg	ND(10)	ND(500)	6.5 J	ND(500)	ND(10)	3 J	28	ND(100)	ND(100)	ND(10)	ND(1,000)	196 J
Benzo(a)anthracene	µg/kg	ND(10)	ND(500)	7 J	ND(500)	ND(10)	ND(10)	16	60	64	ND(10)	ND(1,000)	216
Benzo(a)pyrene	µg/kg	ND(10)	ND(500)	8.5 J	ND(500)	ND(10)	5 J	54	45	80	ND(10)	ND(1,000)	445
Benzo(b)fluoranthene	µg/kg	ND(10)	ND(500)	14 J	ND(500)	ND(10)	8 J	7.5 J	66	70	ND(10)	ND(1,000)	267
Benzo(ghi)perylene	µg/kg	ND(10)	ND(500)	38	ND(500)	ND(10)	13	16	58	73	ND(10)	ND(1,000)	929
Benzo(k)fluoranthene	µg/kg	ND(10)	ND(500)	ND(20)	ND(500)	ND(10)	ND(10)	10	35	54	ND(10)	ND(1,000)	84 J
Chrysene	µg/kg	ND(10)	ND(500)	16 J	ND(500)	ND(10)	12	95	148	121	ND(10)	ND(1,000)	840
Dibenzo(a,h)anthracene	µg/kg	ND(10)	ND(500)	ND(20)	ND(500)	ND(10)	ND(10)	ND(10)	ND(100)	49	ND(10)	ND(1,000)	311
Fluoranthene	µg/kg	ND(10)	ND(500)	15 J	ND(500)	ND(10)	5.5 J	14	263	143	ND(10)	ND(1,000)	206
Fluorene	µg/kg	4	ND(500)	ND(20)	ND(500)	ND(10)	ND(10)	8.5 J	ND(100)	ND(100)	ND(10)	376 J	473
Indeno(1,2,3-cd)pyrene	µg/kg	ND(10)	ND(500)	ND(20)	ND(500)	ND(10)	ND(10)	ND(10)	32	58	ND(10)	ND(1,000)	209
Naphthalene	µg/kg	8.5	ND(500)	ND(20)	ND(500)	ND(10)	ND(10)	20	ND(100)	ND(100)	ND(10)	15,600	6,440
Phenanthrene	µg/kg	2.5	ND(500)	14 J	ND(500)	ND(10)	3 J	91	60	83	ND(10)	811 J	1,400
Pyrene	µg/kg	ND(10)	ND(500)	19 J	ND(500)	ND(10)	6 J	126	231	153	ND(10)	ND(1,000)	940

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TABLE 17
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
POLYNUCLEAR AROMATIC HYDROCARBONS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID Sample Depth (Feet bgs) Date Collected	Units	B055 10 12/21/05	B055 15 12/21/05	B055 20 12/21/05	B055 30 12/21/05	B056 2 12/14/05	B056 5 12/14/05	B056 10 12/14/05	B057 2 12/13/05	B057 5 12/13/05	B057 10 12/13/05	B058 2 12/20/05	B058 5 12/20/05
PAHs													
Acenaphthene	µg/kg	ND(5,000)	220 J	522 J	ND(20)	ND(10)	ND(10)	ND(10)	ND(100)	ND(10)	ND(10)	ND(500)	ND(100)
Acenaphthylene	µg/kg	ND(5,000)	324 J	552 J	ND(20)	ND(10)	ND(10)	ND(10)	ND(100)	ND(10)	ND(10)	ND(500)	ND(100)
Anthracene	µg/kg	ND(5,000)	ND(500)	ND(1,000)	ND(20)	ND(10)	ND(10)	ND(10)	ND(100)	4	ND(10)	ND(500)	ND(100)
Benzo(a)anthracene	µg/kg	ND(5,000)	ND(500)	ND(1,000)	ND(20)	ND(10)	ND(10)	ND(10)	74	7	ND(10)	ND(500)	ND(100)
Benzo(a)pyrene	µg/kg	ND(5,000)	926	ND(1,000)	ND(20)	ND(10)	ND(10)	ND(10)	78	26	ND(10)	ND(500)	ND(100)
Benzo(b)fluoranthene	µg/kg	ND(5,000)	275 J	ND(1,000)	ND(20)	ND(10)	ND(10)	ND(10)	86	7	ND(10)	ND(500)	ND(100)
Benzo(ghi)perylene	µg/kg	ND(5,000)	906	ND(1,000)	ND(20)	ND(10)	5	ND(10)	70	18	ND(10)	ND(500)	ND(100)
Benzo(k)fluoranthene	µg/kg	ND(5,000)	ND(500)	ND(1,000)	ND(20)	ND(10)	ND(10)	ND(10)	60	3.5	ND(10)	ND(500)	ND(100)
Chrysene	µg/kg	ND(5,000)	798	ND(1,000)	ND(20)	ND(10)	5.5	ND(10)	138	30	ND(10)	ND(500)	ND(100)
Dibenzo(a,h)anthracene	µg/kg	ND(5,000)	288 J	ND(1,000)	ND(20)	ND(10)	ND(10)	ND(10)	41	ND(10)	ND(10)	ND(500)	ND(100)
Fluoranthene	µg/kg	ND(5,000)	ND(500)	ND(1,000)	ND(20)	ND(10)	ND(10)	ND(10)	157	ND(10)	ND(10)	ND(500)	ND(100)
Fluorene	µg/kg	ND(5,000)	876	1,201	ND(20)	ND(10)	ND(10)	ND(10)	ND(100)	ND(10)	ND(10)	7,380	1,730
Indeno(1,2,3-cd)pyrene	µg/kg	ND(5,000)	291 J	ND(1,000)	ND(20)	ND(10)	ND(10)	ND(10)	48	ND(10)	ND(10)	ND(500)	ND(100)
Naphthalene	µg/kg	63,100	18,742	35,263	ND(20)	2,130	3,850	ND(10)	ND(100)	ND(10)	ND(10)	11,000	3,170
Phenanthrene	µg/kg	1,560 J	1,124	1,360	ND(20)	ND(10)	4.5	ND(10)	118	16	ND(10)	19,100	3,960
Pyrene	µg/kg	ND(5,000)	854	ND(1,000)	ND(20)	ND(10)	ND(10)	ND(10)	174	24	ND(10)	490	149

NOTES:
ID - Identification
bgs- Below ground surface
PAHs - Polynuclear aromatic hydrocarbons
µg/kg - Micrograms per kilogram
ND(10) - Analyte not detected at reporting limit shown
J - Analyte estimated concentration below reporting limit

TABLE 17
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
POLYNUCLEAR AROMATIC HYDROCARBONS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID Sample Depth (Feet bgs) Date Collected	Units	B058 10 12/20/05	B058 15 12/20/05	B058 20 12/20/05	B059 2 12/20/05	B059 5 12/20/05	B059 10 12/20/05	B060 2 12/20/05	B060 5 12/20/05	B060 10 12/20/05	B060 15 12/20/05	B060 20 12/20/05	B061 2 12/20/05	B061 5 12/20/05
PAHs														
Acenaphthene	µg/kg	ND(500)	329	666	ND(10)	ND(10)	ND(10)	ND(10)	13	ND(100)	425	617	ND(10)	ND(10)
Acenaphthylene	µg/kg	ND(500)	178	420	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(100)	143	210	ND(10)	ND(10)
Anthracene	µg/kg	ND(500)	57 J	183 J	ND(10)	ND(10)	ND(10)	ND(10)	83	223	351	543	ND(10)	ND(10)
Benzo(a)anthracene	µg/kg	ND(500)	ND(100)	ND(200)	ND(10)	ND(10)	ND(10)	ND(10)	40	73	81 J	109 J	ND(10)	ND(10)
Benzo(a)pyrene	µg/kg	ND(500)	ND(100)	ND(200)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(100)	ND(100)	ND(200)	ND(10)	ND(10)
Benzo(b)fluoranthene	µg/kg	ND(500)	ND(100)	ND(200)	ND(10)	ND(10)	ND(10)	ND(10)	8.5	ND(100)	ND(100)	ND(200)	ND(10)	ND(10)
Benzo(ghi)perylene	µg/kg	ND(500)	ND(100)	ND(200)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(100)	ND(100)	ND(200)	ND(10)	ND(10)
Benzo(k)fluoranthene	µg/kg	ND(500)	ND(100)	ND(200)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(100)	ND(100)	ND(200)	ND(10)	ND(10)
Chrysene	µg/kg	ND(500)	ND(100)	ND(200)	ND(10)	ND(10)	ND(10)	9	166	223	210	232	ND(10)	ND(10)
Dibenzo(a,h)anthracene	µg/kg	ND(500)	ND(100)	ND(200)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(100)	ND(100)	ND(200)	ND(10)	ND(10)
Fluoranthene	µg/kg	ND(500)	48 J	94 J	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(100)	63 J	80 J	ND(10)	ND(10)
Fluorene	µg/kg	2,690	1,620	3,760	ND(10)	ND(10)	ND(10)	ND(10)	40	358	805	1,190	ND(10)	ND(10)
Indeno(1,2,3-cd)pyrene	µg/kg	ND(500)	ND(100)	ND(200)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(100)	ND(100)	ND(200)	ND(10)	ND(10)
Naphthalene	µg/kg	8,600	4,360	13,100	ND(10)	ND(10)	ND(10)	ND(10)	7	1,370	2,790	4,350	ND(10)	ND(10)
Phenanthrene	µg/kg	6,370	2,520	183 J	ND(10)	ND(10)	ND(10)	4	273	1,230	1,620	2,350	3.5	ND(10)
Pyrene	µg/kg	ND(500)	107	194 J	ND(10)	ND(10)	ND(10)	3	78	158	197	316	ND(10)	ND(10)

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TABLE 17
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
POLYNUCLEAR AROMATIC HYDROCARBONS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID Sample Depth (Feet bgs) Date Collected	Units	B061 10 12/20/05	B062 2 12/21/05	B062 5 12/21/05	B062 10 12/21/05	B063 2 01/09/06	B063 5 01/09/06	B063 10 01/09/06	B064 2 12/23/05	B064 5 12/23/05	B064 10 12/23/05	B065 2 01/12/06	B065 5 01/12/06	B065 10 01/12/06
PAHs														
Acenaphthene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	236	47	36	ND(50)	ND(10)	ND(10)	3 J	ND(10)	ND(10)
Acenaphthylene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(50)	ND(10)	ND(10)	ND(50)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Anthracene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(50)	ND(10)	ND(10)	ND(50)	ND(10)	ND(10)	12	ND(10)	ND(10)
Benzo(a)anthracene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	34 J	15	ND(10)	ND(50)	ND(10)	ND(10)	48	ND(10)	ND(10)
Benzo(a)pyrene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	26 J	6 J	ND(10)	ND(50)	ND(10)	ND(10)	52	ND(10)	ND(10)
Benzo(b)fluoranthene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	15 J	3 J	ND(10)	ND(50)	ND(10)	ND(10)	40	ND(10)	ND(10)
Benzo(ghi)perylene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	20 J	2.5 J	ND(10)	ND(50)	ND(10)	ND(10)	44	ND(10)	ND(10)
Benzo(k)fluoranthene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(50)	ND(10)	ND(10)	ND(50)	ND(10)	ND(10)	42	ND(10)	ND(10)
Chrysene	µg/kg	ND(10)	6.5 J	ND(10)	ND(10)	97	26	5.5 J	30	ND(10)	ND(10)	92	ND(10)	ND(10)
Dibenzo(a,h)anthracene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(50)	ND(10)	ND(10)	ND(50)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Fluoranthene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	40 J	23	12	10	ND(10)	ND(10)	77	ND(10)	ND(10)
Fluorene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	225	52	ND(10)	ND(50)	ND(10)	ND(10)	5 J	ND(10)	ND(10)
Indeno(1,2,3-cd)pyrene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(50)	ND(10)	ND(10)	ND(50)	ND(10)	ND(10)	41	ND(10)	ND(10)
Naphthalene	µg/kg	ND(10)	4.5 J	ND(10)	ND(10)	ND(50)	ND(10)	ND(10)	ND(50)	ND(10)	ND(10)	8.5 J	ND(10)	ND(10)
Phenanthrene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	716	ND(10)	86	ND(50)	ND(10)	ND(10)	38	ND(10)	ND(10)
Pyrene	µg/kg	ND(10)	16	9 J	ND(10)	162	96	26	20	ND(10)	ND(10)	80	ND(10)	ND(10)

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TABLE 17
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
POLYNUCLEAR AROMATIC HYDROCARBONS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID Sample Depth (Feet bgs) Date Collected	Units	B066 2 01/12/06	B066 5 01/12/06	B066 10 01/12/06	B067 2 12/21/05	B067 5 12/21/05	B067 10 12/21/05	B068 2 12/21/05	B068 5 12/21/05	B068 10 12/21/05
PAHs										
Acenaphthene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(200)	ND(10)	ND(10)	ND(500)	ND(50)
Acenaphthylene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(200)	ND(10)	ND(10)	ND(500)	ND(50)
Anthracene	µg/kg	ND(10)	ND(10)	ND(10)	40	ND(200)	16	ND(10)	ND(500)	ND(50)
Benzo(a)anthracene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(200)	ND(10)	3.5 J	ND(500)	ND(50)
Benzo(a)pyrene	µg/kg	ND(10)	ND(10)	ND(10)	368	ND(200)	164	ND(10)	ND(500)	ND(50)
Benzo(b)fluoranthene	µg/kg	ND(10)	ND(10)	ND(10)	224	ND(200)	100	5 J	ND(500)	ND(50)
Benzo(ghi)perylene	µg/kg	ND(10)	ND(10)	ND(10)	288	ND(200)	149	7.5 J	ND(500)	ND(50)
Benzo(k)fluoranthene	µg/kg	ND(10)	ND(10)	ND(10)	34	ND(200)	20	3.5 J	ND(500)	ND(50)
Chrysene	µg/kg	ND(10)	ND(10)	ND(10)	414	ND(200)	226	5.5 J	ND(500)	ND(50)
Dibenzo(a,h)anthracene	µg/kg	ND(10)	ND(10)	ND(10)	179	ND(200)	90	ND(10)	ND(500)	ND(50)
Fluoranthene	µg/kg	ND(10)	ND(10)	ND(10)	26	ND(200)	ND(10)	5 J	ND(500)	ND(50)
Fluorene	µg/kg	ND(10)	ND(10)	ND(10)	20	224	ND(10)	ND(10)	2,880	659
Indeno(1,2,3-cd)pyrene	µg/kg	ND(10)	ND(10)	ND(10)	102	ND(200)	46	ND(10)	ND(500)	ND(50)
Naphthalene	µg/kg	ND(10)	ND(10)	ND(10)	41	5,760	25	2.5 J	7,080	141
Phenanthrene	µg/kg	ND(10)	ND(10)	ND(10)	126	66 J	68	3 J	4,040	871
Pyrene	µg/kg	ND(10)	ND(10)	ND(10)	293	ND(200)	116	5 J	ND(500)	ND(50)

NOTES:
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TABLE 17
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
POLYNUCLEAR AROMATIC HYDROCARBONS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID / Sample Depth (Feet bgs) / Date Collected	Units	B069 2 12/22/05	B069 5 12/22/05	B069 10 12/22/05	B070 2 12/22/05	B070 5 12/22/05	B070 10 12/22/05	B071 2 12/21/05	B071 5 12/21/05	B071 10 12/21/05	B072 2 12/21/05	B072 5 12/21/05	B072 10 12/21/05	B073 2 01/30/06
PAHs														
Acenaphthene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	269	ND(10)	ND(10)	ND(10)	8 J	ND(10)	ND(10)	ND(10)
Acenaphthylene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(50)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Anthracene	µg/kg	ND(10)	ND(10)	ND(10)	5.5 J	ND(10)	260	ND(10)	ND(10)	ND(10)	7.5 J	ND(10)	ND(10)	ND(10)
Benzo(a)anthracene	µg/kg	ND(10)	ND(10)	ND(10)	8.5 J	ND(10)	34 J	ND(10)	ND(10)	ND(10)	39	ND(10)	ND(10)	ND(10)
Benzo(a)pyrene	µg/kg	ND(10)	ND(10)	ND(10)	49	ND(10)	ND(50)	ND(10)	ND(10)	ND(10)	53	ND(10)	ND(10)	ND(10)
Benzo(b)fluoranthene	µg/kg	ND(10)	ND(10)	ND(10)	28	ND(10)	ND(50)	ND(10)	ND(10)	ND(10)	45	ND(10)	ND(10)	ND(10)
Benzo(ghi)perylene	µg/kg	ND(10)	ND(10)	ND(10)	45	ND(10)	ND(50)	ND(10)	ND(10)	ND(10)	65	ND(10)	ND(10)	ND(10)
Benzo(k)fluoranthene	µg/kg	ND(10)	ND(10)	ND(10)	10	ND(10)	ND(50)	ND(10)	ND(10)	ND(10)	35	ND(10)	ND(10)	ND(10)
Chrysene	µg/kg	ND(10)	ND(10)	ND(10)	44	ND(10)	59	ND(10)	ND(10)	6.5 J	64	ND(10)	ND(10)	ND(10)
Dibenzo(a,h)anthracene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(50)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Fluoranthene	µg/kg	ND(10)	ND(10)	ND(10)	17	ND(10)	ND(50)	ND(10)	ND(10)	ND(10)	44	ND(10)	ND(10)	ND(10)
Fluorene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	292	ND(10)	ND(10)	ND(10)	16	ND(10)	ND(10)	ND(10)
Indeno(1,2,3-cd)pyrene	µg/kg	ND(10)	ND(10)	ND(10)	26	ND(10)	ND(50)	ND(10)	ND(10)	ND(10)	34	ND(10)	ND(10)	ND(10)
Naphthalene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	876	ND(10)	ND(10)	ND(10)	21	5 J	5 J	ND(10)
Phenanthrene	µg/kg	ND(10)	ND(10)	ND(10)	12	ND(10)	670	ND(10)	ND(10)	2.5 J	36	ND(10)	ND(10)	ND(10)
Pyrene	µg/kg	ND(10)	ND(10)	ND(10)	31	ND(10)	105	ND(10)	ND(10)	3 J	54	ND(10)	ND(10)	ND(10)

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TABLE 17
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
POLYNUCLEAR AROMATIC HYDROCARBONS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID Sample Depth (Feet bgs) Date Collected	Units	B073 5 01/30/06	B073 10 01/30/06	B074 2 01/11/06	B074 5 01/11/06	B074 10 01/11/06	B074 15 01/11/06	B074 20 01/11/06	B075 2 01/11/06	B075 5 01/11/06	B075 10 01/11/06	B076 2 12/22/05	B076 5 12/22/05	B076 10 12/22/05
PAHs														
Acenaphthene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	55	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	146	417 J	2,200
Acenaphthylene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(100)	ND(500)	ND(500)
Anthracene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	143	10	7 J	ND(10)	ND(10)	ND(10)	260	176 J	1,220
Benzo(a)anthracene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	38	4 J	3.5 J	ND(10)	ND(10)	ND(10)	679	234 J	790
Benzo(a)pyrene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	6 J	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	678	ND(500)	441 J
Benzo(b)fluoranthene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	4.5 J	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	470	ND(500)	ND(500)
Benzo(ghi)perylene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	2.5 J	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	351	ND(500)	347 J
Benzo(k)fluoranthene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	590	ND(500)	ND(500)
Chrysene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	76	4 J	5 J	ND(10)	3 J	ND(10)	920	763	2,440
Dibenzo(a,h)anthracene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(100)	ND(500)	ND(500)
Fluoranthene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	106	3 J	5 J	ND(10)	ND(10)	ND(10)	2,090	278 J	618
Fluorene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	128	4.5 J	6.5 J	ND(10)	ND(10)	ND(10)	168	656	3,490
Indeno(1,2,3-cd)pyrene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	439	ND(500)	ND(500)
Naphthalene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	36	ND(10)	2.5 J	ND(10)	ND(10)	ND(10)	184	1,110	7,910
Phenanthrene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	28	11	18	ND(10)	4 J	ND(10)	898	2,050	11,800
Pyrene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	330	16	23	ND(10)	5.5 J	ND(10)	1,860	695	3,120

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TABLE 17
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
POLYNUCLEAR AROMATIC HYDROCARBONS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID: Sample Depth (Feet bgs): Date Collected:	Units	B077 2 12/23/05	B077 5 12/23/05	B077 10 12/23/05	B078 2 12/23/05	B078 5 12/23/05	B078 10 12/23/05	B079 2 12/23/05	B079 5 12/23/05	B079 10 12/23/05	B080 2 12/22/05	B080 5 12/22/05	B080 10 12/22/05	B080 15 12/22/05
PAHs														
Acenaphthene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	22	42	ND(10)	145	226	ND(10)	ND(10)
Acenaphthylene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(50)	ND(50)	ND(10)	ND(100)	ND(100)	ND(10)	ND(10)
Anthracene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	28	ND(50)	ND(10)	88 J	945	ND(10)	ND(10)
Benzo(a)anthracene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	54	ND(50)	ND(10)	253	1,000	ND(10)	ND(10)
Benzo(a)pyrene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	117	24	ND(10)	388	1,260	ND(10)	ND(10)
Benzo(b)fluoranthene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	98	34	ND(10)	313	1,140	ND(10)	ND(10)
Benzo(ghi)perylene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	14	ND(10)	90	32	ND(10)	284	670	ND(10)	ND(10)
Benzo(k)fluoranthene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	78	24	ND(10)	309	812	ND(10)	ND(10)
Chrysene	µg/kg	2.5	ND(10)	ND(10)	2.5	ND(10)	ND(10)	183	75	ND(10)	512	1,800	ND(10)	ND(10)
Dibenzo(a,h)anthracene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(50)	ND(50)	ND(10)	88 J	118	ND(10)	ND(10)
Fluoranthene	µg/kg	3	ND(10)	ND(10)	2.5	ND(10)	ND(10)	122	68	ND(10)	593	3,360	ND(10)	ND(10)
Fluorene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(50)	ND(50)	ND(10)	ND(100)	234	ND(10)	ND(10)
Indeno(1,2,3-cd)pyrene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	92	ND(50)	ND(10)	297	826	ND(10)	ND(10)
Naphthalene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(50)	ND(50)	ND(10)	ND(100)	ND(100)	ND(10)	ND(10)
Phenanthrene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	27	ND(50)	ND(10)	150	2,500	ND(10)	ND(10)
Pyrene	µg/kg	3.5	ND(10)	ND(10)	2.5	ND(10)	ND(10)	181	114	ND(10)	681	2,810	ND(10)	ND(10)

NOTES:
ID - Identification
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µg/kg - Micrograms per kilogram
ND(10) - Analyte not detected at reporting limit shown
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TABLE 17
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
POLYNUCLEAR AROMATIC HYDROCARBONS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID: Sample Depth (Feet bgs): Date Collected:	Units	B080 20 12/22/05	B081 2 12/22/05	B081 5 12/22/05	B081 10 12/22/05	B082 2 12/23/05	B082 5 12/23/05	B082 10 12/23/05	B083 2 01/04/06	B083 5 01/04/06	B083 10 01/04/06	B084 2 01/05/06	B084 5 01/05/06	B084 10 01/05/06
PAHs														
Acenaphthene	µg/kg	ND(10)	ND(50)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	1,300	ND(10)	ND(10)	12	ND(50)	ND(10)
Acenaphthylene	µg/kg	ND(10)	ND(50)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(500)	ND(10)	ND(10)	ND(10)	ND(50)	ND(10)
Anthracene	µg/kg	ND(10)	102	ND(10)	ND(10)	10	ND(10)	ND(10)	4,140	5.5 J	ND(10)	12	ND(50)	ND(10)
Benzo(a)anthracene	µg/kg	ND(10)	371	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	3,090	12	ND(10)	31	ND(50)	ND(10)
Benzo(a)pyrene	µg/kg	ND(10)	419	ND(10)	ND(10)	24	ND(10)	ND(10)	2,640	11	ND(10)	38	ND(50)	ND(10)
Benzo(b)fluoranthene	µg/kg	ND(10)	259	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	2,120	10	ND(10)	24	ND(50)	ND(10)
Benzo(ghi)perylene	µg/kg	ND(10)	197	ND(10)	ND(10)	43	ND(10)	ND(10)	1,070	9 J	ND(10)	46	ND(50)	ND(10)
Benzo(k)fluoranthene	µg/kg	ND(10)	334	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	2,060	6.5 J	ND(10)	9 J	ND(50)	ND(10)
Chrysene	µg/kg	ND(10)	553	ND(10)	ND(10)	7.5	ND(10)	ND(10)	3,880	34	ND(10)	129	ND(50)	ND(10)
Dibenzo(a,h)anthracene	µg/kg	ND(10)	ND(50)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(500)	ND(10)	ND(10)	15	ND(50)	ND(10)
Fluoranthene	µg/kg	ND(10)	850	5 J	ND(10)	ND(10)	ND(10)	ND(10)	10,500	24	ND(10)	18	ND(50)	ND(10)
Fluorene	µg/kg	ND(10)	ND(50)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	2,320	ND(10)	ND(10)	ND(10)	ND(50)	ND(10)
Indeno(1,2,3-cd)pyrene	µg/kg	ND(10)	252	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	1,620	ND(10)	ND(10)	ND(10)	ND(50)	ND(10)
Naphthalene	µg/kg	ND(10)	ND(50)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	209 J	ND(10)	ND(10)	6.5 J	ND(50)	ND(10)
Phenanthrene	µg/kg	ND(10)	212	ND(10)	ND(10)	8	ND(10)	ND(10)	10,400	10	ND(10)	38	ND(50)	ND(10)
Pyrene	µg/kg	ND(10)	886	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	9,270	49	ND(10)	136	ND(50)	ND(10)

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TABLE 17
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POLYNUCLEAR AROMATIC HYDROCARBONS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID Sample Depth (Feet bgs) Date Collected	Units	B085 2 12/28/05	B085 5 12/28/05	B085 10 12/28/05	B086 2 01/11/06	B086 5 01/11/06	B086 10 01/11/06	B087 2 01/11/06	B087 5 01/11/06	B087 10 01/11/06	B088 2 01/18/06	B088 5 01/18/06	B088 10 01/18/06	B089 2 01/09/06
PAHs														
Acenaphthene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	66
Acenaphthylene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(20)
Anthracene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(20)
Benzo(a)anthracene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	68
Benzo(a)pyrene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	2.5 J	ND(10)	28
Benzo(b)fluoranthene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	12 J
Benzo(ghi)perylene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	9.5 J
Benzo(k)fluoranthene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(20)
Chrysene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	4 J	ND(10)	ND(10)	170
Dibenzo(a,h)anthracene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(20)
Fluoranthene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	100
Fluorene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	54
Indeno(1,2,3-cd)pyrene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(20)
Naphthalene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(20)
Phenanthrene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(20)
Pyrene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	4 J	3 J	ND(10)	462

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TABLE 17
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
POLYNUCLEAR AROMATIC HYDROCARBONS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID: Sample Depth (Feet bgs): Date Collected:	Units	B089 5 01/09/06	B089 10 01/09/06	B090 2 01/10/06	B090 5 01/10/06	B090 10 01/10/06	B091 2 01/10/06	B091 5 01/10/06	B091 10 01/10/06	B092 2 01/05/06	B092 5 01/05/06	B092 10 01/05/06	B093 2 01/05/06	B093 5 01/05/06
PAHs														
Acenaphthene	µg/kg	597	30	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	14 J	ND(10)	ND(10)	50	ND(10)
Acenaphthylene	µg/kg	ND(20)	ND(20)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(50)	ND(10)	ND(10)	ND(50)	ND(10)
Anthracene	µg/kg	566	36	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	30 J	ND(10)	ND(10)	101	ND(10)
Benzo(a)anthracene	µg/kg	105	22	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	32 J	ND(10)	ND(10)	454	6.5 J
Benzo(a)pyrene	µg/kg	42	ND(20)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	62	ND(10)	ND(10)	470	10
Benzo(b)fluoranthene	µg/kg	18 J	ND(20)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	36 J	ND(10)	ND(10)	350	10
Benzo(ghi)perylene	µg/kg	13 J	ND(20)	ND(10)	ND(10)	ND(10)	5.5 J	ND(10)	ND(10)	116	ND(10)	ND(10)	300	10
Benzo(k)fluoranthene	µg/kg	ND(20)	ND(20)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	22 J	ND(10)	ND(10)	415	10
Chrysene	µg/kg	241	44	ND(10)	ND(10)	ND(10)	14	ND(10)	ND(10)	110	ND(10)	ND(10)	595	16
Dibenzo(a,h)anthracene	µg/kg	ND(20)	ND(20)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(50)	ND(10)	ND(10)	66	ND(10)
Fluoranthene	µg/kg	143	18 J	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	40 J	ND(10)	ND(10)	1,110	20
Fluorene	µg/kg	455	56	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(50)	ND(10)	ND(10)	55	ND(10)
Indeno(1,2,3-cd)pyrene	µg/kg	ND(20)	ND(20)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	48 J	ND(10)	ND(10)	322	10
Naphthalene	µg/kg	ND(20)	129	ND(10)	ND(10)	ND(10)	ND(10)	2.5 J	ND(10)	ND(50)	ND(10)	ND(10)	ND(50)	ND(10)
Phenanthrene	µg/kg	ND(20)	426	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	14 J	ND(10)	ND(10)	362	7.5 J
Pyrene	µg/kg	660	88	ND(10)	ND(10)	ND(10)	2.5 J	ND(10)	ND(10)	106	ND(10)	ND(10)	1,250	22

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TABLE 17
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POLYNUCLEAR AROMATIC HYDROCARBONS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID: Sample Depth (Feet bgs): Date Collected:	Units	B093 10 01/05/06	B094 2 01/05/06	B094 5 01/05/06	B094 10 01/05/06	B095 2 01/04/06	B095 5 01/04/06	B095 10 01/04/06	B096 2 12/28/05	B096 5 12/28/05	B096 10 12/28/05	B097 2 01/05/06	B097 5 01/05/06	B097 10 01/05/06
PAHs														
Acenaphthene	µg/kg	ND(10)	22	14	ND(10)	ND(10)	ND(10)	ND(10)	5.5 J	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Acenaphthylene	µg/kg	ND(10)	5.5 J	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Anthracene	µg/kg	ND(10)	35	18	14	ND(10)	ND(10)	ND(10)	21	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Benzo(a)anthracene	µg/kg	ND(10)	66	21	10	2.5 J	ND(10)	ND(10)	55	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Benzo(a)pyrene	µg/kg	ND(10)	139	26	ND(10)	2.5 J	ND(10)	ND(10)	81	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Benzo(b)fluoranthene	µg/kg	ND(10)	125	20	7.5 J	3 J	ND(10)	ND(10)	35	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Benzo(ghi)perylene	µg/kg	ND(10)	135	30	10	4 J	ND(10)	ND(10)	35	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Benzo(k)fluoranthene	µg/kg	ND(10)	79	22	3.5 J	2.5 J	ND(10)	ND(10)	30	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Chrysene	µg/kg	ND(10)	168	64	44	5 J	ND(10)	ND(10)	249	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Dibenzo(a,h)anthracene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Fluoranthene	µg/kg	ND(10)	213	62	14	6 J	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	2.5 J	ND(10)	ND(10)
Fluorene	µg/kg	ND(10)	9 J	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Indeno(1,2,3-cd)pyrene	µg/kg	ND(10)	146	20	ND(10)	ND(10)	ND(10)	ND(10)	18	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Naphthalene	µg/kg	ND(10)	3 J	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	6 J	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Phenanthrene	µg/kg	ND(10)	90	10	ND(10)	3.5 J	ND(10)	ND(10)	36	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Pyrene	µg/kg	ND(10)	222	107	54	6.5 J	ND(10)	ND(10)	230	ND(10)	ND(10)	3.5 J	ND(10)	ND(10)

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POLYNUCLEAR AROMATIC HYDROCARBONS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID Sample Depth (Feet bgs) Date Collected	Units	B098 2 01/04/06	B098 5 01/04/06	B098 10 01/04/06	B099 2 01/03/06	B099 5 01/03/06	B099 10 01/03/06	B100 2 01/10/06	B100 5 01/10/06	B100 10 01/10/06	B101 2 01/10/06	B101 5 01/10/06	B101 10 01/10/06	B102 2 01/09/06
PAHs														
Acenaphthene	µg/kg	3 J	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(50)
Acenaphthylene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(50)
Anthracene	µg/kg	4 J	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(50)
Benzo(a)anthracene	µg/kg	ND(10)	ND(10)	ND(10)	3 J	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(50)
Benzo(a)pyrene	µg/kg	ND(10)	ND(10)	ND(10)	3.5 J	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(50)
Benzo(b)fluoranthene	µg/kg	ND(10)	ND(10)	ND(10)	3 J	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(50)
Benzo(ghi)perylene	µg/kg	27	ND(10)	ND(10)	4.5 J	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(50)
Benzo(k)fluoranthene	µg/kg	ND(10)	ND(10)	ND(10)	3 J	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(50)
Chrysene	µg/kg	38	ND(10)	ND(10)	5.5 J	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	40 J
Dibenzo(a,h)anthracene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(50)
Fluoranthene	µg/kg	ND(10)	ND(10)	ND(10)	5.5 J	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(50)
Fluorene	µg/kg	3.5 J	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(50)
Indeno(1,2,3-cd)pyrene	µg/kg	ND(10)	ND(10)	ND(10)	3 J	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(50)
Naphthalene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(50)
Phenanthrene	µg/kg	7 J	ND(10)	ND(10)	4.5 J	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	54
Pyrene	µg/kg	19	ND(10)	ND(10)	7 J	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	23 J

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ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID Sample Depth (Feet bgs) Date Collected	Units	B102 5 01/09/06	B102 10 01/09/06	B103 2 01/06/06	B103 5 01/06/06	B103 10 01/06/06	B104 2 02/03/06	B104 15 02/03/06	B104 10 02/03/06	B105 2 01/10/06	B105 5 01/10/06	B105 10 01/10/06	B106 2 12/29/05	B106 5 12/29/05
PAHs														
Acenaphthene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Acenaphthylene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Anthracene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Benzo(a)anthracene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	8 J	ND(10)
Benzo(a)pyrene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Benzo(b)fluoranthene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	20	ND(10)
Benzo(ghi)perylene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	20	ND(10)
Benzo(k)fluoranthene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	7.5 J	ND(10)
Chrysene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	25	5 J
Dibenzo(a,h)anthracene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Fluoranthene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	18	ND(10)
Fluorene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Indeno(1,2,3-cd)pyrene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	15	ND(10)
Naphthalene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Phenanthrene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	6.5 J	2.5 J
Pyrene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	3 J	ND(10)	23	5 J

NOTES:
ID - Identification
bgs- Below ground surface
PAHs - Polynuclear aromatic hydrocarbons
µg/kg - Micrograms per kilogram
ND(10) - Analyte not detected at reporting limit shown
J - Analyte estimated concentration below reporting limit

TABLE 17
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
POLYNUCLEAR AROMATIC HYDROCARBONS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID Sample Depth (Feet bgs) Date Collected	Units	B106 10 12/29/05	B107 2 01/04/06	B107 5 01/04/06	B107 10 01/04/06	B108 2 01/09/06	B108 5 01/09/06	B108 10 01/09/06	B109 2 01/04/06	B109 5 01/04/06	B109 10 01/04/06	B110 2 12/28/05	B110 5 12/28/05	B110 10 12/28/05
PAHs														
Acenaphthene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Acenaphthylene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Anthracene	µg/kg	ND(10)	3 J	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Benzo(a)anthracene	µg/kg	ND(10)	6 J	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	22	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Benzo(a)pyrene	µg/kg	ND(10)	11	3 J	ND(10)	ND(10)	ND(10)	ND(10)	25	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Benzo(b)fluoranthene	µg/kg	ND(10)	8 J	3 J	ND(10)	ND(10)	ND(10)	ND(10)	30	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Benzo(ghi)perylene	µg/kg	ND(10)	16	4.5 J	ND(10)	ND(10)	ND(10)	ND(10)	18	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Benzo(k)fluoranthene	µg/kg	ND(10)	10	2.5 J	ND(10)	ND(10)	ND(10)	ND(10)	18	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Chrysene	µg/kg	ND(10)	16	4.5 J	ND(10)	ND(10)	ND(10)	ND(10)	36	ND(10)	ND(10)	4 J	ND(10)	ND(10)
Dibenzo(a,h)anthracene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Fluoranthene	µg/kg	ND(10)	11	4.5 J	ND(10)	ND(10)	ND(10)	ND(10)	56	ND(10)	ND(10)	6.5 J	ND(10)	ND(10)
Fluorene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Indeno(1,2,3-cd)pyrene	µg/kg	ND(10)	11	2.5 J	ND(10)	ND(10)	ND(10)	ND(10)	20	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Naphthalene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Phenanthrene	µg/kg	ND(10)	9.5 J	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	26	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Pyrene	µg/kg	ND(10)	16	4.5 J	ND(10)	ND(10)	ND(10)	ND(10)	57	ND(10)	ND(10)	6.5 J	ND(10)	ND(10)

NOTES:
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TABLE 17
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
POLYNUCLEAR AROMATIC HYDROCARBONS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID: / Sample Depth (Feet bgs): / Date Collected:	Units	B111 2 12/28/05	B111 5 12/28/05	B111 10 12/28/05	B112 2 12/29/05	B112 5 12/29/05	B112 10 12/29/05	B113 2 12/29/05	B113 5 12/29/05	B113 10 12/29/05	B114 2 01/03/06	B114 5 01/03/06	B114 10 01/03/06	B115 2 01/03/06
PAHs														
Acenaphthene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(50)	ND(10)	ND(10)	120
Acenaphthylene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(50)	ND(10)	ND(10)	ND(100)
Anthracene	µg/kg	6.5 J	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(50)	ND(10)	ND(10)	ND(100)
Benzo(a)anthracene	µg/kg	20	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	3 J	ND(10)	ND(10)	ND(50)	5 J	ND(10)	256
Benzo(a)pyrene	µg/kg	30	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	2.5 J	ND(10)	ND(10)	ND(50)	ND(10)	ND(10)	139
Benzo(b)fluoranthene	µg/kg	32	4 J	ND(10)	ND(10)	ND(10)	ND(10)	3 J	ND(10)	ND(10)	ND(50)	10	ND(10)	135
Benzo(ghi)perylene	µg/kg	33	4.5 J	ND(10)	ND(10)	ND(10)	ND(10)	3.5 J	ND(10)	ND(10)	30 J	14	ND(10)	99 J
Benzo(k)fluoranthene	µg/kg	16	3 J	ND(10)	ND(10)	ND(10)	ND(10)	2.5 J	ND(10)	ND(10)	ND(50)	4.5 J	ND(10)	38 J
Chrysene	µg/kg	50	4.5 J	2.5 J	ND(10)	ND(10)	ND(10)	6.5 J	ND(10)	ND(10)	14 J	14	ND(10)	999
Dibenzo(a,h)anthracene	µg/kg	5 J	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(50)	ND(10)	ND(10)	62 J
Fluoranthene	µg/kg	48	5 J	3 J	ND(10)	ND(10)	ND(10)	6 J	ND(10)	ND(10)	ND(50)	11	ND(10)	ND(100)
Fluorene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(50)	ND(10)	ND(10)	130
Indeno(1,2,3-cd)pyrene	µg/kg	18	3 J	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(50)	ND(10)	ND(10)	ND(100)
Naphthalene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(50)	ND(10)	ND(10)	34 J
Phenanthrene	µg/kg	26	2.5 J	ND(10)	4.5 J	ND(10)	ND(10)	3 J	ND(10)	ND(10)	ND(50)	5.5 J	ND(10)	206
Pyrene	µg/kg	58	5.5 J	3.5 J	ND(10)	ND(10)	ND(10)	8 J	ND(10)	ND(10)	ND(50)	16	ND(10)	2,720

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TABLE 17
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
POLYNUCLEAR AROMATIC HYDROCARBONS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID: / Sample Depth (Feet bgs): / Date Collected:	Units	B115 5 01/03/06	B115 10 01/03/06	B116 2 01/04/06	B116 5 01/04/06	B116 10 01/04/06	B117 2 01/06/06	B117 5 01/06/06	B117 10 01/06/06	B118 2 01/06/06	B118 5 01/06/06	B118 10 01/06/06	B119 2 01/27/06	B119 5 01/27/06
PAHs														
Acenaphthene	µg/kg	64 J	8.5 J	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(50)	ND(10)
Acenaphthylene	µg/kg	ND(100)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	2.3 J	ND(10)
Anthracene	µg/kg	277	12	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	12 J	ND(10)
Benzo(a)anthracene	µg/kg	381	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	13 J	ND(10)
Benzo(a)pyrene	µg/kg	464	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	8.6 J	ND(10)
Benzo(b)fluoranthene	µg/kg	437	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	3.5 J	ND(10)
Benzo(ghi)perylene	µg/kg	329	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	5 J	ND(10)
Benzo(k)fluoranthene	µg/kg	192	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(50)	ND(10)
Chrysene	µg/kg	824	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	52	ND(10)
Dibenzo(a,h)anthracene	µg/kg	178	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(50)	ND(10)
Fluoranthene	µg/kg	962	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	6.4 J	ND(10)
Fluorene	µg/kg	92 J	8 J	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	24.8 J	ND(10)
Indeno(1,2,3-cd)pyrene	µg/kg	308	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(50)	ND(10)
Naphthalene	µg/kg	35 J	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	5.3 J	ND(10)
Phenanthrene	µg/kg	808	8 J	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	138	ND(10)
Pyrene	µg/kg	1,460	5 J	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	51	ND(10)

NOTES:
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TABLE 17
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
POLYNUCLEAR AROMATIC HYDROCARBONS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID: / Sample Depth (Feet bgs): / Date Collected:	Units	B119 10 01/27/06	B120 2 01/30/06	B120 5 01/30/06	B120 10 01/30/06	B121 2 02/01/06	B121 5 02/01/06	B121 10 02/01/06	B122 2 01/23/06	B122 5 01/23/06	B122 10 01/23/06	B123 2 01/20/06	B123 5 01/20/06	B123 10 01/19/06
PAHs														
Acenaphthene	µg/kg	ND(10)	6.9 J	ND(10)	155	ND(50)	2,420	13 J	9 J	555	ND(10)	130	8 J	799
Acenaphthylene	µg/kg	ND(10)	ND(10)	ND(10)	67	ND(50)	458	ND(50)	2.5 J	197 J	ND(10)	62	4 J	287
Anthracene	µg/kg	ND(10)	ND(10)	ND(10)	32	ND(50)	2,790	10 J	23	598	4 J	44	ND(10)	40 J
Benzo(a)anthracene	µg/kg	ND(10)	ND(10)	ND(10)	5.5 J	2.6 J	822	ND(50)	62	526	ND(10)	18	3 J	39 J
Benzo(a)pyrene	µg/kg	ND(10)	ND(10)	ND(10)	4.8 J	ND(50)	664	ND(50)	60	280 J	ND(10)	19	7 J	97
Benzo(b)fluoranthene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(50)	221 J	ND(50)	62	ND(500)	ND(10)	5.5 J	ND(10)	ND(50)
Benzo(ghi)perylene	µg/kg	ND(10)	2.4 J	ND(10)	ND(10)	3.1 J	320	ND(50)	52	104 J	ND(10)	14	ND(10)	ND(50)
Benzo(k)fluoranthene	µg/kg	ND(10)	2.3 J	ND(10)	ND(10)	ND(50)	127 J	ND(50)	44	170 J	ND(10)	ND(10)	ND(10)	10 J
Chrysene	µg/kg	ND(10)	7.2 J	ND(10)	39	5.5 J	3,440	33 J	148	1,544	ND(10)	64	7 J	77
Dibenzo(a,h)anthracene	µg/kg	ND(10)	2.3 J	ND(10)	ND(10)	ND(50)	ND(250)	ND(50)	13	ND(500)	ND(10)	ND(10)	ND(10)	ND(50)
Fluoranthene	µg/kg	ND(10)	2.5 J	ND(10)	21	2.9 J	628	ND(50)	96	228 J	ND(10)	17	ND(10)	23 J
Fluorene	µg/kg	ND(10)	5.4 J	ND(10)	331	ND(50)	4,500	26 J	20	2,156	ND(10)	470	30	2,635
Indeno(1,2,3-cd)pyrene	µg/kg	ND(10)	2 J	ND(10)	ND(10)	ND(50)	ND(250)	ND(50)	34	ND(500)	ND(10)	5.5 J	ND(10)	ND(50)
Naphthalene	µg/kg	ND(10)	12	ND(10)	52	6.8 J	5,160	96	30	828	ND(10)	1,842	210	5,210
Phenanthrene	µg/kg	ND(10)	3.7 J	ND(10)	572	3.7 J	18,800	61	99	5,288	4.5 J	555	40	2,802
Pyrene	µg/kg	ND(10)	8.3 J	ND(10)	54	4.4 J	5,740	71	154	1,532	ND(10)	120	2 J	31 J

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TABLE 17
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
POLYNUCLEAR AROMATIC HYDROCARBONS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID Sample Depth (Feet bgs) Date Collected	Units	B123 15 01/19/06	B123 20 01/19/06	B124 2 01/16/06	B124 5 01/16/06	B124 10 01/16/06	B125 2 01/20/06	B125 5 01/20/06	B125 10 01/20/06	B126 2 01/20/06	B126 5 01/20/06	B126 10 01/20/06	B127 2 01/18/06	B127 5 01/18/06
PAHs														
Acenaphthene	µg/kg	1,630	406	ND(10)	ND(10)	ND(10)	4 J	ND(10)	ND(10)	9.5 J	ND(10)	ND(10)	ND(10)	ND(10)
Acenaphthylene	µg/kg	ND(100)	ND(100)	ND(10)	ND(10)	ND(10)	2.5 J	ND(10)	ND(10)	17	ND(10)	ND(10)	ND(10)	ND(10)
Anthracene	µg/kg	186	65 J	ND(10)	ND(10)	ND(10)	12	ND(10)	ND(10)	11	ND(10)	ND(10)	ND(10)	ND(10)
Benzo(a)anthracene	µg/kg	55 J	ND(100)	ND(10)	ND(10)	ND(10)	10	ND(10)	ND(10)	6 J	ND(10)	ND(10)	ND(10)	ND(10)
Benzo(a)pyrene	µg/kg	ND(100)	ND(100)	7.5 J	ND(10)	ND(10)	16	ND(10)	ND(10)	18	ND(10)	ND(10)	ND(10)	ND(10)
Benzo(b)fluoranthene	µg/kg	ND(100)	ND(100)	ND(10)	ND(10)	ND(10)	12	ND(10)	ND(10)	2 J	ND(10)	ND(10)	ND(10)	ND(10)
Benzo(ghi)perylene	µg/kg	ND(100)	ND(100)	5 J	ND(10)	ND(10)	17	ND(10)	ND(10)	13	2.5 J	ND(10)	ND(10)	ND(10)
Benzo(k)fluoranthene	µg/kg	ND(100)	ND(100)	4.5 J	ND(10)	ND(10)	12	ND(10)	ND(10)	9 J	ND(10)	ND(10)	ND(10)	ND(10)
Chrysene	µg/kg	255	128	22	ND(10)	ND(10)	41	ND(10)	ND(10)	50	7.5 J	ND(10)	ND(10)	ND(10)
Dibenzo(a,h)anthracene	µg/kg	ND(100)	ND(100)	2.5 J	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Fluoranthene	µg/kg	75 J	22 J	2 J	ND(10)	ND(10)	62	ND(10)	ND(10)	8 J	ND(10)	ND(10)	ND(10)	ND(10)
Fluorene	µg/kg	5,730	1,820	5 J	ND(10)	ND(10)	13	4 J	ND(10)	58	5 J	ND(10)	ND(10)	ND(10)
Indeno(1,2,3-cd)pyrene	µg/kg	ND(100)	ND(100)	ND(10)	ND(10)	ND(10)	10	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Naphthalene	µg/kg	12,900	3,890	2 J	ND(10)	ND(10)	37	17	ND(10)	11	3 J	ND(10)	4 J	5.5 J
Phenanthrene	µg/kg	6,140	459	21	ND(10)	ND(10)	36	4.5 J	ND(10)	66	7 J	ND(10)	ND(10)	ND(10)
Pyrene	µg/kg	215	65 J	10	ND(10)	ND(10)	60	ND(10)	ND(10)	64	8 J	ND(10)	ND(10)	ND(10)

NOTES:
ID - Identification
bgs- Below ground surface
PAHs - Polynuclear aromatic hydrocarbons
µg/kg - Micrograms per kilogram
ND(10) - Analyte not detected at reporting limit shown
J - Analyte estimated concentration below reporting limit

TABLE 17
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
POLYNUCLEAR AROMATIC HYDROCARBONS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID: Sample Depth (Feet bgs): Date Collected:	Units	B127 10 01/18/06	B128 2 02/01/06	B128 5 02/01/06	B128 10 02/01/06	B129 2 01/18/06	B129 5 01/18/06	B129 10 01/18/06	B130 2 01/19/06	B130 5 01/19/06	B130 10 01/19/06	B131 2 01/19/06	B131 5 01/19/06	B131 10 01/19/06
PAHs														
Acenaphthene	µg/kg	ND(10)	3,390	1,480	41 J	2 J	3.5 J	ND(10)	50	14	5.5 J	ND(10)	ND(10)	ND(10)
Acenaphthylene	µg/kg	ND(10)	956	542	16 J	ND(10)	ND(10)	ND(10)	29	7.5 J	ND(10)	ND(10)	ND(10)	ND(10)
Anthracene	µg/kg	ND(10)	1,240	706	18 J	4 J	5.5 J	ND(10)	18	ND(10)	10	ND(10)	ND(10)	ND(10)
Benzo(a)anthracene	µg/kg	ND(10)	444	202 J	11 J	3.5 J	8.5 J	ND(10)	9 J	3.5 J	20	ND(10)	ND(10)	ND(10)
Benzo(a)pyrene	µg/kg	ND(10)	351	148 J	ND(50)	3 J	5.5 J	ND(10)	28	ND(10)	12	ND(10)	ND(10)	ND(10)
Benzo(b)fluoranthene	µg/kg	ND(10)	132 J	84 J	ND(50)	3 J	5.5 J	ND(10)	12	ND(10)	12	ND(10)	ND(10)	ND(10)
Benzo(ghi)perylene	µg/kg	ND(10)	112 J	68 J	ND(50)	9 J	8.5 J	ND(10)	10	ND(10)	7 J	ND(10)	ND(10)	ND(10)
Benzo(k)fluoranthene	µg/kg	ND(10)	58 J	ND(250)	ND(50)	ND(10)	2.5 J	ND(10)	12	ND(10)	10	ND(10)	ND(10)	ND(10)
Chrysene	µg/kg	ND(10)	1,400	814	32 J	12	30	ND(10)	104	14	38	ND(10)	ND(10)	ND(10)
Dibenzo(a,h)anthracene	µg/kg	ND(10)	ND(250)	ND(250)	ND(50)	ND(10)	2.5 J	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Fluoranthene	µg/kg	ND(10)	228 J	110 J	ND(50)	3 J	5 J	ND(10)	12	2.5 J	42	ND(10)	ND(10)	ND(10)
Fluorene	µg/kg	ND(10)	5,570	2,430	77	4 J	7.5 J	ND(10)	110	61	16	ND(10)	ND(10)	ND(10)
Indeno(1,2,3-cd)pyrene	µg/kg	ND(10)	ND(250)	ND(250)	ND(50)	3.5 J	4.5 J	ND(10)	ND(10)	ND(10)	6.5 J	ND(10)	ND(10)	ND(10)
Naphthalene	µg/kg	ND(10)	6,370	432	60	2 J	7.5 J	2 J	2,498	84	7.5 J	ND(10)	ND(10)	ND(10)
Phenanthrene	µg/kg	ND(10)	15,400	6,380	220	14	24	ND(10)	126	41	59	ND(10)	ND(10)	ND(10)
Pyrene	µg/kg	ND(10)	1,860	1,040	47 J	13	36	ND(10)	43	4 J	72	ND(10)	ND(10)	ND(10)

NOTES:
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TABLE 17
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
POLYNUCLEAR AROMATIC HYDROCARBONS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID: Sample Depth (Feet bgs): Date Collected:	Units	B132 2 01/19/06	B132 5 01/19/06	B132 10 01/19/06	B134 2 01/23/06	B134 5 01/23/06	B134 10 01/23/06	B135 2 01/16/06	B135 5 01/16/06	B135 10 01/16/06	B136 2 01/12/06	B136 5 01/12/06	B136 10 01/12/06	B137 2 01/13/06
PAHs														
Acenaphthene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	115	8.5 J	100	23
Acenaphthylene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(20)	ND(10)
Anthracene	µg/kg	ND(10)	ND(10)	ND(10)	3.4 J	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(20)	ND(10)
Benzo(a)anthracene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	4 J	ND(10)	ND(20)	6.5 J
Benzo(a)pyrene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(20)	ND(10)
Benzo(b)fluoranthene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	5 J	6 J
Benzo(ghi)perylene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(20)	5 J
Benzo(k)fluoranthene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(20)	ND(10)
Chrysene	µg/kg	ND(10)	ND(10)	ND(10)	2.3 J	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	9.5 J	8 J	48	31
Dibenzo(a,h)anthracene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(20)	ND(10)
Fluoranthene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	8.5 J	6 J
Fluorene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	324	6 J	264	110
Indeno(1,2,3-cd)pyrene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(20)	ND(10)
Naphthalene	µg/kg	13	3 J	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	138	ND(10)	ND(20)	114
Phenanthrene	µg/kg	ND(10)	ND(10)	ND(10)	6.3 J	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	279	ND(10)	437	139
Pyrene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	2.5 J	ND(10)	ND(10)	16	5 J	36	22

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TABLE 17
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
POLYNUCLEAR AROMATIC HYDROCARBONS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID: / Sample Depth (Feet bgs): / Date Collected:	Units	B137 5 01/13/06	B137 10 01/13/06	B139 2 01/13/06	B139 5 01/13/06	B139 10 01/13/06	B140 2 01/31/06	B140 5 01/31/06	B140 10 01/31/06	B141 2 01/30/06	B141 5 01/30/06	B141 10 01/30/06	B142 2 01/31/06	B142 5 01/31/06
PAHs														
Acenaphthene	µg/kg	65	ND(10)	ND(10)	ND(10)	ND(10)	23	17	ND(10)	2 J	ND(10)	ND(10)	ND(10)	7.4 J
Acenaphthylene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	3.4 J	3.5 J	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Anthracene	µg/kg	14	ND(10)	ND(10)	ND(10)	ND(10)	2.7 J	37	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Benzo(a)anthracene	µg/kg	7 J	ND(10)	ND(10)	ND(10)	ND(10)	3 J	43	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	5 J
Benzo(a)pyrene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	12	102	ND(10)	3.4 J	ND(10)	ND(10)	ND(10)	16
Benzo(b)fluoranthene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	2.7 J	62	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	7.2 J
Benzo(ghi)perylene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	69	ND(10)	3.5 J	ND(10)	ND(10)	ND(10)	14
Benzo(k)fluoranthene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	2.1 J	91	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	13
Chrysene	µg/kg	23	ND(10)	9 J	ND(10)	ND(10)	27	257	ND(10)	6.2 J	4.2 J	ND(10)	3.7 J	32
Dibenzo(a,h)anthracene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Fluoranthene	µg/kg	5 J	ND(10)	ND(10)	ND(10)	ND(10)	3.4 J	199	ND(10)	3.9 J	ND(10)	ND(10)	ND(10)	20
Fluorene	µg/kg	68	5 J	2.5 J	ND(10)	5.5 J	33	14	ND(10)	5 J	7.5 J	ND(10)	4.9 J	17
Indeno(1,2,3-cd)pyrene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	7.7 J
Naphthalene	µg/kg	ND(10)	ND(10)	12	6.5 J	9 J	355	47	ND(10)	15	73	8.2 J	5.6 J	10.2
Phenanthrene	µg/kg	ND(10)	5 J	3.5 J	3 J	8 J	29	179	ND(10)	5.6 J	15	ND(10)	6.4 J	40
Pyrene	µg/kg	30	ND(10)	ND(10)	ND(10)	ND(10)	24	225	ND(10)	4.9 J	4.2 J	ND(10)	4.8 J	30

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TABLE 17
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
POLYNUCLEAR AROMATIC HYDROCARBONS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID Sample Depth (Feet bgs) Date Collected	Units	B142 10 01/31/06	B143 2 01/18/06	B143 5 01/18/06	B143 10 01/18/06
PAHs					
Acenaphthene	µg/kg	4.1 J	38	14	ND(10)
Acenaphthylene	µg/kg	ND(10)	14	4 J	ND(10)
Anthracene	µg/kg	3 J	26	15	ND(10)
Benzo(a)anthracene	µg/kg	5 J	15	18	ND(10)
Benzo(a)pyrene	µg/kg	8.2 J	9.5 J	14	ND(10)
Benzo(b)fluoranthene	µg/kg	3.2 J	10	14	ND(10)
Benzo(ghi)perylene	µg/kg	ND(10)	7 J	9 J	ND(10)
Benzo(k)fluoranthene	µg/kg	3.8 J	6.5 J	13	ND(10)
Chrysene	µg/kg	26	39	30	ND(10)
Dibenzo(a,h)anthracene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)
Fluoranthene	µg/kg	7.3 J	33	46	ND(10)
Fluorene	µg/kg	11	34	4 J	ND(10)
Indeno(1,2,3-cd)pyrene	µg/kg	ND(10)	5.5 J	10	ND(10)
Naphthalene	µg/kg	33	2 J	ND(10)	ND(10)
Phenanthrene	µg/kg	34	72	19	ND(10)
Pyrene	µg/kg	24	62	56	ND(10)

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TABLE 17
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
POLYNUCLEAR AROMATIC HYDROCARBONS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID: / Sample Depth (Feet bgs): / Date Collected:	Units	B144 2 01/13/06	B144 5 01/13/06	B144 10 01/13/06	B145 2 01/19/06	B145 5 01/19/06	B145 10 01/19/06	B146 2 01/27/06	B146 5 01/27/06	B146 10 01/27/06	B147 2 02/01/06	B147 5 02/01/06	B147 10 02/01/06	B148 2 01/23/06
PAHs														
Acenaphthene	µg/kg	38	38	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	12	ND(10)	273
Acenaphthylene	µg/kg	ND(10)	ND(10)	ND(10)	2.5 J	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	8.6 J	ND(10)	40
Anthracene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	76
Benzo(a)anthracene	µg/kg	ND(10)	ND(10)	ND(10)	2 J	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	52
Benzo(a)pyrene	µg/kg	ND(10)	36	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	35
Benzo(b)fluoranthene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	6.5 J
Benzo(ghi)perylene	µg/kg	6 J	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	16
Benzo(k)fluoranthene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	8.5 J
Chrysene	µg/kg	18	96	ND(10)	3.5 J	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	4.1 J	ND(10)	120
Dibenzo(a,h)anthracene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Fluoranthene	µg/kg	3 J	9 J	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	30
Fluorene	µg/kg	290	48	ND(10)	4.5 J	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	58	ND(10)	447
Indeno(1,2,3-cd)pyrene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Naphthalene	µg/kg	10	ND(10)	ND(10)	2 J	ND(10)	ND(10)	121	ND(10)	ND(10)	58	1,480	166	8,865
Phenanthrene	µg/kg	348	14	ND(10)	3 J	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	3 J	55	4.4 J	273
Pyrene	µg/kg	18	18	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	4.9 J	ND(10)	181

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TABLE 17
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
POLYNUCLEAR AROMATIC HYDROCARBONS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID: Sample Depth (Feet bgs): Date Collected:	Units	B148 5 01/23/06	B148 10 01/23/06	B149 2 01/23/06	B149 5 01/23/06	B149 10 01/23/06	B149 15 01/23/06	B149 20 01/23/06	B150 2 01/20/06	B150 5 01/20/06	B150 10 01/20/06	B150 15 01/20/06	B150 20 01/20/06	B151 2 01/19/06
PAHs														
Acenaphthene	µg/kg	64	ND(10)	ND(10)	ND(10)	ND(10)	4,060	2,990	44	321	4,084	2,240	3,750	ND(10)
Acenaphthylene	µg/kg	34	ND(10)	2,777	1,000	ND(10)	ND(200)	ND(200)	14	160	1,704	ND(100)	ND(200)	ND(10)
Anthracene	µg/kg	11	ND(10)	471	36	44	ND(200)	ND(200)	186	476	7,775	70 J	94 J	ND(10)
Benzo(a)anthracene	µg/kg	10	ND(10)	850	14	10	ND(200)	ND(200)	35	ND(50)	ND(500)	ND(100)	ND(200)	ND(10)
Benzo(a)pyrene	µg/kg	10	ND(10)	35	10	7 J	ND(200)	ND(200)	154	ND(50)	ND(500)	ND(100)	ND(200)	ND(10)
Benzo(b)fluoranthene	µg/kg	ND(10)	ND(10)	16	10	7 J	ND(200)	ND(200)	126	ND(50)	ND(500)	ND(100)	ND(200)	ND(10)
Benzo(ghi)perylene	µg/kg	8.7 J	ND(10)	15	5.5 J	4 J	ND(200)	ND(200)	107	ND(50)	ND(500)	ND(100)	ND(200)	ND(10)
Benzo(k)fluoranthene	µg/kg	ND(10)	ND(10)	12	6.5 J	4 J	ND(200)	ND(200)	40	ND(50)	ND(500)	ND(100)	ND(200)	ND(10)
Chrysene	µg/kg	34	ND(10)	86	30	20	ND(200)	ND(200)	239	ND(50)	ND(500)	22 J	ND(200)	ND(10)
Dibenzo(a,h)anthracene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(200)	ND(200)	34	ND(50)	ND(500)	ND(100)	ND(200)	ND(10)
Fluoranthene	µg/kg	5.6 J	ND(10)	1,198	34	22	ND(200)	ND(200)	122	ND(50)	ND(500)	23 J	ND(200)	ND(10)
Fluorene	µg/kg	120	ND(10)	ND(10)	ND(10)	ND(10)	7,350	5,050	102	900	11,900	3,800	5,790	ND(10)
Indeno(1,2,3-cd)pyrene	µg/kg	ND(10)	ND(10)	2.5 J	ND(10)	ND(10)	ND(200)	ND(200)	14	ND(50)	ND(500)	ND(100)	ND(200)	ND(10)
Naphthalene	µg/kg	1,352	10	24,760	18,710	21,600	32,300	18,700	104	5,330	50,050	28,200	41,100	ND(10)
Phenanthrene	µg/kg	192	ND(10)	1,165	1,640	1,586	1,400	1,100	204	527	8,774	3,660	3,380	ND(10)
Pyrene	µg/kg	33	ND(10)	4,388	58	35	ND(200)	ND(200)	330	13 J	139 J	80 J	49 J	ND(10)

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TABLE 17
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
POLYNUCLEAR AROMATIC HYDROCARBONS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID: Sample Depth (Feet bgs): Date Collected:	Units	B151 5 01/19/06	B151 10 01/19/06	B152 2 01/20/06	B152 5 01/20/06	B152 10 01/20/06	B153 2 01/20/06	B153 5 01/20/06	B153 10 01/20/06	B153 15 01/20/06	B153 20 01/20/06	B154 2 01/16/06	B154 5 01/16/06	B154 10 01/16/06
PAHs														
Acenaphthene	µg/kg	3.5 J	ND(10)	80 J	12.5	ND(10)	352	165	326	2,440	2,150	38 J	ND(10)	ND(10)
Acenaphthylene	µg/kg	3.5 J	ND(10)	ND(100)	9.5 J	ND(10)	141	68	154	ND(100)	ND(100)	ND(50)	ND(10)	ND(10)
Anthracene	µg/kg	26	ND(10)	480	30	ND(10)	498	264	385	64 J	63 J	55	ND(10)	2.5 J
Benzo(a)anthracene	µg/kg	25	ND(10)	70 J	6 J	ND(10)	ND(50)	4 J	ND(50)	ND(100)	ND(100)	ND(50)	ND(10)	ND(10)
Benzo(a)pyrene	µg/kg	42	ND(10)	70 J	3 J	ND(10)	ND(50)	ND(10)	ND(50)	ND(100)	ND(100)	205	ND(10)	5.5 J
Benzo(b)fluoranthene	µg/kg	21	ND(10)	30 J	ND(10)	ND(10)	ND(50)	2 J	ND(50)	ND(100)	ND(100)	ND(50)	ND(10)	ND(10)
Benzo(ghi)perylene	µg/kg	65	ND(10)	ND(100)	2.5 J	ND(10)	ND(50)	3 J	ND(50)	ND(100)	ND(100)	84	ND(10)	3 J
Benzo(k)fluoranthene	µg/kg	24	ND(10)	20 J	ND(10)	ND(10)	ND(50)	ND(10)	ND(50)	ND(100)	ND(100)	92	ND(10)	3 J
Chrysene	µg/kg	90	ND(10)	340	12	ND(10)	18 J	7 J	10 J	ND(100)	ND(100)	110	3 J	10
Dibenzo(a,h)anthracene	µg/kg	14	ND(10)	ND(100)	ND(10)	ND(10)	ND(50)	ND(10)	ND(50)	ND(100)	ND(100)	41 J	ND(10)	ND(10)
Fluoranthene	µg/kg	94	ND(10)	20 J	3.5 J	ND(10)	ND(50)	3.5 J	ND(50)	ND(100)	ND(100)	78	ND(10)	ND(10)
Fluorene	µg/kg	3.5 J	ND(10)	150	12	2 J	1,350	868	1,160	4,530	3,940	110	ND(10)	ND(10)
Indeno(1,2,3-cd)pyrene	µg/kg	29	ND(10)	ND(100)	ND(10)	ND(10)	ND(50)	ND(10)	ND(50)	ND(100)	ND(100)	30 J	ND(10)	ND(10)
Naphthalene	µg/kg	12	ND(10)	95 J	80	3.5 J	4,538	1,992	6,196	29,600	25,200	70	ND(10)	3 J
Phenanthrene	µg/kg	82	ND(10)	540	33	ND(10)	550	294	426	1,920	1,540	146	ND(10)	2.5 J
Pyrene	µg/kg	105	ND(10)	160	36	ND(10)	28 J	13	18 J	44 J	55 J	736	3 J	15

NOTES:
ID - Identification
bgs- Below ground surface
PAHs - Polynuclear aromatic hydrocarbons
µg/kg - Micrograms per kilogram
ND(10) - Analyte not detected at reporting limit shown
J - Analyte estimated concentration below reporting limit

TABLE 17
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
POLYNUCLEAR AROMATIC HYDROCARBONS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID: Sample Depth (Feet bgs): Date Collected:	Units	B155 2 01/30/06	B155 5 01/30/06	B155 10 01/30/06	B156 2 01/13/06	B156 5 01/13/06	B156 10 01/13/06	B156 15 01/13/06	B156 20 01/13/06	B158 2 01/30/06	B158 5 01/30/06	B158 10 01/30/06	B159 2 01/31/06	B159 5 01/31/06
PAHs														
Acenaphthene	µg/kg	949	439	18	72	ND(10)	651	91 J	71 J	ND(10)	11	ND(10)	ND(10)	ND(50)
Acenaphthylene	µg/kg	87	55	ND(10)	ND(10)	ND(10)	ND(500)	ND(200)	ND(200)	ND(10)	ND(10)	ND(10)	ND(10)	ND(50)
Anthracene	µg/kg	463	90	367	52	ND(10)	ND(500)	ND(200)	ND(200)	ND(10)	2.3 J	ND(10)	ND(10)	ND(50)
Benzo(a)anthracene	µg/kg	11 J	ND(10)	28	52	ND(10)	ND(500)	ND(200)	ND(200)	ND(10)	ND(10)	ND(10)	ND(10)	3.7 J
Benzo(a)pyrene	µg/kg	23	ND(10)	21	38	ND(10)	ND(500)	ND(200)	ND(200)	ND(10)	3.5 J	ND(10)	ND(10)	ND(50)
Benzo(b)fluoranthene	µg/kg	24	ND(10)	15	ND(10)	ND(10)	ND(500)	ND(200)	ND(200)	ND(10)	ND(10)	ND(10)	ND(10)	2.2 J
Benzo(ghi)perylene	µg/kg	21	ND(10)	10	34	ND(10)	ND(500)	ND(200)	ND(200)	ND(10)	3.7 J	ND(10)	ND(10)	5.7 J
Benzo(k)fluoranthene	µg/kg	32	ND(10)	17	61	ND(10)	ND(500)	ND(200)	ND(200)	ND(10)	ND(10)	ND(10)	ND(10)	ND(50)
Chrysene	µg/kg	49	6.1 J	35	208	ND(10)	162 J	ND(200)	ND(200)	ND(10)	5.1 J	ND(10)	ND(10)	10 J
Dibenzo(a,h)anthracene	µg/kg	10 J	ND(10)	ND(10)	15	ND(10)	ND(500)	ND(200)	ND(200)	ND(10)	ND(10)	ND(10)	ND(10)	ND(50)
Fluoranthene	µg/kg	18 J	5.3 J	30	167	ND(10)	ND(500)	ND(200)	ND(200)	ND(10)	ND(10)	ND(10)	ND(10)	6.6 J
Fluorene	µg/kg	2,191	1,032	ND(10)	98	ND(10)	2,350	224	140 J	2.2 J	46	4.2 J	ND(10)	ND(50)
Indeno(1,2,3-cd)pyrene	µg/kg	20	ND(10)	8.5 J	21	ND(10)	ND(500)	ND(200)	ND(200)	ND(10)	ND(10)	ND(10)	ND(10)	ND(50)
Naphthalene	µg/kg	6,346	3,433	ND(10)	16	ND(10)	14,700	15,200	14,100	ND(10)	25	99	ND(10)	10 J
Phenanthrene	µg/kg	2,763	781	3,558	168	ND(10)	2,810	265	188 J	ND(10)	32	8.4 J	ND(10)	4.7 J
Pyrene	µg/kg	111	24	166	304	ND(10)	350 J	61 J	49 J	3.1 J	18	4.1 J	ND(10)	7.4 J

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TABLE 17
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
POLYNUCLEAR AROMATIC HYDROCARBONS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID: Sample Depth (Feet bgs): Date Collected:	Units	B159 10 01/31/06	B160 2 01/31/06	B160 5 01/31/06	B160 10 01/31/06	B161 2 01/13/06	B161 5 01/13/06	B161 10 01/13/06	B162 2 01/16/06	B162 5 01/16/06	B162 10 01/16/06	B163 2 01/16/06	B163 5 01/16/06	B163 10 01/16/06
PAHs														
Acenaphthene	µg/kg	25 J	ND(10)	ND(10)	ND(10)	ND(10)	1,310	4 J	20	ND(10)	ND(10)	ND(10)	ND(10)	ND(100)
Acenaphthylene	µg/kg	15 J	ND(10)	ND(10)	ND(10)	ND(10)	ND(500)	ND(10)	8.5 J	ND(10)	ND(10)	ND(10)	ND(10)	40 J
Anthracene	µg/kg	17 J	ND(10)	ND(10)	ND(10)	ND(10)	ND(500)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(100)
Benzo(a)anthracene	µg/kg	7.6 J	ND(10)	ND(10)	ND(10)	ND(10)	188 J	ND(10)	21	ND(10)	ND(10)	ND(10)	ND(10)	ND(100)
Benzo(a)pyrene	µg/kg	3 J	ND(10)	ND(10)	ND(10)	ND(10)	140 J	ND(10)	20	ND(10)	ND(10)	ND(10)	ND(10)	ND(100)
Benzo(b)fluoranthene	µg/kg	3.8 J	ND(10)	ND(10)	ND(10)	ND(10)	130 J	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(100)
Benzo(ghi)perylene	µg/kg	7.3 J	ND(10)	ND(10)	ND(10)	ND(10)	ND(500)	ND(10)	12	ND(10)	ND(10)	ND(10)	ND(10)	ND(100)
Benzo(k)fluoranthene	µg/kg	3.4 J	ND(10)	ND(10)	ND(10)	ND(10)	ND(500)	ND(10)	11	ND(10)	ND(10)	ND(10)	ND(10)	ND(100)
Chrysene	µg/kg	20 J	ND(10)	ND(10)	ND(10)	ND(10)	294 J	ND(10)	85	ND(10)	ND(10)	ND(10)	ND(10)	ND(100)
Dibenzo(a,h)anthracene	µg/kg	ND(50)	ND(10)	ND(10)	ND(10)	ND(10)	ND(500)	ND(10)	4.5 J	ND(10)	ND(10)	ND(10)	ND(10)	ND(100)
Fluoranthene	µg/kg	10 J	ND(10)	ND(10)	ND(10)	ND(10)	371 J	ND(10)	19	ND(10)	ND(10)	ND(10)	ND(10)	ND(100)
Fluorene	µg/kg	20 J	ND(10)	ND(10)	ND(10)	ND(10)	3,070	13	37	ND(10)	ND(10)	ND(10)	ND(10)	100
Indeno(1,2,3-cd)pyrene	µg/kg	ND(50)	ND(10)	ND(10)	ND(10)	ND(10)	ND(500)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(100)
Naphthalene	µg/kg	5,513	ND(10)	ND(10)	ND(10)	ND(10)	1,330	ND(10)	16	ND(10)	ND(10)	5 J	4 J	2,290
Phenanthrene	µg/kg	90	ND(10)	ND(10)	ND(10)	ND(10)	2,300	22	192	ND(10)	ND(10)	ND(10)	ND(10)	56 J
Pyrene	µg/kg	25 J	ND(10)	ND(10)	ND(10)	ND(10)	1,180	6 J	122	ND(10)	ND(10)	ND(10)	ND(10)	ND(100)

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ND(10) - Analyte not detected at reporting limit shown
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TABLE 17
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
POLYNUCLEAR AROMATIC HYDROCARBONS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID Sample Depth (Feet bgs) Date Collected	Units	B163 15 01/16/06	B163 20 01/16/06	B164 2 01/16/06	B164 5 01/16/06	B164 10 01/16/06	B165 2 01/23/06	B165 5 01/23/06	B165 10 01/23/06	B166 2 01/24/06	B166 5 01/24/06	B166 10 01/24/06	B167 2 01/17/06	B167 5 01/17/06
PAHs														
Acenaphthene	µg/kg	ND(10)	28	ND(10)	ND(10)	6.5 J	ND(10)	4.2 J	ND(10)	ND(10)	7 J	ND(10)	ND(10)	ND(10)
Acenaphthylene	µg/kg	ND(10)	26	ND(10)	ND(10)	4.5 J	ND(10)	10	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Anthracene	µg/kg	ND(10)	4.3 J	ND(10)	ND(10)	ND(10)	ND(10)	16	ND(10)	ND(10)	4 J	ND(10)	ND(10)	ND(10)
Benzo(a)anthracene	µg/kg	ND(10)	11	ND(10)	ND(10)	ND(10)	ND(10)	14	ND(10)	ND(10)	6.5 J	ND(10)	ND(10)	ND(10)
Benzo(a)pyrene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	7.5 J	ND(10)	40	ND(10)	ND(10)	9 J	ND(10)	ND(10)	ND(10)
Benzo(b)fluoranthene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	12	ND(10)	ND(10)	4 J	ND(10)	ND(10)	ND(10)
Benzo(ghi)perylene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	4 J	ND(10)	33	ND(10)	ND(10)	7 J	ND(10)	ND(10)	ND(10)
Benzo(k)fluoranthene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	4 J	ND(10)	13	ND(10)	ND(10)	4 J	ND(10)	ND(10)	ND(10)
Chrysene	µg/kg	ND(10)	17	ND(10)	ND(10)	22	ND(10)	54	ND(10)	ND(10)	16	ND(10)	ND(10)	ND(10)
Dibenzo(a,h)anthracene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	7.9 J	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Fluoranthene	µg/kg	ND(10)	2.5 J	ND(10)	ND(10)	5 J	ND(10)	16	ND(10)	ND(10)	10	ND(10)	ND(10)	ND(10)
Fluorene	µg/kg	3.5 J	167	ND(10)	ND(10)	ND(10)	ND(10)	9 J	ND(10)	ND(10)	7 J	ND(10)	ND(10)	ND(10)
Indeno(1,2,3-cd)pyrene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Naphthalene	µg/kg	42	2,260	3 J	ND(10)	5 J	ND(10)	10	ND(10)	ND(10)	5 J	ND(10)	ND(10)	ND(10)
Phenanthrene	µg/kg	3.8 J	310	ND(10)	ND(10)	4 J	ND(10)	51	ND(10)	ND(10)	20	ND(10)	ND(10)	ND(10)
Pyrene	µg/kg	ND(10)	11	ND(10)	ND(10)	30	ND(10)	48	ND(10)	ND(10)	17	ND(10)	ND(10)	ND(10)

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TABLE 17
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
POLYNUCLEAR AROMATIC HYDROCARBONS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID Sample Depth (Feet bgs) Date Collected	Units	B167 10 01/17/06	B168 2 01/17/06	B168 5 01/17/06	B168 10 01/17/06	B169 2 01/17/06	B169 5 01/17/06	B169 10 01/17/06	B170 2 01/18/06	B170 5 01/18/06	B170 10 01/18/06	B171 2 01/11/06	B171 5 01/11/06	B171 10 01/11/06
PAHs														
Acenaphthene	µg/kg	ND(10)	104	ND(10)	ND(10)	79 J	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	60	10	25
Acenaphthylene	µg/kg	ND(10)	64	ND(10)	ND(10)	98 J	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(20)	ND(10)	ND(10)
Anthracene	µg/kg	ND(10)	ND(50)	ND(10)	ND(10)	ND(100)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	72	17	36
Benzo(a)anthracene	µg/kg	ND(10)	60	ND(10)	ND(10)	ND(100)	ND(10)	ND(10)	ND(10)	ND(10)	2 J	80	20	36
Benzo(a)pyrene	µg/kg	ND(10)	ND(50)	ND(10)	ND(10)	ND(100)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	34	ND(10)	18
Benzo(b)fluoranthene	µg/kg	ND(10)	ND(50)	ND(10)	ND(10)	ND(100)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	25	4 J	9 J
Benzo(ghi)perylene	µg/kg	ND(10)	ND(50)	ND(10)	ND(10)	ND(100)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	20	5 J	11
Benzo(k)fluoranthene	µg/kg	ND(10)	ND(50)	ND(10)	ND(10)	24 J	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(20)	ND(10)	4 J
Chrysene	µg/kg	ND(10)	248	ND(10)	2 J	213	ND(10)	ND(10)	ND(10)	ND(10)	3.5 J	201	53	115
Dibenzo(a,h)anthracene	µg/kg	ND(10)	ND(50)	ND(10)	ND(10)	ND(100)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(20)	ND(10)	ND(10)
Fluoranthene	µg/kg	ND(10)	48 J	ND(10)	ND(10)	80 J	ND(10)	ND(10)	ND(10)	ND(10)	4.5 J	48	14	28
Fluorene	µg/kg	ND(10)	496	ND(10)	2 J	462	ND(10)	ND(10)	3.5 J	ND(10)	2.5 J	164	34	66
Indeno(1,2,3-cd)pyrene	µg/kg	ND(10)	ND(50)	ND(10)	ND(10)	ND(100)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(20)	ND(10)	ND(10)
Naphthalene	µg/kg	ND(10)	372	ND(10)	2 J	403	ND(10)	ND(10)	24	14	204	449	105	347
Phenanthrene	µg/kg	ND(10)	1,129	5 J	5 J	1,589	5 J	ND(10)	ND(10)	ND(10)	4.5 J	370	83	160
Pyrene	µg/kg	ND(10)	100	ND(10)	ND(10)	82 J	ND(10)	ND(10)	ND(10)	ND(10)	5 J	498	141	287

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TABLE 17
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POLYNUCLEAR AROMATIC HYDROCARBONS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID Sample Depth (Feet bgs) Date Collected	Units	B171 15 01/11/06	B171 20 01/11/06	B171 30 01/11/06	B172 2 01/12/06	B172 5 01/12/06	B172 10 01/12/06	B173 2 01/12/06	B173 5 01/12/06	B173 10 01/12/06	B174 2 01/12/06	B174 5 01/12/06	B174 10 01/12/06	B175 2 02/07/06
PAHs														
Acenaphthene	µg/kg	15	ND(10)	ND(10)	4.5 J	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	68	ND(10)	ND(10)	ND(10)
Acenaphthylene	µg/kg	3 J	ND(10)	ND(10)	3 J	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(50)	ND(10)	ND(10)	ND(10)
Anthracene	µg/kg	12	ND(10)	ND(10)	103	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	64	ND(10)	ND(10)	ND(10)
Benzo(a)anthracene	µg/kg	20	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	58	ND(10)	ND(10)	ND(10)
Benzo(a)pyrene	µg/kg	13	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	94	ND(10)	ND(10)	ND(10)
Benzo(b)fluoranthene	µg/kg	8 J	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	68	ND(10)	ND(10)	ND(10)
Benzo(ghi)perylene	µg/kg	9 J	ND(10)	ND(10)	26	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	58	ND(10)	ND(10)	ND(10)
Benzo(k)fluoranthene	µg/kg	7 J	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	39 J	ND(10)	ND(10)	ND(10)
Chrysene	µg/kg	40	ND(10)	ND(10)	118	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	199	ND(10)	ND(10)	ND(10)
Dibenzo(a,h)anthracene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(50)	ND(10)	ND(10)	ND(10)
Fluoranthene	µg/kg	8 J	ND(10)	ND(10)	29	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	81	ND(10)	ND(10)	ND(10)
Fluorene	µg/kg	24	ND(10)	ND(10)	15	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	185	ND(10)	ND(10)	ND(10)
Indeno(1,2,3-cd)pyrene	µg/kg	3.5 J	ND(10)	ND(10)	11	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	56	ND(10)	ND(10)	ND(10)
Naphthalene	µg/kg	880	54	44	31	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	15 J	ND(10)	ND(10)	ND(10)
Phenanthrene	µg/kg	57	ND(10)	ND(10)	34	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	369	ND(10)	ND(10)	ND(10)
Pyrene	µg/kg	98	3 J	ND(10)	167	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	299	ND(10)	ND(10)	ND(10)

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POLYNUCLEAR AROMATIC HYDROCARBONS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID Sample Depth (Feet bgs) Date Collected	Units	B175 5 02/07/06	B175 10 02/07/06	B176 2 02/07/06	B176 5 02/07/06	B176 10 02/07/06	B177 2 02/02/06	B177 5 02/02/06	B177 10 02/02/06	B178 2 02/02/06	B178 5 02/02/06	B178 10 02/02/06	B179 2 01/26/06	B179 5 01/26/06
PAHs														
Acenaphthene	µg/kg	ND(10)	ND(10)	162	28	ND(50)	ND(10)	ND(10)	ND(10)	ND(100)	ND(10)	ND(10)	72	54
Acenaphthylene	µg/kg	ND(10)	ND(10)	53 J	11	ND(50)	ND(10)	ND(10)	ND(10)	ND(100)	ND(10)	ND(10)	49	ND(10)
Anthracene	µg/kg	ND(10)	ND(10)	107	26	ND(50)	ND(10)	ND(10)	ND(10)	ND(100)	ND(10)	ND(10)	145	ND(10)
Benzo(a)anthracene	µg/kg	ND(10)	ND(10)	66 J	24	ND(50)	ND(10)	ND(10)	ND(10)	ND(100)	ND(10)	ND(10)	12	4.6 J
Benzo(a)pyrene	µg/kg	ND(10)	ND(10)	20 J	8.1 J	ND(50)	ND(10)	ND(10)	ND(10)	ND(100)	ND(10)	ND(10)	39	ND(10)
Benzo(b)fluoranthene	µg/kg	ND(10)	ND(10)	ND(100)	7.7 J	ND(50)	ND(10)	ND(10)	ND(10)	ND(100)	ND(10)	ND(10)	8.7 J	ND(10)
Benzo(ghi)perylene	µg/kg	ND(10)	ND(10)	ND(100)	5.9 J	ND(50)	ND(10)	4.2 J	ND(10)	ND(100)	ND(10)	ND(10)	ND(10)	ND(10)
Benzo(k)fluoranthene	µg/kg	ND(10)	ND(10)	ND(100)	2.3 J	ND(50)	ND(10)	ND(10)	ND(10)	ND(100)	ND(10)	ND(10)	4.1 J	ND(10)
Chrysene	µg/kg	ND(10)	ND(10)	160	81	ND(50)	ND(10)	4.6 J	ND(10)	26 J	ND(10)	ND(10)	55	4.4 J
Dibenzo(a,h)anthracene	µg/kg	ND(10)	ND(10)	ND(100)	ND(10)	ND(50)	ND(10)	ND(10)	ND(10)	ND(100)	ND(10)	ND(10)	ND(10)	ND(10)
Fluoranthene	µg/kg	ND(10)	ND(10)	53 J	19	ND(50)	ND(10)	ND(10)	ND(10)	ND(100)	ND(10)	ND(10)	25	ND(10)
Fluorene	µg/kg	ND(10)	ND(10)	393	80	ND(50)	ND(10)	ND(10)	ND(10)	50 J	ND(10)	ND(10)	70	ND(10)
Indeno(1,2,3-cd)pyrene	µg/kg	ND(10)	ND(10)	ND(100)	ND(10)	ND(50)	ND(10)	ND(10)	ND(10)	ND(100)	ND(10)	ND(10)	ND(10)	ND(10)
Naphthalene	µg/kg	ND(10)	8.7 J	26 J	4.2 J	ND(50)	4 J	204	ND(10)	2,780	16	12	681	1,052
Phenanthrene	µg/kg	ND(10)	ND(10)	1,760	262	ND(50)	ND(10)	ND(10)	ND(10)	61 J	ND(10)	ND(10)	79	2.8 J
Pyrene	µg/kg	ND(10)	ND(10)	390	147	ND(50)	ND(10)	2.1 J	ND(10)	28 J	ND(10)	ND(10)	13	ND(10)

NOTES:
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PAHs - Polynuclear aromatic hydrocarbons
µg/kg - Micrograms per kilogram
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TABLE 17
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
POLYNUCLEAR AROMATIC HYDROCARBONS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID: Sample Depth (Feet bgs): Date Collected:	Units	B179 10 01/26/06	B180 2 01/25/06	B180 5 01/25/06	B180 10 01/25/06	B181 2 02/06/06	B181 5 02/06/06	B181 10 02/06/06	B182 2 01/24/06	B182 5 01/25/06	B182 10 01/25/06	B183 2 01/25/06	B183 5 01/25/06	B183 10 01/25/06
PAHs														
Acenaphthene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(100)	ND(10)	ND(10)	53 J	ND(10)	ND(200)	159	9,300
Acenaphthylene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(100)	ND(10)	ND(10)	ND(100)	ND(10)	25 J	9.1 J	1,122
Anthracene	µg/kg	ND(10)	ND(10)	ND(10)	11	ND(10)	ND(100)	ND(10)	ND(10)	68 J	ND(10)	43 J	112	4,329
Benzo(a)anthracene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(100)	ND(10)	ND(10)	60 J	ND(10)	ND(200)	90	1,347
Benzo(a)pyrene	µg/kg	ND(10)	ND(10)	ND(10)	13	ND(10)	ND(100)	ND(10)	ND(10)	57 J	ND(10)	345	19	1,266
Benzo(b)fluoranthene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(100)	ND(10)	ND(10)	ND(100)	ND(10)	ND(200)	10	490
Benzo(ghi)perylene	µg/kg	ND(10)	ND(10)	ND(10)	8.6 J	ND(10)	ND(100)	ND(10)	ND(10)	33 J	ND(10)	234	6.2 J	472
Benzo(k)fluoranthene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(100)	ND(10)	ND(10)	ND(100)	ND(10)	ND(200)	11	424
Chrysene	µg/kg	3.4 J	ND(10)	ND(10)	14	ND(10)	ND(100)	ND(10)	ND(10)	155	ND(10)	29 J	275	8,936
Dibenzo(a,h)anthracene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(100)	ND(10)	ND(10)	ND(100)	ND(10)	ND(200)	ND(10)	245
Fluoranthene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(100)	ND(10)	ND(10)	32 J	ND(10)	ND(200)	9.1 J	743
Fluorene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(100)	ND(10)	ND(10)	109	2.7 J	ND(200)	285	15,460
Indeno(1,2,3-cd)pyrene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(100)	ND(10)	ND(10)	ND(100)	ND(10)	ND(200)	ND(10)	ND(200)
Naphthalene	µg/kg	38	ND(10)	ND(10)	2.7 J	ND(10)	ND(100)	ND(10)	ND(10)	87 J	4.3 J	ND(200)	24	22,953
Phenanthrene	µg/kg	ND(10)	ND(10)	ND(10)	5.8 J	ND(10)	ND(100)	ND(10)	ND(10)	285	3 J	72 J	821	42,368
Pyrene	µg/kg	ND(10)	ND(10)	ND(10)	8.5 J	ND(10)	48 J	ND(10)	ND(10)	315	ND(10)	56 J	11	5,054

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TABLE 17
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
POLYNUCLEAR AROMATIC HYDROCARBONS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID Sample Depth (Feet bgs) Date Collected	Units	B183 15 01/25/06	B183 20 01/25/06	B184 2 01/25/06	B184 5 01/25/06	B184 10 01/25/06	B185 2 01/26/06	B185 5 01/26/06	B185 10 01/26/06	B186 2 01/27/06	B186 5 01/27/06	B186 10 01/27/06	B187 2 01/27/06	B187 5 01/27/06
PAHs														
Acenaphthene	µg/kg	3,470	432	ND(100)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	31 J	ND(10)	ND(10)	ND(50)	ND(10)
Acenaphthylene	µg/kg	ND(100)	ND(10)	ND(100)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	9.1 J	ND(10)	ND(10)	ND(50)	ND(10)
Anthracene	µg/kg	1,730	171	20 J	ND(10)	ND(10)	6.8 J	ND(10)	ND(10)	29 J	ND(10)	ND(10)	ND(50)	ND(10)
Benzo(a)anthracene	µg/kg	1,170	26	ND(100)	ND(10)	ND(10)	7.9 J	ND(10)	ND(10)	30 J	ND(10)	ND(10)	ND(50)	ND(10)
Benzo(a)pyrene	µg/kg	453	15	94 J	ND(10)	ND(10)	37	ND(10)	ND(10)	47 J	ND(10)	ND(10)	ND(50)	ND(10)
Benzo(b)fluoranthene	µg/kg	294	23	28 J	ND(10)	ND(10)	9.8 J	ND(10)	ND(10)	14 J	ND(10)	ND(10)	ND(50)	ND(10)
Benzo(ghi)perylene	µg/kg	156	11	99 J	ND(10)	ND(10)	16	ND(10)	ND(10)	ND(100)	ND(10)	ND(10)	ND(50)	ND(10)
Benzo(k)fluoranthene	µg/kg	118	8 J	28 J	ND(10)	ND(10)	8 J	ND(10)	ND(10)	5.9 J	ND(10)	ND(10)	ND(50)	ND(10)
Chrysene	µg/kg	3,000	167	128	ND(10)	ND(10)	88	ND(10)	ND(10)	163	ND(10)	ND(10)	3.3 J	ND(10)
Dibenzo(a,h)anthracene	µg/kg	136	ND(10)	ND(100)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(100)	ND(10)	ND(10)	ND(50)	ND(10)
Fluoranthene	µg/kg	571	26	42 J	ND(10)	ND(10)	9.9 J	ND(10)	ND(10)	14 J	ND(10)	ND(10)	ND(50)	ND(10)
Fluorene	µg/kg	4,650	643	ND(100)	ND(10)	ND(10)	5.5 J	ND(10)	ND(10)	ND(100)	ND(10)	ND(10)	ND(50)	ND(10)
Indeno(1,2,3-cd)pyrene	µg/kg	65 J	ND(10)	ND(100)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(100)	ND(10)	ND(10)	ND(50)	ND(10)
Naphthalene	µg/kg	6,410	707	ND(100)	3.7 J	ND(10)	ND(10)	ND(10)	ND(10)	197	ND(10)	ND(10)	ND(50)	ND(10)
Phenanthrene	µg/kg	13,200	2,041	36 J	ND(10)	ND(10)	87	ND(10)	ND(10)	264	ND(10)	ND(10)	ND(50)	ND(10)
Pyrene	µg/kg	2,620	106	64 J	ND(10)	ND(10)	63	ND(10)	ND(10)	74 J	ND(10)	ND(10)	ND(50)	ND(10)

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TABLE 17
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
POLYNUCLEAR AROMATIC HYDROCARBONS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID Sample Depth (Feet bgs) Date Collected	Units	B187 10 01/27/06	B188 2 02/07/06	B188 5 02/07/06	B188 10 02/07/06	B189 2 02/07/06	B189 5 02/07/06	B189 10 02/07/06	B190 2 02/08/06	B190 5 02/08/06	B190 10 02/08/06	B191 2 02/01/06	B191 5 02/01/06	B191 10 02/01/06
PAHs														
Acenaphthene	µg/kg	ND(10)	ND(10)	180	46	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	122	155	166
Acenaphthylene	µg/kg	ND(10)	ND(10)	51 J	4.1 J	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	29 J	32 J	34 J
Anthracene	µg/kg	ND(10)	ND(10)	ND(100)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(100)	ND(100)	22 J
Benzo(a)anthracene	µg/kg	ND(10)	ND(10)	110	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(100)	ND(100)	ND(100)
Benzo(a)pyrene	µg/kg	ND(10)	ND(10)	ND(100)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(100)	ND(100)	ND(100)
Benzo(b)fluoranthene	µg/kg	ND(10)	ND(10)	53 J	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(100)	ND(100)	ND(100)
Benzo(ghi)perylene	µg/kg	ND(10)	ND(10)	ND(100)	2.7 J	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(100)	ND(100)	ND(100)
Benzo(k)fluoranthene	µg/kg	ND(10)	ND(10)	ND(100)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(100)	ND(100)	ND(100)
Chrysene	µg/kg	ND(10)	ND(10)	365	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(100)	20 J	ND(100)
Dibenzo(a,h)anthracene	µg/kg	ND(10)	ND(10)	ND(100)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(100)	ND(100)	ND(100)
Fluoranthene	µg/kg	ND(10)	ND(10)	50 J	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(100)	ND(100)	ND(100)
Fluorene	µg/kg	ND(10)	ND(10)	668	33	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	484	588	741
Indeno(1,2,3-cd)pyrene	µg/kg	ND(10)	ND(10)	ND(100)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(100)	ND(100)	ND(100)
Naphthalene	µg/kg	ND(10)	ND(10)	2,290	890	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	176	156	268
Phenanthrene	µg/kg	ND(10)	ND(10)	1,120	56	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	918	1,043	554
Pyrene	µg/kg	ND(10)	ND(10)	222	41	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	74 J	94 J	157

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TABLE 17
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
POLYNUCLEAR AROMATIC HYDROCARBONS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID Sample Depth (Feet bgs) Date Collected	Units	B192 2' 02/01/06	B192 5' 02/01/06	B192 10' 02/01/06	B193 2' 02/06/06	B193 5' 02/06/06	B193 10' 02/06/06	B194 2' 02/03/06	B194 5' 02/03/06	B194 10' 02/03/06	B194 45' 02/03/06	B194 20' 02/03/06	B195 2' 02/03/06	B195 5' 02/03/06
PAHs														
Acenaphthene	µg/kg	41	ND(10)	ND(10)	4.5 J	ND(10)	ND(10)	ND(50)	2.7 J	694	1,500	230	ND(50)	ND(10)
Acenaphthylene	µg/kg	4.7 J	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(50)	ND(10)	285	ND(100)	ND(200)	ND(50)	ND(10)
Anthracene	µg/kg	5.6 J	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(50)	ND(10)	44 J	148	ND(200)	ND(50)	ND(10)
Benzo(a)anthracene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(50)	ND(10)	101	ND(100)	ND(200)	ND(50)	ND(10)
Benzo(a)pyrene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(50)	ND(10)	ND(100)	ND(100)	ND(200)	ND(50)	ND(10)
Benzo(b)fluoranthene	µg/kg	3.1 J	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(50)	ND(10)	41 J	ND(100)	ND(200)	ND(50)	ND(10)
Benzo(ghi)perylene	µg/kg	2.1 J	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(50)	ND(10)	ND(100)	ND(100)	ND(200)	ND(50)	ND(10)
Benzo(k)fluoranthene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(50)	ND(10)	ND(100)	ND(100)	ND(200)	ND(50)	ND(10)
Chrysene	µg/kg	10	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(50)	ND(10)	311	91 J	ND(200)	11 J	ND(10)
Dibenzo(a,h)anthracene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(50)	ND(10)	ND(100)	ND(100)	ND(200)	ND(50)	ND(10)
Fluoranthene	µg/kg	2.6 J	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(50)	ND(10)	59 J	28 J	ND(200)	ND(50)	ND(10)
Fluorene	µg/kg	86	ND(10)	ND(10)	6.1 J	ND(10)	ND(10)	ND(50)	9.7 J	3,090	5,370	863	ND(50)	ND(10)
Indeno(1,2,3-cd)pyrene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(50)	ND(10)	ND(100)	ND(100)	ND(200)	ND(50)	ND(10)
Naphthalene	µg/kg	24	ND(10)	ND(10)	2.2 J	ND(10)	ND(10)	ND(50)	45	14,300	25,200	1,010	ND(50)	3.8 J
Phenanthrene	µg/kg	108	ND(10)	ND(10)	2.9 J	ND(10)	ND(10)	ND(50)	10	3,890	4,240	84 J	22 J	ND(10)
Pyrene	µg/kg	22	ND(10)	ND(10)	5 J	ND(10)	ND(10)	ND(50)	ND(10)	227	70 J	ND(200)	11 J	ND(10)

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POLYNUCLEAR AROMATIC HYDROCARBONS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID Sample Depth (Feet bgs) Date Collected	Units	B195 10 02/03/06	B196 2 01/25/06	B196 5 01/25/06	B196 10 01/25/06	B197 2 02/01/06	B197 5 02/01/06	B197 10 02/01/06	B198 2 01/26/06	B198 5 01/26/06	B198 10 01/26/06	B199 2 01/23/06	B199 5 01/23/06	B199 10 01/23/06
PAHs														
Acenaphthene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	118	91
Acenaphthylene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	55	58
Anthracene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	2 J	17	17
Benzo(a)anthracene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	3 J	38	290
Benzo(a)pyrene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	14	20	ND(10)
Benzo(b)fluoranthene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	3.5 J	16	ND(10)
Benzo(ghi)perylene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	12	ND(10)	ND(10)
Benzo(k)fluoranthene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	2 J	8 J	6 J
Chrysene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	18	123	228
Dibenzo(a,h)anthracene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	3 J	ND(10)
Fluoranthene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	2.5 J	37	18
Fluorene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	9 J	418	91
Indeno(1,2,3-cd)pyrene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Naphthalene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	24	3,095	ND(10)
Phenanthrene	µg/kg	ND(10)	ND(10)	ND(10)	2.8 J	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	14	940	342
Pyrene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	24	92	43

NOTES:
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bgs- Below ground surface
PAHs - Polynuclear aromatic hydrocarbons
µg/kg - Micrograms per kilogram
ND(10) - Analyte not detected at reporting limit shown
J - Analyte estimated concentration below reporting limit

TABLE 17
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
POLYNUCLEAR AROMATIC HYDROCARBONS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID / Sample Depth (Feet bgs) / Date Collected	Units	B200 2 01/24/06	B200 5 01/24/06	B200 10 01/24/06	B201 2 01/25/06	B201 5 01/25/06	B201 10 01/25/06	B202 2 01/25/06	B202 5 01/25/06	B202 10 01/25/06	B203 2 02/07/06	B203 5 02/07/06	B203 10 02/07/06	B204 2 02/06/06
PAHs														
Acenaphthene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	2.5 J	42 J	1,720	ND(50)	ND(100)
Acenaphthylene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(100)	834	ND(50)	ND(100)
Anthracene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(100)	277 J	ND(50)	ND(100)
Benzo(a)anthracene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(100)	359 J	ND(50)	27 J
Benzo(a)pyrene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(100)	ND(500)	ND(50)	ND(100)
Benzo(b)fluoranthene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(100)	233 J	ND(50)	36 J
Benzo(ghi)perylene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(100)	ND(500)	ND(50)	ND(100)
Benzo(k)fluoranthene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(100)	ND(500)	ND(50)	ND(100)
Chrysene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	61 J	1,770	ND(50)	169
Dibenzo(a,h)anthracene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(100)	ND(500)	ND(50)	ND(100)
Fluoranthene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(100)	273 J	ND(50)	ND(100)
Fluorene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	3.7 J	136	8,260	ND(50)	ND(100)
Indeno(1,2,3-cd)pyrene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(100)	ND(500)	ND(50)	ND(100)
Naphthalene	µg/kg	ND(10)	ND(10)	2.87 J	ND(10)	ND(10)	ND(10)	2.2 J	ND(10)	3.3 J	240	23,200	ND(50)	ND(100)
Phenanthrene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	2 J	12	197	11,600	ND(50)	22 J
Pyrene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	2.9 J	41 J	1,020	ND(50)	52 J

NOTES:
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PAHs - Polynuclear aromatic hydrocarbons
µg/kg - Micrograms per kilogram
ND(10) - Analyte not detected at reporting limit shown
J - Analyte estimated concentration below reporting limit

TABLE 17
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
POLYNUCLEAR AROMATIC HYDROCARBONS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID Sample Depth (Feet bgs) Date Collected	Units	B204 5 02/06/06	B204 10 02/06/06	B205 2 02/07/06	B205 5 02/07/06	B205 10 02/07/06	B206 2 02/08/06	B206 5 02/08/06	B206 10 02/08/06	B207 2 02/08/06	B207 5 02/08/06	B207 10 02/08/06	B208 2 01/31/06	B208 5 01/31/06
PAHs														
Acenaphthene	µg/kg	316	ND(10)	ND(500)	ND(1,000)	ND(10)	ND(50)	ND(10)	ND(10)	ND(100)	ND(10)	ND(10)	ND(10)	ND(10)
Acenaphthylene	µg/kg	142	ND(10)	ND(500)	ND(1,000)	ND(10)	ND(50)	ND(10)	ND(10)	ND(100)	ND(10)	ND(10)	ND(10)	ND(10)
Anthracene	µg/kg	40 J	ND(10)	ND(500)	ND(1,000)	ND(10)	ND(50)	ND(10)	ND(10)	22 J	ND(10)	ND(10)	ND(10)	ND(10)
Benzo(a)anthracene	µg/kg	137	ND(10)	ND(500)	ND(1,000)	ND(10)	ND(50)	ND(10)	ND(10)	24 J	ND(10)	ND(10)	ND(10)	ND(10)
Benzo(a)pyrene	µg/kg	ND(100)	ND(10)	ND(500)	ND(1,000)	ND(10)	ND(50)	ND(10)	ND(10)	70 J	ND(10)	ND(10)	ND(10)	ND(10)
Benzo(b)fluoranthene	µg/kg	52 J	ND(10)	ND(500)	ND(1,000)	ND(10)	ND(50)	ND(10)	ND(10)	46 J	ND(10)	ND(10)	ND(10)	ND(10)
Benzo(ghi)perylene	µg/kg	ND(100)	ND(10)	ND(500)	ND(1,000)	ND(10)	ND(50)	ND(10)	ND(10)	218	ND(10)	ND(10)	ND(10)	ND(10)
Benzo(k)fluoranthene	µg/kg	ND(100)	ND(10)	ND(500)	ND(1,000)	ND(10)	ND(50)	ND(10)	ND(10)	ND(100)	ND(10)	ND(10)	ND(10)	ND(10)
Chrysene	µg/kg	382	ND(10)	ND(500)	ND(1,000)	3.2 J	ND(50)	ND(10)	ND(10)	269	ND(10)	ND(10)	ND(10)	ND(10)
Dibenzo(a,h)anthracene	µg/kg	ND(100)	ND(10)	ND(500)	ND(1,000)	ND(10)	ND(50)	ND(10)	ND(10)	47 J	ND(10)	ND(10)	ND(10)	ND(10)
Fluoranthene	µg/kg	62 J	ND(10)	ND(500)	ND(1,000)	ND(10)	ND(50)	ND(10)	ND(10)	ND(100)	ND(10)	ND(10)	ND(10)	ND(10)
Fluorene	µg/kg	2,130	2.4 J	ND(500)	ND(1,000)	ND(10)	ND(50)	ND(10)	ND(10)	ND(100)	ND(10)	ND(10)	ND(10)	ND(10)
Indeno(1,2,3-cd)pyrene	µg/kg	ND(100)	ND(10)	ND(500)	ND(1,000)	ND(10)	ND(50)	ND(10)	ND(10)	ND(100)	ND(10)	ND(10)	ND(10)	ND(10)
Naphthalene	µg/kg	4,720	9.5 J	ND(500)	ND(1,000)	ND(10)	ND(50)	ND(10)	ND(10)	ND(100)	ND(10)	ND(10)	5.3 J	ND(10)
Phenanthrene	µg/kg	4,220	5.8 J	ND(500)	ND(1,000)	9.8 J	ND(50)	ND(10)	ND(10)	57 J	ND(10)	ND(10)	ND(10)	ND(10)
Pyrene	µg/kg	265	ND(10)	ND(500)	ND(1,000)	4.5 J	ND(50)	ND(10)	ND(10)	142	ND(10)	ND(10)	ND(10)	ND(10)

NOTES:
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TABLE 17
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
POLYNUCLEAR AROMATIC HYDROCARBONS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID Sample Depth (Feet bgs) Date Collected	Units	B208 10 01/31/06	B209 2 01/31/06	B209 5 01/31/06	B209 10 01/31/06	B210 2 01/31/06	B210 5 01/31/06	B210 10 01/31/06	B211 2 02/06/06	B211 5 02/06/06	B211 10 02/06/06	B212 2 01/24/06	B212 5 01/24/06	B212 10 01/24/06
PAHs														
Acenaphthene	µg/kg	ND(10)	48 J	ND(100)	ND(100)	ND(50)	ND(10)	ND(10)	ND(50)	ND(100)	ND(50)	ND(10)	ND(10)	ND(10)
Acenaphthylene	µg/kg	ND(10)	ND(100)	ND(100)	ND(100)	ND(50)	ND(10)	ND(10)	ND(50)	ND(100)	ND(50)	ND(10)	ND(10)	ND(10)
Anthracene	µg/kg	ND(10)	15 J	ND(100)	2.4 J	ND(50)	ND(10)	ND(10)	ND(50)	ND(100)	ND(50)	ND(10)	ND(10)	ND(10)
Benzo(a)anthracene	µg/kg	ND(10)	21 J	ND(100)	ND(100)	3.2 J	ND(10)	ND(10)	ND(50)	32 J	ND(50)	ND(10)	ND(10)	ND(10)
Benzo(a)pyrene	µg/kg	ND(10)	41 J	16 J	ND(100)	5.2 J	ND(10)	ND(10)	ND(50)	ND(100)	ND(50)	ND(10)	ND(10)	ND(10)
Benzo(b)fluoranthene	µg/kg	ND(10)	ND(100)	ND(100)	ND(100)	2.2 J	ND(10)	ND(10)	ND(50)	ND(100)	ND(50)	ND(10)	ND(10)	ND(10)
Benzo(ghi)perylene	µg/kg	ND(10)	ND(100)	12 J	17 J	4 J	ND(10)	ND(10)	ND(50)	ND(100)	ND(50)	ND(10)	ND(10)	ND(10)
Benzo(k)fluoranthene	µg/kg	ND(10)	ND(100)	ND(100)	ND(100)	ND(50)	ND(10)	ND(10)	ND(50)	ND(100)	ND(50)	ND(10)	ND(10)	ND(10)
Chrysene	µg/kg	ND(10)	155	7.4 J	ND(100)	6.3 J	ND(10)	ND(10)	17 J	55 J	ND(50)	ND(10)	ND(10)	ND(10)
Dibenzo(a,h)anthracene	µg/kg	ND(10)	ND(100)	ND(100)	ND(100)	ND(50)	ND(10)	ND(10)	ND(50)	ND(100)	ND(50)	ND(10)	ND(10)	ND(10)
Fluoranthene	µg/kg	ND(10)	7.6 J	ND(100)	2.3 J	4 J	ND(10)	ND(10)	ND(50)	ND(100)	ND(50)	ND(10)	ND(10)	ND(10)
Fluorene	µg/kg	ND(10)	ND(100)	ND(100)	2.6 J	ND(50)	ND(10)	ND(10)	ND(50)	ND(100)	ND(50)	ND(10)	ND(10)	ND(10)
Indeno(1,2,3-cd)pyrene	µg/kg	ND(10)	ND(100)	ND(100)	ND(100)	ND(50)	ND(10)	ND(10)	ND(50)	ND(100)	ND(50)	ND(10)	ND(10)	ND(10)
Naphthalene	µg/kg	2.7 J	34 J	ND(100)	12 J	ND(50)	ND(10)	ND(10)	ND(50)	ND(100)	ND(50)	ND(10)	ND(10)	ND(10)
Phenanthrene	µg/kg	ND(10)	26 J	ND(100)	3.2 J	2.5 J	ND(10)	ND(10)	ND(50)	ND(100)	ND(50)	ND(10)	ND(10)	ND(10)
Pyrene	µg/kg	ND(10)	49 J	4.7 J	ND(100)	5.4 J	ND(10)	ND(10)	23 J	85 J	ND(50)	ND(10)	ND(10)	ND(10)

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TABLE 17
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
POLYNUCLEAR AROMATIC HYDROCARBONS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID Sample Depth (Feet bgs) Date Collected	Units	B213 2 02/06/06	B213 5 02/06/06	B213 10 02/06/06
PAHs				
Acenaphthene	µg/kg	ND(10)	ND(10)	ND(10)
Acenaphthylene	µg/kg	ND(10)	ND(10)	ND(10)
Anthracene	µg/kg	ND(10)	ND(10)	ND(10)
Benzo(a)anthracene	µg/kg	ND(10)	ND(10)	ND(10)
Benzo(a)pyrene	µg/kg	ND(10)	ND(10)	ND(10)
Benzo(b)fluoranthene	µg/kg	ND(10)	ND(10)	ND(10)
Benzo(ghi)perylene	µg/kg	ND(10)	ND(10)	ND(10)
Benzo(k)fluoranthene	µg/kg	ND(10)	ND(10)	ND(10)
Chrysene	µg/kg	ND(10)	ND(10)	ND(10)
Dibenzo(a,h)anthracene	µg/kg	ND(10)	ND(10)	ND(10)
Fluoranthene	µg/kg	ND(10)	ND(10)	ND(10)
Fluorene	µg/kg	ND(10)	ND(10)	ND(10)
Indeno(1,2,3-cd)pyrene	µg/kg	ND(10)	ND(10)	ND(10)
Naphthalene	µg/kg	ND(10)	3.4 J	ND(10)
Phenanthrene	µg/kg	ND(10)	ND(10)	ND(10)
Pyrene	µg/kg	ND(10)	ND(10)	ND(10)

NOTES:
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TABLE 17
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
POLYNUCLEAR AROMATIC HYDROCARBONS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID / Sample Depth (Feet bgs) / Date Collected	Units	B214 2 01/23/06	B214 5 01/23/06	B214 10 01/23/06	B215 2 02/03/06	B215 5 02/03/06	B215 10 02/03/06	B216 2 02/02/06	B216 5 02/02/06	B216 10 02/02/06	B217 2 01/24/06	B217 5 01/24/06	B217 10 01/24/06	B218 2 02/08/06
PAHs														
Acenaphthene	µg/kg	ND(10)	ND(10)	ND(10)	ND(50)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(100)
Acenaphthylene	µg/kg	ND(10)	ND(10)	ND(10)	ND(50)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(100)
Anthracene	µg/kg	ND(10)	ND(10)	ND(10)	ND(50)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(100)
Benzo(a)anthracene	µg/kg	ND(10)	ND(10)	ND(10)	ND(50)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(100)
Benzo(a)pyrene	µg/kg	ND(10)	ND(10)	ND(10)	ND(50)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(100)
Benzo(b)fluoranthene	µg/kg	ND(10)	ND(10)	ND(10)	ND(50)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(100)
Benzo(ghi)perylene	µg/kg	ND(10)	ND(10)	ND(10)	ND(50)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	22 J
Benzo(k)fluoranthene	µg/kg	ND(10)	ND(10)	ND(10)	ND(50)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(100)
Chrysene	µg/kg	ND(10)	ND(10)	ND(10)	20 J	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(100)
Dibenzo(a,h)anthracene	µg/kg	ND(10)	ND(10)	ND(10)	ND(50)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(100)
Fluoranthene	µg/kg	2.5 J	ND(10)	ND(10)	ND(50)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(100)
Fluorene	µg/kg	ND(10)	ND(10)	ND(10)	ND(50)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(100)
Indeno(1,2,3-cd)pyrene	µg/kg	ND(10)	ND(10)	ND(10)	ND(50)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(100)
Naphthalene	µg/kg	6.5 J	ND(10)	ND(10)	ND(50)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	4 J	2.4 J	ND(10)	ND(100)
Phenanthrene	µg/kg	ND(10)	ND(10)	ND(10)	ND(50)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	2.1 J	ND(10)	ND(100)
Pyrene	µg/kg	ND(10)	ND(10)	ND(10)	27 J	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(100)

NOTES:
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TABLE 17
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POLYNUCLEAR AROMATIC HYDROCARBONS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID Sample Depth (Feet bgs) Date Collected	Units	B218 5 02/08/06	B218 10 02/08/06	B219 2 01/26/06	B219 5 01/26/06	B219 10 01/26/06	B220 2 01/26/06	B220 5 01/26/06	B220 10 01/26/06	B221 2 01/27/06	B221 5 01/27/06	B221 10 01/27/06	B222 2 02/03/06	B222 5 02/03/06
PAHs														
Acenaphthene	µg/kg	ND(100)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Acenaphthylene	µg/kg	ND(100)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Anthracene	µg/kg	ND(100)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Benzo(a)anthracene	µg/kg	ND(100)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Benzo(a)pyrene	µg/kg	ND(100)	ND(10)	ND(10)	ND(10)	ND(10)	9.6 J	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Benzo(b)fluoranthene	µg/kg	ND(100)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Benzo(ghi)perylene	µg/kg	45 J	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	4.3 J	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Benzo(k)fluoranthene	µg/kg	ND(100)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Chrysene	µg/kg	59 J	ND(10)	ND(10)	ND(10)	ND(10)	20	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Dibenzo(a,h)anthracene	µg/kg	ND(100)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Fluoranthene	µg/kg	ND(100)	ND(10)	ND(10)	ND(10)	ND(10)	5.7 J	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Fluorene	µg/kg	ND(100)	ND(10)	ND(10)	ND(10)	ND(10)	2.2 J	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Indeno(1,2,3-cd)pyrene	µg/kg	ND(100)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Naphthalene	µg/kg	ND(100)	ND(10)	ND(10)	ND(10)	ND(10)	2.7 J	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	2.5 J	ND(10)
Phenanthrene	µg/kg	99 J	ND(10)	ND(10)	ND(10)	ND(10)	5.4 J	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
Pyrene	µg/kg	89 J	ND(10)	ND(10)	ND(10)	ND(10)	2.3 J	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)

NOTES:
ID - Identification
bgs- Below ground surface
PAHs - Polynuclear aromatic hydrocarbons
µg/kg - Micrograms per kilogram
ND(10) - Analyte not detected at reporting limit shown
J - Analyte estimated concentration below reporting limit

TABLE 17
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
POLYNUCLEAR AROMATIC HYDROCARBONS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID Sample Depth (Feet bgs) Date Collected	units	B223 10 02/03/06	B223 2 02/03/06	B223 5 02/03/06	B223 10 02/03/06
PAHs					
Acenaphthene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)
Acenaphthylene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)
Anthracene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)
Benzo(a)anthracene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)
Benzo(a)pyrene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)
Benzo(b)fluoranthene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)
Benzo(ghi)perylene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)
Benzo(k)fluoranthene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)
Chrysene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)
Dibenzo(a,h)anthracene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)
Fluoranthene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)
Fluorene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)
Indeno(1,2,3-cd)pyrene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)
Naphthalene	µg/kg	ND(10)	ND(10)	4 J	ND(10)
Phenanthrene	µg/kg	ND(10)	ND(10)	2.2 J	ND(10)
Pyrene	µg/kg	ND(10)	ND(10)	ND(10)	ND(10)

NOTES:
ID - Identification
bgs- Below ground surface
PAHs - Polynuclear aromatic hydrocarbons
µg/kg - Micrograms per kilogram
ND(10) - Analyte not detected at reporting limit shown
J - Analyte estimated concentration below reporting limit

TABLE 18
DETECTION FREQUENCY SUMMARY OF METALS IN SOIL

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Analyte	Depth (feet bgs)	Maximum Detected Concentration (mg/kg)	Minimum Detected Concentration (mg/kg)	Number of Detects	Number of Samples Analyzed	Percent Detection (%)
Antimony	2	7.85	0.65	138	147	93.9
Antimony	5	6.59	0.97	58	59	98.3
Antimony	10	3.11	1.83	3	7	42.9
Antimony	15	1.26	1.26	1	2	50.0
Arsenic	2	6.13	0.36	137	147	93.2
Arsenic	5	22.5	0.613	56	59	94.9
Arsenic	10	7.06	2.36	7	7	100.0
Arsenic	15	13.1	7.35	2	2	100.0
Arsenic	20	12.5	12.5	1	1	100.0
Barium	2	302	49.5	147	147	100.0
Barium	5	1420	45.4	59	59	100.0
Barium	10	311	47.1	7	7	100.0
Barium	15	123	84	2	2	100.0
Barium	20	84.2	84.2	1	1	100.0
Beryllium	2	1.43	0.269	147	147	100.0
Beryllium	5	1.55	0.463	59	59	100.0
Beryllium	10	1.14	0.566	6	7	85.7
Beryllium	15	1	0.574	2	2	100.0
Cadmium	2	0.857	0.066	142	147	96.6
Cadmium	5	0.604	0.011	58	59	98.3
Cadmium	10	0.29	0.052	5	7	71.4
Cadmium	15	0.075	0.06	2	2	100.0
Chromium	2	289	10.5	147	147	100.0
Chromium	5	47.5	9.47	59	59	100.0
Chromium	10	34.9	11.1	7	7	100.0
Chromium	15	23.3	19.8	2	2	100.0
Chromium	20	16.6	16.6	1	1	100.0
Cobalt	2	22.6	3.63	147	147	100.0
Cobalt	5	19.4	4.1	58	59	98.3
Cobalt	10	15.6	4.95	6	7	85.7

TABLE 18
DETECTION FREQUENCY SUMMARY OF METALS IN SOIL

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Analyte	Depth (feet bgs)	Maximum Detected Concentration (mg/kg)	Minimum Detected Concentration (mg/kg)	Number of Detects	Number of Samples Analyzed	Percent Detection (%)
Cobalt	15	12.6	8.54	2	2	100.0
Cobalt	20	9.13	9.13	1	1	100.0
Copper	2	246	6.13	147	147	100.0
Copper	5	42.2	8.52	59	59	100.0
Copper	10	31.8	9.34	7	7	100.0
Copper	15	22.8	15.5	2	2	100.0
Copper	20	15.6	15.6	1	1	100.0
Lead	2	2870	4.07	147	147	100.0
Lead	5	603	4.72	59	59	100.0
Lead	10	19.4	3.49	7	7	100.0
Lead	15	7.2	5.67	2	2	100.0
Lead	20	4.9	4.9	1	1	100.0
Mercury	2	1.47	0.02	115	147	78.2
Mercury	5	0.29	0.02	54	59	91.5
Mercury	10	0.14	0.03	7	7	100.0
Mercury	15	0.04	0.03	2	2	100.0
Mercury	20	0.05	0.05	1	1	100.0
Molybdenum	2	8.81	0.039	81	147	55.1
Molybdenum	5	2.82	0.069	19	59	32.2
Molybdenum	10	0.819	0.075	3	7	42.9
Molybdenum	15	0.787	0.172	2	2	100.0
Nickel	2	37.8	5.52	147	147	100.0
Nickel	5	33	5.64	59	59	100.0
Nickel	10	24.2	8.1	7	7	100.0
Nickel	15	18.9	13.5	2	2	100.0
Nickel	20	13.4	13.4	1	1	100.0
Selenium	2	8.8	1.67	2	147	1.4
Vanadium	2	74.9	25.2	147	147	100.0
Vanadium	5	74.9	26.8	59	59	100.0
Vanadium	10	55.2	20.1	7	7	100.0

TABLE 18
DETECTION FREQUENCY SUMMARY OF METALS IN SOIL

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Analyte	Depth (feet bgs)	Maximum Detected Concentration (mg/kg)	Minimum Detected Concentration (mg/kg)	Number of Detects	Number of Samples Analyzed	Percent Detection (%)
Vanadium	15	48.2	37.9	2	2	100.0
Vanadium	20	35.3	35.3	1	1	100.0
Zinc	2	231	18.5	147	147	100.0
Zinc	5	84.3	20.5	59	59	100.0
Zinc	10	68.8	23.2	7	7	100.0
Zinc	15	56.5	36.9	2	2	100.0
Zinc	20	37.1	37.1	1	1	100.0

NOTES:
bgs - Below ground surface
mg/kg - Milligrams per kilogram
% - Percent

TABLE 19
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
METALS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID Sample Depth (Feet bgs) Date Collected	Units	B005 2 12/08/05	B005 5 12/08/05	B007 2 12/12/05	B008 2 12/08/05	B008 5 12/08/05	B009 2 12/09/05	B010 2 12/09/05	B010 5 12/09/05	B011 2 01/09/06	B011 5 01/09/06	B014 2 12/13/05	B014 5 12/13/05	B015 2 12/12/05
Metals														
Antimony	mg/kg	4.19	6.03	7.07	6.54	5.25	4.96	6.26	6.59	3.12	4.02	1.44 J	4.86	4.7
Arsenic	mg/kg	0.803 J	2.84	2.5	1.53	2.95	ND(1)	0.719 J	2.85	3.19	3.77	4.89	3.81	0.536 J
Barium	mg/kg	117	133	144	174	192	116	152	77.9	117	134	152	234	129
Beryllium	mg/kg	0.907	1.03	1.07	1.25	1.13	0.823	1.03	1.13	0.717	0.885	0.734	1.4	0.836
Cadmium	mg/kg	0.401 J	0.262 J	0.401 J	0.328 J	0.304 J	0.534	0.564	0.604	0.367 J	0.173 J	0.55	0.37 J	0.371 J
Chromium	mg/kg	25.5	28.7	34.2	34.2	33.2	23.7	31.3	34.3	20.8	23	42.2	43.1	31.6
Cobalt	mg/kg	11.8	15.5	15.7	15	14.5	12.5	13.8	14.9	10.4	11.2	14.2	17.5	11.7
Copper	mg/kg	15.5	21.3	20	18.2	23.9	14.1	14.7	21.3	24.1	15	246	25	26.7
Lead	mg/kg	16.4	11	9.39	10.8	10.2	6.51	8.63	9.19	43.3	7.37	41.7	11.9	21
Mercury	mg/kg	0.05 J	0.27	0.08 J	0.05 J	0.03 J	0.02 J	ND(0.14)	0.04 J	0.03 J	ND(0.14)	0.12 J	0.04 J	0.03 J
Molybdenum	mg/kg	ND(1)	ND(1)	0.093 J	ND(1)	ND(1)	0.817 J	0.184 J	0.081 J	0.85 J	0.104 J	1.05	ND(1)	0.777 J
Nickel	mg/kg	18.2	21	22.1	22.7	24.7	16.7	20.1	23.4	14.8	16.6	22.1	29.1	18.5
Selenium	mg/kg	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)
Vanadium	mg/kg	45.7	56.7	61.6	65.7	54.1	40.4	54.6	56.7	37.6	42.2	54.3	73.8	44.7
Zinc	mg/kg	115	50	57.2	55.4	53.7	45.8	52.2	56.2	200	45.2	88	66.8	70.5

NOTES:
ID - Identification
bgs - Below ground surface
mg/kg - Milligrams per kilogram
ND(1) - Analyte not detected at reporting limit shown
J - Analyte estimated concentration below reporting limit

TABLE 19
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
METALS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID Sample Depth (Feet bgs) Date Collected	Units	B016 2 12/13/05	B017 2 12/29/05	B018 2 12/29/05	B018 15 12/29/05	B019 2 12/28/05	B020 2 12/12/05	B021 2 12/28/05	B021 5 12/28/05	B022 2 12/28/05	B023 2 12/28/05	B024 2 12/16/05	B025 2 12/15/05	B026 2 12/15/05
Metals														
Antimony	mg/kg	3.45	1.96 J	4.65	4.55	4.66	4.1	4.83	5.2	5.06	3.07	5.43	5.08	3.3
Arsenic	mg/kg	ND(1)	ND(1)	1.46	1.87	2.27	ND(1)	1.02	3.17	2.25	1.4	0.714 J	1.11	2.95
Barium	mg/kg	111	96.3	123	137	160	141	150	178	164	111	137	122	98.4
Beryllium	mg/kg	0.975	0.64	0.973	1.01	0.925	0.769	0.836	0.96	0.912	0.537	0.769	0.741	0.524
Cadmium	mg/kg	0.198 J	0.201 J	0.332 J	0.282 J	0.42 J	0.26 J	0.397 J	0.432 J	0.434 J	0.344 J	0.442 J	0.3 J	0.34 J
Chromium	mg/kg	26.4	20.6	40.2	31.1	31.2	22.6	29.6	37.5	34.6	22.6	24.7	24.5	31.6
Cobalt	mg/kg	13	10.2	13.4	14.1	14.8	11.5	12.8	16.7	15.7	11.7	12	11.2	10.1
Copper	mg/kg	13.5	12.2	16.6	17.8	17.3	22.3	18.1	24.3	19.4	20.4	15.3	15.6	24
Lead	mg/kg	7.16	6.03	12	9.51	8.69	19.4	12	14.3	21.6	49.7	8.28	9.51	76.2
Mercury	mg/kg	0.03 J	ND(0.14)	ND(0.14)	0.04 J	0.03 J	0.03 J	0.03 J	0.07 J	0.28	0.13 J	0.13 J	0.41	0.03 J
Molybdenum	mg/kg	ND(1)	0.1 J	1.11	ND(1)	ND(1)	0.311 J	ND(1)	ND(1)	ND(1)	ND(1)	0.148 J	0.621 J	0.402 J
Nickel	mg/kg	17.3	13.5	22.8	20	20.8	14.9	19.3	24	22.9	16.5	16.9	15.8	13.7
Selenium	mg/kg	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)
Vanadium	mg/kg	46.4	36.6	49.7	51.9	59.8	37.6	53	66.9	63	41.5	41.6	42.7	31.8
Zinc	mg/kg	48	41.8	56.1	58	63.8	52.7	53.7	68.7	84.4	68.7	59.6	44.3	67

NOTES:
ID - Identification
bgs - Below ground surface
mg/kg - Milligrams per kilogram
ND(1) - Analyte not detected at reporting limit shown
J - Analyte estimated concentration below reporting limit

TABLE 19
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
METALS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID Sample Depth (Feet bgs) Date Collected	Units	B027 2 12/14/05	B028 2 12/13/05	B028 5 12/13/05	B034 2 12/14/05	B035 2 12/14/05	B036 2 12/14/05	B036 5 12/14/05	B036 10 12/14/05	B037 2 12/19/05	B038 2 12/19/05	B039 2 12/16/05	B039 5 12/16/05	B040 2 12/19/05
Metals														
Antimony	mg/kg	0.707 J	1.59 J	1.79 J	3.23	ND(3)	3.76	2.47 J	ND(3)	5.8	ND(3)	5.31	4.98	7.74
Arsenic	mg/kg	2.39	1.82	1.07	0.733 J	2.9	2.74	1.9	3.96	4.27	0.84 J	1.85	3.06	3.29
Barium	mg/kg	129	138	106	170	103	168	126	130	168	109	117	146	156
Beryllium	mg/kg	0.821	0.89	1.06	1.23	0.556	1.21	1.03	0.566	1.2	0.8	0.997	0.931	1.3
Cadmium	mg/kg	0.322 J	0.329 J	0.279 J	0.371 J	0.464 J	0.336 J	0.314 J	0.155 J	0.38 J	0.27 J	0.381 J	0.385 J	0.46 J
Chromium	mg/kg	33.8	42.5	31.9	32.6	40.6	38.6	31	18.4	36.4	22.7	26.8	32.8	40.6
Cobalt	mg/kg	12.1	11.8	14.3	16	11.4	18.1	15.1	9.19	16	10.7	13.9	15.2	14.3
Copper	mg/kg	22.5	28.7	21.7	18.5	30.5	25.3	22.4	12	20.8	14.7	16.5	23.3	19.4
Lead	mg/kg	55.2	53.4	9.03	9.27	63.5	10.3	7.87	5.18	11.8	15.1	8.48	9.35	12.2
Mercury	mg/kg	0.07 J	0.1 J	0.03 J	0.04 J	0.16	0.04 J	0.04 J	0.05 J	0.08 J	0.03 J	0.04 J	0.07 J	0.05 J
Molybdenum	mg/kg	0.641 J	0.44 J	ND(1)	ND(1)	2.09	ND(1)	ND(1)	ND(1)	ND(1)	0.98 J	ND(1)	ND(1)	0.47 J
Nickel	mg/kg	23.7	18.7	25.9	23.6	21.8	25.6	21.8	13.7	22.8	13.7	19.4	22.5	24.7
Selenium	mg/kg	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)
Vanadium	mg/kg	44.8	43.1	50.5	59.6	41.1	66.5	55	33.5	66.1	37.1	46.5	59.7	69.9
Zinc	mg/kg	73.9	118	57.2	62.2	104	66	56.8	38.5	56.6	44.5	55.9	62.5	65.5

NOTES:
ID - Identification
bgs - Below ground surface
mg/kg - Milligrams per kilogram
ND(1) - Analyte not detected at reporting limit shown
J - Analyte estimated concentration below reporting limit

TABLE 19
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
METALS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID: Sample Depth (Feet bgs): Date Collected:	Units	B041 2 12/28/05	B042 2 12/20/05	B042 5 12/20/05	B043 2 12/16/05	B044 2 12/16/05	B045 2 12/15/05	B046 2 12/15/05	B047 2 12/15/05	B048 2 12/20/05	B048 5 12/20/05	B049 2 12/14/05	B050 2 12/13/05	B055 2 12/21/05
Metals														
Antimony	mg/kg	5.48	4.36	6.29	0.65 J	5	3.43	3.35	5.92	4.27	4.63	3.61	ND(3)	ND(3)
Arsenic	mg/kg	1.47	1.24	3.41	3.34	0.948 J	ND(1)	3.61	3.43	5.05	4.55	ND(1)	3.32	1.39
Barium	mg/kg	143	177	185	121	97.3	110	122	123	230	173	230	160	66.1
Beryllium	mg/kg	1	1.22	1.28	0.44 J	0.655	0.602	0.505	0.98	1.15	1.34	1.28	0.87	0.397 J
Cadmium	mg/kg	0.41 J	0.362 J	0.396 J	0.338 J	0.303 J	0.208 J	0.485 J	0.352 J	0.359 J	0.379 J	0.47 J	ND(0.5)	0.067 J
Chromium	mg/kg	32.7	35.6	41.3	27.5	23.6	20.5	41.6	32.6	38.6	37.2	33	28.4	10.5
Cobalt	mg/kg	15.1	16.2	17.9	7.99	11.3	10.3	9.58	14.2	17.1	16.9	21.3	12.4	3.92
Copper	mg/kg	17.1	22.6	27.1	23.5	12.3	14.1	30.4	21.2	24.7	28.8	22.8	26.5	6.13
Lead	mg/kg	9.81	20.2	13.5	60.8	6.65	7.9	128	8.49	10.7	12.1	10.6	27.7	4.07
Mercury	mg/kg	0.03 J	0.04 J	0.08 J	0.04 J	ND(0.14)	ND(0.14)	0.14	ND(0.14)	0.08 J	0.06 J	ND(0.14)	0.21	0.05 J
Molybdenum	mg/kg	ND(1)	ND(1)	ND(1)	1.78	ND(1)	ND(1)	0.735 J	ND(1)	ND(1)	ND(1)	0.227 J	0.431 J	0.966 J
Nickel	mg/kg	21.8	24.1	27.1	12.9	15.8	13.5	18.9	21.7	25.7	27.5	24.6	21.3	5.65
Selenium	mg/kg	ND(1)	ND(1)	ND(1)	1.67	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)
Vanadium	mg/kg	62.9	62	70.6	30.6	40.9	34.4	33.2	54	65.8	69	56.9	50.2	25.2
Zinc	mg/kg	58.3	61.3	66.6	64.6	45.9	40.4	96.6	56.7	63.4	84.3	84	83	18.5

NOTES:
ID - Identification
bgs - Below ground surface
mg/kg - Milligrams per kilogram
ND(1) - Analyte not detected at reporting limit shown
J - Analyte estimated concentration below reporting limit

TABLE 19
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
METALS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID: / Sample Depth (Feet bgs): / Date Collected	Units	B056 2 12/14/05	B057 2 12/13/05	B058 2 12/20/05	B059 2 12/20/05	B060 2 12/20/05	B061 2 12/20/05	B062 2 12/21/05	B063 2 01/09/06	B066 2 01/12/06	B066 5 01/12/06	B067 2 12/21/05	B067 5 12/21/05	B070 2 12/22/05
Metals														
Antimony	mg/kg	3.64	2.69 J	4.47	6.98	5.74	4.8	5.34	3.53	6.36	2.55 J	ND(3)	1.68 J	1.9 J
Arsenic	mg/kg	2.49	2.83	1.5	5.45	4.04	1.48	0.36 J	2.55	3.73	2.69	0.7 J	3.25	2.94
Barium	mg/kg	80.9	182	185	185	187	157	171	128	146	45.4	57.6	85.6	126
Beryllium	mg/kg	0.594	1.09	1.33	1.31	1.3	1.14	1.28	0.714	1.02	0.463 J	0.269 J	0.617	0.674
Cadmium	mg/kg	0.206 J	0.399 J	0.311 J	0.399 J	0.401 J	0.386 J	0.276 J	0.272 J	0.288 J	0.076 J	0.068 J	0.266 J	0.4 J
Chromium	mg/kg	15.7	83	35.8	45	39.7	33.3	34.1	26.9	24.9	9.47	12.5	18.1	27.8
Cobalt	mg/kg	7.14	14.2	16.3	15.1	16.5	15.5	14.9	11.3	10.4	4.1	3.63	7.86	10.4
Copper	mg/kg	9.34	36	18.9	24.2	24.3	18.6	18.6	22.2	14.7	8.52	7.2	14.7	20.7
Lead	mg/kg	5.54	138	9.46	10.3	10.4	9	9.75	72.5	6.47	4.72	5.93	12.5	21.9
Mercury	mg/kg	0.03 J	0.22	0.02 J	0.16	ND(0.14)	0.13 J	0.06 J	0.05 J	0.02 J	0.06 J	0.04 J	0.07 J	ND(0.14)
Molybdenum	mg/kg	2.02	8.81	ND(1)	1.03	ND(1)	1.67	ND(1)	0.658 J	1.31	0.871 J	4.76	2.82	1.35
Nickel	mg/kg	8.84	27.4	22.8	26.8	26.2	23.2	22.2	15.2	16.4	5.64	5.52	9.27	16.4
Selenium	mg/kg	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)
Vanadium	mg/kg	37.7	57.6	65.2	71.2	70.7	55.8	60.1	33.7	55.1	26.8	27.8	42.1	35
Zinc	mg/kg	95	110	62.8	66.8	64.2	60.9	57.8	64.4	48.3	20.5	20.5	47.5	94.5

NOTES:
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ND(1) - Analyte not detected at reporting limit shown
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TABLE 19
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
METALS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID: Sample Depth (Feet bgs): Date Collected:	Units	B070 5 12/22/05	B078 2 12/23/05	B079 2 12/23/05	B080 2 12/22/05	B081 2 12/22/05	B084 2 01/05/06	B085 2 12/28/05	B088 2 01/18/06	B088 5 01/18/06	B089 2 01/09/06	B090 2 01/10/06	B090 5 01/10/06	B092 2 01/05/06
Metals														
Antimony	mg/kg	2.13 J	1.88 J	1.93 J	2.43 J	1.7 J	3.23	5.89	5.54	5.99	7.85	5.71	3.48	4.03
Arsenic	mg/kg	ND(1)	2.31	4.84	6.13	3.54	3.73	4.72	1.87	5.7	4.69	3.78	2.23	3.87
Barium	mg/kg	156	49.5	104	131	139	95	138	130	182	207	144	124	111
Beryllium	mg/kg	0.766	0.635	0.599	0.702	0.67	0.476 J	0.997	0.937	1.19	1.33	1	0.776	0.858
Cadmium	mg/kg	0.205 J	0.105 J	ND(0.5)	0.308 J	0.347 J	0.311 J	0.332 J	0.157 J	0.15 J	ND(0.5)	0.099 J	0.011 J	0.376 J
Chromium	mg/kg	31.7	15	12.9	26.7	23.8	20.7	32.3	27.9	43.4	36.9	33.7	24.5	27
Cobalt	mg/kg	11.5	6.14	6.35	11.6	9.45	6.78	12.7	13.3	17.1	17.8	12	11.8	11
Copper	mg/kg	18.1	8.55	16.6	21	20.2	13.2	24.8	17.6	25.2	24.2	19.3	20.6	20.2
Lead	mg/kg	7.85	5.85	18.6	29.5	26.3	28.2	8.96	7.78	11.6	11.5	7.76	7.57	19.4
Mercury	mg/kg	ND(0.14)	0.07 J	0.07 J	ND(0.14)	ND(0.14)	0.08 J	0.09 J	0.03 J	0.06 J	0.05 J	0.09 J	0.06 J	0.05 J
Molybdenum	mg/kg	ND(1)	ND(1)	ND(1)	0.52 J	ND(1)	2.57	1.18	1.28	0.156 J	ND(1)	ND(1)	ND(1)	1.2
Nickel	mg/kg	20.9	7.15	9.52	19.4	15.8	15.8	23.5	18	25.4	25.5	18	21	18
Selenium	mg/kg	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)
Vanadium	mg/kg	34.2	34.8	28.1	39.3	36.7	36.5	50.7	51.1	64.4	70.5	56.2	34.8	41.1
Zinc	mg/kg	55.3	29.4	36.1	66.6	62.9	41.7	55.7	50.7	62.4	64.2	47.5	46.9	68.1

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TABLE 19
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
METALS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID Sample Depth (Feet bgs) Date Collected	Units	B093 2 01/05/06	B099 2 01/03/06	B099 5 01/03/06	B101 2 01/10/06	B103 2 01/06/06	B104 2 02/03/06	B104 5 02/03/06	B105 2 01/10/06	B105 5 01/10/06	B108 2 01/09/06	B108 5 01/09/06	B108 10 01/09/06	B115 2 01/03/06
Metals														
Antimony	mg/kg	2.36 J	ND(3)	2.63 J	4.93	3.51	1.77 J	2.32 J	6.01	5.77	6.05	5.69	ND(3)	1.47 J
Arsenic	mg/kg	3.5	1.23	3.1	2.68	1.14	3.09	2.14	0.8 J	ND(1)	5.12	22.5	4.46	4.89
Barium	mg/kg	113	67.1	172	137	141	162	136	178	177	215	206	47.1	124
Beryllium	mg/kg	0.678	0.386 J	1.04	0.94	0.879	1.22	1.27	1.2	1.18	1.05	1.26	ND(0.5)	0.677
Cadmium	mg/kg	0.666	0.208 J	0.214 J	0.154 J	0.287 J	0.305 J	0.301 J	0.199 J	0.152 J	0.216 J	0.183 J	ND(0.5)	0.349 J
Chromium	mg/kg	25.8	22.2	30.7	26.7	25.9	30.3	30.5	35.7	33.7	31.7	36.2	11.1	25.2
Cobalt	mg/kg	8.59	6.7	14.2	14.6	12.7	13.3	13.9	15.3	13.8	14.7	19.4	4.95	10.2
Copper	mg/kg	15.6	11.9	24.4	16.8	15	17.9	19.7	20.6	18.6	26.7	42.2	9.34	25.4
Lead	mg/kg	12.7	47.9	9.03	8.19	7.44	8.64	8.7	9.57	8.63	10.1	15.1	3.49	44.1
Mercury	mg/kg	0.06 J	ND(0.14)	0.03 J	0.04 J	ND(0.14)	0.03 J	0.04 J	ND(0.14)	0.07 J	0.04 J	0.2	0.06 J	0.09 J
Molybdenum	mg/kg	1.16	0.305 J	ND(1)	0.502 J	ND(1)	ND(1)	ND(1)	0.788 J	ND(1)	0.332 J	0.747 J	ND(1)	1.03
Nickel	mg/kg	16.1	9.67	22.9	17.6	17.3	19.7	20.3	22	21.5	26.8	33	8.1	21.6
Selenium	mg/kg	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)
Vanadium	mg/kg	44.9	74.9	50.3	54.3	43.4	56.9	57.6	56.2	49.4	47.9	59.1	20.1	46.9
Zinc	mg/kg	47.3	94.3	60.9	46.6	50.3	58.3	63.4	73.6	75.8	58.9	65.1	23.2	84.5

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TABLE 19
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
METALS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID Sample Depth (Feet bgs) Date Collected	Units	B117 2 01/06/06	B117 5 01/06/06	B118 2 01/06/06	B118 5 01/06/06	B119 2 01/27/06	B120 2 01/30/06	B120 5 01/30/06	B121 2 02/01/06	B123 2 01/20/06	B123 5 01/20/06	B123 10 01/19/06	B124 2 01/16/06	B124 5 01/16/06
Metals														
Antimony	mg/kg	4.48	3.71	6.13	5.33	1.79 J	3.8	4.2	2.86 J	0.779 J	ND(3)	ND(3)	3.35	5.18
Arsenic	mg/kg	5.08	3.6	3.91	4.59	2.5	3.3	3.6	2.86	1.07	2.24	2.69	0.659 J	3.39
Barium	mg/kg	216	188	201	204	152	157	137	138	122	104	144	113	152
Beryllium	mg/kg	1.22	1.17	1.4	1.24	1.38	0.8	0.8	0.721	0.633	0.483 J	0.76	0.75	1.06
Cadmium	mg/kg	0.328 J	0.259 J	0.398 J	0.341 J	0.239 J	ND(0.5)	ND(0.5)	0.227 J	0.296 J	0.374 J	0.052 J	0.179 J	0.19 J
Chromium	mg/kg	35.2	32.9	41.4	36.5	33.5	31.1	28.4	31.3	34.9	17.5	22.9	23.7	32.3
Cobalt	mg/kg	17.5	17.7	22.6	16.1	15.7	13.8	ND(0.5)	12.9	10.9	5.96	11.6	10.8	13.2
Copper	mg/kg	25	24.9	23.7	31.7	22.1	21.5	19.9	16.2	26.9	13.6	23.7	14.1	18.5
Lead	mg/kg	10.1	9.17	11.5	11.2	8.88	8.3	8.5	9.27	1,580	15.2	7.41	7.53	8.25
Mercury	mg/kg	0.03 J	0.02 J	ND(0.14)	0.29	0.04 J	ND(0.14)	0.05 J	0.05 J	0.14	0.04 J	0.14	0.02 J	0.03 J
Molybdenum	mg/kg	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	0.21 J	0.355 J	0.819 J	0.523 J	ND(1)
Nickel	mg/kg	25.6	25.9	28.8	26.5	21.3	20.9	20.3	19.3	16.2	11.9	19.3	16.8	19.3
Selenium	mg/kg	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)
Vanadium	mg/kg	59.4	54.6	70.2	65.5	58.8	52.5	54.3	52.7	33.5	28.4	38.7	41.3	56.2
Zinc	mg/kg	58.3	58.8	69.4	63.6	57.9	61.8	57.7	53.2	63.7	47.4	52	42.5	47.1

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TABLE 19
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
METALS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID: / Sample Depth (Feet bgs): / Date Collected:	Units	B126 2 01/20/06	B126 5 01/20/06	B127 2 01/18/06	B127 5 01/18/06	B128 2 02/01/06	B128 5 02/01/06	B129 2 01/18/06	B129 5 01/18/06	B132 2 01/19/06	B132 5 01/19/06	B134 2 01/23/06	B134 5 01/23/06	B139 2 01/18/06
Metals														
Antimony	mg/kg	1.35 J	2.11 J	4.27	4.69	2.69 J	3.42	3.21	3.61	6.67	6.28	3.12	2.5 J	4.12
Arsenic	mg/kg	2.58	3.43	1.35	3.21	1.28	6.08	2.51	1.72	2.89	4.81	3.11	ND(1)	1.08
Barium	mg/kg	140	150	158	134	137	144	137	124	181	173	138	95.7	120
Beryllium	mg/kg	0.743	1.02	1.19	1.14	0.641	0.722	1.09	0.891	1.21	1.03	1.18	0.979	0.685
Cadmium	mg/kg	0.324 J	0.278 J	0.221 J	0.222 J	0.223 J	0.344 J	0.24 J	0.209 J	0.16 J	0.143 J	0.263 J	0.15 J	0.333 J
Chromium	mg/kg	29	33.7	34	38.1	27	37.4	28.8	26.7	34.9	39.8	34.8	26.4	42.2
Cobalt	mg/kg	11.5	14.9	16.4	14.9	13	15.3	12.3	12.4	16.1	15.9	15.3	11.1	12.6
Copper	mg/kg	22.1	19.3	16.6	18.9	15.9	26.3	18.6	16	17.5	19.9	16.7	15.3	38.6
Lead	mg/kg	18.1	10.2	9.24	8.59	7.35	25.8	15.7	13.2	9.24	9.53	11.5	7.09	7.61
Mercury	mg/kg	0.09 J	0.06 J	0.06 J	0.04 J	0.02 J	0.11 J	0.1 J	0.06 J	0.39	0.09 J	0.04 J	0.02 J	0.03 J
Molybdenum	mg/kg	6.94	0.54 J	ND(1)	ND(1)	ND(1)	0.164 J	ND(1)	0.428 J	0.118 J	ND(1)	ND(1)	ND(1)	1.05
Nickel	mg/kg	21.2	21.4	22.1	22.7	19.9	24.1	18.5	17.5	23	23.5	22.2	19.8	24.6
Selenium	mg/kg	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)
Vanadium	mg/kg	44.1	58.1	61.1	62.8	50.6	58.9	53.3	46.2	62.5	62.8	57.1	40.4	40.8
Zinc	mg/kg	58.2	55.4	62.6	61.2	56.9	76.1	57.4	54.4	58.2	58.1	59.4	50.3	47.7

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TABLE 19
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
METALS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID Sample Depth (Feet bgs) Date Collected	Units	B140 2 01/31/06	B142 2 01/31/06	B142 5 01/31/06	B142 10 01/31/06	B142 15 01/31/06	B142 22 01/31/06	B144 5 01/31/06	B145 2 01/19/06	B145 5 01/19/06	B146 2 01/27/06	B146 5 01/27/06	B147 2 02/01/06	B148 2 01/23/06
Metals														
Antimony	mg/kg	2.26 J	4.86	3.09	1.83 J	1.26 J	2.29 J	1.38 J	6.96	5.94	1.55 J	1.21 J	2.34 J	1.77 J
Arsenic	mg/kg	3.81	1.6	2.92	2.36	7.35	1.38	0.613 J	2.21	0.919 J	0.465 J	1.45	ND(1)	0.869 J
Barium	mg/kg	113	121	1,420	134	123	94.2	95.8	119	117	111	137	153	104
Beryllium	mg/kg	0.348 J	0.567	0.517	1.14	1	0.452 J	0.68	0.717	0.78	1.09	1.27	0.634	0.798
Cadmium	mg/kg	0.214 J	0.098 J	0.407 J	0.143 J	0.075 J	0.224 J	0.129 J	0.213 J	0.015 J	0.17 J	0.186 J	0.126 J	0.193 J
Chromium	mg/kg	21.3	23.3	22.7	28.7	23.3	27.5	17.6	22	22.6	25	31.5	24.9	22.7
Cobalt	mg/kg	9.11	12.4	10.9	14.1	12.6	8.28	9.14	12.6	11.7	10.7	13	9.53	10.8
Copper	mg/kg	28.7	19.1	28.4	25.3	22.8	28.5	15.2	21.4	15.3	20.6	20.1	10	16.3
Lead	mg/kg	48.9	6.47	206	8.39	7.2	7.1	6.89	6.3	6.43	5.46	7.12	9.19	13.7
Mercury	mg/kg	ND(0.14)	0.06 J	0.06 J	0.06 J	0.03 J	0.07 J	0.03 J	ND(0.14)	ND(0.14)	ND(0.14)	0.05 J	0.03 J	0.02 J
Molybdenum	mg/kg	0.565 J	1.1	0.549 J	0.075 J	0.172 J	1.76	0.975 J	1.86	0.493 J	0.172 J	ND(1)	ND(1)	0.135 J
Nickel	mg/kg	14.2	16.4	17.9	22.9	18.9	19.1	13.7	15.6	15.4	16	18.6	16.1	15
Selenium	mg/kg	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)
Vanadium	mg/kg	33.5	42.2	38.2	49.2	48.2	30.7	36.8	50.8	41.4	39.3	52.3	34.7	37.7
Zinc	mg/kg	76.8	49.6	66.5	56.4	56.5	51.9	47.2	48.6	46.7	46.5	51.7	51.9	43

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TABLE 19
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
METALS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID Sample Depth (Feet bgs) Date Collected	Units	B148 5 01/23/06	B149 2* 01/23/06	B149 5 01/23/06	B149 10 01/23/06	B149 15 01/23/06	B149 20 01/23/06	B150 2* 01/20/06	B150 5 01/20/06	B151 2* 01/19/06	B151 5 01/19/06	B151 10 01/19/06	B153 2* 01/20/06	B153 5 01/20/06
Metals														
Antimony	mg/kg	2.53 J	2.31 J	1.86 J	2.32 J	ND(3)	ND(3)	0.718 J	1.96 J	4.03	3.8	ND(3)	3.09	2.3 J
Arsenic	mg/kg	2.53	ND(1)	2.97	3.7	13.1	12.5	1.52	2.26	1.45	1.6	7.06	2.1	2.45
Barium	mg/kg	130	155	124	311	84	84.2	118	134	133	148	156	148	169
Beryllium	mg/kg	0.878	0.884	0.919	1.1	0.574	ND(0.5)	0.863	1.06	0.935	0.711	0.58	1.24	1.13
Cadmium	mg/kg	0.271 J	0.363 J	0.209 J	0.148 J	0.06 J	ND(0.5)	0.248 J	0.23 J	0.11 J	0.174 J	ND(0.5)	0.294 J	0.279 J
Chromium	mg/kg	34.8	30.1	26.8	34.9	19.8	16.6	25.8	29	27	29.7	24.8	34.5	35.3
Cobalt	mg/kg	12.1	11.3	11.4	15.6	8.54	9.13	11.4	15.2	13.2	12	ND(0.5)	16.4	14.7
Copper	mg/kg	16.4	10.8	14.8	31.8	15.5	15.6	18.6	18.9	22.6	32.1	21.8	16.8	22.2
Lead	mg/kg	103	2,870	603	19.4	5.67	4.9	348	8.41	13.5	247	7.54	10.2	141
Mercury	mg/kg	0.04 J	0.06 J	0.02 J	0.03	0.04	0.05 J	0.07 J	0.05 J	0.02 J	0.16	0.11 J	0.03 J	0.12 J
Molybdenum	mg/kg	ND(1)	0.053 J	ND(1)	0.774 J	0.787 J	ND(1)	0.14 J	ND(1)	ND(1)	0.069 J	ND(1)	ND(1)	ND(1)
Nickel	mg/kg	18.6	15.1	18.4	23.9	13.5	13.4	16	20.8	18.5	17.6	21.6	22.7	22.3
Selenium	mg/kg	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)
Vanadium	mg/kg	44	35.2	44.5	52	37.9	35.3	39.6	55.3	48.1	41.5	40.1	60.2	56.9
Zinc	mg/kg	55.9	61	53.6	59.8	36.9	37.1	64.9	56.6	50.2	72	46.5	66.8	74.5

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ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID: / Sample Depth (Feet bgs): / Date Collected	Units	B156 / 2 / 01/13/06	B158 / 2 / 01/30/06	B159 / 2 / 01/30/06	B159 / 5 / 01/30/06	B160 / 2 / 01/31/06	B162 / 2 / 01/16/06	B163 / 2 / 01/16/06	B163 / 5 / 01/16/06	B164 / 2 / 01/16/06	B165 / 2 / 01/23/06	B166 / 2 / 01/24/06	B166 / 5 / 01/24/06	B167 / 2 / 01/17/06
Metals														
Antimony	mg/kg	3.67	6.5	3.25	4	4.03	2.78 J	3.7	4.67	4.44	3.44	1.53 J	3.19	6.07
Arsenic	mg/kg	3.09	4.1	2.7	4.97	3.31	0.948 J	1.52	2.6	3.13	2.69	1.85	5.58	0.572 J
Barium	mg/kg	109	153	162	190	161	126	207	108	148	109	108	98.4	109
Beryllium	mg/kg	0.663	0.7	0.783	1.05	0.848	0.851	0.881	0.905	1.17	1.16	0.987	0.947	0.75
Cadmium	mg/kg	0.331 J	ND(0.5)	0.114 J	0.214 J	0.152 J	0.173 J	0.168 J	0.191 J	0.238 J	0.229 J	0.189 J	0.231 J	0.066 J
Chromium	mg/kg	111	29.4	30.2	47.5	32.3	36.3	25.2	31.9	31	29.6	24.7	27.1	21
Cobalt	mg/kg	11.3	13	14.6	18.9	14.8	10.4	13.2	13.7	13.7	12.2	14.2	15.2	10
Copper	mg/kg	41	20	19.8	28.4	17.2	27	13.5	16.9	14.5	15.3	12.6	21.9	12.4
Lead	mg/kg	57	7.8	7.76	10.7	9.23	51	7.35	8.09	8.65	7.51	7.04	7.69	12.9
Mercury	mg/kg	ND(0.14)	ND(0.14)	0.02 J	ND(0.14)	ND(0.14)	ND(0.14)	ND(0.14)	0.09 J	ND(0.14)	0.06 J	0.03 J	0.03 J	0.04 J
Molybdenum	mg/kg	3	ND(1)	ND(1)	ND(1)	0.039	0.378 J	ND(1)	ND(1)	ND(1)	0.693 J	0.111 J	ND(1)	1.7
Nickel	mg/kg	24.1	19.9	20.4	27.8	21.9	14.6	16.7	19.2	19.8	18.5	16.3	20.5	13.3
Selenium	mg/kg	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)
Vanadium	mg/kg	53.5	51	54.1	73.4	54	39.3	50.2	52.1	55.3	53.1	46.8	49.8	38.6
Zinc	mg/kg	62.9	58.4	55.4	73.9	60.9	50.6	44.6	45.9	52.8	52.1	46.6	50.2	37.8

NOTES:
ID - Identification
bgs - Below ground surface
mg/kg - Milligrams per kilogram
ND(1) - Analyte not detected at reporting limit shown
J - Analyte estimated concentration below reporting limit

TABLE 19
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
METALS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID Sample Depth (Feet bgs) Date Collected	Units	B167 5 01/17/06	B168 2 01/17/06	B169 2 01/17/06	B170 2 01/18/06	B170 5 01/18/06	B172 2 01/12/06	B173 2 01/12/06	B173 5 01/12/06	B174 2 01/12/06	B174 5 01/12/06	B174 10 01/12/06	B175 2 02/07/06	B177 2 02/02/06
Metals														
Antimony	mg/kg	4.25	5.96	3.41	4.31	4.6	3.33	4.06	4.88	5.65	3.11	3.11	5.34	ND(3)
Arsenic	mg/kg	1.98	1.78	0.396 J	4.59	2.88	ND(1)	0.871 J	2.63	2.32	3.2	3.33	2.99	2.09
Barium	mg/kg	117	145	114	174	156	157	147	149	143	183	171	160	75.5
Beryllium	mg/kg	0.99	1.21	0.797	1.03	1.08	0.87	1.07	1.23	0.729	0.808	0.65	1.43	0.517
Cadmium	mg/kg	0.144 J	0.211 J	0.138 J	0.349 J	0.212 J	0.256 J	0.328 J	0.34 J	0.302 J	0.411 J	0.29 J	0.26 J	0.362 J
Chromium	mg/kg	25.7	31.5	21.1	31.3	32.3	21.8	27.6	35	289	31.6	30.5	35	18.7
Cobalt	mg/kg	12	14.4	11.5	15.8	15.7	10.5	14.4	15.7	6.3	14.7	14.4	17.3	7.06
Copper	mg/kg	14.2	13.4	13.7	34.3	17.6	15.3	19.5	21.1	71.8	19	30.9	17.6	10.4
Lead	mg/kg	7.4	9.01	6.26	29.8	10.5	38.5	8.07	8.72	247	9.17	9.93	9.05	4.55
Mercury	mg/kg	0.29	0.03 J	0.04 J	0.07 J	0.04 J	0.03 J	0.03 J	0.09 J	1.47	ND(0.14)	0.08 J	0.04 J	0.07 J
Molybdenum	mg/kg	0.527 J	ND(1)	0.051 J	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	3.07	0.485 J	ND(1)	ND(1)	1.64
Nickel	mg/kg	16.5	20.6	18	22.2	21.1	14.8	19.5	22.6	17.1	22.2	24.2	22.6	12.4
Selenium	mg/kg	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	8.8	ND(1)	ND(1)	ND(1)	ND(1)
Vanadium	mg/kg	49.9	61.5	39.4	54.8	61.4	32.5	50	57.1	34.2	54.7	55.2	63.3	33.6
Zinc	mg/kg	44.8	51.8	41.4	95.2	56.8	52.5	54.5	68.9	97.9	82.1	68.8	58.6	34.8

NOTES:
ID - Identification
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mg/kg - Milligrams per kilogram
ND(1) - Analyte not detected at reporting limit shown
J - Analyte estimated concentration below reporting limit

TABLE 19
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
METALS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID Sample Depth (Feet bgs) Date Collected	Units	B178 2 02/02/06	B178 5 02/02/06	B179 2 01/26/06	B180 2 01/26/06	B180 5 01/26/06	B181 2 02/06/06	B182 2 01/24/06	B182 5 01/25/06	B183 2 01/25/06	B184 2 01/25/06	B185 2 01/26/06	B186 2 01/27/06	B187 2 01/27/06
Metals														
Antimony	mg/kg	ND(3)	1.79 J	1.82 J	1.54 J	1.14 J	2.41 J	2.04 J	5.53	2.8 J	2.41 J	1.91 J	1.8 J	3
Arsenic	mg/kg	4.01	2.25	3.06	0.9 J	1.95	1.4	1.7	2.8	2.4	0.361 J	0.986 J	1.98	4.04
Barium	mg/kg	139	126	136	111	124	121	127	125	138	110	117	163	171
Beryllium	mg/kg	0.707	0.962	1.24	1.2	1.18	0.991	1.02	1.06	0.923	0.903	1.23	1.29	1.39
Cadmium	mg/kg	0.77	0.259 J	0.21 J	0.187 J	0.149 J	0.173 J	0.241 J	0.237 J	0.343 J	0.222 J	0.155 J	0.267 J	0.265 J
Chromium	mg/kg	23	28	27.8	24.8	24.7	25.1	26.8	30.2	30.4	20.7	30.2	39	36.1
Cobalt	mg/kg	9.32	13.1	12.7	14	12.3	11.9	12.3	14.2	11.9	10.5	11.7	13.3	14.9
Copper	mg/kg	19.1	15.6	18.4	14.7	15.9	12.3	11.6	23.4	28.7	15.3	16.5	39.3	23.3
Lead	mg/kg	27.6	7.52	10.3	6.12	6.52	6.72	7.22	10.5	42.9	6.17	19.6	7.8	8.72
Mercury	mg/kg	ND(0.14)	0.03 J	0.03 J	0.02 J	0.05 J	0.03 J	0.02 J	0.04 J	0.06 J	0.29	0.5	ND(0.14)	0.03 J
Molybdenum	mg/kg	1.32	ND(1)	0.31 J	0.126 J	0.123 J	ND(1)	ND(1)	1.63	1.04	0.314 J	1.36	1.54	0.28 J
Nickel	mg/kg	17.3	19.5	18.5	16.6	16.8	17.1	17.3	19.6	20.6	14.4	37.8	24.3	22.4
Selenium	mg/kg	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)
Vanadium	mg/kg	42.7	53.3	46.2	43.6	45	45.1	47.4	47.2	42.3	36.6	42.5	51.8	58
Zinc	mg/kg	87.4	51.7	61	47.2	48.4	47.3	49.4	52.5	84.7	43	52.9	69.6	56.6

NOTES:
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TABLE 19
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
METALS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID Sample Depth (Feet bgs) Date Collected	Units	B189 2 02/07/06	B191 2 02/01/06	B191 5 02/01/06	B195 2 02/03/06	B196 2 01/25/06	B197 2 02/01/06	B198 2 01/26/06	B198 5 01/26/06	B199 2 01/23/06	B200 2 01/24/06	B201 2 01/25/06	B201 5 01/25/06	B202 2 01/25/06
Metals														
Antimony	mg/kg	4.55	3.63	3.52	1.44 J	1.46 J	2.78 J	1.52 J	1.86 J	3.02	2.49 J	3.25	3.22	1.55 J
Arsenic	mg/kg	6.07	3.07	4.87	2	0.75 J	1.97	1.82	3.76	2.7	2.37	1.72	3	0.632 J
Barium	mg/kg	221	167	203	144	124	132	162	143	122	133	163	117	127
Beryllium	mg/kg	1.4	0.782	0.865	1.13	0.998	0.635	1.21	1.17	0.656	1.06	1.03	1.03	0.933
Cadmium	mg/kg	0.3 J	0.272 J	0.342 J	0.296 J	0.237 J	0.25 J	0.166 J	0.167 J	0.857	0.25 J	0.232 J	0.223 J	0.278 J
Chromium	mg/kg	46.6	33	42.2	27.1	23.1	26.9	31.7	32.3	30.5	26.9	25.2	27.5	24.2
Cobalt	mg/kg	16.5	15.1	16.6	13.4	11.8	13	14.5	14.6	9.98	12.3	12.6	13.7	12.8
Copper	mg/kg	23.7	20.9	28.4	18.4	17.1	12.7	17.1	25	33	14.2	18.5	23.6	19.5
Lead	mg/kg	9.61	9.01	10.6	7.67	6.73	7.62	8.02	8.81	69.4	6.96	7.8	8.3	7
Mercury	mg/kg	0.07 J	0.04 J	0.07 J	ND(0.14)	0.02 J	0.03 J	0.08 J	0.03 J	0.04 J	0.02 J	0.06 J	0.02 J	ND(0.14)
Molybdenum	mg/kg	ND(1)	ND(1)	ND(1)	ND(1)	0.447 J	ND(1)	ND(1)	ND(1)	1.72	ND(1)	ND(1)	ND(1)	ND(1)
Nickel	mg/kg	25.6	22.3	26.6	19.6	16.7	19.1	19.5	22.8	20.7	18.1	17.5	20.2	18.3
Selenium	mg/kg	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)
Vanadium	mg/kg	72.2	65.1	74.9	48.9	41.5	52.8	53.1	53.2	50.8	50.6	42.8	51.7	38.3
Zinc	mg/kg	60.8	61.1	72.4	54	45.1	55.2	51.8	52.8	231	49.6	48.7	52.2	51.1

NOTES:
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ND(1) - Analyte not detected at reporting limit shown
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TABLE 19
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
METALS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID Sample Depth (Feet bgs) Date Collected	Units	B203 2 02/07/06	B204 2 02/06/06	B205 2 02/07/06	B205 5 02/07/06	B206 2 02/08/06	B206 5 02/08/06	B209 2 01/31/06	B210 2 01/31/06	B211 2 02/06/06	B212 2 01/24/06	B213 2 02/06/06	B214 2 01/23/06	B215 2 02/03/06
Metals														
Antimony	mg/kg	3.1	2.85 J	2.4 J	2.78 J	2.18 J	2.32 J	2.37 J	2.79 J	1.44 J	1.7 J	0.783 J	2.31 J	ND(3)
Arsenic	mg/kg	5.44	3.16	3.64	3.06	2.93	3.27	2.25	3.16	2.45	1.14	1.52	ND(1)	0.962 J
Barium	mg/kg	302	195	239	164	169	182	145	145	219	123	126	139	143
Beryllium	mg/kg	1.26	1.33	1.16	1.15	0.896	1.13	0.677	0.687	0.971	0.727	0.986	0.846	0.961
Cadmium	mg/kg	0.363 J	0.374 J	0.431 J	0.35 J	0.282 J	0.264 J	0.127 J	0.108 J	0.326 J	0.223 J	0.158 J	0.228 J	0.278 J
Chromium	mg/kg	38.7	37.5	31.1	29.8	72.8	37.9	28	30.5	27.7	21.7	24.8	22.7	22.2
Cobalt	mg/kg	16.6	18.4	14	15.8	15.1	16.6	13.2	14.4	12.9	11.9	11.4	11.1	11.1
Copper	mg/kg	25.4	22.1	23.7	18.2	149	20.7	20	23.5	20.1	15.8	12.7	17	16.7
Lead	mg/kg	15.5	10.3	20.9	7.81	14.8	10.2	7.53	13.4	16.4	5.9	6.32	6.98	14.1
Mercury	mg/kg	0.04 J	0.05 J	0.03 J	0.02 J	0.04 J	0.03 J	ND(0.14)	0.05 J	0.03 J	ND(0.14)	0.02 J	ND(0.14)	0.03 J
Molybdenum	mg/kg	ND(1)	0.151 J	0.882 J	0.82 J	2.05	ND(1)	0.339 J	ND(1)	ND(1)	ND(1)	ND(1)	0.298 J	0.099 J
Nickel	mg/kg	23.9	26.3	21.2	21.7	21.4	23.8	20.8	20.3	22.1	17	17	16.4	15.8
Selenium	mg/kg	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)
Vanadium	mg/kg	56.4	65.3	51.1	48.2	51.3	62.1	46.1	49.8	46.1	37.4	45.3	35.2	39.5
Zinc	mg/kg	68.4	84.4	74.3	53.6	149	65.6	56.4	62.5	64.1	46.5	48.3	46.7	75.8

NOTES:
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ND(1) - Analyte not detected at reporting limit shown
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TABLE 19
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
METALS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID Sample Depth (Feet bgs) Date Collected	Units	B215 5 02/03/06	B216 2 02/02/06	B217 2 01/24/06	B218 2 02/08/06	B219 2 01/26/06	B219 5 01/26/06	B223 2 02/03/06	B223 5 02/03/06
Metals									
Antimony	mg/kg	0.97 J	1.61 J	2.53 J	0.948 J	1.36 J	1.4 J	2.17 J	2.61 J
Arsenic	mg/kg	2.61	1.26	2.08	4.45	0.596 J	0.725 J	2.98	5.77
Barium	mg/kg	121	118	127	125	131	277	167	175
Beryllium	mg/kg	1.1	0.77	0.951	0.553	0.921	1.12	1.36	1.55
Cadmium	mg/kg	0.231 J	0.203 J	0.21 J	0.18 J	0.196 J	0.243 J	0.284 J	0.293 J
Chromium	mg/kg	27.2	22.5	25.1	42.5	23.1	29.4	32.8	36.2
Cobalt	mg/kg	13.9	10.4	11.3	8.25	12.6	14.2	14.2	15.8
Copper	mg/kg	16	11.1	11.5	26.9	20.1	25.5	16.1	23.4
Lead	mg/kg	7.67	6.3	6.55	39.7	7.45	8.46	8.61	9.78
Mercury	mg/kg	0.05 J	0.03 J	0.02 J	0.1 J	0.05 J	0.05 J	0.03 J	0.08 J
Molybdenum	mg/kg	ND(1)	ND(1)	ND(1)	2.04	2.7	ND(1)	ND(1)	ND(1)
Nickel	mg/kg	17.9	15.5	16.3	13.8	17.4	23.6	21.1	23.4
Selenium	mg/kg	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)
Vanadium	mg/kg	54.1	41.4	45.5	34.1	37.9	44.8	62.6	66.6
Zinc	mg/kg	52.6	45.4	47.7	47.7	51.3	60.2	57.7	58.3

NOTES:
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ND(1) - Analyte not detected at reporting limit shown
J - Analyte estimated concentration below reporting limit

TABLE 20
DETECTION FREQUENCY SUMMARY OF POLYCHLORINATED BIPHENYLS IN SOIL

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Analyte	Depth (feet bgs)	Maximum Detected Concentration (mg/kg)	Minimum Detected Concentration (mg/kg)	Number of Detects	Number of Samples Analyzed	Percent Detection (%)
PCB-1254	2	16	0.038	6	40	15.0
PCB-1254	5	0.88	0.036	4	40	10.0
PCB-1254	10	0.04	0.04	1	3	33.3
PCB-1260	2	0.245	0.032	4	40	10.0
PCB-1260	5	0.06	0.035	2	40	5.0

NOTES:
bgs - Below ground surface
mg/kg - Milligrams per kilogram

TABLE 21
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
POLYCHLORINATED BIPHENYLS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID	Depth (Feet bgs)	Date Collected	PCB 1254 (mg/kg)	PCB 1260 (mg/kg)
B029	2	12/14/2005	0.04	0.032
	5	12/14/2005	ND(0.03)	ND(0.03)
B063	2	1/9/2006	0.139	0.245
	5	1/9/2006	0.036	ND(0.03)
B068	2	12/21/2005	ND(0.03)	ND(0.03)
	5	12/21/2005	ND(0.03)	ND(0.03)
B070	2	12/22/2005	0.038	ND(0.03)
	5	12/22/2005	ND(0.03)	ND(0.03)
B072	2	12/21/2005	ND(0.03)	ND(0.03)
	5	12/21/2005	ND(0.03)	ND(0.03)
B079	2	12/23/2005	0.12	0.04
	5	12/23/2005	0.26	0.06
	10	12/23/2005	ND(0.03)	ND(0.03)
	15	12/23/2005	ND(0.03)	ND(0.03)
B084	2	1/5/2006	ND(0.03)	ND(0.03)
	5	1/5/2006	ND(0.03)	ND(0.03)
B088	2	1/18/2006	ND(0.03)	ND(0.03)
	5	1/18/2006	ND(0.03)	ND(0.03)
B090	2	1/10/2006	ND(0.03)	ND(0.03)
	5	1/10/2006	ND(0.03)	ND(0.03)
B091	2	1/10/2006	ND(0.03)	ND(0.03)
	5	1/10/2006	ND(0.03)	ND(0.03)
B097	2	1/5/2006	ND(0.03)	ND(0.03)
	5	1/5/2006	ND(0.03)	ND(0.03)
B100	2	1/10/2006	ND(0.03)	ND(0.03)
	5	1/10/2006	ND(0.03)	ND(0.03)
B101	2	1/10/2006	ND(0.03)	ND(0.03)
	5	1/10/2006	ND(0.03)	ND(0.03)
B103	2	1/6/2006	ND(0.03)	ND(0.03)
	5	1/6/2006	ND(0.03)	ND(0.03)
B106	2	12/29/2005	ND(0.03)	ND(0.03)
	5	12/29/2005	ND(0.03)	ND(0.03)
B107	2	1/4/2006	ND(0.03)	ND(0.03)
	5	1/4/2006	ND(0.03)	ND(0.03)
B108	2	1/9/2006	ND(0.03)	ND(0.03)
	5	1/9/2006	ND(0.03)	ND(0.03)
B109	2	1/4/2006	ND(0.03)	ND(0.03)
	5	1/4/2006	ND(0.03)	ND(0.03)
B111	2	12/28/2005	ND(0.03)	0.045
	5	12/28/2005	ND(0.03)	0.035
B119	2	1/27/2006	ND(0.03)	ND(0.03)
	5	1/27/2006	ND(0.03)	ND(0.03)
B123	2	1/20/2006	ND(0.03)	ND(0.03)
	5	1/20/2006	ND(0.03)	ND(0.03)
B137	2	1/13/2006	ND(0.03)	ND(0.03)
	5	1/13/2006	ND(0.03)	ND(0.03)

TABLE 21
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
POLYCHLORINATED BIPHENYLS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID	Depth (Feet bgs)	Date Collected	PCB-1254 (mg/kg)	PCB-1260 (mg/kg)
B141	2	1/30/2006	ND(0.03)	ND(0.03)
	5	1/30/2006	ND(0.03)	ND(0.03)
B144	2	1/13/2006	ND(0.03)	ND(0.03)
	5	1/13/2006	ND(0.03)	ND(0.03)
B145	2	1/19/2006	ND(0.03)	ND(0.03)
	5	1/19/2006	ND(0.03)	ND(0.03)
B146	2	1/27/2006	ND(0.03)	ND(0.03)
	5	1/27/2006	ND(0.03)	ND(0.03)
B147	2	2/1/2006	ND(0.03)	ND(0.03)
	5	2/1/2006	ND(0.03)	ND(0.03)
B156	2	1/13/2006	ND(0.03)	ND(0.03)
	5	1/13/2006	ND(0.03)	ND(0.03)
B158	2	1/30/2006	ND(0.03)	ND(0.03)
	5	1/30/2006	ND(0.03)	ND(0.03)
B163	2	1/16/2006	ND(0.03)	ND(0.03)
	5	1/16/2006	ND(0.03)	ND(0.03)
B180	2	1/26/2006	ND(0.03)	ND(0.03)
	5	1/26/2006	ND(0.03)	ND(0.03)
B190	2	2/8/2006	ND(0.03)	ND(0.03)
	5	2/8/2006	ND(0.03)	ND(0.03)
B191	2	2/1/2006	0.79	ND(0.03)
	5	2/1/2006	0.88	ND(0.03)
	10	2/1/2006	0.04	ND(0.03)
	15	2/1/2006	ND(0.03)	ND(0.03)
B192	2	2/1/2006	16	ND(1.5)
	5	2/1/2006	0.13	ND(0.03)
	10	2/1/2006	ND(0.03)	ND(0.03)
B194	2	2/3/2006	ND(0.03)	ND(0.03)
	5	2/3/2006	ND(0.03)	ND(0.03)
B205	2	2/7/2006	ND(0.03)	ND(0.03)
	5	2/7/2006	ND(0.03)	ND(0.03)
B208	2	1/31/2006	ND(0.03)	ND(0.03)
	5	1/31/2006	ND(0.03)	ND(0.03)
B210	2	1/31/2006	ND(0.03)	ND(0.03)
	5	1/31/2006	ND(0.03)	ND(0.03)
B222	2	2/3/2006	ND(0.03)	ND(0.03)
	5	2/3/2006	ND(0.03)	ND(0.03)
B223	2	2/3/2006	ND(0.03)	ND(0.03)
	5	2/3/2006	ND(0.03)	ND(0.03)

NOTES:
ID - Identification
bgs - Below ground surface
mg/kg - Milligrams per kilogram
ND(0.03) - Analyte not detected at reporting limit shown

TABLE 22
DETECTION FREQUENCY SUMMARY OF PESTICIDES IN SOIL

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Analyte	Depth (feet bgs)	Maximum Detected Concentration (mg/kg)	Minimum Detected Concentration (mg/kg)	Number of Detects	Number of Samples Analyzed	Percent Detection (%)
4,4-DDD	2	0.018	0.018	1	10	10.0
4,4-DDE	2	0.007	0.007	1	10	10.0
4,4-DDT	2	0.015	0.015	1	10	10.0
Chlordane	2	0.03	0.03	1	10	10.0

NOTES:
bgs - Below ground surface
mg/kg - Milligrams per kilogram

TABLE 23
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
PESTICIDES

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID Sample Depth (Feet bgs) Date Collected	Units	B122-2 2 01/23/06	B137-2 2 01/13/06	B148-2 2 01/23/06	B156-2 2 01/13/06	B165-2 2 01/23/06	B168-2 2 01/17/06	B178-2 2 02/02/06	B183-2 2 01/25/06	B202-2 2 01/25/06	B216-2 2 02/02/06
Pesticides											
4,4-DDD	mg/kg	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	0.018	ND(0.005)	ND(0.005)	ND(0.005)
4,4-DDE	mg/kg	ND(0.004)	ND(0.004)	ND(0.004)	ND(0.004)	ND(0.004)	ND(0.004)	0.007	ND(0.004)	ND(0.004)	ND(0.004)
4,4-DDT	mg/kg	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	0.015	ND(0.005)	ND(0.005)	ND(0.005)
Aldrin	mg/kg	ND(0.004)	ND(0.004)	ND(0.004)	ND(0.004)	ND(0.004)	ND(0.004)	ND(0.004)	ND(0.004)	ND(0.004)	ND(0.004)
Alpha BHC	mg/kg	ND(0.002)	ND(0.002)	ND(0.002)	ND(0.002)	ND(0.002)	ND(0.002)	ND(0.002)	ND(0.002)	ND(0.002)	ND(0.002)
Beta BHC	mg/kg	ND(0.003)	ND(0.003)	ND(0.003)	ND(0.003)	ND(0.003)	ND(0.003)	ND(0.003)	ND(0.003)	ND(0.003)	ND(0.003)
Chlordane	mg/kg	ND(0.025)	ND(0.025)	ND(0.025)	ND(0.025)	ND(0.025)	ND(0.025)	0.03	ND(0.025)	ND(0.025)	ND(0.025)
Delta BHC	mg/kg	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)
Dieldrin	mg/kg	ND(0.003)	ND(0.003)	ND(0.003)	ND(0.003)	ND(0.003)	ND(0.003)	ND(0.003)	ND(0.003)	ND(0.003)	ND(0.003)
Endosulfan I	mg/kg	ND(0.004)	ND(0.004)	ND(0.004)	ND(0.004)	ND(0.004)	ND(0.004)	ND(0.004)	ND(0.004)	ND(0.004)	ND(0.004)
Endosulfan II	mg/kg	ND(0.004)	ND(0.004)	ND(0.004)	ND(0.004)	ND(0.004)	ND(0.004)	ND(0.004)	ND(0.004)	ND(0.004)	ND(0.004)
Endosulfan sulfate	mg/kg	ND(0.004)	ND(0.004)	ND(0.004)	ND(0.004)	ND(0.004)	ND(0.004)	ND(0.004)	ND(0.004)	ND(0.004)	ND(0.004)
Endrin	mg/kg	ND(0.004)	ND(0.004)	ND(0.004)	ND(0.004)	ND(0.004)	ND(0.004)	ND(0.004)	ND(0.004)	ND(0.004)	ND(0.004)
Endrin aldehyde	mg/kg	ND(0.004)	ND(0.004)	ND(0.004)	ND(0.004)	ND(0.004)	ND(0.004)	ND(0.004)	ND(0.004)	ND(0.004)	ND(0.004)
Heptachlor	mg/kg	ND(0.004)	ND(0.004)	ND(0.004)	ND(0.004)	ND(0.004)	ND(0.004)	ND(0.004)	ND(0.004)	ND(0.004)	ND(0.004)
Heptachlor epoxide	mg/kg	ND(0.003)	ND(0.003)	ND(0.003)	ND(0.003)	ND(0.003)	ND(0.003)	ND(0.003)	ND(0.003)	ND(0.003)	ND(0.003)
Lindane	mg/kg	ND(0.003)	ND(0.003)	ND(0.003)	ND(0.003)	ND(0.003)	ND(0.003)	ND(0.003)	ND(0.003)	ND(0.003)	ND(0.003)
Methoxychlor	mg/kg	ND(0.025)	ND(0.025)	ND(0.025)	ND(0.025)	ND(0.025)	ND(0.025)	ND(0.025)	ND(0.025)	ND(0.025)	ND(0.025)
Toxaphene	mg/kg	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)

NOTES:
ID - Identification
bgs - Below ground surface
mg/kg - Milligrams per kilogram
ND(0.005) - Analyte not detected at reporting limit shown

TABLE 24
DETECTION FREQUENCY SUMMARY OF HEXAVALENT CHROMIUM IN SOIL

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Depth (feet bgs)	Maximum Detected Concentration (µg/kg)	Minimum Detected Concentration (µg/kg)	Number of Detects	Number of Samples Analyzed	Percent Detection (%)
2	266	63	9	9	100.0
5	236	12	9	9	100.0
10	92	13	4	5	80.0
15	104	10	4	4	100.0
20	29	27	2	2	100.0

NOTES:
bgs - Below ground surface
µg/kg - Micrograms per kilogram

TABLE 25
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
HEXAVALENT CHROMIUM

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID	Depth (Feet bgs)	Date Collected	Hexavalent Chromium (µg/kg)
B068-2	2	12/21/2005	270
B068-5	5	12/21/2005	98
B069-2	2	12/22/2005	85
B069-5	5	12/22/2005	12
B074-2	2	1/11/2006	63
B074-5	5	1/11/2006	54
B141-2	2	1/30/2006	150
B141-5	5	1/30/2006	140
B141-10	10	1/30/2006	57
B141-15	15	1/30/2006	18
B141-20	20	1/30/2006	27
B159-2	2	1/31/2006	86
B159-5	5	1/31/2006	110
B159-10	10	1/31/2006	13
B159-15	15	1/31/2006	10
B163-2	2	1/16/2006	110
B163-5	5	1/16/2006	100
B163-10	10	1/16/2006	92
B163-15	15	1/16/2006	100
B174-2	2	1/12/2006	260
B174-5	5	1/12/2006	160
B174-10	10	1/12/2006	ND(10)
B189-2	2	2/7/2006	150
B189-5	5	2/7/2006	140
B190-2	2	2/8/2006	110
B190-5	5	2/8/2006	240
B190-10	10	2/8/2006	26
B190-15	15	2/8/2006	13
B190-20	20	2/8/2006	29

NOTES:
ID - Identification
bgs - Below ground surface
µg/kg - Micrograms per kilogram
ND(10) - Analyte not detected at reporting limit shown

TABLE 26
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
pH

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID	Depth (Feet bgs)	Date Collected	pH (pH Units)
B101	2	1/10/2006	7.65
	5	1/10/2006	8.09
B103	2	1/6/2006	7.34
	5	1/6/2006	7.78
B104	2	2/3/2006	7.28
	5	2/3/2006	7.48
B105	2	1/10/2006	7.35
	5	1/10/2006	7.58
B117	2	1/6/2006	7.5
	5	1/6/2006	7.95
B118	2	1/6/2006	7.46
	5	1/6/2006	7.85
B119	2	1/27/2006	7.41
	5	1/27/2006	7.51

NOTES:
ID - Identification
bgs - Below ground surface

Figures

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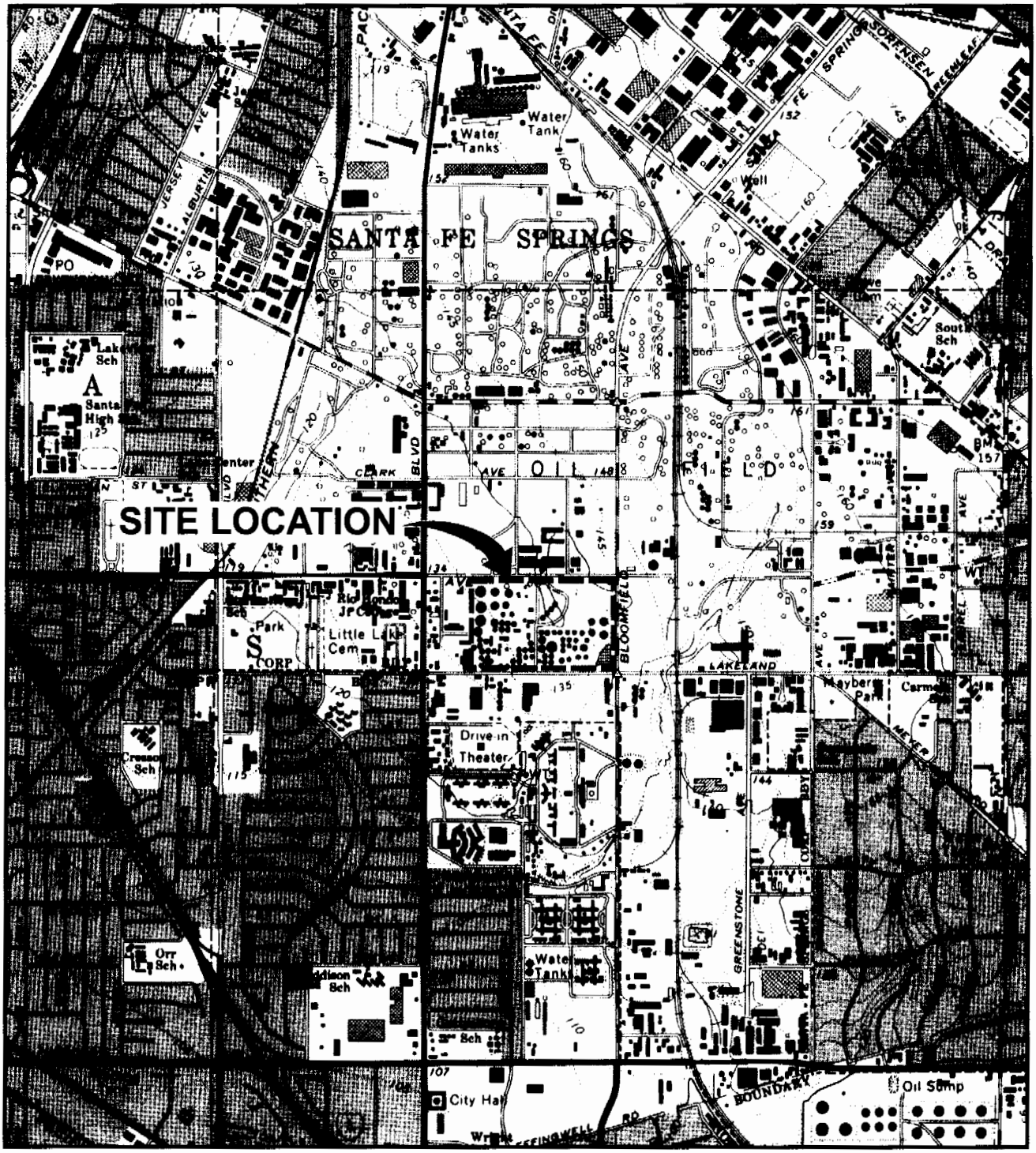


REFERENCE: BASE MAP USGS 7.5 MIN. QUAD., WHITTIER, CA. 1965, PHOTOREVISED 1981.

2000' 0 2000'

Approximate Scale: 1" = 2000'

Area Location

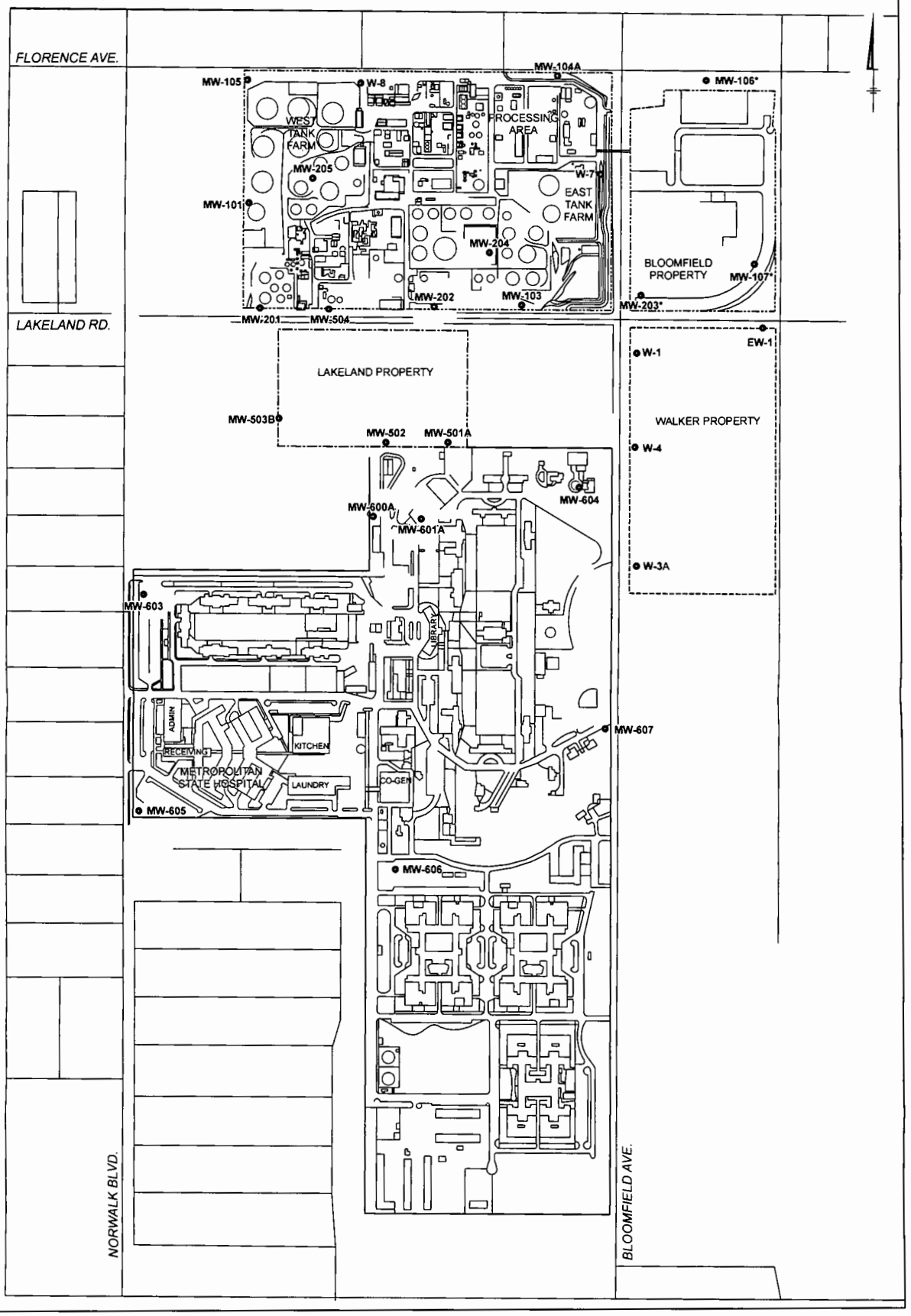
ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CALIFORNIA

SITE LOCATION MAP

BBL®
an ARCADIS company

FIGURE 1

06/27/06 SYR-D85-DJH-KLS
54203005/54203n01.cdr



LEGEND:

- MONITORING WELL LOCATION
- CENCO PROPERTY
- FORMER LAKELAND PROPERTY
- METROPOLITAN STATE HOSPITAL
- WALKER PROPERTY BOUNDARY

NOTE:

1. * WELLS WERE RE-INSTALLED FOLLOWING 02/2006 SAMPLING EVENT

0 500 1,000 Feet

GRAPHIC SCALE

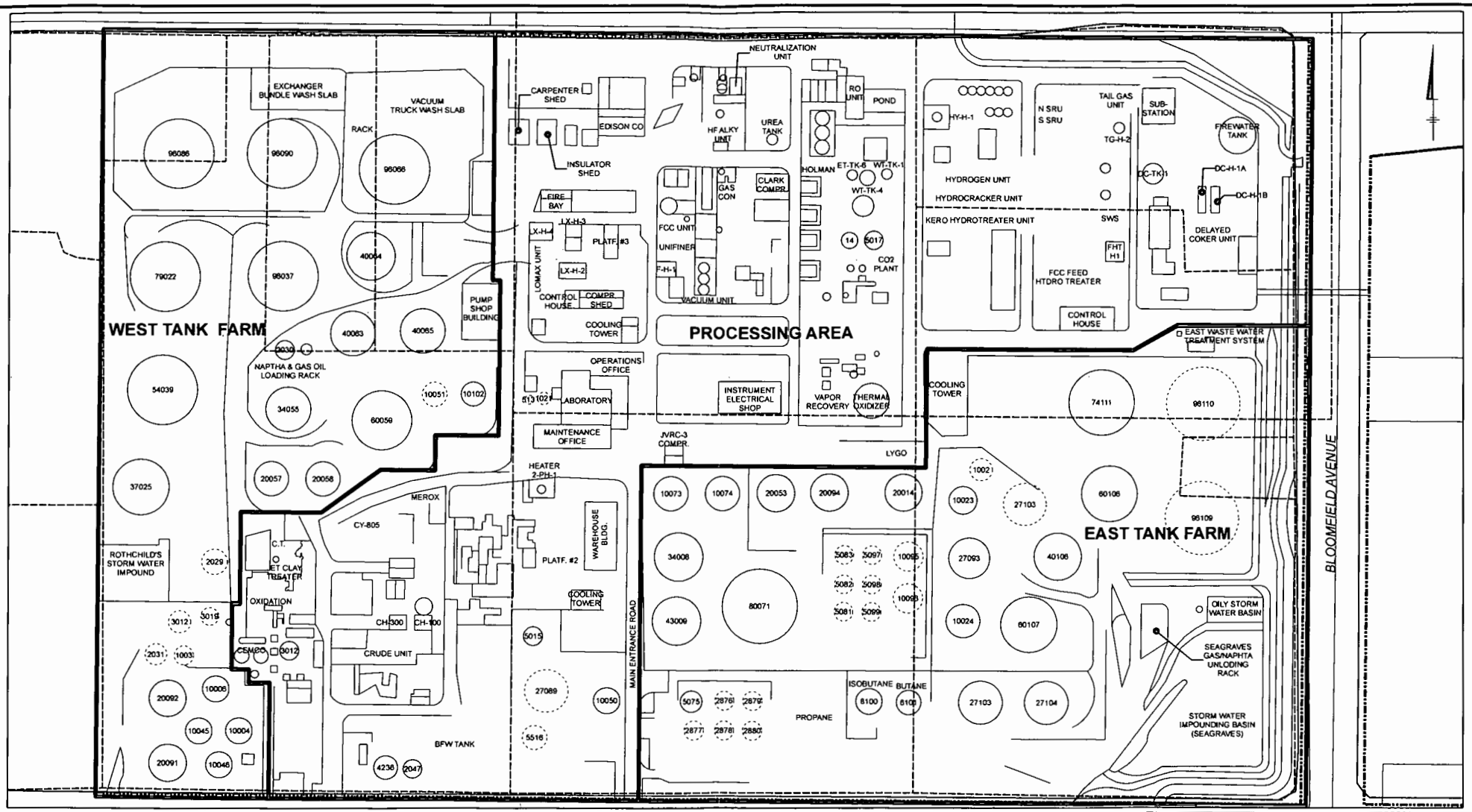
ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CALIFORNIA

SITE PLAN

BBL an ARCADIS company

FIGURE 2

6/30/06 SYR-85 EAB
Isola and Ascociates - Former Cenco Refinery
O:\IsolaandAssociates\SantaFeSprings\FormerCencoRefinery\AddCENCOSiteInvestigationReport\SitePlan-Feb206.mxd



LEGEND:

- PARCEL DIVISION
- CENCO PROPERTY
- OPERATIONAL AREA
- FORMER ABOVEGROUND STORAGE TANK LOCATION
- EXISTING ABOVEGROUND STORAGE TANK LOCATION

0 150 300 Feet

GRAPHIC SCALE

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CALIFORNIA

ON-SITE REFINERY FACILITY MAP

BBL an ARCADIS company

FIGURE 3

9/1/05 ROCH-65 EAB
Isola & Associates
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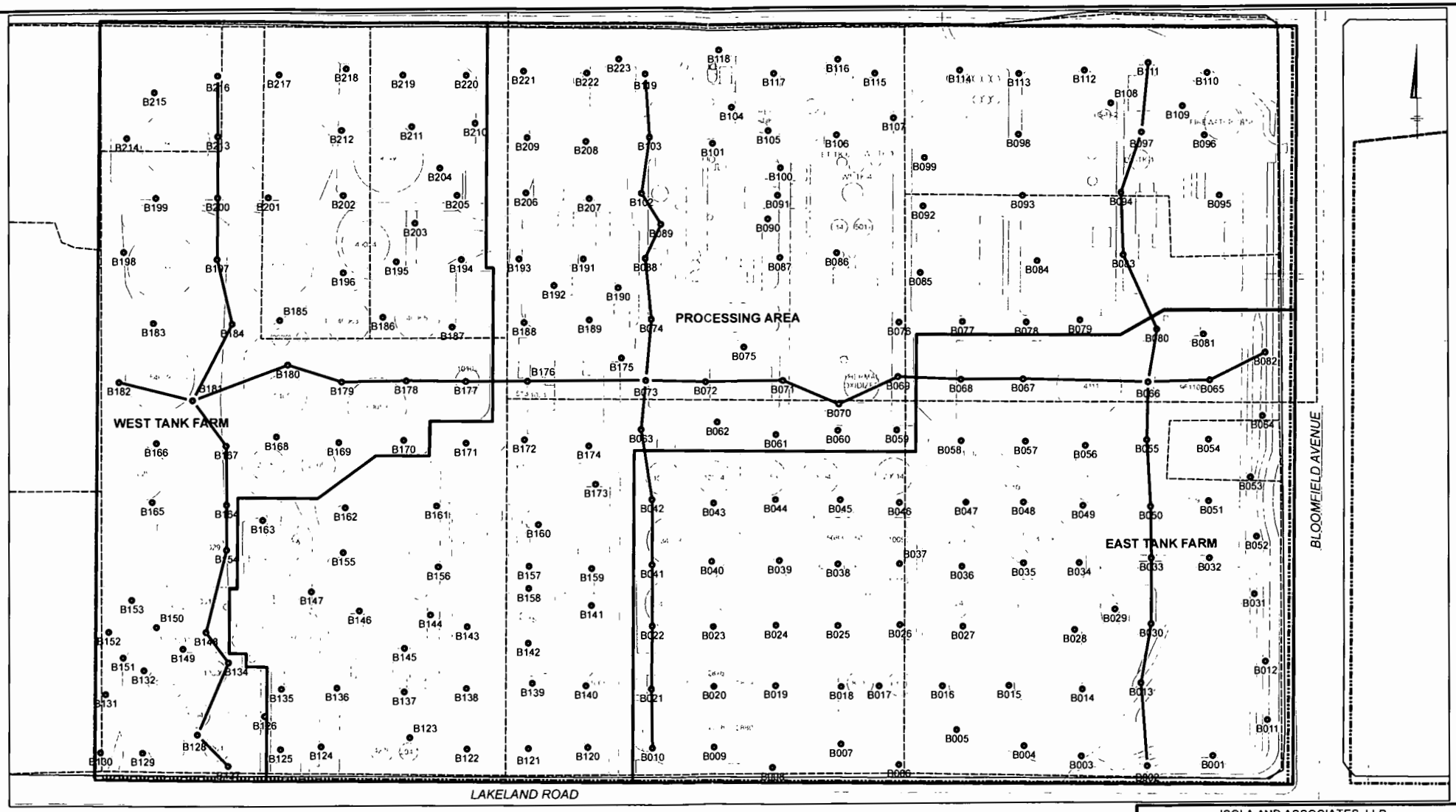

LEGEND:

- SOIL BORING LOCATION
- CONTINUOUSLY CORED SOIL BORING LOCATION
- A—A' LINE OF CROSS SECTION
- PARCEL DIVISION
- CENCO PROPERTY
- OPERATIONAL AREAS
- FORMER ABOVEGROUND STORAGE TANK LOCATION
- EXISTING ABOVEGROUND STORAGE TANK LOCATION

0 150 300 Feet
GRAPHIC SCALE

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CALIFORNIA

SOIL BORING AND CROSS-SECTION LOCATION MAP

BBL an ARCADIS company

FIGURE 4

8/10/06 ROCH-85 EAB
Isola & Associates
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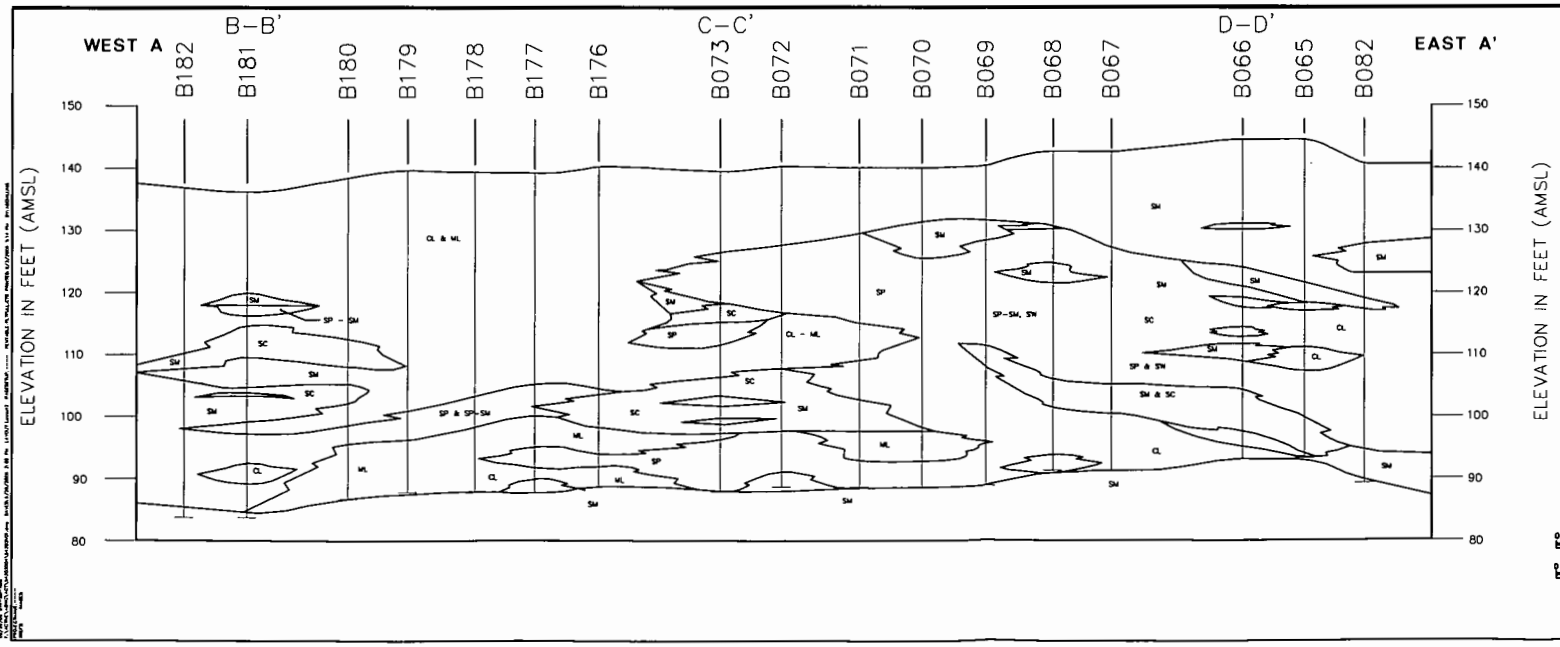


LEGEND:

CL	CLAY
ML	SILT
SC	CLAYEY SAND
SM	SILTY SAND
SP-SM	SAND WITH 10% SILT
SP-SC	SAND WITH 10% CLAY
SP	POORLY GRADED SAND
SW	WELL GRADED SAND
B-B'	CROSS-SECTION INTERSECTION LINE
B073	CONTINUOUSLY CORED SOIL BORING LOCATION
AMSL	ABOVE MEAN SEA LEVEL

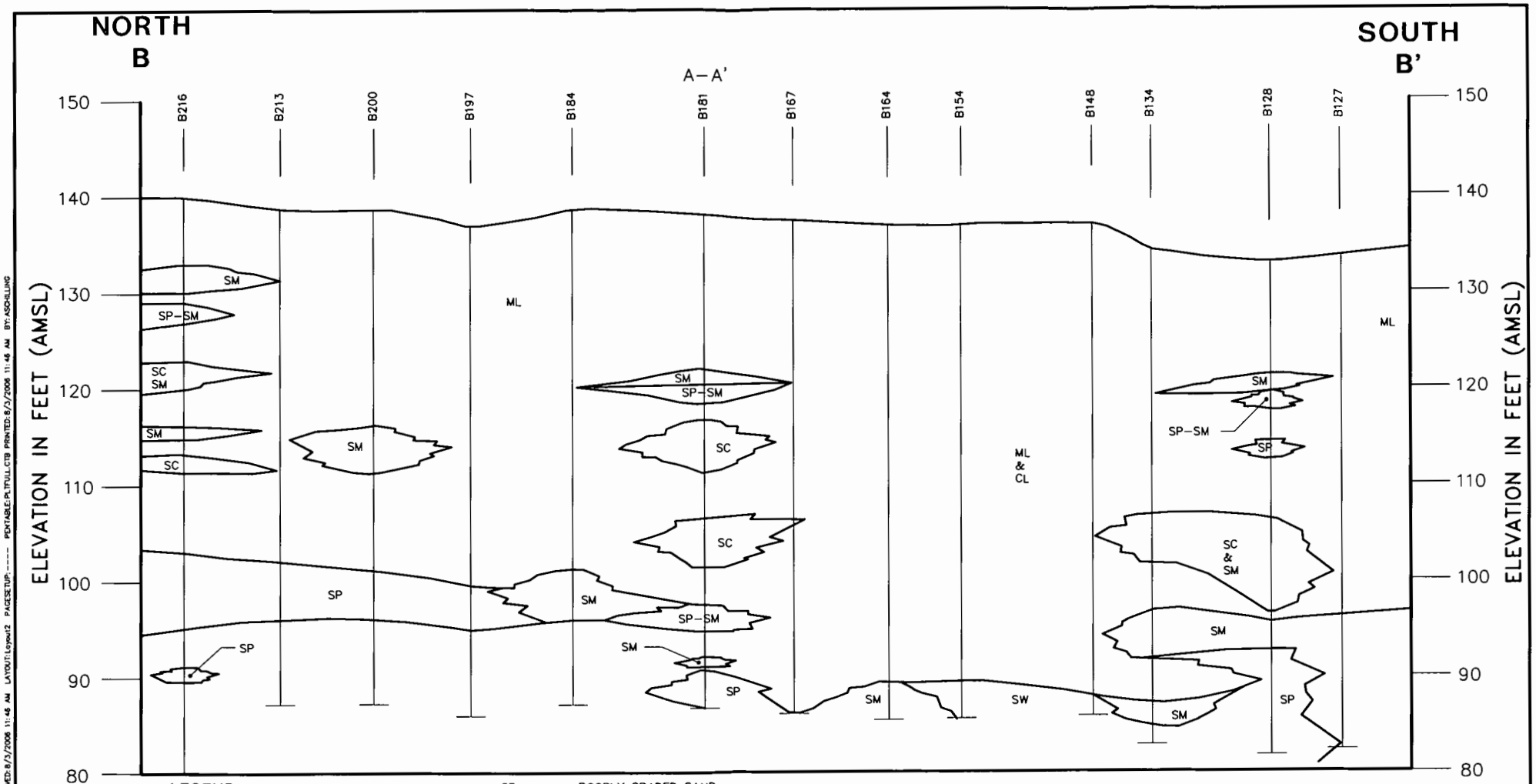
0 10' 20'
VERTICAL SCALE: 1"=10'
0 100' 200'
HORIZONTAL SCALE: 1"=100'

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CALIFORNIA

CROSS SECTION A-A'

BBL

FIGURE 5



LEGEND:

CL	CLAY	SP	POORLY GRADED SAND
ML	SILT	SW	WELL GRADED SAND
SC	CLAYEY SAND	A–A'	CROSS–SECTION INTERSECTION LINE
SM	SILTY SAND	B181	CONTINUOUSLY CORED SOIL BORING LOCATION
SP–SM	SAND WITH 10% SILT	AMSL	ABOVE MEAN SEA LEVEL
SP–SC	SAND WITH 10% CLAY		

0 10' 20'
VERTICAL SCALE: 1" = 10'

0 100' 200'
HORIZONTAL SCALE: 1" = 100'

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CALIFORNIA

CROSS SECTION B-B'

BBL an ARCADIS company

FIGURE
6

04/24/08 SYR-BS-AMS LAYER: ON=*; OFF=*REF*
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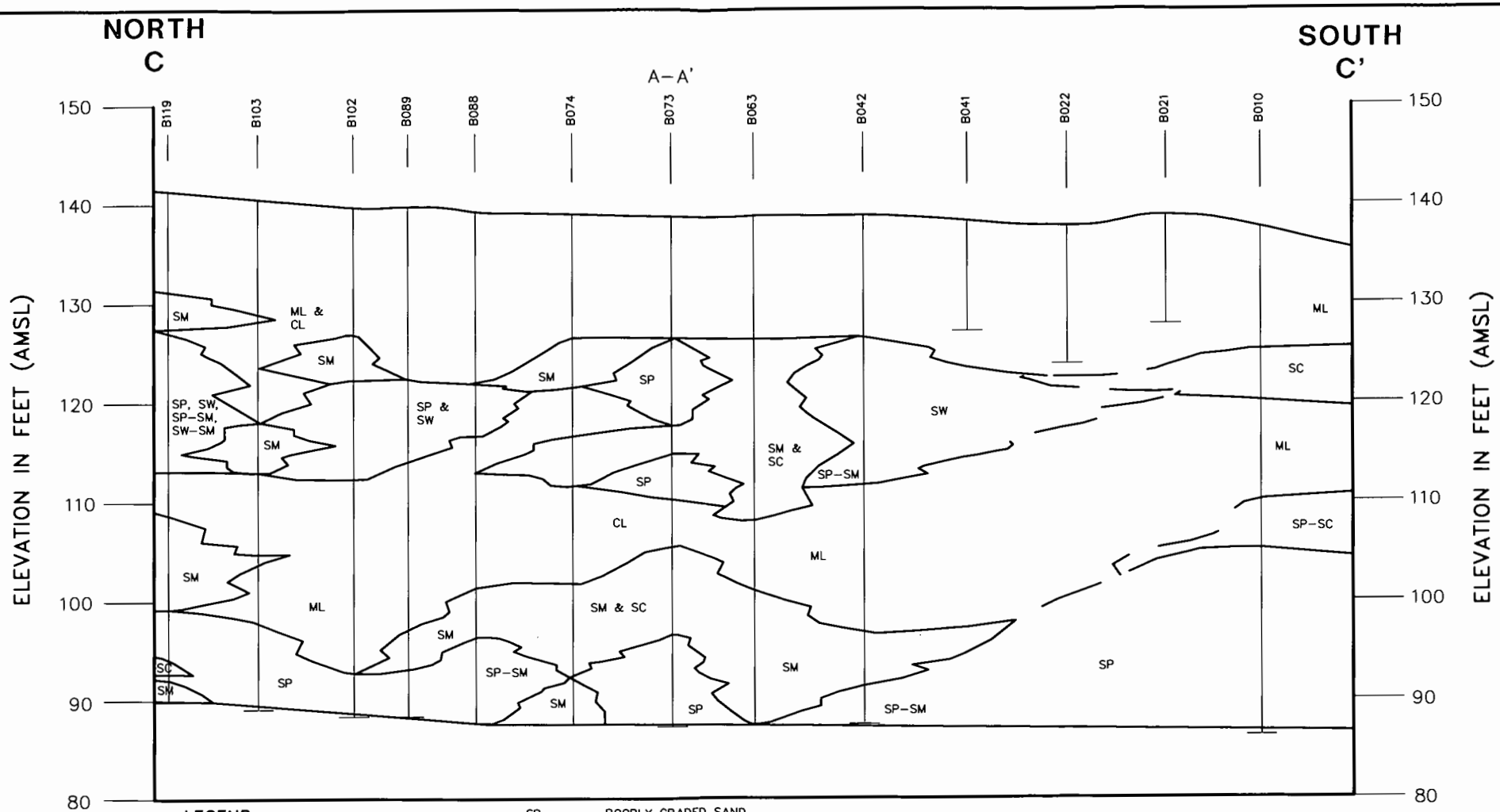

LEGEND:

CL	CLAY
ML	SILT
SC	CLAYEY SAND
SM	SILTY SAND
SP–SM	SAND WITH 10% SILT
SP–SC	SAND WITH 10% CLAY
SP	POORLY GRADED SAND
SW	WELL GRADED SAND
A–A'	CROSS–SECTION INTERSECTION LINE
B073	CONTINUOUSLY CORED SOIL BORING LOCATION
AMSL	ABOVE MEAN SEA LEVEL

0 10' 20'
VERTICAL SCALE: 1" = 10'

0 100' 200'
HORIZONTAL SCALE: 1" = 100'

ISOLA AND ASSOCIATES, LLCP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CALIFORNIA

CROSS SECTION C-C'

BBL an ARCADIS company

FIGURE 7

SYR-B3-AMS LAYER: On=*, OFF=*REF*
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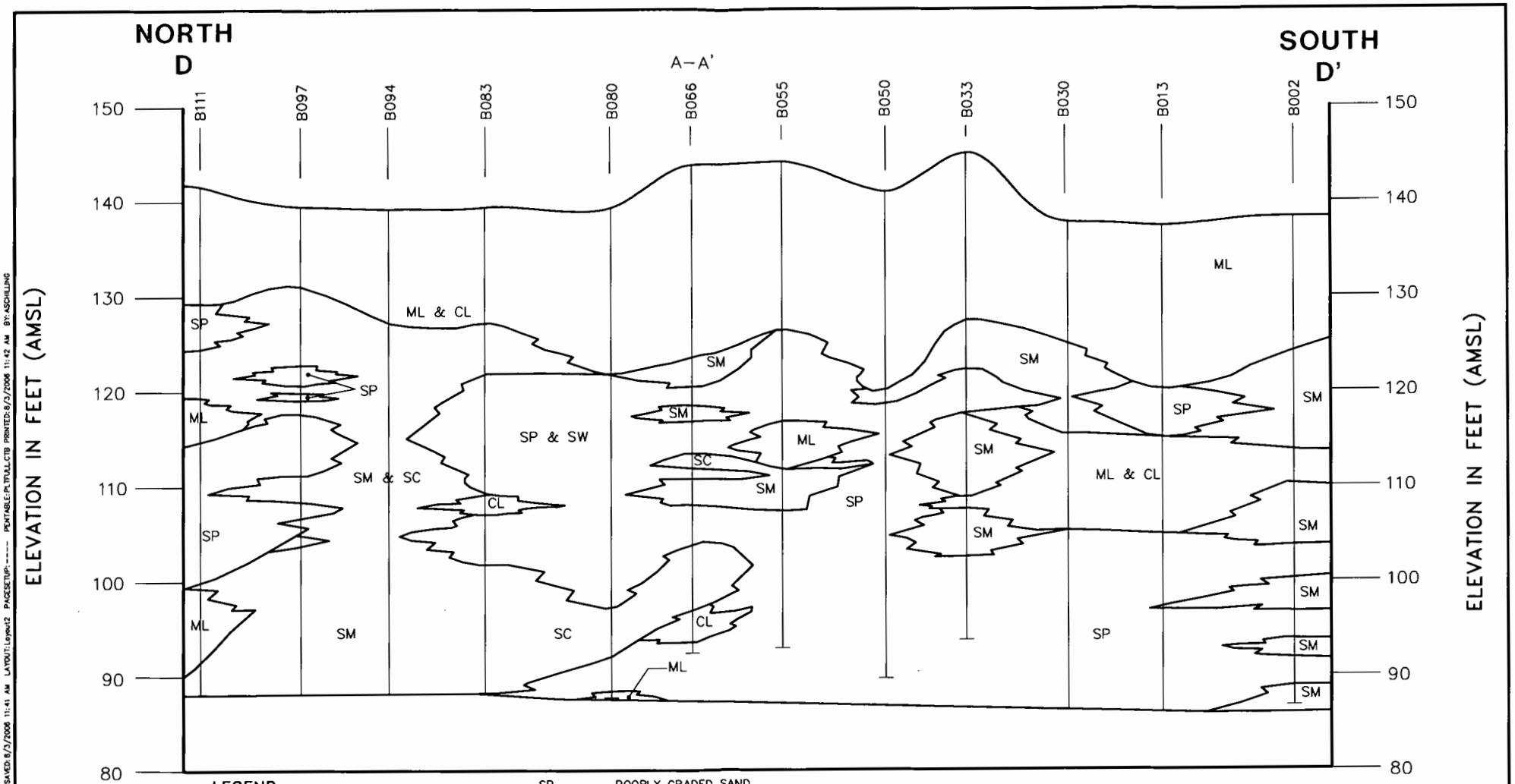

LEGEND:

CL	CLAY	SP	POORLY GRADED SAND
ML	SILT	SW	WELL GRADED SAND
SC	CLAYEY SAND	A–A'	CROSS-SECTION INTERSECTION LINE
SM	SILTY SAND	B066	CONTINUOUSLY CORED SOIL BORING LOCATION
SP–SM	SAND WITH 10% SILT	AMSL	ABOVE MEAN SEA LEVEL
SP–SC	SAND WITH 10% CLAY		

0 10' 20'
VERTICAL SCALE: 1" = 10'

0 100' 200'
HORIZONTAL SCALE: 1" = 100'

ISOLA AND ASSOCIATES, LLCP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CALIFORNIA

CROSS SECTION D-D'

BBL
an ARCADIS company

FIGURE
8

SYR-85-AMS LAYER: ON=*, OFF=*REF*
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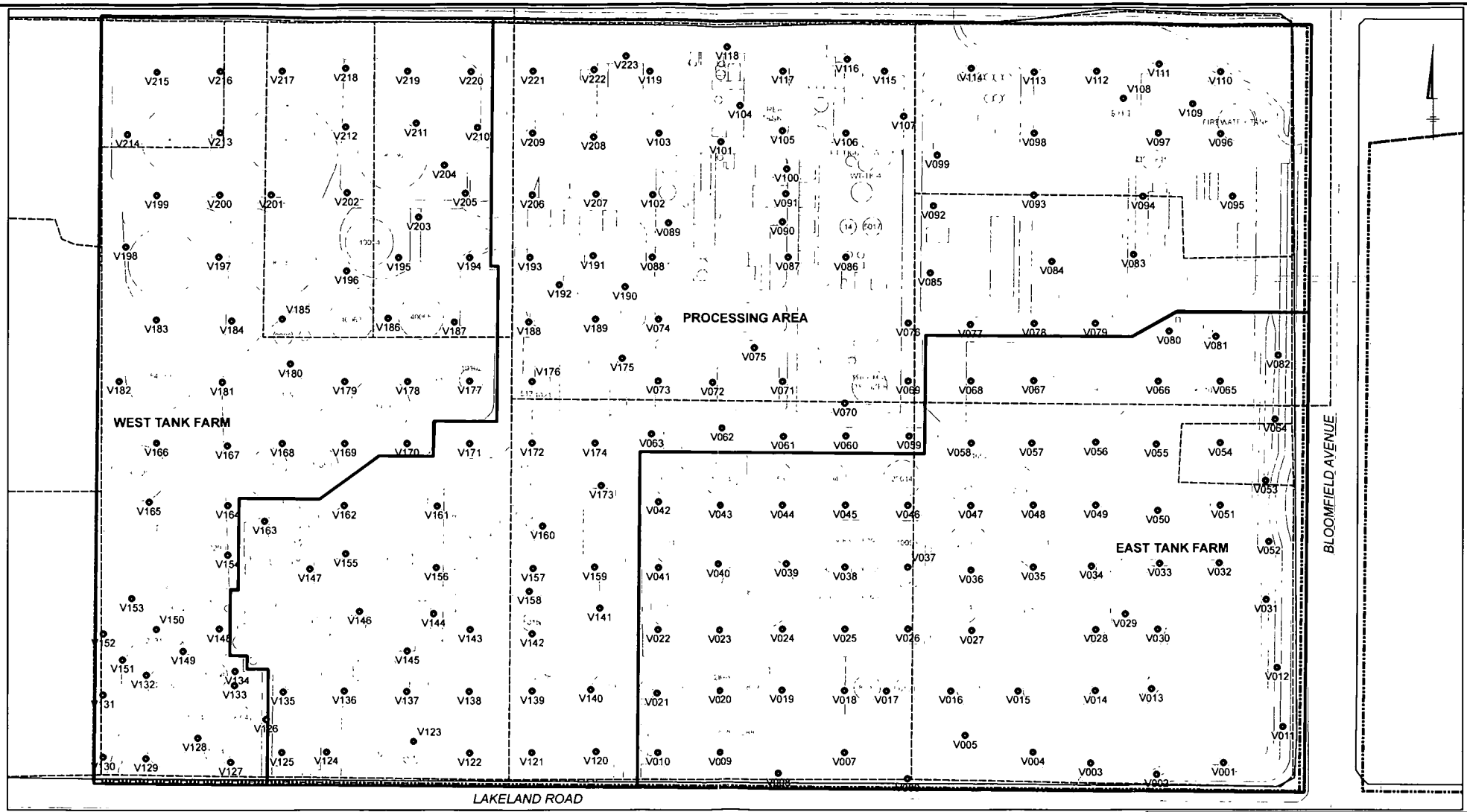


LEGEND:
- SOIL VAPOR SAMPLE LOCATION
- PARCEL DIVISION
- CENCO PROPERTY
- OPERATIONAL AREAS
- FORMER ABOVEGROUND STORAGE TANK LOCATION
- EXISTING ABOVEGROUND STORAGE TANK LOCATION

0 150 300 Feet
GRAPHIC SCALE

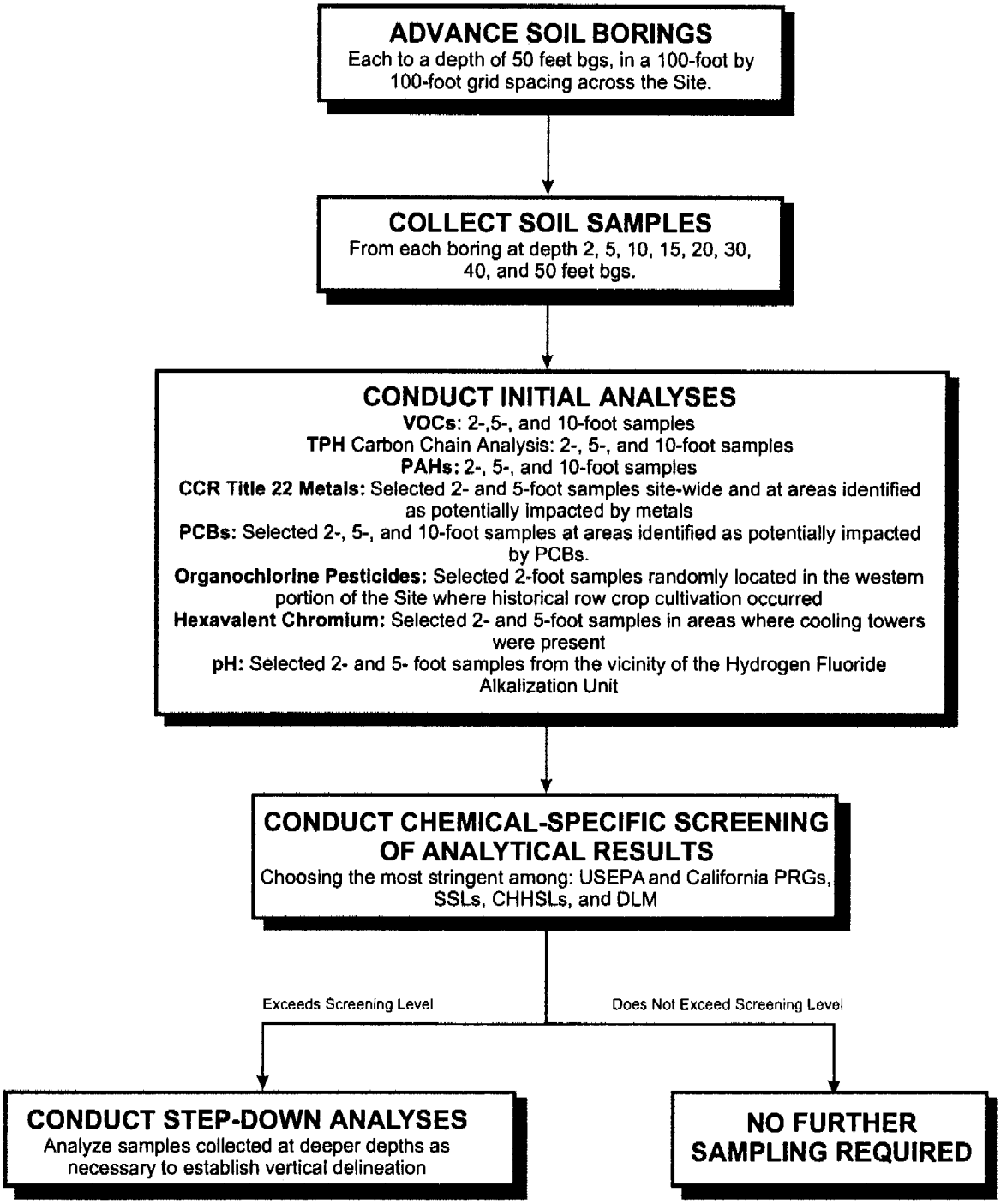
ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CALIFORNIA

SOIL VAPOR SAMPLE LOCATIONS

BBL an ARCADIS company

FIGURE 9

8/10/05 ROCH-85 EAB
Isola & Associates
O:\IsolaandAssociates\SantaFeSprings\FormerCencoRefinery\AddCENCOSiteInvestigationReport\mxd\SoilVaporsamplelocations.mxd



LEGEND:

VOCs - Volatile organic compounds
TPH - Total petroleum hydrocarbons
PAHs - Polynuclear aromatic hydrocarbons
PCBs - Polychlorinated biphenyls
PRGs - Preliminary Remediation Goals
SSLs - Soil Screening Levels
CHHSLs - California Human Health Screening Levels
DLM - Designated Level Methodology

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CALIFORNIA

SOIL SAMPLING AND CHEMICAL ANALYSIS PLAN

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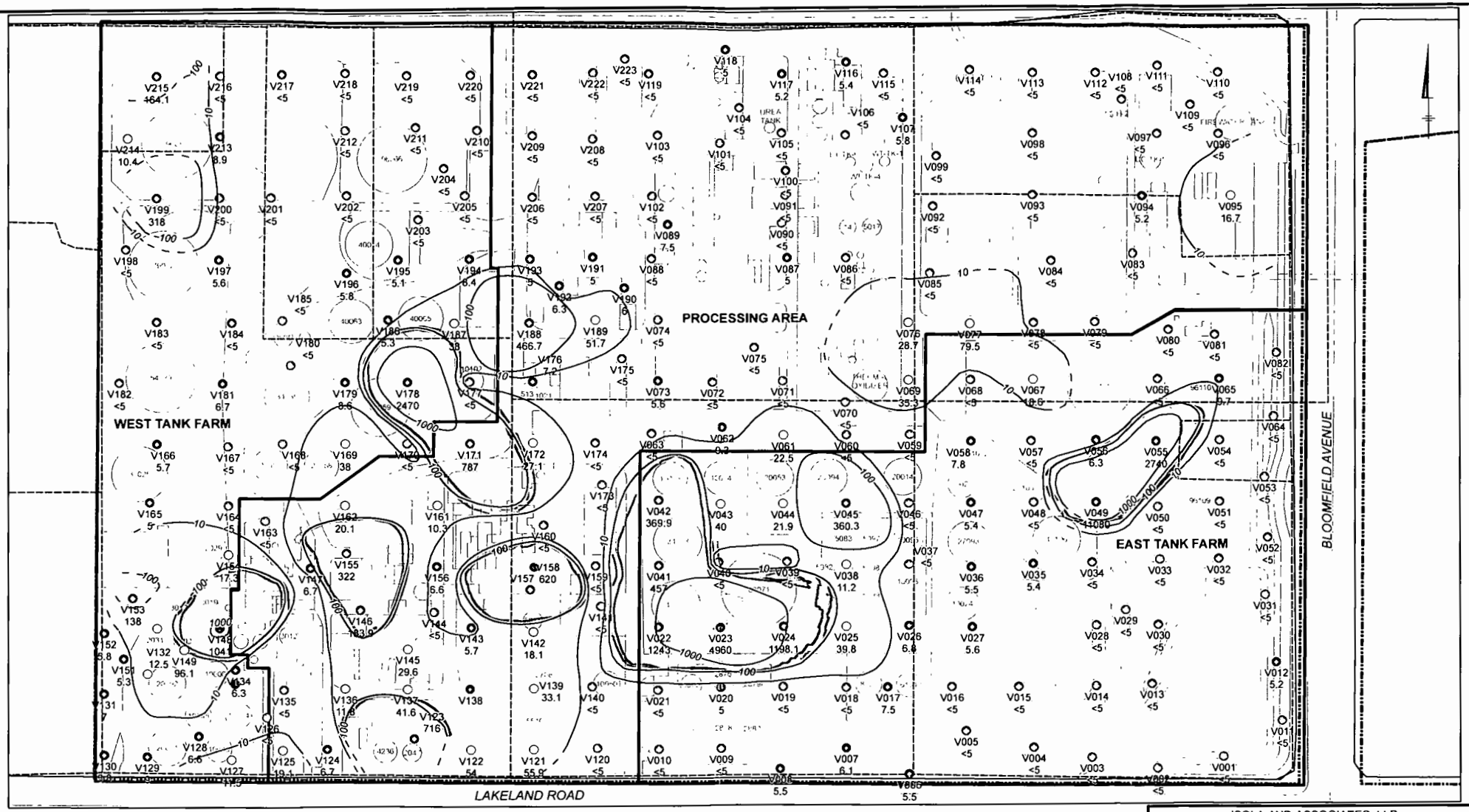
FIGURE 10

06/27/06 SYR-D85-DJH-KLS
54203004/54203F02.cdr



LEGEND:

SOIL VAPOR SAMPLE LOCATIONS (5ft bgs)
TOTAL BTEX CONCENTRATION (ug/L)

- 5
- 5 - 10
- 10 - 100
- 100 - 1000
- > 1000
- NOT DETECTED
- NOT SAMPLED

—— TOTAL BTEX ISOCONCENTRATION CONTOUR
– – INFERRED TOTAL BTEX ISOCONCENTRATION CONTOUR
– – – PARCEL DIVISION
V122 LOCATION ID
54.0 TOTAL BTEX CONCENTRATION (ug/L)
< NOT DETECTED AT REPORTING LIMIT SHOWN

CENCO PROPERTY
OPERATIONAL AREAS
FORMER ABOVEGROUND STORAGE TANK LOCATION
EXISTING ABOVEGROUND STORAGE TANK LOCATION

0 150 300 Feet
GRAPHIC SCALE

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CALIFORNIA

SOIL VAPOR CONCENTRATION
TOTAL BTEX 5FT BGS

BBL an ARCADIS company

FIGURE 11

8/8/09 ROCH-85 EAB
Isola & Associates
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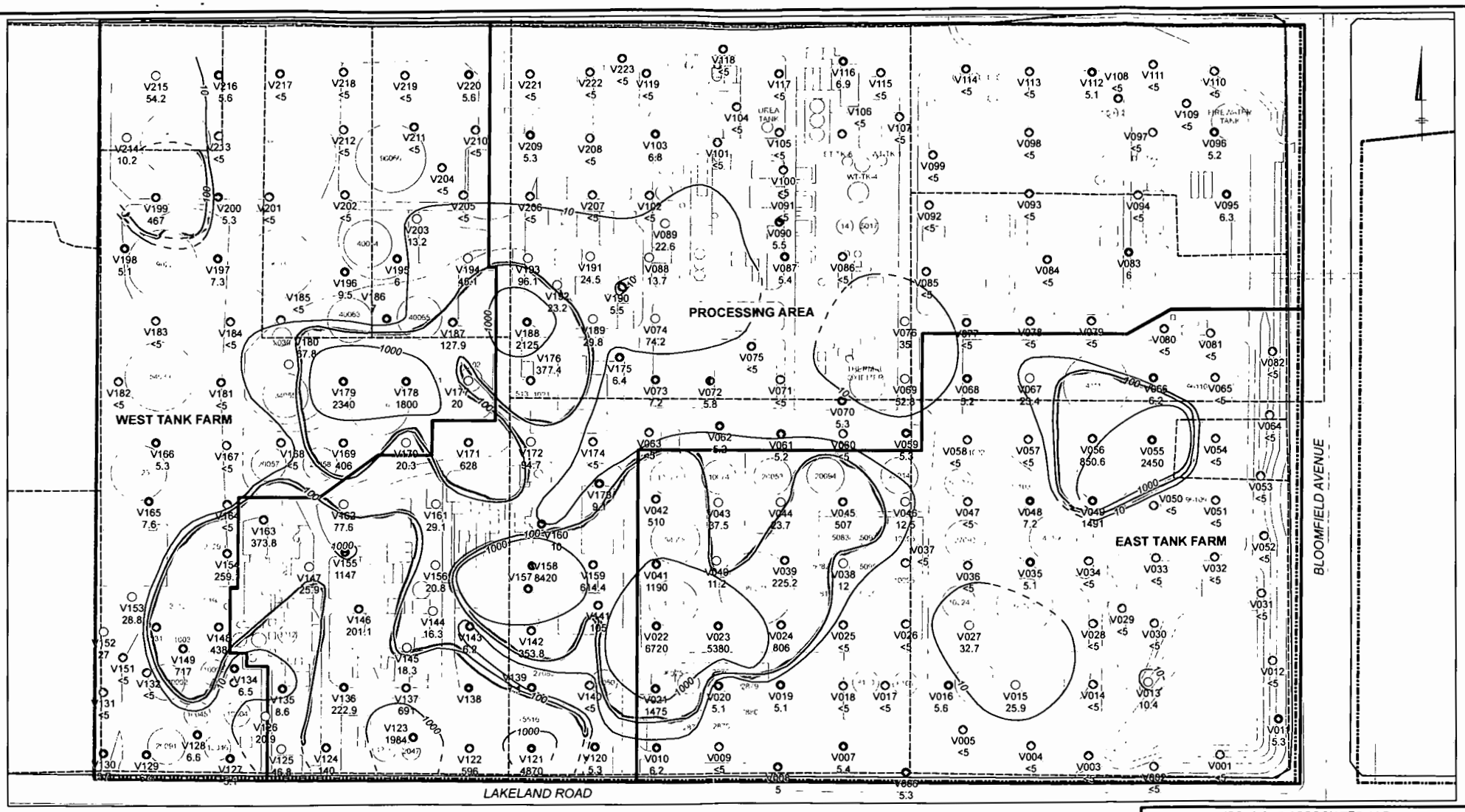

LEGEND:

SOIL VAPOR SAMPLE LOCATIONS (10ft bgs)
TOTAL BTEX CONCENTRATION (ug/L)

- < 5.0
- 5 - 10
- 10 - 100
- 100 - 1000
- > 1000
- NOT DETECTED
- NOT SAMPLED

——TOTAL BTEX ISOCONCENTRATION CONTOUR
– – INFERRED TOTAL BTEX ISOCONCENTRATION CONTOUR
– – –PARCEL DIVISION
V122 LOCATION ID
596 TOTAL BTEX CONCENTRATION (ug/L)
< NOT DETECTED AT REPORTING LIMIT SHOWN

CENCO PROPERTY
OPERATIONAL AREAS
FORMER ABOVEGROUND STORAGE TANK LOCATION
EXISTING ABOVEGROUND STORAGE TANK LOCATION

0 150 300 Feet
GRAPHIC SCALE

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CALIFORNIA

SOIL VAPOR CONCENTRATION
TOTAL BTEX 10FT BGS

BBL an ARCADIS company

FIGURE
12

8/8/06 ROCH-05 EAB
Isola & Associates
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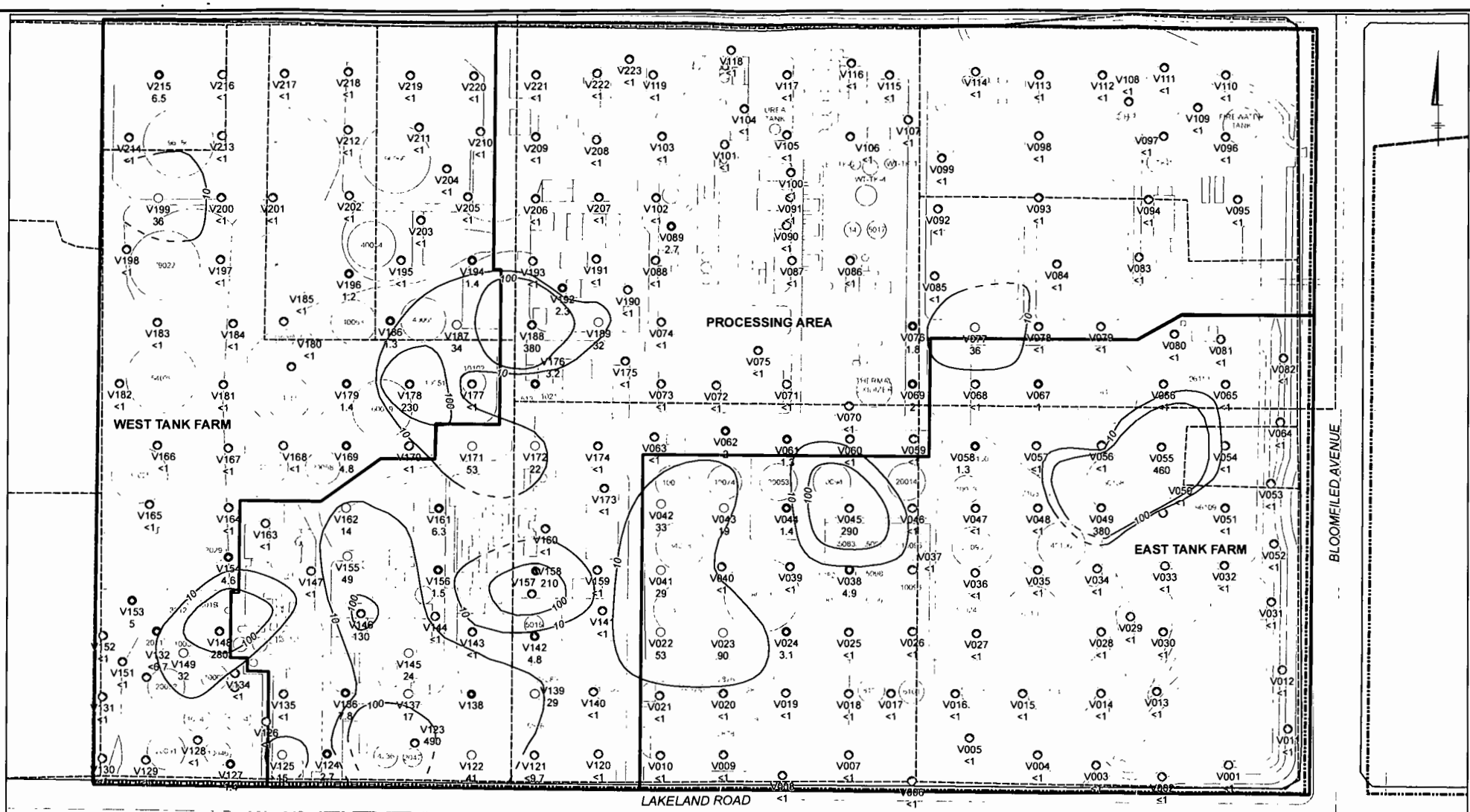

LEGEND:

SOIL VAPOR SAMPLE LOCATIONS (5ft bgs)
BENZENE CONCENTRATION (ug/L)
- 1
- 1 - 10
- 10 - 100
- > 100
- NOT DETECTED
- NOT SAMPLED

- BENZENE ISONCONCENTRATION CONTOUR
- INFERRED BENZENE ISONCONCENTRATION CONTOUR
- PARCEL DIVISION
- V122 LOCATION ID
- 41 BENZENE CONCENTRATION (ug/L)
- < NOT DETECTED AT REPORTING LIMIT SHOWN

- CENCO PROPERTY
- OPERATIONAL AREAS
- FORMER ABOVEGROUND STORAGE TANK LOCATION
- EXISTING ABOVEGROUND STORAGE TANK LOCATION

0 150 300 Feet
GRAPHIC SCALE

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CALIFORNIA

SOIL VAPOR CONCENTRATION BENZENE 5FT BGS

BBL an ARCADIS company

FIGURE 13

8/8/06 ROCH-85 EAB
Isola & Associates
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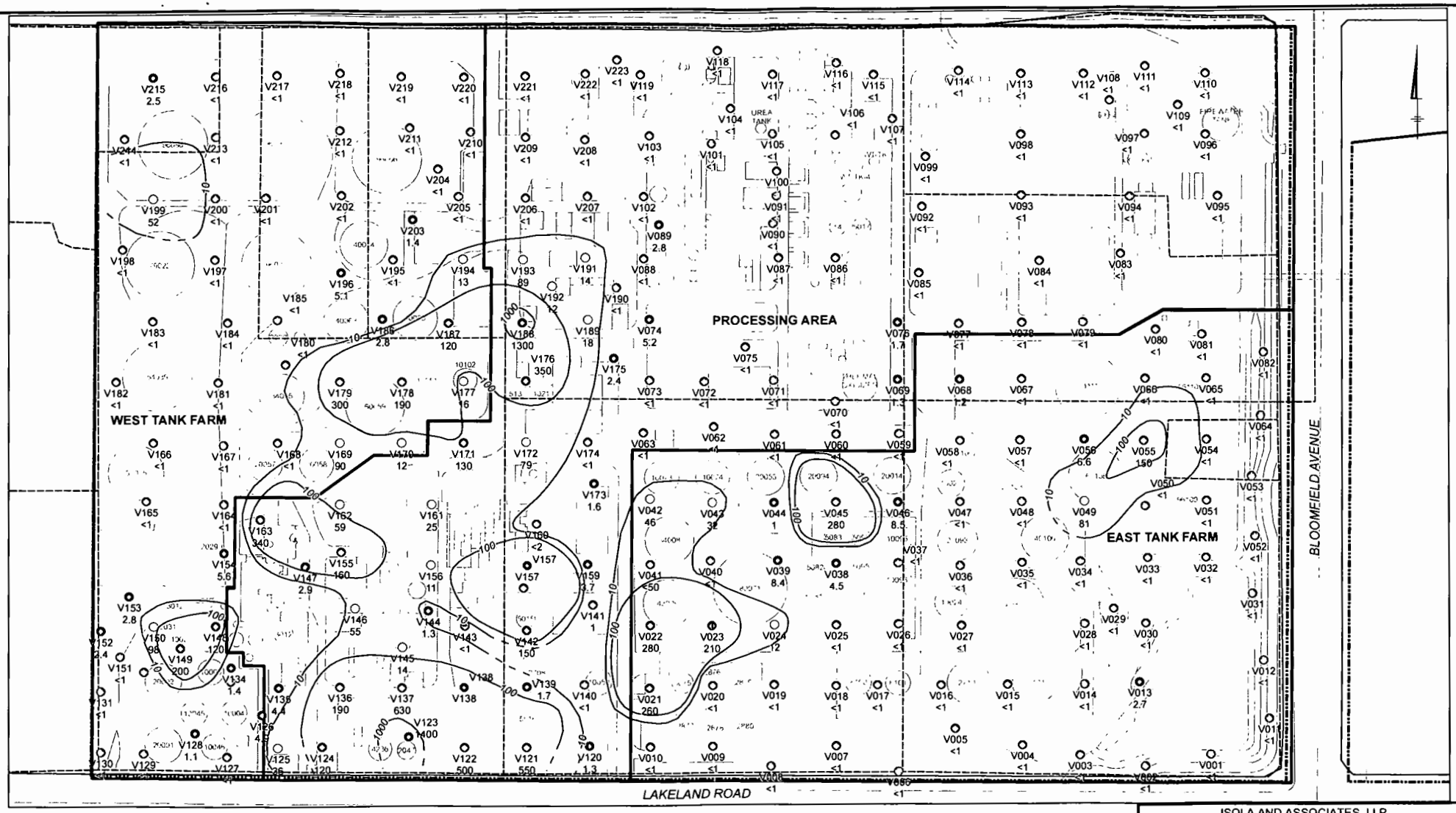

LEGEND:

SOIL VAPOR SAMPLE LOCATIONS (10ft bgs)
BENZENE CONCENTRATION (ug/L)

- 1
- 1 - 10
- 10 - 100
- 100 - 1000
- > 1000
- NOT DETECTED
- NOT SAMPLED

BENZENE ISOCONCENTRATION CONTOUR
INFERRED BENZENE ISOCONCENTRATION CONTOUR
PARCEL DIVISION
V122 LOCATION ID
500 BENZENE CONCENTRATION (ug/L)
< NOT DETECTED AT REPORTING LIMIT SHOWN

CENCO PROPERTY
OPERATIONAL AREAS
FORMER ABOVEGROUND STORAGE TANK LOCATION
EXISTING ABOVEGROUND STORAGE TANK LOCATION

0 150 300 Feet
GRAPHIC SCALE

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CALIFORNIA

SOIL VAPOR CONCENTRATION
BENZENE 10FT BGS

BBL an ARCADIS company

FIGURE
14

8/8/06 ROCH-85 EAB
Isola & Associates
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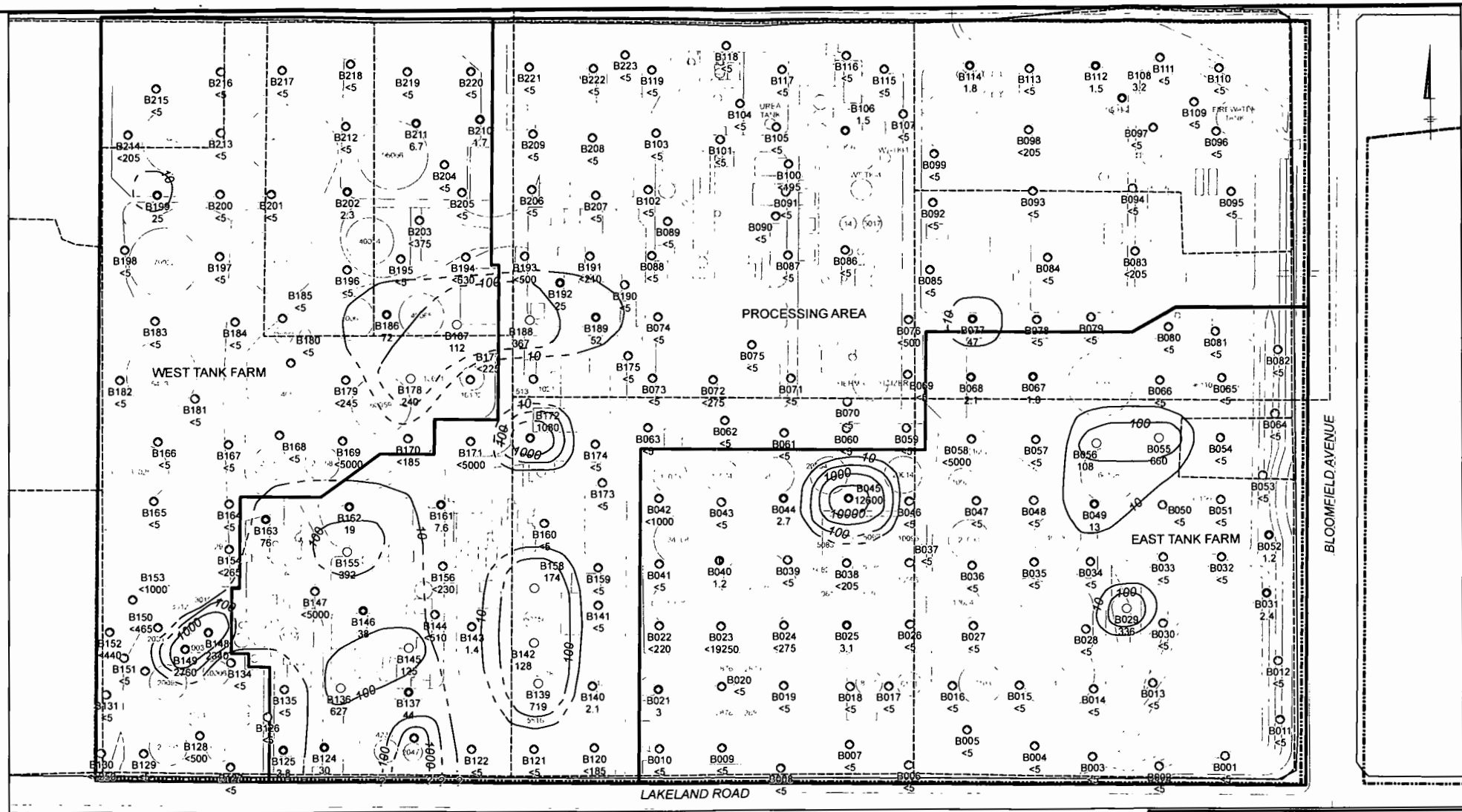

LEGEND:

SOIL BORING LOCATIONS (2ft bgs)
BENZENE CONCENTRATION (ug/kg)
- 0 - 10
- 10 - 100
- 100 - 1000
- 1,000 - 10,000
- > 10,000
- NOT DECTECTED

- PARCEL DIVISION
- CENCO PROPERTY
- BENZENE ISOCONCENTRATION CONTOUR
- INFERRED BENZENE ISOCONCENTRATION CONTOUR

B142 LOCATION ID
128 BENZENE CONCENTRATION (ug/kg)
< NOT DETECTED AT REPORTING LIMIT SHOWN

- OPERATIONAL AREAS
- FORMER ABOVEGROUND STORAGE TANK LOCATION
- EXISTING ABOVEGROUND STORAGE TANK LOCATION

0 150 300 Feet
GRAPHIC SCALE

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CALIFORNIA

SOIL BORING CONCENTRATION BENZENE 2FT BGS

BBL an ARCADIS company

FIGURE 15

8/10/06 RCCH-85 EAB
Isola & Associates
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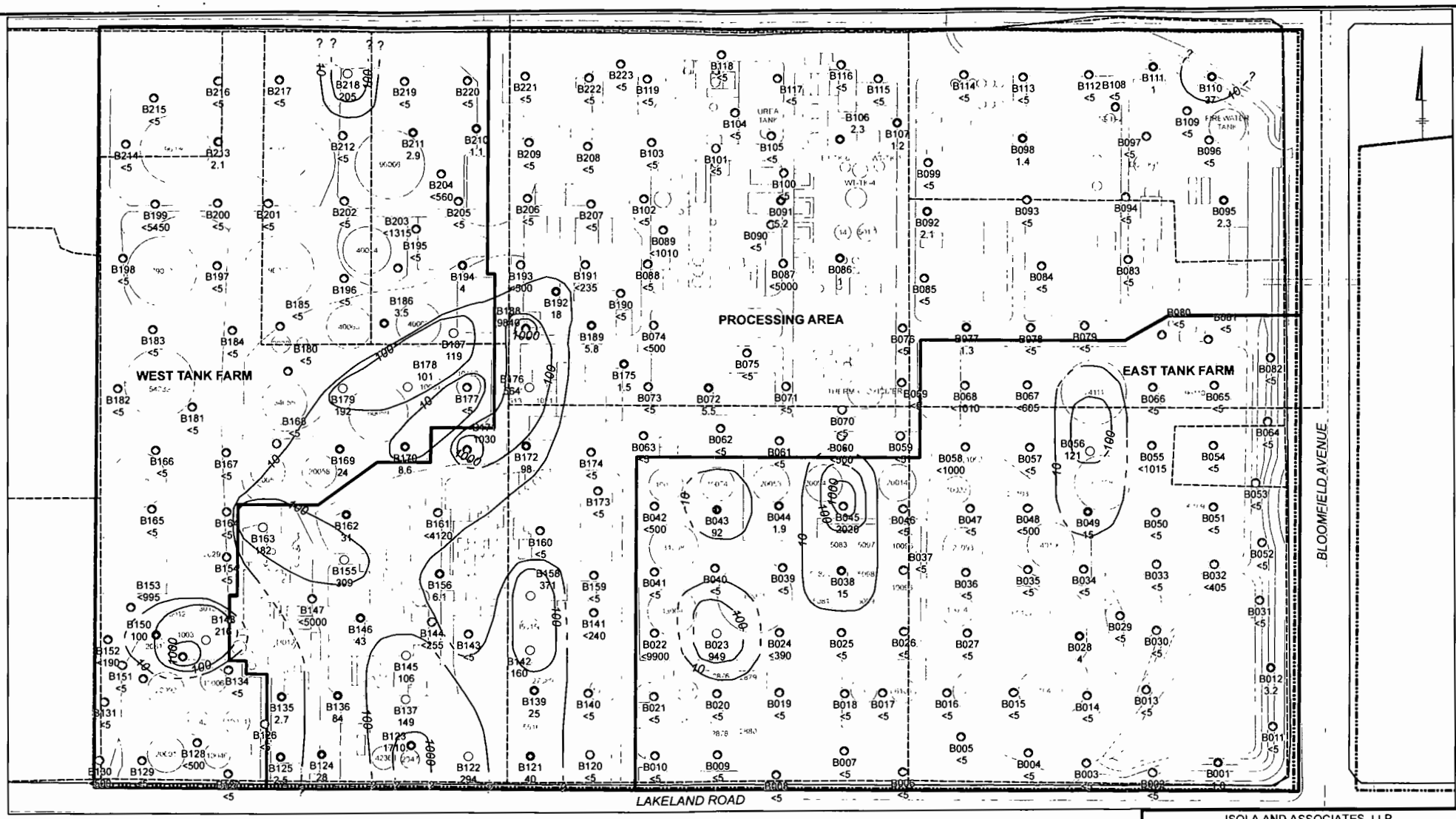

LEGEND:

SOIL BORING LOCATIONS (5ft bgs)
BENZENE CONCENTRATION (ug/kg)

- 0 - 10
- 10 - 100
- 100 - 1,000
- 1,000 - 10,000
- > 10,000
- NOT DETECTED

- PARCEL DIVISION
- CENCO PROPERTY
- BENZENE ISOCONCENTRATION CONOTUR
- INFERRED BENZENE ISOCONCENTRATION CONOTUR

B139 LOCATION ID
25 BENZENE CONCENTRATION (ug/kg)
< NOT DETECTED AT REPORTING LIMIT SHOWN

OPERATIONAL AREAS
ORMER ABOVEGROUND STORAGE TANK LOCATION
XISTING ABOVEGROUND STORAGE TANK LOCATION

0 150 300 Feet
GRAPHIC SCALE

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CALIFORNIA

SOIL BORING CONCENTRATION BENZENE 5FT BGS

BBL an ARCADIS company

FIGURE 16

8/10/06 ROCH-85 EAB
Isola & Associates
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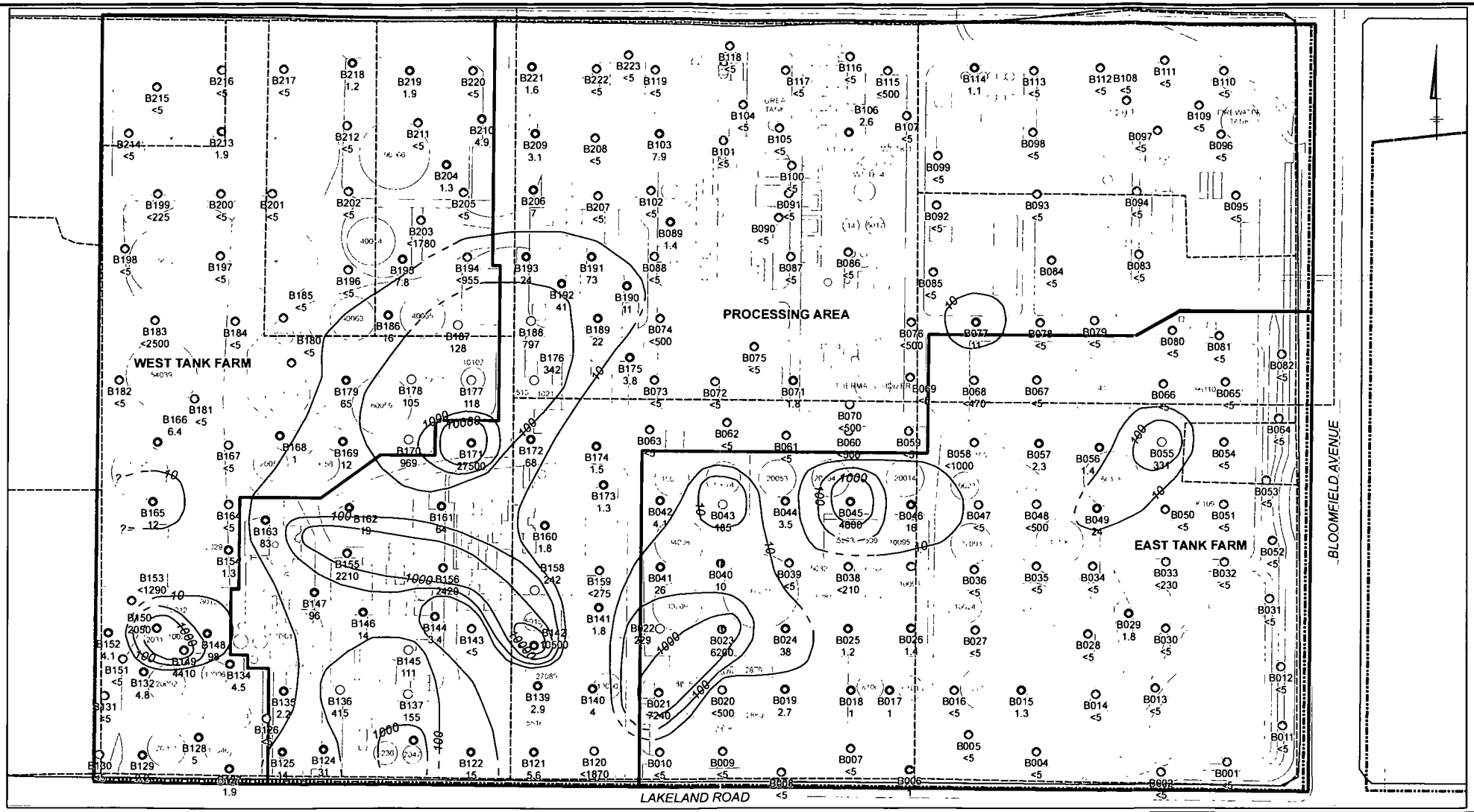

LEGEND:

SOIL BORING LOCATIONS (10ft bgs)
BENZENE CONCENTRATION (ug/kg)

- 0 - 10
- 10 - 100
- 100 - 1,000
- 1,000 - 10,000
- > 10,000
- NOT DETECTED

- PARCEL DIVISION
- CENCO PROPERTY
- BENZENE ISOCONCENTRATION CONTOUR
- INFERRED BENZENE ISOCONCENTRATION CONTOUR

B019 LOCATION ID
2.7 BENZENE CONCENTRATION (uk/kg)
< NOT DETECTED AT REPORTING LIMIT SHOWN

- OPERATIONAL AREAS
- FORMER ABOVEGROUND STORAGE TANK LOCATION
- EXISTING ABOVEGROUND STORAGE TANK LOCATION

0 150 300 Feet
GRAPHIC SCALE

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CALIFORNIA

SOIL BORING CONCENTRATION
BENZENE 10FT BGS

BBL an ARCADIS company

FIGURE
17

8/10/06 ROCH-85 EAB
Isola & Associates
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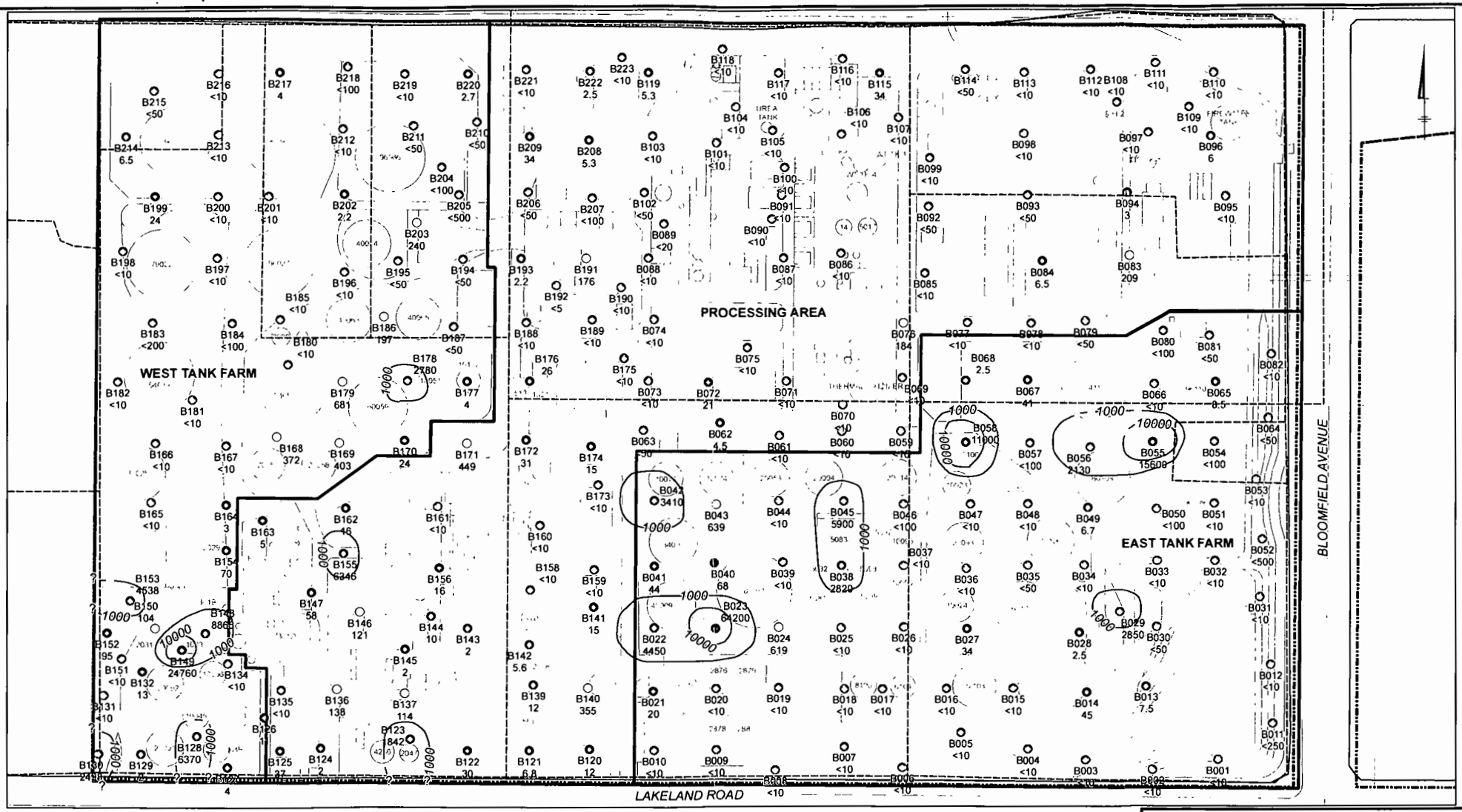

LEGEND:

SOIL BORING LOCATIONS (2ft bgs)
NAPHTHALENE CONCENTRATION (ug/kg)

- 0 - 10
- 10 - 100
- 100 - 1,000
- 1,000 - 10,000
- > 10,000
- NOT DETECTED

- PARCEL DIVISION
- CENCO PROPERTY
- NAPHTHALENE ISOCONCENTRATION CONTOUR
- INFERRED NAPHTHALENE ISOCONCENTRATION CONTOUR
- B124 LOCATION ID
- 2 NAPHTHALENE CONCENTRATION (ug/kg)
- < NOT DETECTED AT REPORTING LIMIT SHOWN

- OPERATIONAL AREAS
- FORMER ABOVEGROUND STORAGE TANK LOCATION
- EXISTING ABOVEGROUND STORAGE TANK LOCATION

0 150 300 Feet
GRAPHIC SCALE

ISOLA AND ASSOCIATES, LLP
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SANTA FE SPRINGS, CALIFORNIA

SOIL BORING CONCENTRATION
NAPHTHALENE - 2FT BGS

BBL
an ARCADIS company

FIGURE
18

8/10/06 ROCH-85 EAB
Isola & Associates
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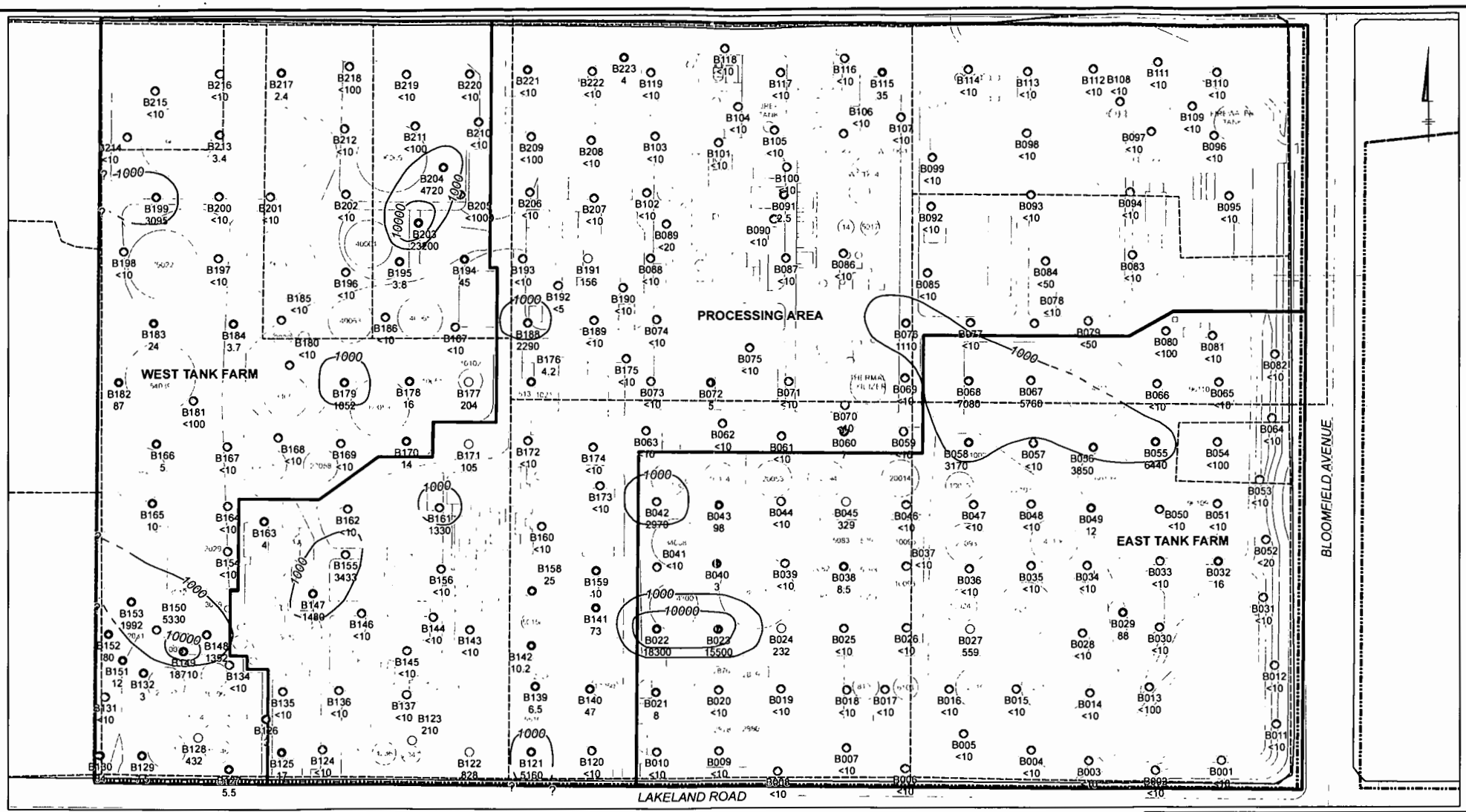

LEGEND:

SOIL BORING LOCATIONS (5ft bgs)
NAPHTHALENE CONCENTRATION (ug/kg)

- 0 - 10
- 10 - 100
- 100 - 1,000
- 1,000 - 10,000
- > 10,000
- NOT DETECTED

- PARCEL DIVISION
- CENCO PROPERTY
- NAPHTHALENE ISOCONCENTRATION CONTOUR
- INFERRED NAPHTHALENE ISOCONCENTRATION CONTOUR
- B140 LOCATION ID
- 47 NAPHTHALENE CONCENTRATION (ug/kg)
- < NOT DETECTED AT REPORTING LIMIT SHOWN

- OPERATIONAL AREAS
- FORMER ABOVEGROUND STORAGE TANK LOCATION
- EXISTING ABOVEGROUND STORAGE TANK LOCATION

0 150 300 Feet
GRAPHIC SCALE

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CALIFORNIA

SOIL BORING CONCENTRATION NAPHTHALENE - 5FT BGS

BBL an ARCADIS company

FIGURE 19

8/10/06, ROCH-85 EAB
Isola & Associates
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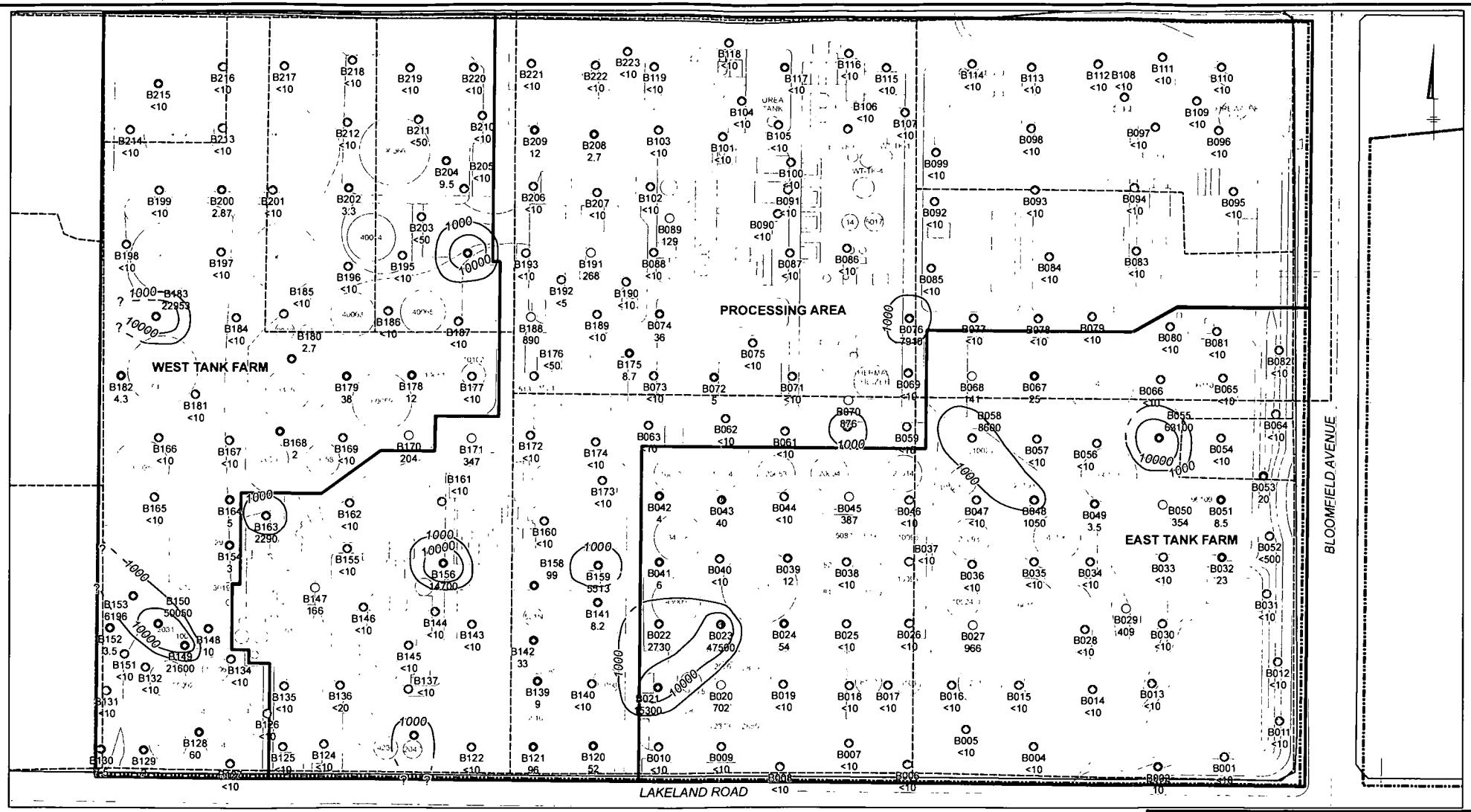

LEGEND:

SOIL BORING LOCATIONS (10ft bgs)
NAPHTHALENE CONCENTRATION (ug/kg)

- 0 - 10
- 10 - 100
- 100 - 1,000
- 1,000 - 10,000
- > 10,000
- NOT DETECTED

- PARCEL DIVISION
- CENCO PROPERTY
- NAPHTHALENE ISOCONCENTRATION CONTOUR
- INFERRED NAPHTHALENE ISOCONCENTRATION CONTOUR
- B020 LOCATION ID
- 702 NAPHTHALENE CONCENTRATION (ug/kg)
- < NOT DETECTED AT REPORTING LIMIT SHOWN

- OPERATIONAL AREAS
- FORMER ABOVEGROUND STORAGE TANK LOCATION
- EXISTING ABOVEGROUND STORAGE TANK LOCATION

0 150 300 Feet
GRAPHIC SCALE

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CALIFORNIA

SOIL BORING CONCENTRATION NAPHTHALENE - 10FT BGS

BBL an ARCADIS company

FIGURE 20

8/10/06 ROCH-65 EAB
Isola & Associates
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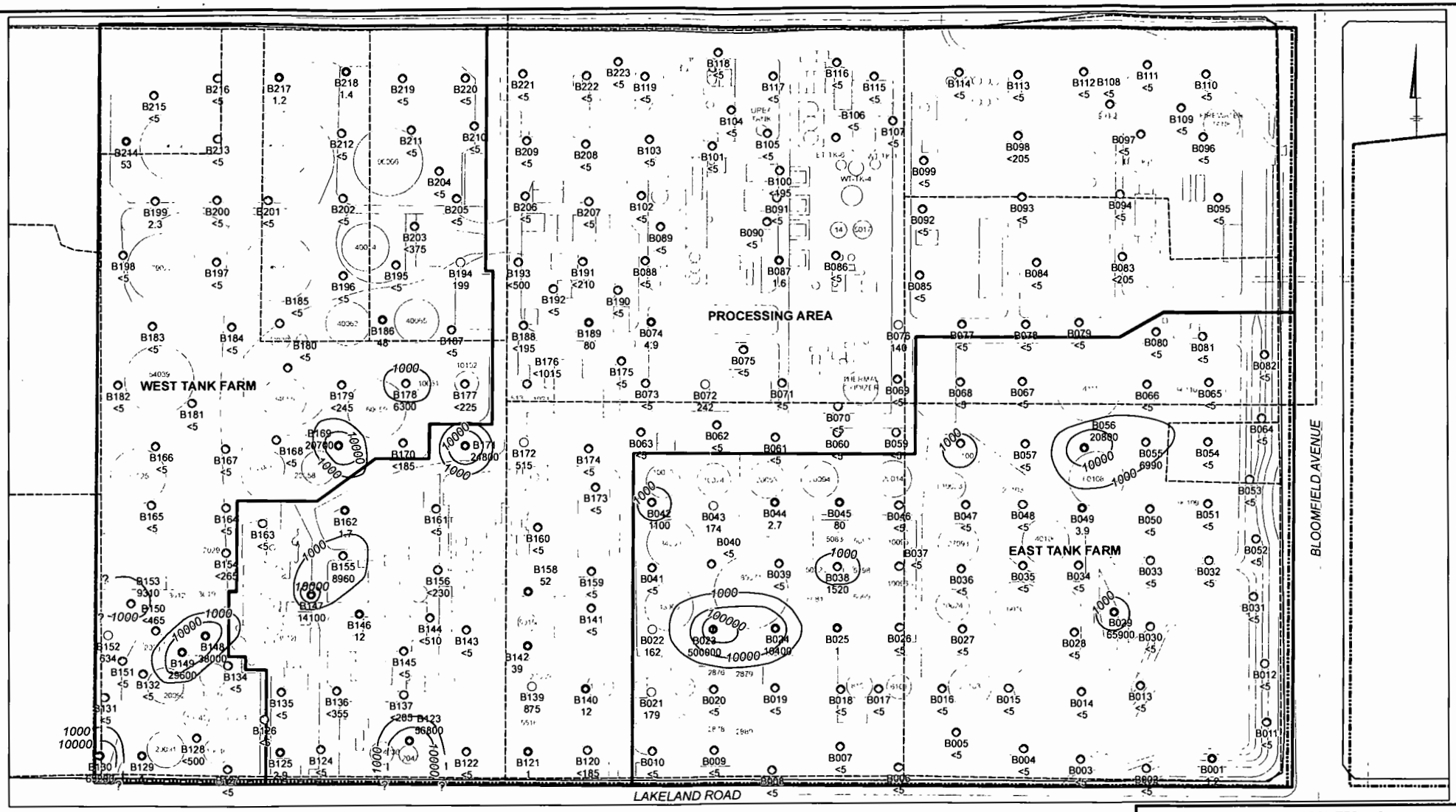

LEGEND:

SOIL BORING LOCATIONS (2ft bgs)
TOTAL XYLENES CONCENTRATION (ug/kg)

- 0 - 10
- 10 - 100
- 100 -1,000
- 1,000 - 10,000
- 10,000 - 100,000
- > 100,000
- NOT DETECTED

- PARCEL DIVISION
- CENCO PROPERTY
- TOTAL XYLENES ISOCONCENTRATION CONTOUR
- INFERRED TOTAL XYLENES ISOCONCENTRATION CONTOUR
- B021 LOCATION ID
- 179 TOTAL XYLENES CONCENTRATION (ug/kg)
- < NOT DETECTED AT REPORTING LIMIT SHOWN

- OPERATIONAL AREAS
- FORMER ABOVEGROUND STORAGE TANK LOCATION
- EXISTING ABOVEGROUND STORAGE TANK LOCATION

0 150 300 Feet
GRAPHIC SCALE

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CALIFORNIA

SOIL BORING CONCENTRATION
TOTAL XYLENES - 2FT BGS

BBL an ARCADIS company

FIGURE
21

8/10/08 ROCH-85 EAB
Isola & Associates
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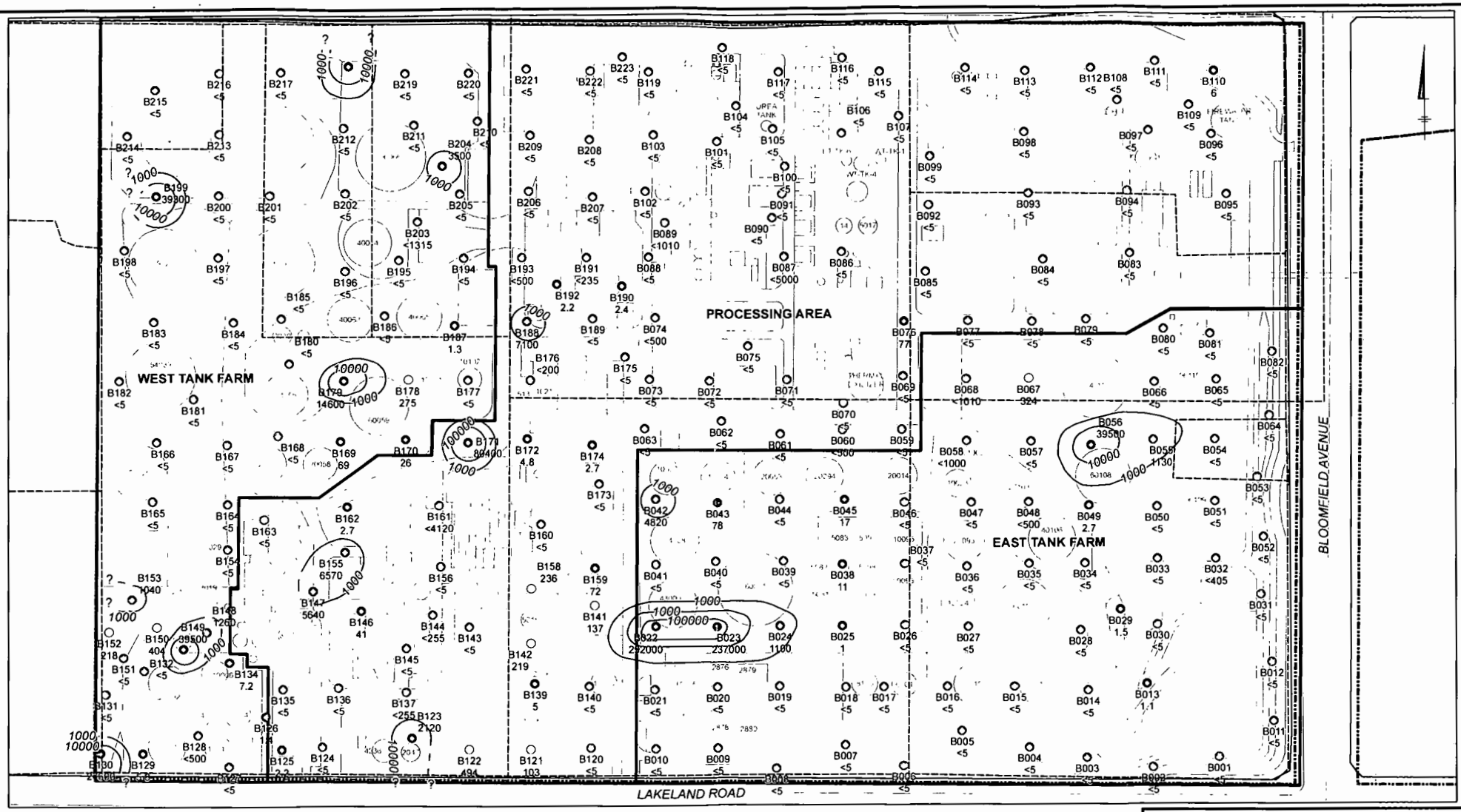

LEGEND:

SOIL BORING LOCATIONS (5ft bgs)
TOTAL XYLENES CONCENTRATION (ug/kg)

- 0 - 10
- 10 - 100
- 100 - 1,000
- 1,000 - 10,000
- 10,000 - 100,000
- > 100,000
- NOT DETECTED

- PARCEL DIVISION
- CENCO PROPERTY
- TOTAL XYLENES ISOCONCENTRATION CONTOUR
- INFERRED TOTAL XYLENES ISOCONCENTRATION CONTOUR
- B121 LOCATION ID
- 103 TOTAL XYLENES CONCENTRATION (ug/kg)
- < NOT DETECTED AT REPORTING LIMIT SHOWN

- OPERATIONAL AREAS
- FORMER ABOVEGROUND STORAGE TANK LOCATION
- EXISTING ABOVEGROUND STORAGE TANK LOCATION

0 150 300 Feet
GRAPHIC SCALE

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CALIFORNIA

SOIL BORING CONCENTRATION
TOTAL XYLENES - 5FT BGS

BBL an ARCADIS company

FIGURE 22

8/10/05 ROCH-85 EAB
Isola & Associates
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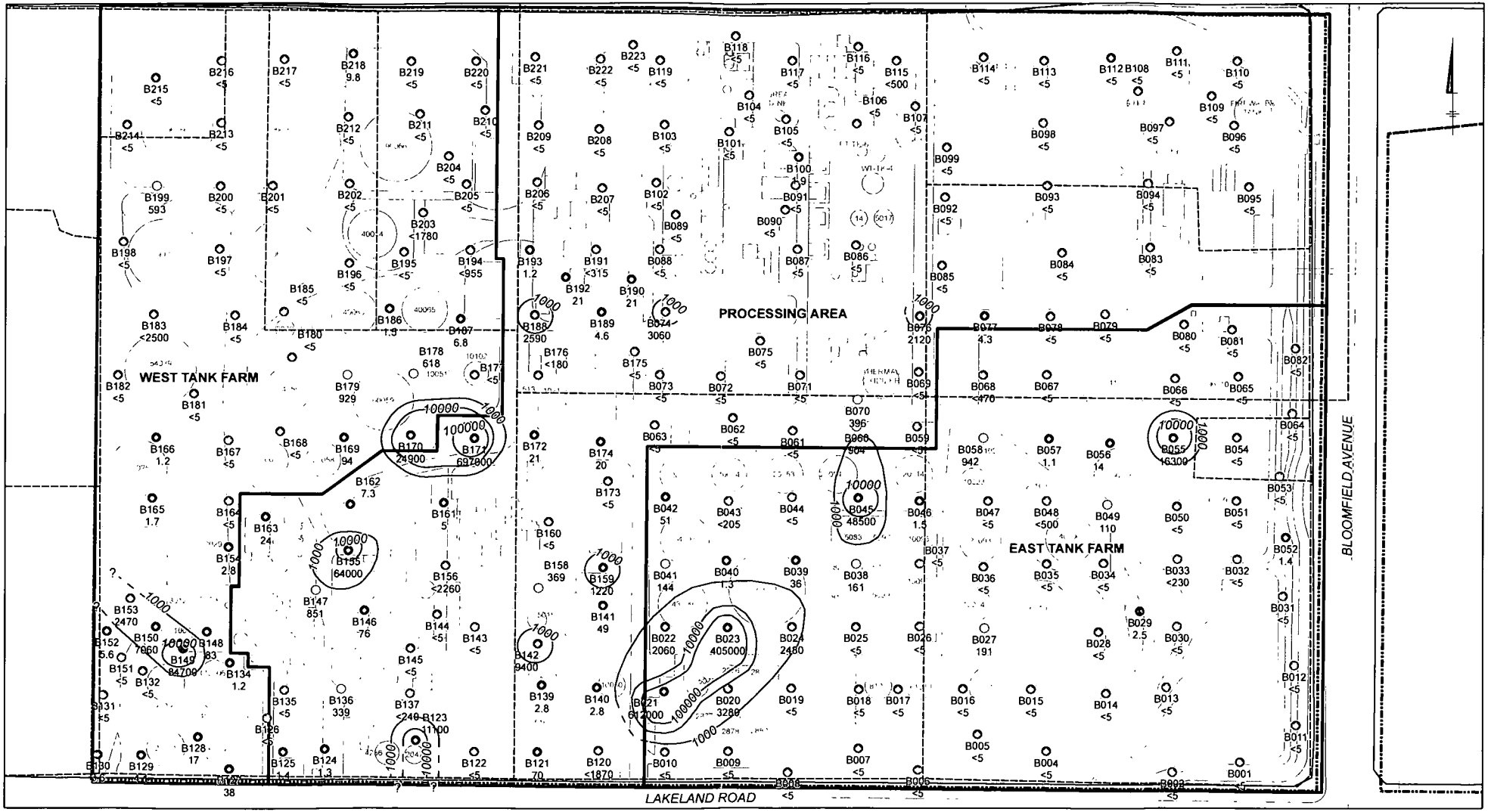

LEGEND:

SOIL BORING LOCATIONS (10ft bgs)
TOTAL XYLENES CONCENTRATION (ug/kg)

- 0 - 10
- 10 - 100
- 100 - 1,000
- 1,000 - 10,000
- 10,000 - 100,000
- > 100,000
- NOT DETECTED

- PARCEL DIVISION
- CENCO PROPERTY
- TOTAL XYLENES ISOCONCENTRATION CONTOUR
- INFERRED TOTAL XYLENES ISOCONCENTRATION CONTOUR
- B020 LOCATION ID
- 3280 TOTAL XYLENES CONCENTRATION (ug/kg)
- < NOT DETECTED AT REPORTING LIMIT SHOWN

- OPERATIONAL AREAS
- FORMER ABOVEGROUND STORAGE TANK LOCATION
- EXISTING ABOVEGROUND STORAGE TANK LOCATION

0 150 300 Feet
GRAPHIC SCALE

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CALIFORNIA

SOIL BORING CONCENTRATION
TOTAL XYLENES - 10FT BGS

BBL an ARCADIS company

FIGURE
23

8/10/06 ROCH-BS EAB
Isola & Associates
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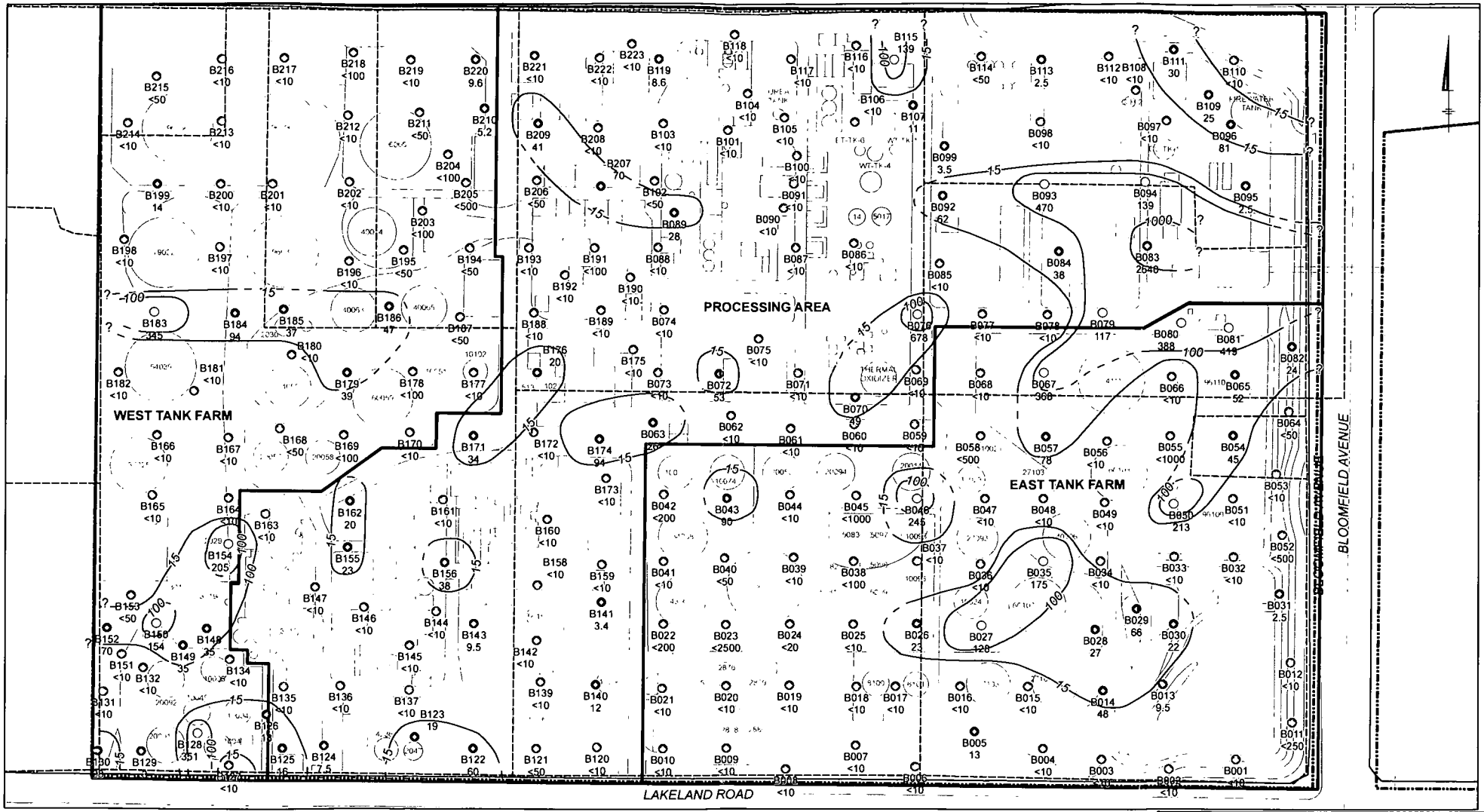

LEGEND:

SOIL BORING LOCATIONS (2ft bgs)
BENZO(A)PYRENE CONCENTRATION (ug/kg)

- 0 - 10
- 10 - 100
- 100 - 1,000
- > 1,000
- NOT DETECTED

- PARCEL DIVISION
- CENCO PROPERTY
- BENZO(A)PYRENE ISOCONCENTRATION CONTOUR
- INFERRED BENZO(A)PYRENE ISOCONCENTRATION CONTOUR
- B140 LOCATION ID
- 12 BENZO(A)PYRENE CONCENTRATION (ug/kg)
- < NOT DETECTED AT REPORTING LIMIT SHOWN

- OPERATIONAL AREAS
- FORMER ABOVEGROUND STORAGE TANK LOCATION
- EXISTING ABOVEGROUND STORAGE TANK LOCATION

0 150 300 Feet
GRAPHIC SCALE

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CALIFORNIA

SOIL BORING CONCENTRATION
BENZO(A)PYRENE - 2FT BGS

BBL an ARCADIS company

FIGURE
24

8/10/06 ROCH-85 EAB
Isola & Associates
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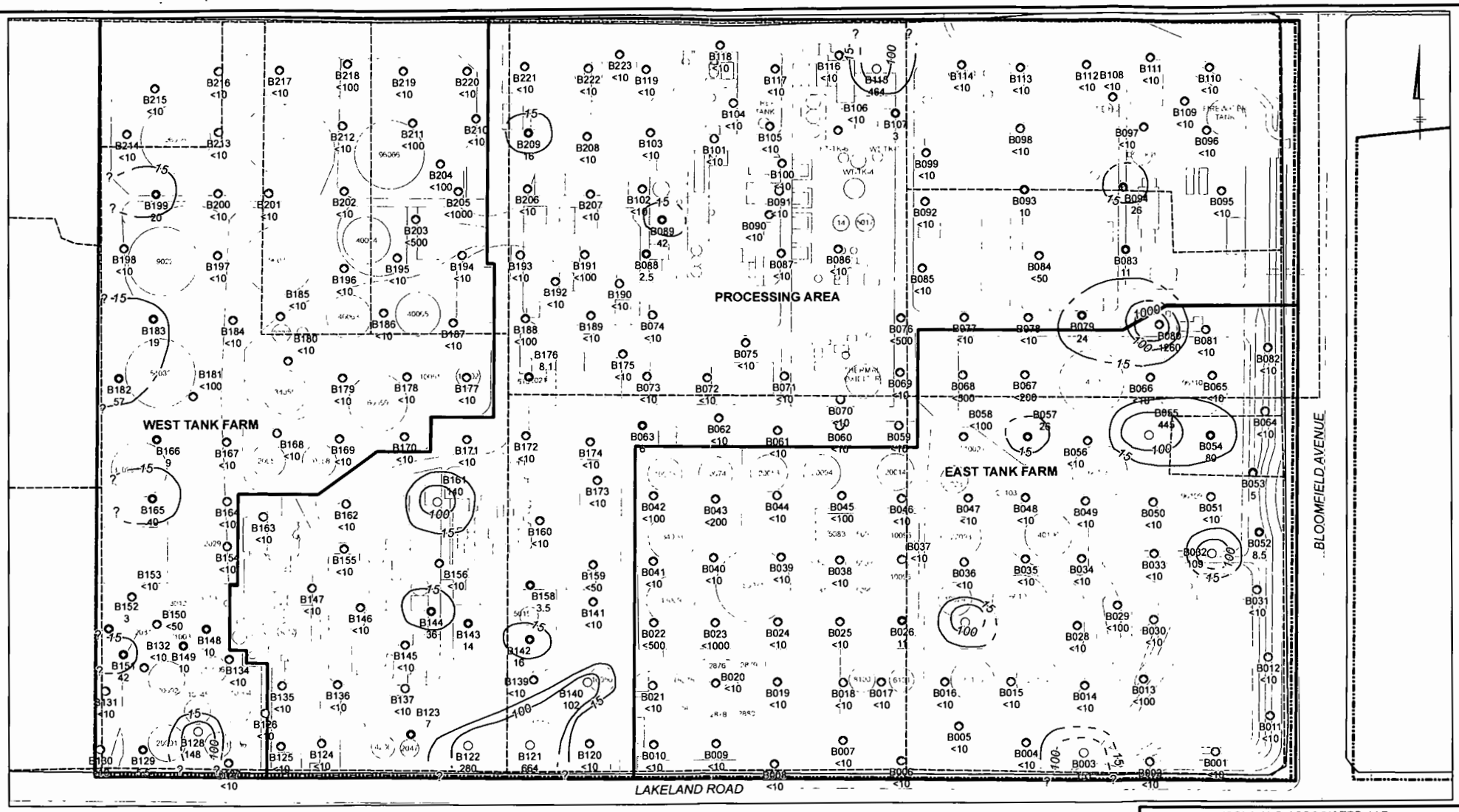

LEGEND:

SOIL BORING LOCATIONS (5ft bgs)
BENZO(A)PYRENE CONCENTRATION (ug/kg)

- 0 - 10
- 10 - 100
- 100 - 1,000
- > 1,000
- NOT DETECTED

- PARCEL DIVISION
- CENCO PROPERTY
- BENZO(A)PYRENE ISOCONCENTRATION CONTOUR
- INFERRED BENZO(A)PYRENE ISOCONCENTRATION CONTOUR
- B140 LOCATION ID
- 102 BENZO(A)PYRENE CONCENTRATION (ug/kg)
- < NOT DETECTED AT REPORTING LIMIT SHOWN

- OPERATIONAL AREAS
- FORMER ABOVEGROUND STORAGE TANK LOCATION
- EXISTING ABOVEGROUND STORAGE TANK LOCATION

0 150 300 Feet
GRAPHIC SCALE

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CALIFORNIA

SOIL BORING CONCENTRATION
BENZO(A)PYRENE - 5FT BGS

BBL an ARCADIS company

FIGURE
25

8/10/08 ROCH-85 EAB
Isola & Associates
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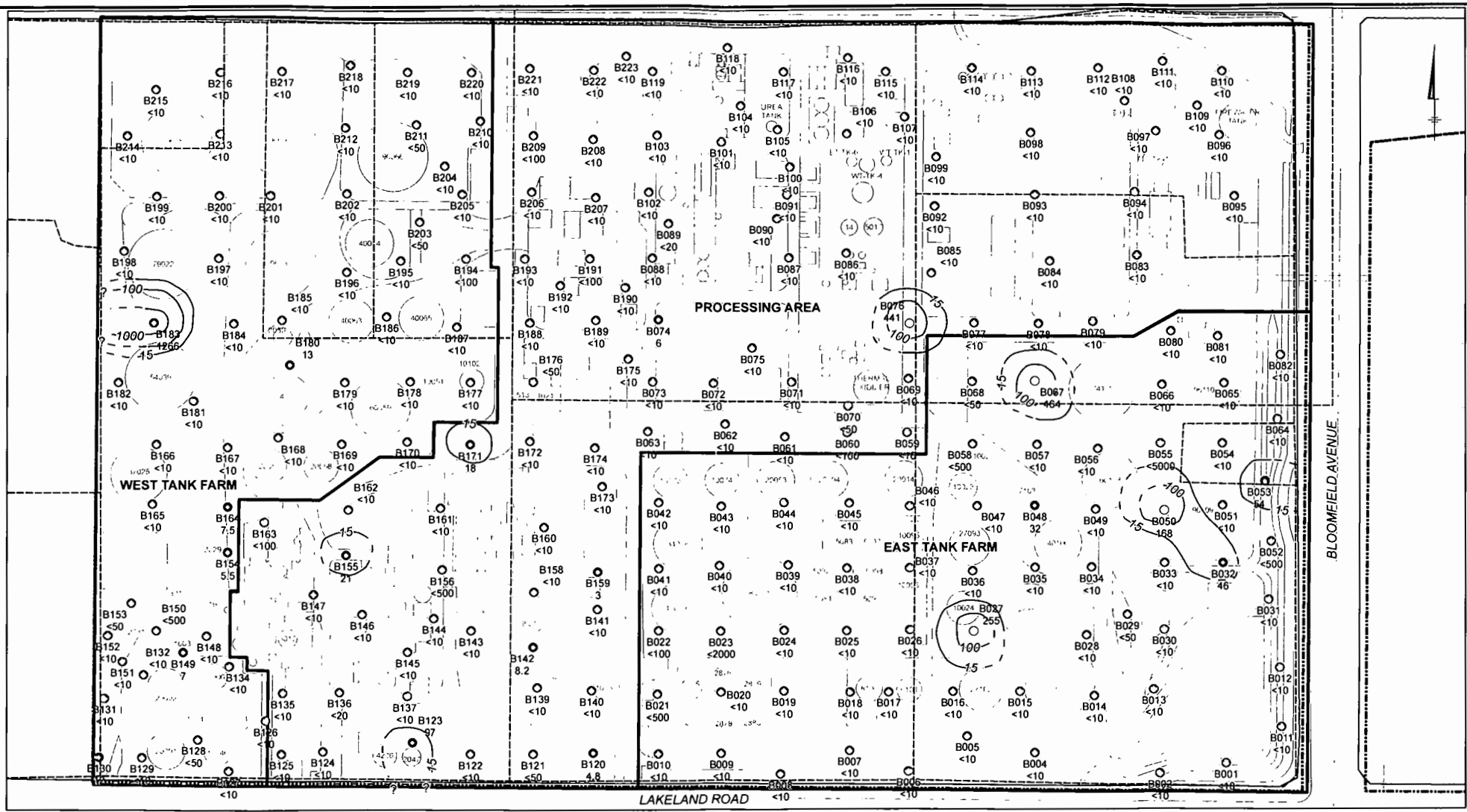

LEGEND:

SOIL BORING LOCATIONS (10ft bgs)
BENZO(A)PYRENE CONCENTRATION (ug/kg)

- 0 - 10
- 10 - 100
- 100 - 1,000
- > 1,000
- NOT DETECTED

- PARCEL DIVISION
- CENCO PROPERTY
- BENZO(A)PYRENE ISOCONCENTRATION CONTOUR
- INFERRED BENZO(A)PYRENE ISOCONCENTRATION CONTOUR
- B120 LOCATION ID
- 4.8 BENZO(A)PYRENE CONCENTRATION (ug/kg)
- < NOT DETECTED AT REPORTING LIMIT SHOWN

- OPERATIONAL AREAS
- FORMER ABOVEGROUND STORAGE TANK LOCATION
- EXISTING ABOVEGROUND STORAGE TANK LOCATION

0 150 300 Feet
GRAPHIC SCALE

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CALIFORNIA

SOIL BORING CONCENTRATION
BENZO(A)PYRENE - 10FT BGS

BBL an ARCADIS company

FIGURE
26

8/10/06 ROCH-85 EAB
Isola & Associates
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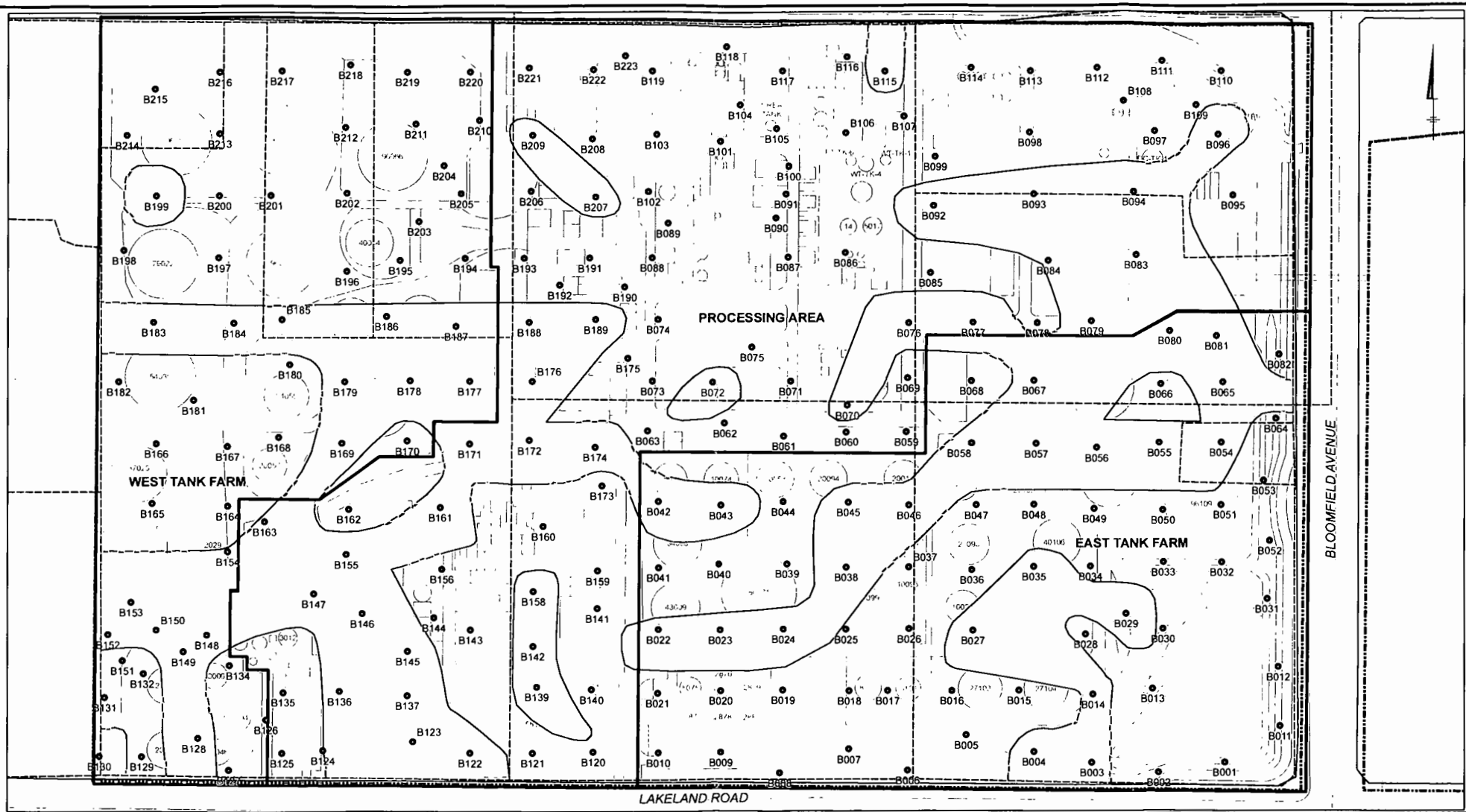


LEGEND:

- SOIL BORING LOCATIONS
- PARCEL DIVISION
- CENCO PROPERTY
- ESTIMATED IMPACTED AREA, DASHED WHERE INFERRED
- OPERATIONAL AREAS
- FORMER ABOVEGROUND STORAGE TANK LOCATION
- EXISTING ABOVEGROUND STORAGE TANK LOCATION

TOTAL ESTIMATED IMPACTED AREA ABOVE REGULATORY THRESHOLD = 762,000 ft^2

0 150 300 Feet

GRAPHIC SCALE

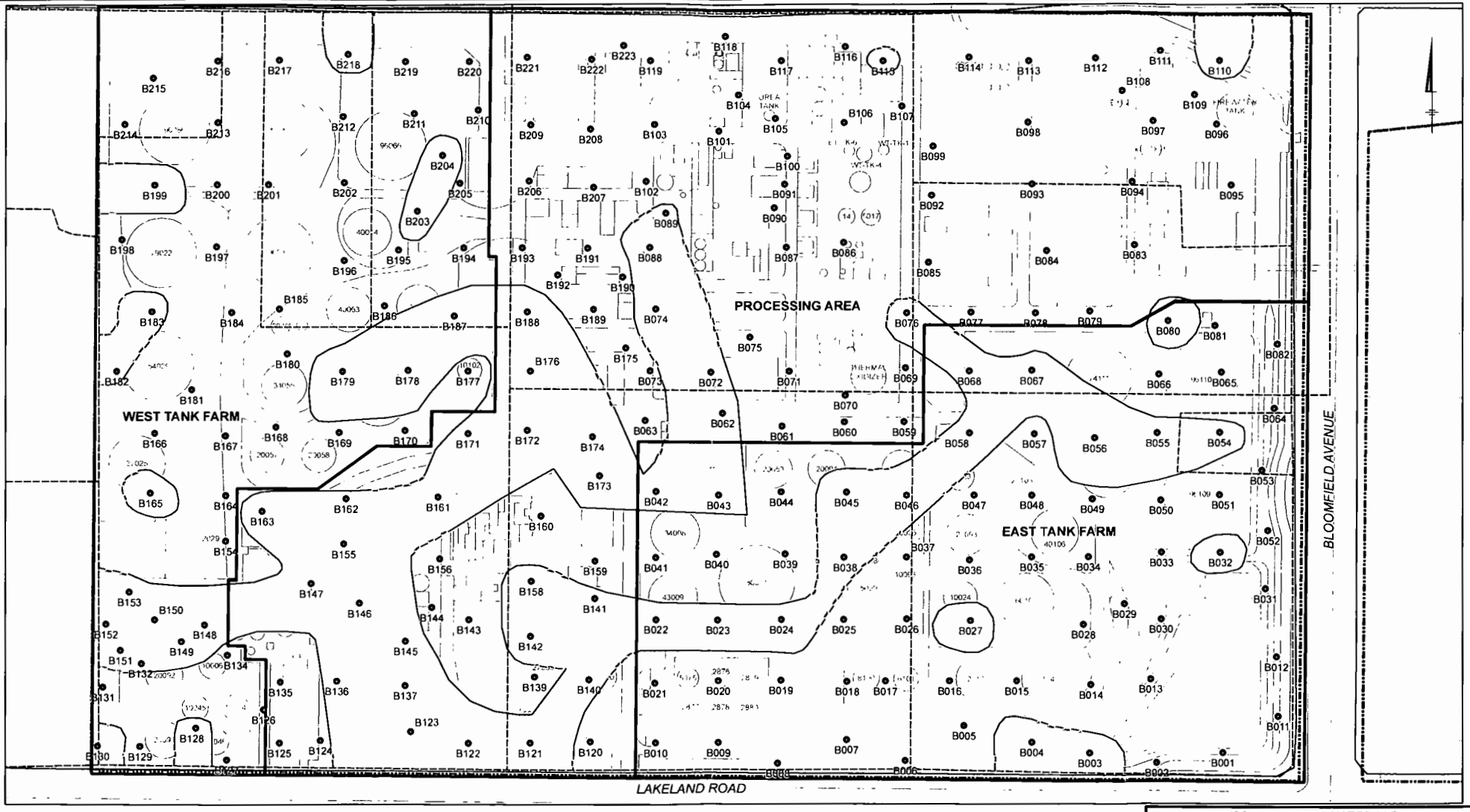
ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CALIFORNIA

TOTAL ESTIMATED IMPACTED AREA ABOVE REGULATORY THRESHOLDS 2 FEET BGS

BBL an ARCADIS company

FIGURE 27

9/9/05 ROCH-85 EAB
Isola & Associates
O:\IsolaandAssociates\SantaFeSpringsFormerCencoRefinery\Add\CENCO\SiteInvestigationReport\mxd\EstimatedRemediatedAreas_2ft.mxd



LEGEND:

- SOIL BORING LOCATIONS
- PARCEL DIVISION
- CENCO PROPERTY
- ESTIMATED IMAPCTED AREA, DASHED WHERE INFERRED
- OPERATIONAL AREAS
- FORMER ABOVEGROUND STORAGE TANK LOCATION
- EXISTING ABOVEGROUND STORAGE TANK LOCATION

TOTAL ESTIMATED IMPACTED AREA ABOVE REGULATORY THRESHOLD = 575,000 ft^2

0 150 300 Feet

GRAPHIC SCALE

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CALIFORNIA

TOTAL ESTIMATED IMPACTED AREA ABOVE REGULATORY THRESHOLDS 5 FEET BGS

BBL an ARCADIS company

FIGURE 28

8/10/06 ROCH-85 EAB
Isola & Associates
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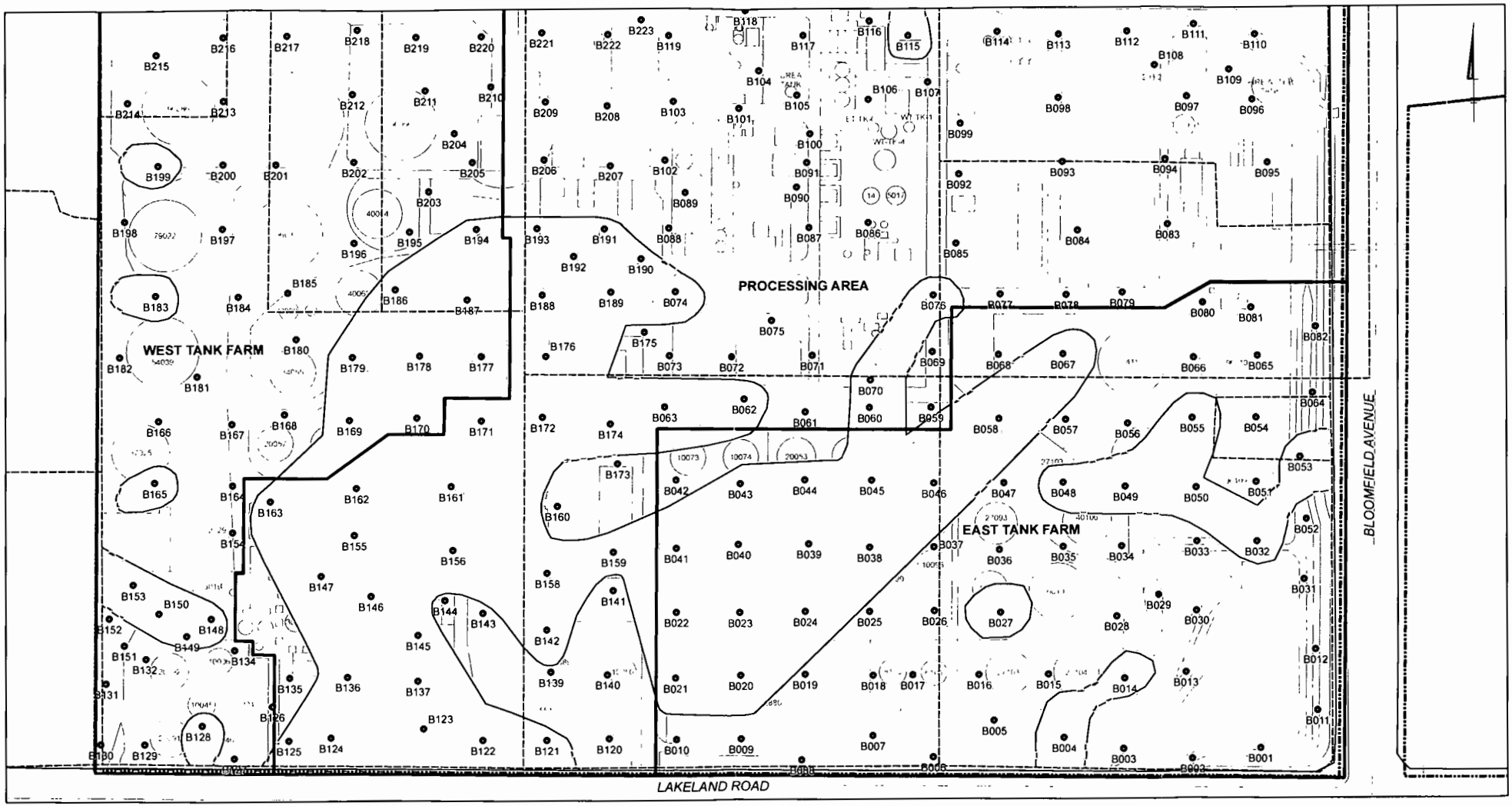

LEGEND:

- SOIL BORING LOCATIONS
- PARCEL DIVISION
- CENCO PROPERTY
- ESTIMATED IMPACTED AREA, DASHED WHERE INFERRED
- OPERATIONAL AREAS
- FORMER ABOVEGROUND STORAGE TANK LOCATION
- EXISTING ABOVEGROUND STORAGE TANK LOCATION

TOTAL ESTIMATED IMPACTED AREA ABOVE REGULATORY THRESHOLD = 699,000 ft^2

0 150 300 Feet

GRAPHIC SCALE

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CALIFORNIA

TOTAL ESTIMATED IMPACTED AREA ABOVE REGULATORY THRESHOLDS 10 FEET BGS

BBL an ARCADIS company

FIGURE 29

8/9/08 ROCH-85 EAB
Isola & Associates
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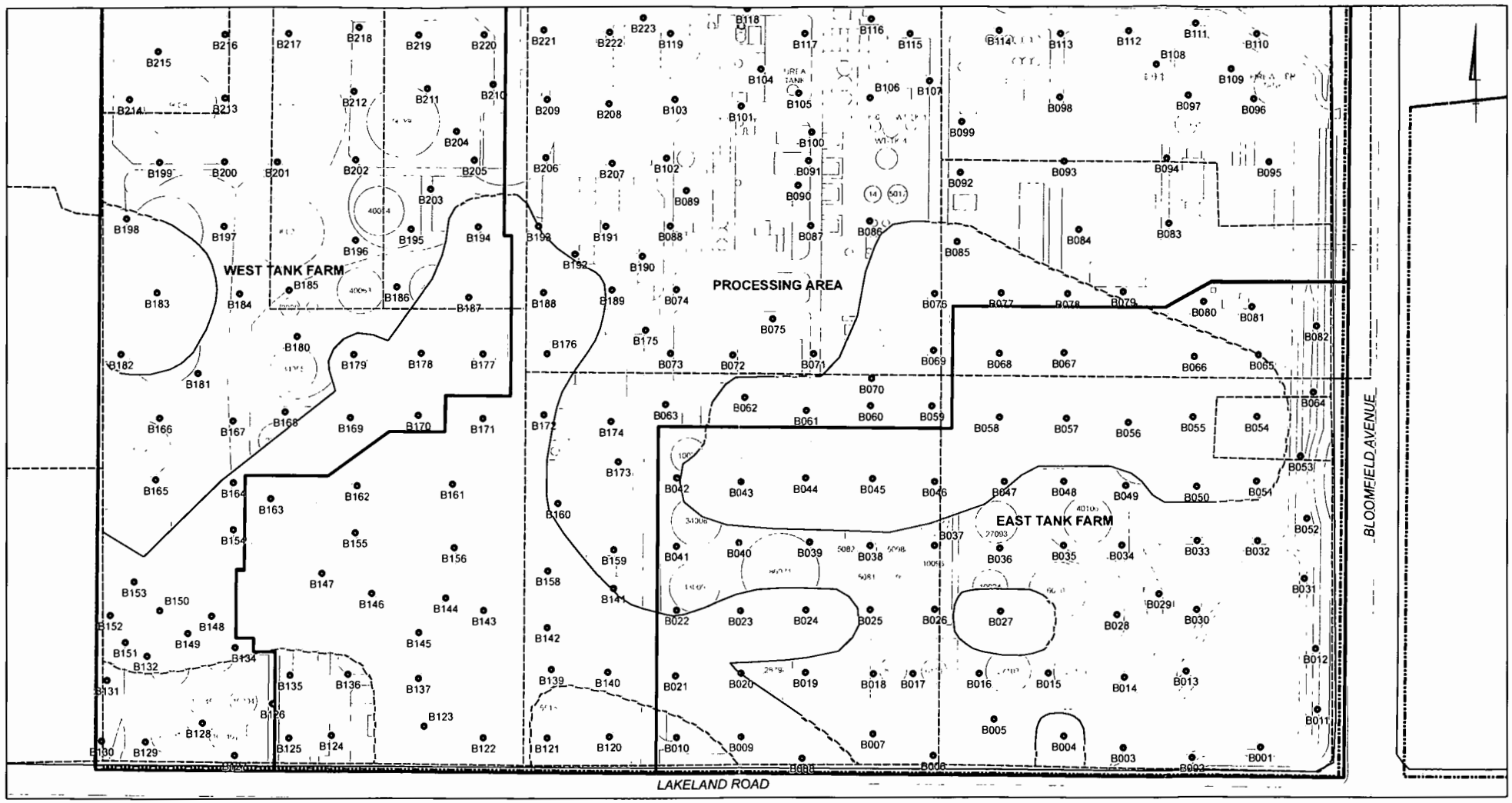


LEGEND:

- SOIL BORING LOCATIONS
- PARCEL DIVISION
- CENCO PROPERTY
- ESTIMATED IMPACTED AREA, DASHED WHERE INFERRED
- OPERATIONAL AREAS
- FORMER ABOVEGROUND STORAGE TANK LOCATION
- EXISTING ABOVEGROUND STORAGE TANK LOCATION

TOTAL ESTIMATED IMPACTED AREA ABOVE REGULATORY THRESHOLD = 793,000 ft^2

0 150 300 Feet

GRAPHIC SCALE

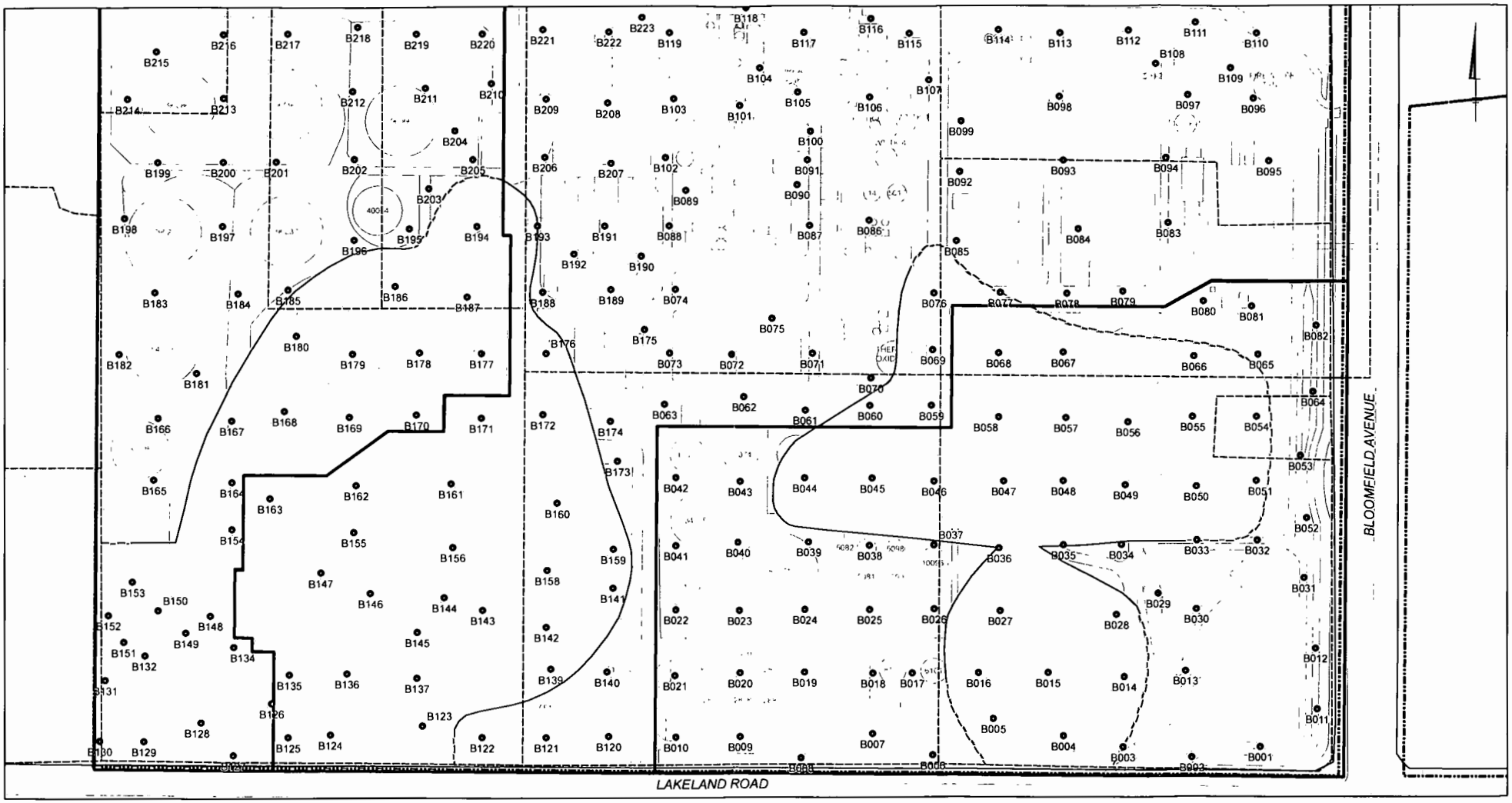
ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CALIFORNIA

TOTAL ESTIMATED IMPACTED AREA ABOVE REGULATORY THRESHOLDS 15 FEET BGS

BBL an ARCADIS company

FIGURE 30

8/9/06 ROCH-85 EAB
Isola & Associates
Q:\Isolaand\Associates\SantaFeSprings\FormerCencoRefinery\AddCENCOSiteInvestigationReport\mxd\EstimatedRemediatedAreas_15ft.mxd



LEGEND:

- SOIL BORING LOCATIONS
- PARCEL DIVISION
- CENCO PROPERTY
- ESTIMATED IMPACTED AREA, DASHED WHERE INFERRED
- OPERATIONAL AREAS
- FORMER ABOVEGROUND STORAGE TANK LOCATION
- EXISTING ABOVEGROUND STORAGE TANK LOCATION

TOTAL ESTIMATED IMPACTED AREA ABOVE REGULATORY THRESHOLD = 833,000 ft^2

0 150 300 Feet

GRAPHIC SCALE

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CALIFORNIA

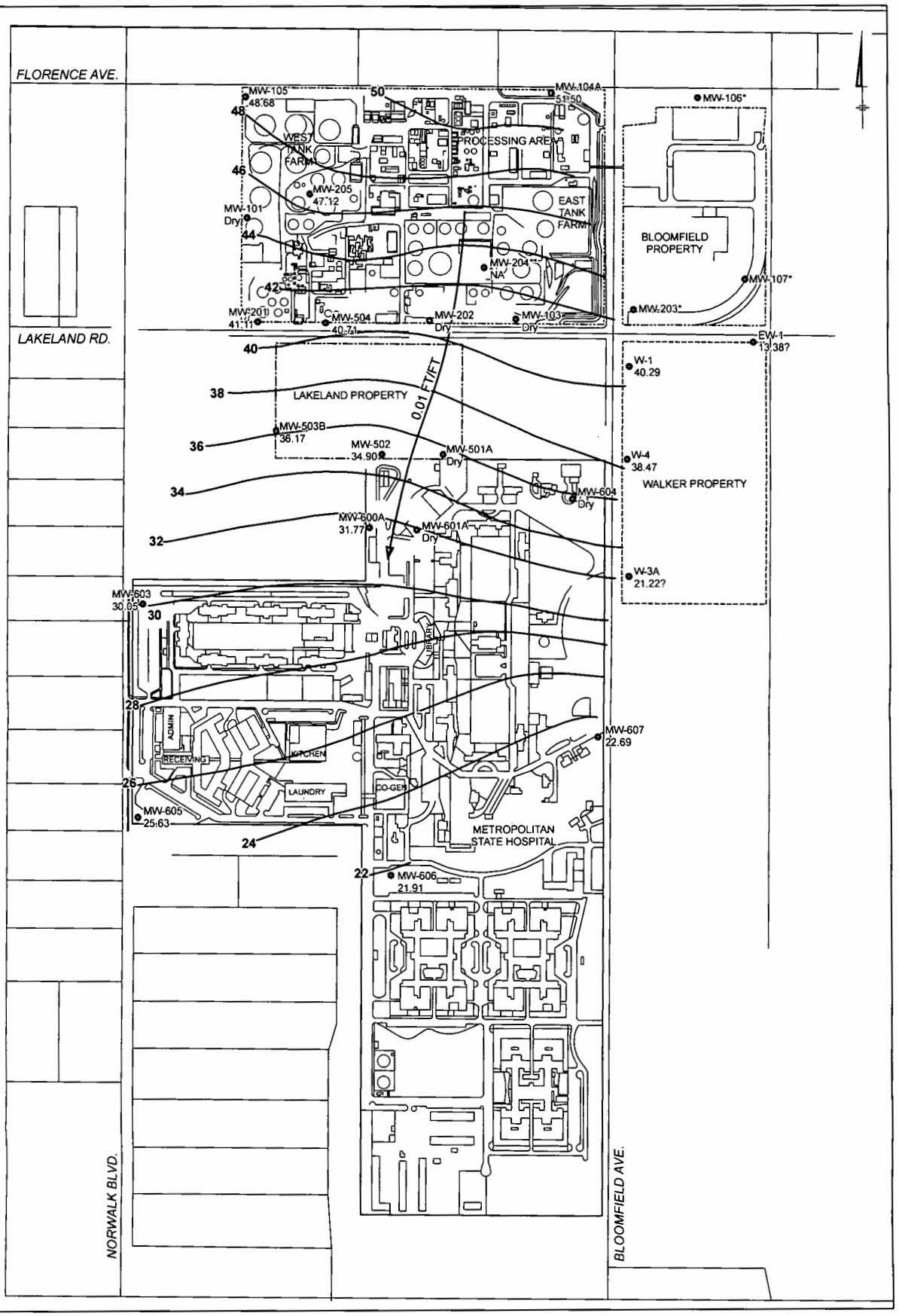
TOTAL ESTIMATED IMPACTED AREA ABOVE REGULATORY THRESHOLDS 20 FEET BGS

BBL an ARCADIS company

FIGURE 31

8/9/06 ROCH-85 EAB
Isola & Associates
Q:\IsolaandAssociates\SantaFeSprings\FormerCencoRefinery\Add\CENCOSiteInvestigationReport\mxd\EstimatedRemediatedAreas_20ft.mxd

6/30/06 SYR-85 EAB
Isola and Associates - Former Cenco Refinery
Q:\IsolaandAssociates\SantaFeSprings\FCR\AddCENCOSiteInvestigationReport\mxd\GWSurface-Feb2006.mxd



LEGEND:

- MW-607 22.69 — MONITORING WELL LOCATION ID / GROUNDWATER ELEVATION (ft-msl)
- 24 — GROUNDWATER ELEVATION CONTOUR (ft-msl)
- CENCO PROPERTY
- FORMER LAKELAND PROPERTY
- METROPOLITAN STATE HOSPITAL
- WALKER PROPERTY BOUNDARY

NOTES:

1. * WELLS WERE RE-INSTALLED FOLLOWING 02/2006 SAMPLING EVENT.
2. ** DAMAGE TO CASING OF MW-204 WAS DISCOVERED IN OCTOBER 2005; CASING WAS CUT ABOVE GROUND IN ORDER TO COLLECT GROUNDWATER SAMPLE. TOP OF CASING HAS NOT YET BEEN RESURVEYED. WELL NOT INCLUDED IN GENERATION OF GROUNDWATER CONTOURS.
3. ? GROUNDWATER ELEVATION NOT CONSISTENT WITH REGION AND WAS EXCLUDED FROM INTERPOLATION.

0 500 1,000 Feet
GRAPHIC SCALE

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CALIFORNIA

GROUNDWATER SURFACE ELEVATIONS FEBRUARY 2006

BBL an ARCADIS company

FIGURE 32

6/30/06 SYR-85 EAB
Isola and Associates - Former Cenco Refinery
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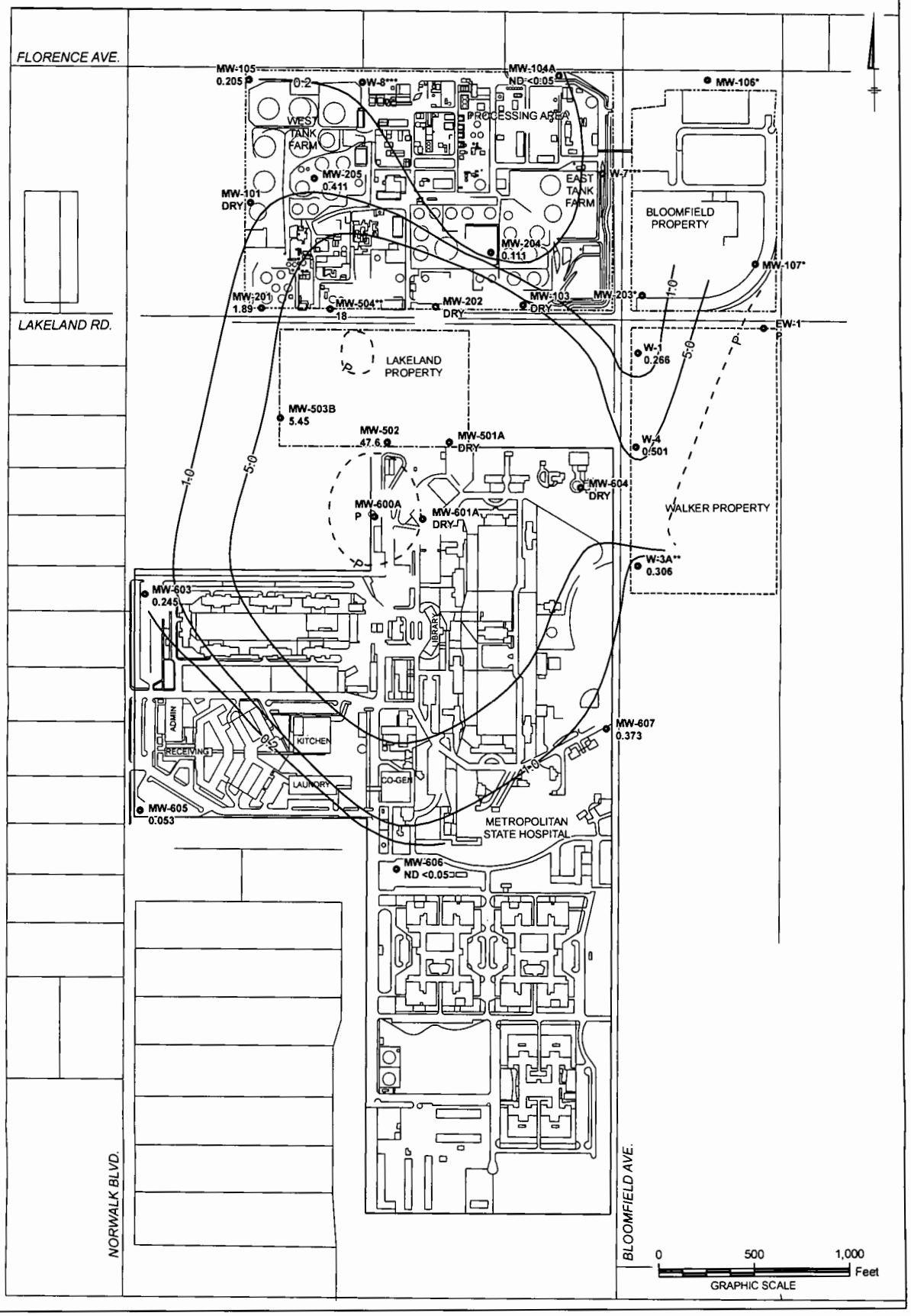

LEGEND:

- MW-105 0.205 — MONITORING WELL LOCATION ID TPHG CONCENTRATION (mg/L)
- 1.0 — TPH-G CONCENTRATION (mg/L)
- P — APPROXIMATE FREE PRODUCT BOUNDARY
- CENCO PROPERTY
- FORMER LAKELAND PROPERTY
- METROPOLITAN STATE HOSPITAL
- WALKER PROPERTY BOUNDARY

NOTES:

1. * WELLS WERE RE-INSTALLED FOLLOWING 02/2006 SAMPLING EVENT.
2. ** SHEEN OBSERVED DURING SAMPLING OF W-3A AND MW-504.
3. *** WELLS W-7 AND W-8 HAD TPH-G DETECTIONS, BUT WERE EXCLUDED FROM THE INTERPOLATION BECAUSE THEY ARE SCREENED IN A DIFFERENT AQUIFER.
4. WELLS WITH MEASURABLE FREE PRODUCT WERE NOT SAMPLED.
5. "ND <" IS DEFINED AS NOT DETECTED AT REPORTING LIMIT SHOWN.

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CALIFORNIA

GASOLINE RANGE PETROLEUM HYDROCARBON ISOCONCENTRATION CONTOURS IN GROUNDWATER FEBRUARY 2006

BBL an ARCADIS company

FIGURE 33

6/30/06 SYR-85 EAB
Isola and Ascodates - Former Cenco Refinery
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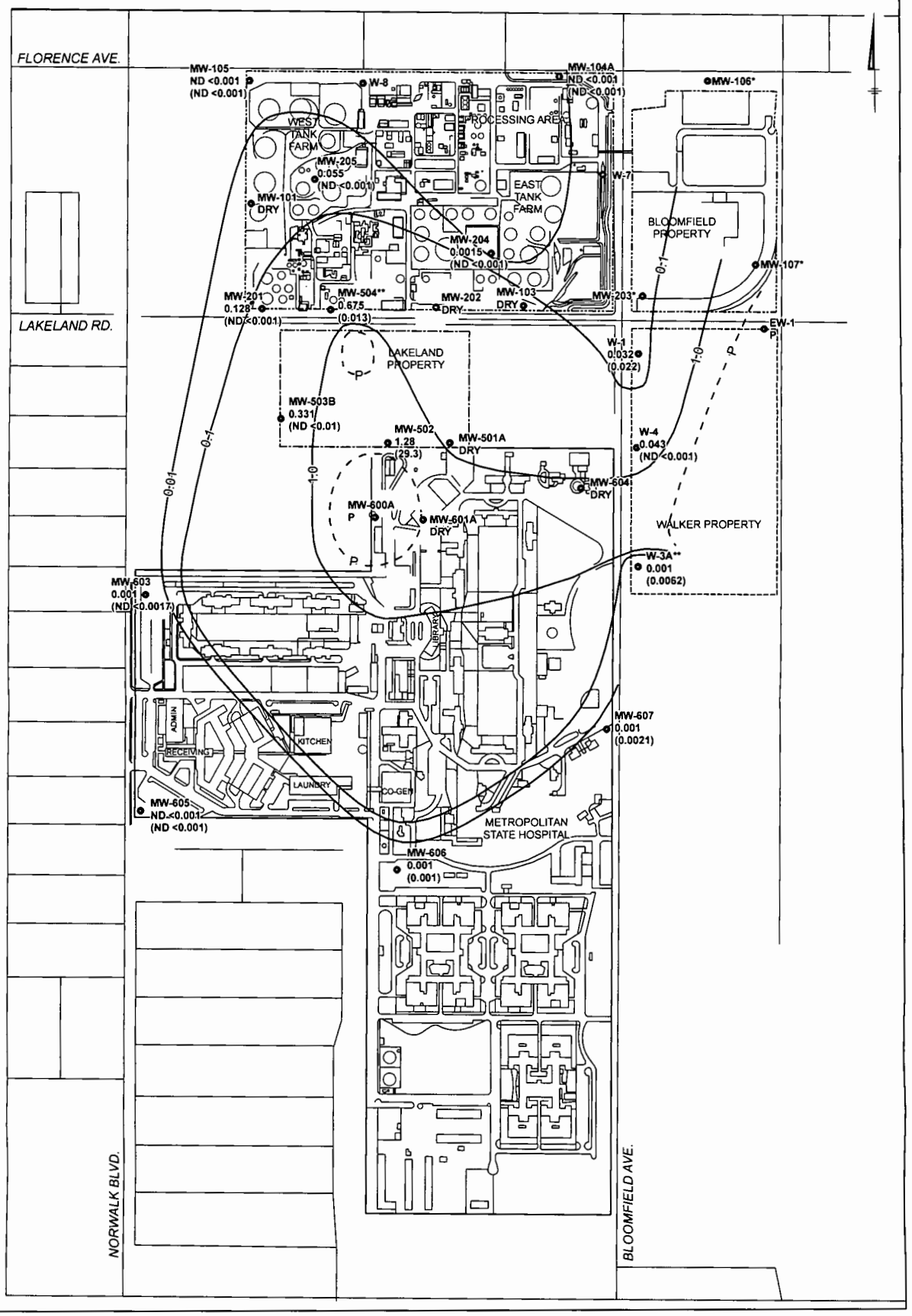

LEGEND:

MW-503B	MONITORING WELL LOCATION ID
● 0.331	BENZENE CONCENTRATION (mg/L)
(0.01)	MTBE CONCENTRATION (mg/L)
—0.1—	BENZENE CONCENTRATION (mg/L)
— —P	APPROXIMATE FREE PRODUCT BOUNDARY
—··—··—	CENCO PROPERTY
—·—·—	FORMER LAKELAND PROPERTY
———	METROPOLITAN STATE HOSPITAL
- - - - -	WALKER PROPERTY BOUNDARY

NOTES:

1. * WELLS WERE RE-INSTALLED FOLLOWING 02/2006 SAMPLING EVENT.
2. ** SHEEN OBSERVED DURING SAMPLING OF W-3A AND MW-504.
3. WELLS WITH MEASURABLE FREE PRODUCT WERE NOT SAMPLED.
4. "ND <" IS DEFINED AS NOT DETECTED AT REPORTING LIMIT SHOWN.

0 500 1,000 Feet
GRAPHIC SCALE

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CALIFORNIA

BENZENE ISOCONCENTRATION CONTOURS AND MTBE CONCENTRATIONS IN GROUNDWATER FEBRUARY 2006

BBL an ARCADIS company

FIGURE 34

Additional Site Investigation Report

Former CENCO Refinery 12345 Lakeland Road Santa Fe Springs, California

Isola & Associates, LLP
Lodi, California

August 2006

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an ARCADIS company

BBL®

an ARCADIS company

GA1427B63B253H8U

Appendix J
Soil Vapor and Soil Chemical
Laboratory Analytical Data
Former CENCO Refinery
Santa Fe Springs, California

Appendices

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an ARCADIS company

Appendix A

RWQCB Approval Letter

BBL®
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California Regional Water Quality Control Board

Los Angeles Region

Recipient of the 2001 *Environmental Leadership Award* from Keep California Beautiful

'an Lloyd
A. Secretary

320 W. 4th Street, Suite 200, Los Angeles, California 90013
Phone (213) 576-6600 FAX (213) 576-6640 - Internet Address: http://www.waterboards.ca.gov/losangeles

Arnold Schwarzenegger
Governor

September 15, 2005

Mr. Michael Barranco
CENCO Refining Company
12345 Lakeland Road
Santa Fe Springs, CA 90670

ADDITIONAL SITE INVESTIGATION WORK PLAN – CENCO REFINERY – 12345 LAKELAND ROAD, SANTA FE SPRINGS (SLIC NO. 318, SITE ID 2040071)

Dear Mr. Barranco:

Thank you for meeting with the Los Angeles Regional Water Quality Control Board (Regional Board) staff regarding the project on December 17, 2004 and February 9, 2004. Additionally, the Regional Board staff reviewed the Additional Site Investigation Work Plan, prepared by Haley & Aldrich, dated May 9, 2005. Based on our review of the information submitted you are authorized to implement the workplan with the following conditions:

1. The appropriate permits must be obtained prior to remedial or assessment work. A list of permits and permitting agencies must be submitted to this Regional Board prior to fieldwork.

2. Please notify the Regional Board at least 10 working days prior to the start of fieldwork.

3. Contaminated soil and groundwater generated during drilling and water sampling shall be managed in accordance with appropriate regulations.

4. A California licensed land surveyor must survey all groundwater monitoring wells to a County maintained benchmark. The survey report, signed by the licensee, shall be included in the report.

5. Monitoring well construction and development must comply with the requirements presented in the California Department of Water Resources' "California Well Standards" Bulletin 74-90.

6. The perforation depth of monitoring wells must be based on the full delineation of the vertical extent of groundwater contamination or the observed bottom of the aquifer.

7. The groundwater wells must be screened a minimum of 10 feet above and 20 feet into the saturated zone.

8. Laboratory reports and method detection limits (MDLs) shall meet the requirements specified in the Regional Board's May 1996 *Interim Site Assessment & Cleanup Guidebook*, Appendices B and C.

9. Please submit a soil and groundwater investigation report incorporating all information in previous reports. It must include historical boring locations, monitoring well locations, groundwater gradient,

soil and groundwater isoconcentration contours for each contaminant, tables of contaminants (i.e. sample media, sample number, concentration of all analytes, sample depth, sample date, and analysis method), geologic cross-sections with soil contamination isoconcentrations, and a thorough historical description of all activities at the site to date. This information must be included in the report.

10. Please note that effective July 1, 2005, all reports submitted to the Regional Board must comply with the electronic submittal of information (ESI) to be submitted over the internet. The groundwater analytical data, surveyed locations of monitoring wells, boring logs describing monitoring well construction, and portable data format (PDF) copies of all reports are required to be submitted over the internet electronically. The text of the regulations can be found at the URL:

    http://www.waterboards.ca.gov/ust/cleanup/electronic_reporting/docs/final_electronic_regs_dec04.pdf.

    Additionally, the State Water Board Geotracker data management system is capable of accepting this electronic information. The Regional Board does not have the resources to acquire hardware to allow caseworkers to appropriately review documents in electronic form. Thus, for the foreseeable future, we request that you continue to submit hard copies of all documents and data submittals.

11. You are required to perform quarterly groundwater monitoring and free product recovery. The quarterly groundwater monitoring and free product recovery report must be submitted by the thirtieth day following the end of the quarter, as shown in the following schedule, with the first groundwater monitoring and free product recovery report due on **January 30, 2006**:

Report Period	Report Due Date
January – March	April 30th
April – June	July 30th
July – September	October 30th
October – December	January 30th

12. The quarterly groundwater monitoring and free product recovery reports must include:

    - A summary of all groundwater elevation measurements from mean sea level, and depths to groundwater, from all site monitoring wells. Monitoring wells should be sounded for total depth at each gauging event. This information must be presented in tabular form. Provide a plot plan depicting the location of borings/wells with groundwater contours depicting groundwater flow direction and gradient information. Also, include a dissolved phase contaminant isoconcentration contour map for each constituent. All maps must be accurately drawn and include a scale. Include all field data forms.

    (a) Analyses of all groundwater samples collected from monitoring wells during the sampling period together with an evaluation of all test results. Groundwater sample collection and analyses shall be according to a Regional Board approved workplan.

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(b) Free product recovery activities, total amount recovered and schedule for the next reporting period.

(c) A summary of all activities completed during the reporting period and a compilation of all modifications to the groundwater sampling plan proposed for the next reporting period. The Regional Board must approve all workplan modifications.

13. Pursuant to State Water Resources Control Board Resolution No. 92-49, under Water Code Section 13304, all fieldwork related to well installation must be conducted by, or under the direct responsible supervision of, a registered geologist or licensed civil engineer. All technical documents submitted to the Regional Board must be reviewed and signed and/or stamped by a California registered geologist, a California registered certified specialty geologist, or a California registered civil engineer with at least five years hydrogeologic experience.

14. The California Business and Professions Code Sections 6735, 7835, and 7835.1 require that engineering and geologic evaluations and judgements be performed by or under the direction of registered professionals. Therefore, all work must be performed by or under the direction of a California registered geologist or registered civil engineer. A statement is required in the report that the registered professional in responsible charge actually supervised or personally conducted all the work associated with the project.

15. Assembly Bill 2436 (Stats. 2002, Ch 592) amended Section 1471 of the Civil Code, added Section 57012 to the Health and Safety Code, and amended Section 13307.1 of the Water Code, relating to the environmental contamination. Water Code section 13307.1 now prohibits the Regional Board from issuing a closure letter or making a no further action determination if a property is not suitable for unrestricted use, unless a covenant and environmental restriction is recorded pursuant to Civil Code section 1471. If you are requesting closure or a no further action determination, and the remaining or residual concentrations at the property prevent unrestricted use, you are required to record an instrument containing the environmental restriction covenant with the County Recorder's Office and provide a certified copy of the recorded instrument to the Regional Board before the Regional Board can grant closure or issue a no further action determination. The Regional Board has a template "Covenant and Environmental Restriction on Property" form for your use. (Restriction is required if residual soil concentrations are above residential PRG concentrations.)

16. The following cleanup criteria shall apply to the project:

(a) Petroleum hydrocarbons and volatile organic compounds (VOCs) – Based on site-specific conditions, soil-screening levels shall be determined in accordance with the Regional Board's May 1996 Interim Site Assessment & Cleanup Guidebook, or the preliminary remedial goals (PRGs) and soil screening levels prepared by the United States Environmental Protection Agency (U.S. EPA), Region IX, whichever is lowest.

(b) Heavy metals and semi-VOCs – Based on site-specific conditions, the soluble designated level for constituents of concern shall be determined in accordance with the Designated Level Methodology for Waste Classification and Cleanup Level Determination dated 1986, updated 1989, by Jon

Marshak, or the PRGs and soil screening levels prepared by U.S. EPA Region IX, whichever is lowest.

(c) Risk assessments, including both human health risk assessments and ecological risk assessments, shall be conducted in areas where risk-based clean-up levels are established as cleanup criteria. Any such criterion requires approval by Office of Environmental Health Hazard Assessment (OEHHA) or Department of Toxic Substances Control (DTSC) and Regional Board Staff prior to implementation. If a human health risk assessment should be conducted in accordance with the reviewing agencies' requirements and procedures. The Regional Board will only consider the review comments provided by the Office of Environmental Health Hazard Assessment (OEHHA) and/or the Department of Toxic Substances Control – Human and Ecological Risk Division (DTSC), which have the authority for reviewing the human health risk assessment. However, you are responsible for the cost of the agency to review your human health risk assessment report and for the Regional Board's cost to oversee the project. The Regional Board will determine the final risk management action based on the evaluation of the human health risk review comments provided by OEHHA or DTSC and the protection of water resources for current and future beneficial uses prescribed in the 1994 *Water Quality Control Plan for the Los Angeles Region* (Basin Plan).

(d) Please be advised that Total Threshold Limit Concentrations (TTLCs) and Soluble Threshold Limit Concentrations (STLCs) are waste classification criteria typically used for land disposal purposes. Waste classification levels are different from soil and groundwater cleanup levels, which are used for the protection of the groundwater resources and human health.

(e) The protection of water resources for current and future beneficial uses are prescribed in the 1994 *Water Quality Control Plan for the Los Angeles Region* (Basin Plan).

The soil and groundwater investigation report must be provided to the Regional Board no later than **November 15, 2005**. In the event that soil and groundwater contamination is not fully delineated during this phase of work, an additional workplan for a complete soil and groundwater investigation shall be required. The results of the complete investigation will be used to develop a comprehensive remedial action plan for soil and groundwater.

We thank you very much with your cooperation. Please call me at (213) 576-6803 or Steven Hariri at (213) 576-6745, if you have any questions.

Sincerely,

Dixon A. Oriola, Unit Chief
Spills, Leaks, Investigation and Cleanup II Unit

cc: Tom Hall, Santa Fe Springs Fire Department
David Isola, Isola & Bowers
Paris Hajali, BBL

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Appendix B

Assessor Parcel Map

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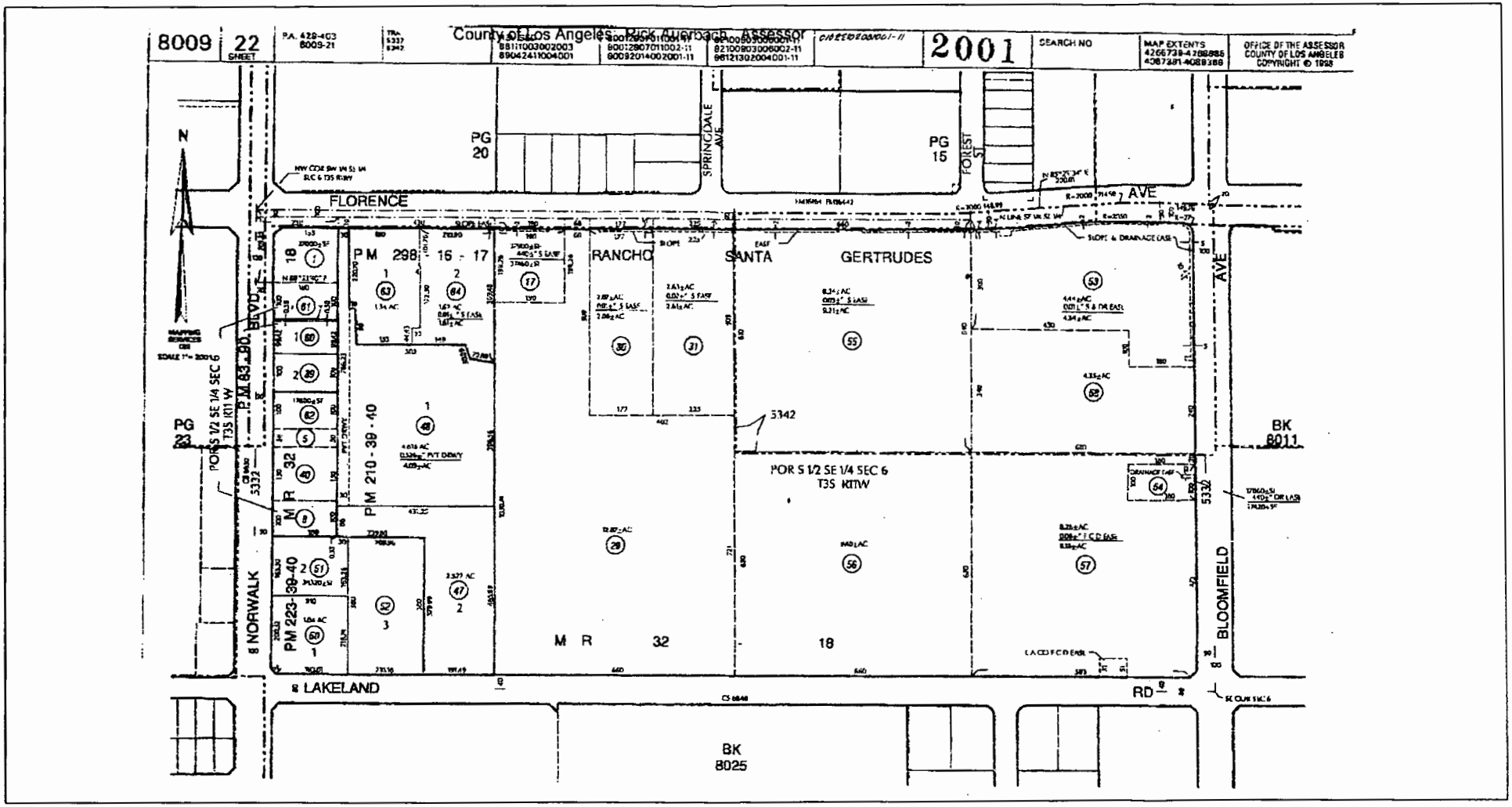

ISOLA AND ASSOCIATES LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CALIFORNIA

ASSESSOR PARCEL MAP

BBL
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FIGURE
B-1

8/7/06 SYR-65 EAB
54203.004
Q:\IsolaandAssociates\SantaFeSprings\FormerCencoRefinery\AddCENCOSiteInvestigationReport\mxd\AssessorParcelMap.mxd

TABLE E-3
HISTORICAL GROUNDWATER ANALYTICAL RESULTS
SUMMARY OF TPH-g, VOCs, AND OXYGENATES DATA

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Well ID	Date	TPH-g	TPH-d	TRPH	MTBE	TBA	Benzene	Toluene	Ethyl benzene	Total Xylenes	o-Xylene	m,p-Xylene	BDCM	BCM	Chloroform	Chloroethane	c-1,2-DCE	1,2-DCP	CFC-11	Dichlorodifluoromethane	1,1-DCA	1,2-DCA	1,1-DCE	1,2-DCP	IsoPB
	9/24/2002	0.11	--	--	0.0041	76	ND<0.0005	ND<0.001	ND<0.001	ND<0.002	--	--	ND<0.001	ND<0.001	ND<0.001	ND<1	0.002	ND<0.001	--	ND<0.001	ND<0.001	ND<0.0005	ND<0.001	ND<0.001	0.0018
	5/7/2002DUP	0.44	--	--	ND<0.001	NA	0.0054	ND<0.001	ND<0.001	ND<0.001	--	--	ND<0.001	ND<0.001	ND<0.001	ND<1	0.0017	ND<0.001	--	ND<0.001	ND<0.001	ND<0.0005	ND<0.001	ND<0.001	0.0036
	9/24/2002DUP	0.11	--	--	0.0042	NA	ND<0.0005	ND<0.001	ND<0.001	ND<0.002	--	--	ND<0.001	ND<0.001	ND<0.001	ND<1	0.0019	ND<0.001	--	ND<0.001	ND<0.001	ND<0.0005	ND<0.001	ND<0.001	0.0018
	6/30/2004	0.54	--	--	0.004J	0.05J	0.01	ND<0.0005	ND<0.0005	0.0019	ND<0.0005	0.0014	ND<0.005	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	0.019
MW-A	2/20/1991	0.0498	--	--	--	--	17	14	1.8	12.5	--	--	--	--	--	--	--	ND<0.25	--	--	--	--	--	--	--
Abandoned	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-B	2/25/1991	ND<1	--	--	--	--	3.5	0.03	0.18	0.467	--	--	--	--	--	--	--	ND<0.0005	--	--	--	--	--	--	--
Abandoned	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-I	2/19/1991	11	--	--	--	--	9.2	2.4	1.5	8.7	--	--	--	--	--	--	--	ND<0.05	--	--	--	--	--	--	--
Abandoned	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-C	3/31/1995	0.06	--	--	--	--	0.0006	0.014	ND<0.0005	0.0027	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Abandoned	7/11/1995	ND<0.05	--	--	--	--	ND<0.0003	ND<0.0003	ND<0.0003	ND<0.0006	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	10/5/1995	ND<0.5	--	--	--	--	ND<0.0003	ND<0.0003	ND<0.0003	ND<0.0006	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/8/1995	ND<0.5	--	--	--	--	ND<0.0003	ND<0.0003	ND<0.0003	ND<0.0006	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	3/7/1996	ND<0.5	--	--	--	--	ND<0.0005	ND<0.0005	ND<0.0005	ND<0.0015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	6/17/1996	ND<0.5	--	--	ND<0.02	--	ND<0.0005	ND<0.0005	ND<0.0005	ND<0.0015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-D	3/31/1995	ND<0.05	--	--	--	--	ND<0.0005	0.0066	ND<0.0005	0.0016	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Abandoned	7/11/1995	ND<0.05	--	--	--	--	ND<0.0003	ND<0.0003	ND<0.0003	ND<0.0006	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	10/5/1995	ND<0.5	--	--	--	--	ND<0.0003	ND<0.0003	ND<0.0003	ND<0.0006	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/8/1995	ND<0.5	--	--	--	--	ND<0.0003	ND<0.0003	ND<0.0003	ND<0.0006	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	3/7/1996	ND<0.5	--	--	--	--	ND<0.0005	ND<0.0005	ND<0.0005	ND<0.0015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	6/17/1996	ND<0.5	--	--	ND<0.02	--	ND<0.0005	ND<0.0005	ND<0.0005	ND<0.0015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-E	3/31/1995	0.06	--	--	--	--	0.0091	0.0066	0.0011	0.0023	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Abandoned	7/11/1995	ND<0.05	--	--	--	--	ND<0.0003	ND<0.0003	ND<0.0003	ND<0.0006	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	10/5/1995	ND<0.5	--	--	--	--	ND<0.0003	ND<0.0003	ND<0.0003	ND<0.0006	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/8/1995	ND<0.5	--	--	--	--	ND<0.0003	ND<0.0003	ND<0.0003	ND<0.0006	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	3/7/1996	ND<0.5	--	--	--	--	ND<0.0005	ND<0.0005	ND<0.0005	ND<0.0015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	6/17/1996	ND<0.5	--	--	ND<0.02	--	ND<0.0005	ND<0.0005	ND<0.0005	ND<0.0015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

NOTES:
Table recreated from Versar, Inc. *Revised Master Work Plan, CENCO Refining Company, Santa Fe Springs, California*, dated January 28, 2000
All concentrations reported in milligrams per liter (mg/L)
Blank - Not analyzed
ND<0.001 - Not detected above the laboratory reporting limit shown
* - Sample was analyzed by both EPA Methods 8010/8020 and 8240; highest detection value of the two analyses is shown
NS - Not sampled due to well damage, free product in well, or not scheduled for sampling
(A) - EPA Method 601/8010
(B) - EPA Method 602/8020
Abbreviations:

TPH-g = Total petroleum hydrocarbons as gasoline (Method 8020)
TPH-d = Total petroleum hydrocarbons as diesel (Method 8015)
TRPH = ASTM Method 2887 (unless otherwise indicated)
MTBE = Methyl tertiary butyl ether
B = Benzene
T = Toluene
E = Ethylbenzene
X = Total xylenes
BDCM = Bromodichloromethane
BCM = Bromochloromethane
c-1,2-DCE = cis-1,2-Dichloroethene
CB = Chlorobenzene
1,2-DCB = 1,2-Dichlorobenzene
1,1-DCA = 1,1-Dichloroethane
1,2-DCA = 1,2-Dichloroethane
1,1-DCE = 1,1-Dichloroethene
1,2-DCP = 1,2-Dichloropropane
iso-PB = iso-Propylbenzene
MC = Methylene chloride
n-BB = n-Butylbenzene
n-PB = n-Propylbenzene
p-iso-PT = p-iso-Propyltoluene
sec-BB = sec-Butylbenzene
PCE = Tetrachloroethene
t-1,2-DCE = trans-1,2-Dichloroethene
TCE = Trichloroethene
1,2,4-TMB = 1,2,4-Trimethylbenzene
1,3,5-TMB = 1,3,5-Trimethylbenzene
TOX = Total halogenated volatile organics (ASTM Method 2885)
VC = Vinyl chloride
t-BB= Tertiary Butylbenzene

TABLE E-3
HISTORICAL GROUNDWATER ANALYTICAL RESULTS
SUMMARY OF TPH-g, VOCs, AND OXYGENATES DATA

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Well ID	Date	MC	n-BB	t-BB	n-PB	1-Methyl Naphthalene	2-Methyl Naphthalene	Naphthalene	p-isoPT	sec-BB	Phenol	BCE	1,1,2-DCE	TCE	1,2,4-TMB	1,3,5-TMB	TOX	VC	GB
Operational Area 1: Bloomfield Propert																			
MW-106	12/20/1995	--	--	--	--	--	--	--	--	--	--	--	0.015	0.0015	--	--	--	--	--
	7/31/1996	ND<0.0003	--	--	--	--	--	--	--	--	--	ND<0.0003	0.017	0.0025	--	--	--	0.00098	--
	12/17/1996	ND<0.002	ND<0.002	--	ND<0.002	--	--	ND<0.002	ND<0.002	ND<0.002	--	ND<0.002	0.026	ND<0.002	ND<0.002	ND<0.002	--	ND<0.004	--
	1/20/1998	ND<0.005	ND<0.005	--	ND<0.005	--	--	ND<0.01	ND<0.005	ND<0.005	--	ND<0.005	0.01	ND<0.005	ND<0.005	ND<0.005	--	ND<0.01	ND<0.005
	8/20/1998	ND<0.005	ND<0.005	--	0.0059	--	--	ND<0.01	ND<0.005	ND<0.005	--	ND<0.005	0.0058	ND<0.005	ND<0.005	ND<0.005	--	ND<0.01	ND<0.005
	1/27/1999	ND<0.005	ND<0.005	--	0.0072	--	--	ND<0.01	ND<0.005	ND<0.005	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	ND<0.01	ND<0.005
	7/19/1999	ND<0.01	ND<0.001	--	0.0052	--	--	ND<0.01	ND<0.001	0.0015	--	ND<0.001	0.0064	0.0026	ND<0.001	ND<0.001	--	ND<0.0005	ND<0.001
	1/14/2000	ND<0.01	ND<0.01	--	ND<0.001	--	--	ND<0.01	ND<0.001	ND<0.001	--	ND<0.001	0.0096	ND<0.001	ND<0.001	ND<0.001	--	ND<0.0005	ND<0.001
	7/31/2000	ND<0.001	ND<0.01	ND<0.001	ND<0.001	ND<0.01	ND<0.01	ND<0.01	ND<0.001	ND<0.001	ND<0.01	0.021	0.021	0.0021	ND<0.001	ND<0.001	--	0.025	--
	2/6/2001	ND<0.01	ND<0.001	ND<0.001	ND<0.001	--	--	ND<0.01	ND<0.001	ND<0.001	--	ND<0.001	0.025	0.0028	ND<0.001	ND<0.001	--	0.015	ND<0.001
	7/24/2001	ND<0.01	ND<0.001	--	ND<0.001	--	--	ND<0.01	ND<0.001	ND<0.001	--	ND<0.001	0.023	0.0021	ND<0.001	ND<0.001	--	ND<0.0005	ND<0.001
	5/7/2002	ND<0.01	ND<0.001	ND<0.001	ND<0.001	--	--	ND<0.01	ND<0.001	ND<0.001	--	ND<0.001	0.017	0.0019	ND<0.001	ND<0.001	--	0.015	ND<0.001
	9/24/2002	ND<0.01	ND<0.001	ND<0.001	ND<0.001	--	--	ND<0.01	ND<0.001	ND<0.001	--	ND<0.001	0.024	0.0016	ND<0.001	ND<0.001	--	0.021	ND<0.001
	7/1/2004	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	--	ND<0.005	--	ND<0.005		ND<0.005	0.021	ND<0.005	ND<0.005	ND<0.005	--	ND<0.005	ND<0.005
MW-107	12/21/1995	--	--	--	--	--	--	--	--	--	--	--	0.0065	--	--	--	--	--	--
	7/31/1996	ND<0.0003	--	--	--	--	--	--	--	--	--	ND<0.0003	0.019	0.00078	--	--	--	0.0011	--
	12/17/1996	ND<0.005	ND<0.005	--	ND<0.005	--	--	ND<0.005	ND<0.005	ND<0.005	--	ND<0.005	0.033	ND<0.005	ND<0.005	ND<0.005	--	ND<0.01	--
	1/20/1998	ND<0.005	ND<0.005	--	ND<0.005	--	--	ND<0.01	ND<0.005	ND<0.005	--	ND<0.005	0.047	ND<0.005	ND<0.005	ND<0.005	--	ND<0.01	ND<0.005
	8/20/1998	ND<0.005	ND<0.005	--	ND<0.005	--	--	ND<0.01	ND<0.005	ND<0.005	--	ND<0.005	0.025	ND<0.005	ND<0.005	ND<0.005	--	ND<0.01	ND<0.005
	1/27/1999	ND<0.005	ND<0.005	--	ND<0.005	--	--	ND<0.01	ND<0.005	ND<0.005	--	ND<0.005	0.044	ND<0.005	ND<0.005	ND<0.005	--	ND<0.01	ND<0.005
	7/19/1999	ND<0.05	ND<0.005	--	ND<0.005	--	--	ND<0.05	ND<0.005	ND<0.005	--	ND<0.005	0.077	ND<0.005	ND<0.005	ND<0.005	--	ND<0.0025	ND<0.005
	1/12/2000	ND<0.01	ND<0.001	--	0.0022	--	--	ND<0.01	ND<0.001	0.003	--	ND<0.001	0.11	0.0034	ND<0.001	ND<0.001	--	ND<0.0005	0.0013
	7/31/2000	ND<0.05	ND<0.005	ND<0.005	0.049	0.11	0.14	ND<0.05	ND<0.005	0.0086	ND<0.011	ND<0.005	0.059	ND<0.005	ND<0.005	ND<0.005	--	0.053	ND<0.005
	2/6/2001	ND<0.01	ND<0.001	0.001	0.057	--	--	ND<0.01	ND<0.001	0.0097	--	ND<0.001	0.0045	ND<0.001	ND<0.001	ND<0.001	--	0.021	ND<0.001
	7/26/2001	ND<0.01	ND<0.001	--	0.053	--	--	ND<0.01	ND<0.001	0.0085	--	ND<0.001	0.013	ND<0.001	ND<0.001	ND<0.001	--	ND<0.0005	ND<0.001
	5/9/2002	ND<0.02	ND<0.002	ND<2	0.048	--	--	ND<0.02	ND<0.002	0.0084	--	ND<0.002	0.0057	ND<0.02	ND<0.002	ND<0.002	--	0.03	ND<0.002
	9/25/2002	ND<0.02	ND<0.002	ND<2	0.068	--	--	ND<0.02	ND<0.002	0.012	--	ND<0.002	ND<0.002	ND<0.02	ND<0.002	ND<0.002	--	0.028	ND<0.002
	7/1/2004	ND<0.005	0.002J	0.002J	0.14	--	--	0.002J	--	0.02	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	0.012	ND<0.005
MW-203	6/1/1988	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	9/1/1988	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/1/1988	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	3/1/1989	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	6/1/1989	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	9/1/1989	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/1/1989	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	3/1/1990	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	6/1/1990	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	9/1/1990	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/1/1990	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	3/1/1991	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	6/1/1991	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	9/1/1991	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/1/1991	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	3/1/1992	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	6/1/1992	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	9/1/1992	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/1/1992	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	3/1/1993	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	5/1/1993	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	5/25/1993	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	9/1/1993	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/1/1994	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	3/1/1995	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	9/1/1995	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/13/1995	--	--	--	--	--	--	--	--	--	--	--	0.0045	--	--	--	--	0.0014	--
	7/31/1996	ND<0.0003	--	--	--	--	--	--	--	--	--	ND<0.0003	0.0017	0.00034	--	--	--	0.002	--
	12/17/1996	ND<0.001	ND<0.001	--	ND<0.001	--	--	ND<0.001	ND<0.001	ND<0.001	--	ND<0.001	ND<0.001	ND<0.001	ND<0.001	ND<0.001	--	ND<0.002	--
	1/20/1998	ND<0.005	ND<0.005	--	ND<0.005	--	--	ND<0.01	ND<0.005	ND<0.005	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	ND<0.01	ND<0.005
	8/20/1998	ND<0.005	ND<0.005	--	ND<0.005	--	--	ND<0.01	ND<0.005	ND<0.005	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	ND<0.01	ND<0.005
	1/27/1999	ND<0.005	ND<0.005	--	ND<0.005	--	--	ND<0.01	ND<0.005	ND<0.005	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	ND<0.01	ND<0.005
	7/19/1999	ND<0.01	ND<0.001	--	ND<0.001	--	--	ND<0.01	ND<0.001	ND<0.001	--	ND<0.001	0.0019	ND<0.001	ND<0.001	ND<0.001	--	ND<0.0005	ND<0.001
	1/12/2000	ND<0.01	ND<0.001	--	ND<0.001	--	--	ND<0.01	ND<0.001	ND<0.001	--	ND<0.001	ND<0.001	ND<0.001	ND<0.001	ND<0.001	--	ND<0.005	ND<0.001
	7/31/2000	ND<0.01	ND<0.001	ND<0.001	ND<0.001	ND<0.01	ND<0.01	ND<0.01	ND<0.001	ND<0.001	ND<0.01	ND<0.001	ND<0.001	ND<0.001	ND<0.001	ND<0.001	--	0.00051	ND<0.001
	2/6/2001	ND<0.01	ND<0.001	--	ND<0.001	--	--	ND<0.01	ND<0.001	ND<0.001	--	ND<0.001	0.0016	ND<0.001	ND<0.001	ND<0.001	--	0.0011	ND<0.001
	7/24/2001	ND<0.01	ND<0.001	--	ND<0.001	--	--	ND<0.01	ND<0.001	ND<0.001	--	ND<0.001	0.0018	ND<0.001	ND<0.001	ND<0.001	--	0.0083	ND<0.001
	5/8/2002	ND<0.01	ND<0.001	ND<1	ND<0.001	--	--	ND<0.01	ND<0.001	ND<0.001	--	ND<0.002	0.0017	ND<0.001	ND<0.001	ND<0.001	--	0.00053	ND<0.001
	9/25/2002	ND<0.01	ND<0.001	ND<1	ND<0.001	--	--	ND<0.01	ND<0.001	ND<0.001	--	ND<0.003	0.0025	ND<0.001	ND<0.001	ND<0.001	--	0.0011	ND<0.001

TABLE E-3
HISTORICAL GROUNDWATER ANALYTICAL RESULTS
SUMMARY OF TPH-g, VOCs, AND OXYGENATES DATA

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Well ID	Date	MC	n-BB	i-BB	n-PB	1-Methyl Naphthalene	2-Methyl Naphthalene	Naphthalene	p-isoPT	sec-BB	Phenol	PCE	1,1,2-DCE	TCE	1,2,4 TMB	1,3,5 TMB	TOX	VC	CB
	7/1/2004	ND<0.005	ND<0.005	--	--	--	--	ND<0.005	--	ND<0.005	--	ND<0.005	0.004J	ND<0.005	ND<0.005	ND<0.005	--	ND<0.005	ND<0.005
Operational Area 2: East Tank Farm Ar																			
MW-103	8/1/1985	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	6/1/1988	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	9/1/1988	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/1/1988	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	3/1/1989	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	6/1/1989	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	9/1/1989	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	3/1/1992	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	6/1/1992	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	9/1/1992	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/1/1992	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	3/1/1993	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	5/1/1993	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	5/25/1993	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	9/1/1993	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	11/1/1993	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/1/1994	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	3/1/1995	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	9/1/1995	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/13/1995	ND<0.0005	--	--	--	--	--	--	--	--	--	ND<0.0005	ND<0.0005	ND<0.0005	--	--	--	0.0025	--
	7/31/1996	ND<0.0003	--	--	--	--	--	--	--	--	--	ND<0.0003	ND<0.0003	0.00038	--	--	--	ND<0.0003	--
	12/17/1996	ND<0.005	ND<0.005	--	0.0084	--	--	ND<0.005	ND<0.005	ND<0.005	--	0.0089	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	0.054	--
	1/21/1998	ND<0.005	ND<0.005	--	0.015	--	--	ND<0.01	ND<0.005	ND<0.005	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	0.028	ND<0.005
	8/19/1998	ND<0.005	0.0069	--	0.018	--	--	ND<0.01	ND<0.005	0.0054	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	ND<0.01	ND<0.005
	1/27/1999	ND<0.005	ND<0.005	--	0.0059	--	--	ND<0.01	ND<0.005	ND<0.005	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	ND<0.01	ND<0.005
	7/19/1999	ND<0.01	0.0031	--	0.0081	--	--	ND<0.01	ND<0.001	0.0039	--	ND<0.001	ND<0.001	ND<0.001	ND<0.001	ND<0.001	--	ND<0.0005	ND<0.001
	1/12/2000	ND<0.01	0.0035	--	0.0067	--	--	ND<0.01	ND<0.001	0.0037	--	ND<0.001	ND<0.001	ND<0.001	ND<0.001	ND<0.001	--	ND<0.0005	ND<0.001
	8/4/2000	ND<0.01	ND<0.001	ND<0.001	ND<0.001	ND<0.01	ND<0.01	ND<0.01	ND<0.001	0.0039	ND<0.01	ND<0.001	ND<0.001	0.0012	ND<0.001	ND<0.001	--	0.00075	ND<0.001
	2/9/2001	ND<0.01	ND<0.001	--	ND<0.001	--	--	ND<0.01	ND<0.001	0.0036	--	ND<0.001	ND<0.001	ND<0.001	ND<0.001	ND<0.001	--	ND<0.0005	ND<0.001
	7/25/2001	ND<0.01	0.0029	--	0.0055	--	--	ND<0.01	ND<0.001	0.0032	--	ND<0.001	ND<0.001	ND<0.001	0.0058	0.0017	--	ND<0.0005	ND<0.001
	5/8/2002	ND<0.01	ND<0.001	ND<1	ND<0.001	--	--	ND<0.01	ND<0.001	ND<0.001	--	ND<0.001	ND<0.001	ND<0.001	ND<0.001	ND<0.001	--	ND<0.0005	ND<0.001
	9/25/2002	ND<0.01	0.0039	ND<1	0.013	--	--	ND<0.01	ND<0.001	0.0043	--	ND<0.001	ND<0.001	ND<0.001	0.0014	ND<0.001	--	ND<0.0005	ND<0.001
MW-202	8/1/1985	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	11/1/1993	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	3/1/1995	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	9/1/1995	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/1/1995	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	7/31/1996	ND<0.0003	--	--	--	--	--	--	--	--	--	ND<0.0003	0.00034	0.00037	--	--	--	ND<0.0003	--
	12/17/1996	ND<0.05	ND<0.05	--	0.1	--	--	ND<0.05	ND<0.05	ND<0.05	--	ND<0.05	ND<0.05	ND<0.05	ND<0.05	ND<0.05	--	ND<0.01	--
	1/21/1998	ND<0.005	0.011	--	0.1	--	--	ND<0.01	ND<0.005	0.016	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	ND<0.01	ND<0.005
	8/18/1998	ND<0.005	0.016	--	0.091	--	--	ND<0.01	ND<0.005	0.026	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	ND<0.01	ND<0.005
	1/27/1999	ND<0.005	ND<0.005	--	0.13	--	--	ND<0.01	ND<0.005	0.029	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	ND<0.01	ND<0.005
	7/19/1999	ND<0.02	0.019	--	0.13	--	--	ND<0.02	ND<0.002	0.029	--	ND<0.002	ND<0.002	ND<0.002	ND<0.002	ND<0.002	--	ND<0.001	ND<0.002
	1/11/2000	ND<0.01	0.0072	--	0.029	--	--	ND<0.01	ND<0.001	0.023	--	ND<0.001	ND<0.001	ND<0.001	ND<0.001	ND<0.001	--	ND<0.0005	ND<0.001
	8/2/2000	ND<0.01	0.0019	0.018	0.01	ND<0.01	ND<0.01	ND<0.01	ND<0.001	0.023	ND<0.01	ND<0.001	ND<0.001	ND<0.001	ND<0.001	ND<0.001	--	ND<0.0005	ND<0.001
	2/7/2000	ND<0.01	0.0011	0.018	0.0077	--	--	ND<0.01	ND<0.001	0.01	--	ND<0.001	ND<0.001	ND<0.001	ND<0.001	ND<0.001	--	0.0033	ND<0.001
	7/24/2001	ND<0.01	0.0024	--	0.016	--	--	ND<0.01	ND<0.001	0.004	--	ND<0.001	ND<0.001	ND<0.001	ND<0.001	ND<0.001	--	ND<0.0005	ND<0.001
	5/8/2002	ND<0.01	0.0031	1.4	0.032	--	--	ND<0.01	ND<0.001	0.0036	--	ND<0.001	ND<0.001	ND<0.001	ND<0.001	ND<0.001	--	ND<0.0005	ND<0.001
	9/26/2002	ND<0.05	ND<0.005	ND<5	0.069	--	--	ND<0.05	ND<0.005	0.0056	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	ND<0.0025	ND<0.005
MW-204	6/1/1988	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	9/1/1988	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/1/1988	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	3/1/1989	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	6/1/1989	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	9/1/1989	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/1/1989	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	3/1/1990	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	6/1/1990	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	9/1/1990	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/1/1990	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	3/1/1991	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	6/1/1991	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	9/1/1991	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/1/1991	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	3/1/1992	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	6/1/1992	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

TABLE E-3
HISTORICAL GROUNDWATER ANALYTICAL RESULTS
SUMMARY OF TPH-g, VOCs, AND OXYGENATES DATA

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Well ID	Date	MC	n-BB	t-BB	n-PB	1-Methyl Naphthalene	2-Methyl Naphthalene	Naphthalene	p-IsoPT	sec-BB	Phenol	PCE	t-1,2-DCE	TCE	1,2,4 TMB	1,3,5 TMB	TOX	VC	CB
	9/1/1992	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/1/1992	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	4/1/1993	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	5/1/1993	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	5/25/1993	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/1/1994	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	3/1/1995	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	9/1/1995	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/13/1995	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	8/1/1996	ND<0.001	--	--	--	--	--	--	--	--	--	ND<0.001	ND<0.001	**0.0011**	--	--	--	**0.0052**	--
	12/17/1996	ND<0.05	ND<0.05	--	ND<0.05	--	--	ND<0.05	ND<0.05	ND<0.05	--	ND<0.05	ND<0.05	ND<0.05	ND<0.05	ND<0.05	--	ND<0.1	--
	1/21/1998	ND<0.005	ND<0.005	--	**0.036**	--	--	**0.065**	ND<0.005	**0.081**	--	ND<0.005	ND<0.005	ND<0.005	**0.09**	**0.023**	--	**0.009**	ND<0.005
	8/21/1998	ND<0.05	ND<0.05	--	**0.054**	--	--	ND<0.1	ND<0.05	ND<0.05	--	ND<0.05	ND<0.05	ND<0.05	**0.2**	ND<0.05	--	ND<0.1	ND<0.05
	1/28/1999	ND<0.05	ND<0.05	--	ND<0.05	--	--	ND<0.1	ND<0.05	ND<0.05	--	ND<0.05	ND<0.05	ND<0.05	**0.21**	**0.052**	--	ND<0.1	ND<0.05
	1/28/1999DUP	ND<0.005	ND<0.005	--	**0.048**	--	--	**0.094**	ND<0.005	ND<0.005	--	ND<0.005	ND<0.005	ND<0.005	**0.25**	**0.061**	--	**0.012**	ND<0.005
	7/19/1999	ND<0.1	ND<0.01	--	**0.023**	--	--	ND<0.1	ND<0.1	ND<0.1	--	ND<0.01	ND<0.01	ND<0.01	**0.047**	**0.011**	--	ND<0.005	ND<0.01
	1/11/2000	ND<0.1	ND<0.01	--	**0.019**	--	--	ND<0.1	ND<0.01	ND<0.01	--	ND<0.01	ND<0.01	ND<0.01	ND<0.01	ND<0.01	--	ND<0.005	ND<0.01
	8/3/2000	ND<0.05	ND<0.005	ND<0.005	**0.021**	**0.064**	**0.088**	ND<0.01	ND<0.005	ND<0.005	ND<0.01	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	ND<0.0025	ND<0.005
	2/8/2001	ND<0.01	ND<0.001	ND<0.001	**0.0029**	--	--	ND<0.01	ND<0.001	ND<0.001	--	ND<0.001	ND<0.001	ND<0.001	ND<0.001	ND<0.001	--	ND<0.0005	ND<0.001
	7/24/2001	ND<0.01	ND<0.001	--	ND<0.001	--	--	ND<0.01	ND<0.001	ND<0.001	--	ND<0.001	ND<0.001	ND<0.001	ND<0.001	ND<0.001	--	ND<0.0005	ND<0.001
	5/9/2002	ND<0.02	ND<0.002	ND<2	**0.013**	--	--	ND<0.02	ND<0.002	ND<0.002	--	ND<0.002	ND<0.002	ND<0.002	**0.026**	**0.0089**	--	**0.0035**	ND<0.002
	9/26/2002	ND<0.02	ND<0.002	ND<2	**0.0095**	--	--	ND<0.02	ND<0.002	ND<0.002	--	ND<0.002	ND<0.002	ND<0.002	**0.022**	**0.0077**	--	**0.0034**	ND<0.002
	6/30/2004	ND<0.005	ND<0.005	ND<0.005	**ND<0.005**	--	--	**0.004J**	--	ND<0.005	--	ND<0.005	ND<0.005	ND<0.005	**0.0068**	**0.002J**	--	**ND<0.005**	ND<0.005
W-7	8/4/2000	ND<0.01	ND<0.01	ND<0.01	ND<0.01	--	--	ND<0.001	ND<0.001	ND<0.001	--	ND<0.001	ND<0.001	ND<0.001	ND<0.001	ND<0.001	--	ND<0.0005	ND<0.001
	2/8/2001	ND<0.01	ND<0.001	ND<0.001	ND<0.001	--	--	ND<0.01	ND<0.001	ND<0.001	--	ND<0.001	ND<0.001	ND<0.001	ND<0.001	ND<0.001	--	ND<0.0005	ND<0.001
	7/26/2001	ND<0.01	ND<0.001	--	ND<0.001	--	--	ND<0.01	ND<0.001	ND<0.001	--	ND<0.001	ND<0.001	ND<0.001	ND<0.001	ND<0.001	--	ND<0.0005	ND<0.001
	5/7/2002	ND<0.01	ND<0.001	ND<1	ND<0.001	--	--	ND<0.01	ND<0.001	ND<0.001	--	ND<0.001	ND<0.001	ND<0.001	ND<0.001	ND<0.001	--	ND<0.0005	ND<0.001
	9/24/2002	ND<0.01	ND<0.001	ND<1	ND<0.001	--	--	ND<0.01	ND<0.001	ND<0.001	--	ND<0.001	ND<0.001	ND<0.001	ND<0.001	ND<0.001	--	ND<0.0005	ND<0.001
Operational Area 3: Processing Area																			
MW-104	6/1/1988	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Abandoned	9/1/1988	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/1/1988	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	3/1/1989	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	6/1/1989	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	9/1/1989	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/1/1989	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	3/1/1990	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	6/1/1990	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	9/1/1990	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/1/1990	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	3/1/1991	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	6/1/1991	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	9/1/1991	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/1/1991	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	3/1/1992	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	6/1/1992	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	9/1/1992	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/1/1992	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	3/1/1993	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	5/1/1993	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	5/25/1993	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	9/1/1993	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	11/1/1993	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	3/1/1994	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	6/1/1994	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/1/1994	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	3/1/1995	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	9/1/1995	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/13/1995	--	--	--	--	--	--	--	--	--	--	--	**0.00078**	--	--	--	--	--	--
	7/31/1996	ND<0.0003	--	--	--	--	--	--	--	--	--	ND<0.0003	ND<0.0003	**0.00054**	--	--	--	ND<0.0003	--
	12/16/1996	ND<0.001	ND<0.001	--	**0.0052**	--	--	ND<0.001	ND<0.001	**0.0029**	--	ND<0.001	ND<0.001	ND<0.001	ND<0.001	ND<0.001	--	**0.0032**	--
	1/20/1998	ND<0.005	ND<0.005	--	ND<0.005	--	--	ND<0.01	ND<0.005	ND<0.005	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	ND<0.01	ND<0.005
	8/18/1998	ND<0.005	ND<0.005	--	ND<0.005	--	--	ND<0.01	ND<0.005	ND<0.005	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	ND<0.01	ND<0.005
	1/27/1999	ND<0.005	ND<0.005	--	ND<0.005	--	--	ND<0.01	ND<0.005	ND<0.005	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	ND<0.01	ND<0.005
MW-104A	7/19/1999	ND<0.01	ND<0.001	--	ND<0.001	--	--	ND<0.01	ND<0.001	ND<0.001	--	ND<0.001	ND<0.001	**0.0012**	ND<0.001	ND<0.001	--	ND<0.0005	ND<0.001
	1/13/2000	ND<0.01	ND<0.001	--	ND<0.001	--	--	ND<0.01	ND<0.001	ND<0.001	--	ND<0.001	ND<0.001	ND<0.001	ND<0.001	ND<0.001	--	**0.0057**	ND<0.001
	8/2/2000	ND<0.01	ND<0.001	ND<0.001	ND<0.001	ND<0.01	ND<0.01	ND<0.01	ND<0.001	ND<0.001	ND<0.01	ND<0.001	ND<0.001	**0.0018**	ND<0.001	ND<0.001	--	ND<0.0005	ND<0.001
	2/7/2001	ND<0.01	ND<0.001	ND<0.001	ND<0.001	--	--	ND<0.01	ND<0.001	ND<0.001	--	ND<0.001	ND<0.001	**0.0014**	ND<0.001	ND<0.001	--	ND<0.0005	ND<0.001

TABLE E-3
HISTORICAL GROUNDWATER ANALYTICAL RESULTS
SUMMARY OF TPH-g, VOCs, AND OXYGENATES DATA

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Well ID	Date	MC	n-BB	t-BB	n-PB	1-Methyl Naphthalene	2-Methyl Naphthalene	Naphthalene	p-isoPT	sec-BB	Phenol	PCE	t-1,2-DCE	TCE	1,2,4 TMB	1,3,5 TMB	TOX	VC	CB
	7/25/2001	ND<0.01	ND<0.001	--	ND<0.001	--	--	ND<0.01	ND<0.001	ND<0.001	--	ND<0.001	ND<0.001	0.0014	ND<0.001	ND<0.001	--	ND<0.0005	ND<0.001
	5/7/2002	ND<0.01	ND<0.001	ND<1	ND<0.001	--	--	ND<0.01	ND<0.001	ND<0.001	--	ND<0.001	ND<0.001	0.0014	ND<0.001	ND<0.001	--	ND<0.0005	ND<0.001
	9/24/2002	ND<0.01	ND<0.001	ND<1	ND<0.001	--	--	ND<0.01	ND<0.001	ND<0.001	--	ND<0.001	0.0014	0.0016	ND<0.001	ND<0.001	--	ND<0.0005	ND<0.001
	6/30/2004	ND<0.005	--	ND<0.005	ND<0.005	ND<0.005	--	--	--	ND<0.005	--	ND<0.005	0.002J	0.004J	ND<0.005	ND<0.005	--	ND<0.005	ND<0.005
MW-504	12/1/1993	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	6/1/1994	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/1/1994	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	3/1/1995	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	9/1/1995	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/13/1995	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	8/1/1996	ND<0.001	--	--	--	--	--	--	--	--	--	ND<0.001	0.00046	0.00078	--	--	--	0.0011	--
	12/18/1996	ND<0.25	ND<0.25	--	0.35	--	--	2.3	0.37	ND<0.25	--	ND<0.25	ND<0.25	ND<0.25	5	2.1	--	ND<0.5	--
	1/21/1998	ND<0.25	ND<0.25	--	ND<0.25	--	--	0.36	ND<0.25	ND<0.25	--	ND<0.25	ND<0.25	ND<0.25	0.8	0.34	--	ND<0.5	ND<0.25
	8/20/1998	NS	NS	--	NS	--	--	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	1/28/1999	NS	NS	--	NS	--	--	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	7/19/1999	NS	NS	--	NS	--	--	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	1/10/2000	NS	NS	--	NS	--	--	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	7/31/2000	NS	NS	--	NS	--	--	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/6/2001	NS	NS	--	NS	--	--	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	7/24/2001	NS	NS	--	NS	--	--	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	5/6/2002	NS	NS	NS	NS	--	--	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	9/23/2002	NS	NS	NS	NS	--	--	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Operational Area 4: West Tank Farm A																			
MW-101	8/1/1985	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.18	--	--
	6/1/1988	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	9/1/1988	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/1/1988	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	6/1/1992	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	9/1/1992	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/1/1992	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	3/1/1993	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/1/1994	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	3/1/1995	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	9/1/1995	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/13/1995	0.0013	--	--	--	--	--	--	--	--	--	0.036	0.00097	0.1	--	--	--	ND<0.0005	--
	7/31/1996	ND<0.0003	--	--	--	--	--	--	--	--	--	24	ND<0.0003	0.041	--	--	--	ND<0.0003	--
	12/17/1996	ND<0.025	ND<0.025	--	ND<0.025	--	--	ND<0.025	ND<0.025	ND<0.025	--	0.057	ND<0.025	0.24	ND<0.025	ND<0.025	--	ND<0.05	--
	1/19/1998	ND<0.005	ND<0.005	--	ND<0.005	--	--	ND<0.01	ND<0.005	ND<0.005	--	0.18	ND<0.005	0.32	ND<0.005	ND<0.005	--	ND<0.01	ND<0.005
	8/18/1998	ND<0.005	ND<0.005	--	ND<0.005	--	--	ND<0.01	ND<0.005	ND<0.005	--	0.034	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	ND<0.01	ND<0.005
	1/26/1999	ND<0.005	ND<0.005	--	ND<0.005	--	--	ND<0.01	ND<0.005	ND<0.005	--	0.0193	ND<0.005	0.16	ND<0.005	ND<0.005	--	ND<0.01	ND<0.005
	7/19/1999	ND<0.02	ND<0.002	--	ND<0.002	--	--	ND<0.02	ND<0.002	ND<0.002	--	0.078	0.0085	0.27	ND<0.002	ND<0.002	--	ND<0.001	ND<0.002
	1/10/2000	ND<0.01	ND<0.001	--	ND<0.001	--	--	ND<0.01	ND<0.001	ND<0.001	--	0.21	0.0035	0.26	ND<0.001	ND<0.001	--	ND<0.0005	ND<0.001
	8/3/2000	ND<0.02	ND<0.002	ND<0.002	ND<0.002	ND<0.01	ND<0.01	ND<0.02	ND<0.002	ND<0.002	ND<0.01	0.037	0.019	0.27	ND<0.002	ND<0.002	--	0.005	ND<0.002
	2/9/2001	ND<0.05	ND<0.005	ND<0.005	ND<0.005	--	--	ND<0.05	ND<0.005	ND<0.005	--	0.0099	0.011	0.1	ND<0.005	ND<0.005	--	0.0032	ND<0.005
	7/26/2001	ND<0.01	ND<0.001	--	ND<0.001	--	--	ND<0.01	ND<0.001	ND<0.001	--	0.0081	0.015	0.1	ND<0.001	ND<0.001	--	0.0043	ND<0.001
	5/8/2002	ND<0.01	ND<0.001	ND<1	ND<0.001	--	--	ND<0.01	ND<0.001	ND<0.001	--	0.0062	0.0056	0.078	ND<0.001	ND<0.001	--	0.0019	ND<0.001
	9/25/2002	ND<0.01	ND<0.001	ND<1	ND<0.001	--	--	ND<0.01	ND<0.001	ND<0.001	--	0.0045	0.0045	0.079	ND<0.001	ND<0.001	--	ND<0.0005	ND<0.001
MW-105	12/21/1995	--	--	--	--	--	--	--	--	--	--	0.016	--	0.046	--	--	--	--	--
	7/31/1996	ND<0.0003	--	--	--	--	--	--	--	--	--	0.024	ND<0.0003	0.033	--	--	--	ND<0.0003	--
	12/16/1996	ND<0.005	ND<0.005	--	ND<0.005	--	--	ND<0.005	ND<0.005	ND<0.005	--	0.08	ND<0.005	0.11	ND<0.005	ND<0.005	--	ND<0.01	--
	1/20/1998	ND<0.005	ND<0.005	--	ND<0.005	--	--	ND<0.01	ND<0.005	ND<0.005	--	0.15	ND<0.005	0.21	ND<0.005	ND<0.005	--	ND<0.01	ND<0.005
	8/18/1998	ND<0.005	ND<0.005	--	ND<0.005	--	--	ND<0.01	ND<0.005	ND<0.005	--	0.0967	ND<0.005	0.162	ND<0.005	ND<0.005	--	ND<0.01	ND<0.005
	1/25/1999	ND<0.005	ND<0.005	--	ND<0.005	--	--	ND<0.01	ND<0.005	ND<0.005	--	0.125	ND<0.005	0.187	ND<0.005	ND<0.005	--	0.00643	ND<0.005
	7/19/1999	ND<0.01	ND<0.001	--	ND<0.001	ND<0.0095	ND<0.0095	ND<0.01	ND<0.001	ND<0.001	--	0.078	0.015	0.28	ND<0.001	ND<0.001	--	ND<0.0005	ND<0.001
	1/10/2000	ND<0.05	ND<0.005	ND<0.005	ND<0.005	--	--	ND<0.05	ND<0.005	ND<0.005	--	ND<0.005	0.062	0.13	ND<0.005	ND<0.005	--	ND<0.0025	ND<0.005
	7/31/2000	ND<0.05	ND<0.005	ND<0.005	ND<0.005	--	--	ND<0.0095	ND<0.005	ND<0.005	ND<0.0095	ND<0.005	0.059	0.16	ND<0.005	ND<0.005	--	0.01	ND<0.005
	2/6/2001	ND<0.05	ND<0.005	--	ND<0.005	--	--	ND<0.05	ND<0.005	ND<0.005	--	ND<0.005	0.021	0.047	ND<0.005	ND<0.005	--	0.0079	ND<0.005
	7/24/2001	ND<0.001	ND<0.001	--	ND<0.001	--	--	ND<0.01	ND<0.001	ND<0.001	--	ND<0.001	0.011	0.036	ND<0.001	--	--	ND<0.005	ND<0.001
	5/7/2002	ND<0.01	ND<0.001	ND<1	ND<0.001	--	--	ND<0.01	ND<0.001	ND<0.001	--	ND<0.002	0.0068	0.038	ND<0.001	ND<0.001	--	0.0039	ND<0.001
	9/24/2002	ND<0.01	ND<0.001	ND<1	ND<0.001	--	--	ND<0.01	ND<0.001	ND<0.001	--	ND<0.003	0.0064	0.043	ND<0.001	ND<0.001	--	0.014	ND<0.001
	6/30/2004	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	--	ND<0.005	--	ND<0.005	--	0.022	0.0054	0.076	ND<0.005	ND<0.005	--	0.0072	ND<0.005
MW-201	8/1/1985	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	6/1/1988	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	9/1/1988	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/1/1988	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	3/1/1989	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	6/1/1989	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	9/1/1989	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

TABLE E-3
HISTORICAL GROUNDWATER ANALYTICAL RESULTS
SUMMARY OF TPH-g, VOCs, AND OXYGENATES DATA

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Well ID	Date	MC	n-BB	t-BB	n-PB	1-Methyl Naphthalene	2-Methyl Naphthalene	Naphthalene	p-isoPT	sec-BB	Phenol	PCE	1,1,2-DCE	TCE	1,2,4 TMB	1,3,5 TMB	TOX	VC	CB
	12/1/1989	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	3/1/1990	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	6/1/1990	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	9/1/1990	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/1/1990	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	3/1/1991	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	6/1/1991	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	9/1/1991	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/1/1991	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	6/1/1992	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	9/1/1992	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/1/1992	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	3/1/1993	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/1/1994	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	3/1/1995	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	9/1/1995	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/13/1995	0.0007	--	--	--	--	--	--	--	--	--	0.058	0.0017	0.11	--	--	--	--	--
	7/31/1996	ND<0.0003	--	--	--	--	--	--	--	--	--	0.11	ND<0.0003	0.12	--	--	--	ND<0.0003	--
	12/17/1996	ND<0.01	ND<0.01	--	0.021	--	--	ND<0.01	ND<0.01	ND<0.01	--	0.21	ND<0.01	0.21	0.14	0.028	--	ND<0.02	--
	1/21/1998	ND<0.005	ND<0.005	--	0.021	--	--	0.011	ND<0.005	ND<0.005	--	0.16	0.0053	0.18	0.02	0.012	--	ND<0.01	ND<0.005
	1/21/1998DUP	ND<0.005	ND<0.005	--	0.02	--	--	ND<0.01	ND<0.005	ND<0.005	--	0.012	0.0055	0.16	0.018	0.0099	--	ND<0.01	ND<0.005
	8/18/1998	ND<0.005	ND<0.005	--	ND<0.005	--	--	0.011	ND<0.005	ND<0.005	--	0.016	ND<0.005	0.12	ND<0.005	ND<0.005	--	ND<0.01	ND<0.005
	7/19/1999	ND<0.05	ND<0.005	--	0.025	--	--	ND<0.05	0.005	ND<0.005	--	0.04	0.012	0.16	0.053	0.015	--	ND<0.0025	ND<0.005
	1/12/2000	ND<0.05	ND<0.005	--	0.015	--	--	ND<0.05	0.0054	ND<0.005	--	ND<0.005	ND<0.005	0.038	0.032	ND<0.005	--	ND<0.0025	ND<0.005
	8/4/2000	ND<0.05	ND<0.005	ND<0.005	0.012	ND<0.01	ND<0.01	ND<0.01	ND<0.005	ND<0.005	ND<0.01	ND<0.005	ND<0.005	0.032	0.033	ND<0.005	--	ND<0.0025	ND<0.005
	2/9/2001	ND<0.1	ND<0.01	ND<0.01	0.032	--	--	ND<0.1	ND<0.01	ND<0.01	--	ND<0.01	ND<0.01	0.013	0.024	ND<0.01	--	ND<0.005	ND<0.01
	7/26/2001	ND<0.1	0.031	--	0.016	--	--	ND<0.1	0.0036	0.033	--	ND<0.01	0.0068	0.008	0.017	0.0025	--	ND<0.01	ND<0.02
	5/9/2002	ND<0.02	ND<0.002	ND<2	0.0086	--	--	ND<0.02	0.0024	0.0021	--	ND<0.002	0.0042	0.014	0.0056	0.0038	--	0.0011	ND<0.002
	9/26/2002	ND<0.01	0.0024	ND<1	0.012	--	--	ND<0.001	0.0026	0.0022	--	ND<0.001	0.0033	0.029	0.012	0.014	--	0.0014	ND<0.001
	6/30/2004	ND<0.005	ND<0.005	ND<0.005	0.024	--	--	0.016	--	0.005J	--	ND<0.005	ND<0.005	ND<0.005	0.0054	0.012	--	0.002J	ND<0.005
MW-205	6/1/1988	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	9/1/1988	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/1/1988	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	3/1/1989	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	6/1/1989	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	9/1/1989	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/1/1989	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	3/1/1990	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	6/1/1990	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	9/1/1990	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/1/1990	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	3/1/1991	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	6/1/1991	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	9/1/1991	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/1/1991	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	3/1/1992	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	6/1/1992	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	9/1/1992	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/1/1992	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	3/1/1993	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	5/1/1993	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	5/25/1993	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	11/1/1993	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/1/1994	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	3/1/1995	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	9/1/1995	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/13/1995	0.00058	--	--	--	--	--	--	--	--	--	0.0028	0.0053	0.08	--	--	--	--	--
	7/31/1996	ND<0.0003	--	--	--	--	--	--	--	--	--	0.0035	ND<0.0003	0.084	--	--	--	ND<0.0003	--
	12/16/1996	ND<0.002	ND<0.002	--	ND<0.002	--	--	ND<0.002	ND<0.002	ND<0.002	--	ND<0.002	ND<0.002	0.045	ND<0.002	ND<0.002	--	ND<0.004	--
	1/20/1998	ND<0.005	ND<0.005	--	ND<0.005	--	--	ND<0.01	ND<0.005	ND<0.005	--	ND<0.005	ND<0.005	0.048	ND<0.005	ND<0.005	--	ND<0.01	ND<0.005
	8/21/1998	ND<0.005	ND<0.005	--	ND<0.005	--	--	ND<0.01	ND<0.005	ND<0.005	--	ND<0.005	ND<0.005	0.062	ND<0.005	ND<0.005	--	ND<0.01	ND<0.005
	1/26/1999	ND<0.005	ND<0.005	--	ND<0.005	--	--	ND<0.01	ND<0.005	ND<0.005	--	ND<0.005	ND<0.005	0.0251	ND<0.005	ND<0.005	--	ND<0.01	ND<0.005
	7/19/1999	ND<0.01	ND<0.001	--	ND<0.001	--	--	ND<0.01	ND<0.001	ND<0.001	--	ND<0.001	0.0018	0.012	ND<0.001	ND<0.001	--	ND<0.0005	ND<0.001
	1/11/2000	ND<0.01	ND<0.001	ND<0.001	0.0011	ND<0.01	ND<0.01	ND<0.01	ND<0.001	ND<0.001	--	ND<0.001	ND<0.001	ND<0.001	ND<0.001	ND<0.001	--	0.013	ND<0.001
	8/2/2000	ND<0.01	ND<0.001	ND<0.001	ND<0.001	--	--	ND<0.01	ND<0.001	ND<0.001	ND<0.01	ND<0.001	ND<0.001	ND<0.001	ND<0.001	ND<0.001	--	ND<0.0005	ND<0.001
	2/7/2001	ND<0.01	ND<0.001	--	0.0015	--	--	ND<0.01	ND<0.001	ND<0.001	--	ND<0.001	ND<0.001	0.0011	0.0017	0.0085	--	0.00096	ND<0.001
	7/26/2001	ND<0.01	ND<0.001	--	ND<0.001	--	--	ND<0.01	ND<0.001	ND<0.001	--	ND<0.001	ND<0.001	0.0011	ND<0.001	ND<0.001	--	ND<0.0005	ND<0.001
	5/8/2002	ND<0.01	ND<0.001	ND<1	ND<0.001	--	--	ND<0.01	ND<0.001	ND<0.001	--	ND<0.001	ND<0.001	0.011	ND<0.001	ND<0.001	--	0.00065	ND<0.001

TABLE E-3
HISTORICAL GROUNDWATER ANALYTICAL RESULTS
SUMMARY OF TPH-g, VOCs, AND OXYGENATES DATA

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Well(ID)	Date	MC	m-BB	t-BB	n-PB	1-Methyl Naphthalene	2-Methyl Naphthalene	Naphthalene	p-IsoPT	sec-BB	Phenol	PCE	t-1,2-DCE	TCE	1,2,4-TMB	1,3,5-TMB	TOX	VC	CB
	9/25/2002	ND<0.01	ND<0.001	ND<1	ND<0.001	--	--	ND<0.01	ND<0.001	ND<0.001	--	ND<0.001	ND<0.001	ND<0.001	ND<0.001	0.0011	--	0.0047	ND<0.001
	6/30/2004	ND<0.005	ND<0.005	--	ND<0.005	--	--	ND<0.005	--	ND<0.005	--	ND<0.005	--	--	ND<0.005	ND<0.005	--	ND<0.005	ND<0.005
W-8	8/4/2000	ND<0.001	ND<0.001	--	ND<0.001	--	--	ND<0.001	ND<0.001	ND<0.001	--	ND<0.001	ND<0.001	ND<0.001	ND<0.001	ND<0.001	--	ND<0.0005	ND<0.001
	2/6/2001	NS	NS	--	NS	--	--	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	7/26/2001	ND<0.001	ND<0.001	--	ND<0.001	--	--	ND<0.001	ND<0.001	ND<0.001	--	ND<0.001	ND<0.001	ND<0.001	ND<0.001	ND<0.001	--	ND<0.0005	ND<0.001
	5/7/2002	ND<0.01	ND<0.001	--	ND<0.001	--	--	ND<0.01	ND<0.001	ND<0.001	--	ND<0.001	ND<0.001	ND<0.001	ND<0.001	ND<0.001	--	ND<0.0005	ND<0.001
	9/24/2002	ND<0.01	ND<0.001	--	ND<0.001	--	--	ND<0.01	ND<0.001	ND<0.001	--	ND<0.001	ND<0.001	ND<0.001	ND<0.001	ND<0.001	--	ND<0.0005	ND<0.001
	7/1/2004	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	--	ND<0.005	--	ND<0.005	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	ND<0.005	ND<0.005
Operational Area 5: Lakeland Property																			
MW-206	6/1/1988	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Abandoned	9/1/1988	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/1/1988	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	3/1/1989	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	6/1/1989	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	9/1/1989	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/1/1989	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	3/1/1990	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	6/1/1990	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	9/1/1990	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/1/1990	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	3/1/1991	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	6/1/1991	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	9/1/1991	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/1/1991	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	3/1/1992	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	6/1/1992	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	9/1/1992	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/1/1992	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/1/1994	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	3/1/1995	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	9/1/1995	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/13/1995	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	7/31/1996	ND<0.0003	--	--	--	--	--	--	--	--	--	ND<0.0003	ND<0.0003	0.0014	--	--	--	ND<0.0003	--
	12/18/1996	ND<0.1	ND<0.1	--	0.12	--	--	0.13	ND<0.1	ND<0.1	--	ND<0.1	ND<0.1	ND<0.1	0.19	0.14	--	ND<0.2	--
	1/21/1998	ND<0.005	0.017	--	0.22	--	--	0.059	0.005	0.011	--	ND<0.005	ND<0.005	ND<0.005	0.035	0.012	--	ND<0.01	0.05
	8/20/1998	NS	NS	--	NS	--	--	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-501	3/1/1995	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Destroyed	9/1/1995	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/13/1995	0.001	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	7/31/1996	ND<0.0003	--	--	--	--	--	--	--	--	--	ND<0.0003	ND<0.0003	0.00039	--	--	--	ND<0.0003	--
	12/18/1996	ND<0.05	ND<0.05	--	0.2	--	--	ND<0.05	ND<0.05	ND<0.05	--	ND<0.05	ND<0.05	ND<0.05	0.31	0.13	--	ND<0.1	--
	1/21/1998	ND<0.005	ND<0.005	--	0.0061	--	--	ND<0.01	ND<0.005	ND<0.005	--	ND<0.005	ND<0.005	ND<0.005	0.0093	ND<0.005	--	ND<0.01	ND<0.005
	8/20/1998	NS	NS	--	NS	--	--	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	1/26/1999	NS	NS	--	NS	--	--	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-501-A	7/19/1999	ND<0.25	ND<0.025	--	0.052	--	--	ND<0.25	ND<0.025	ND<0.025	--	ND<0.025	ND<0.025	ND<0.025	ND<0.025	ND<0.025	--	<0.013	ND<0.025
	1/13/2000	ND<0.1	ND<0.01	--	0.042	--	--	ND<0.1	ND<0.01	ND<0.01	--	ND<0.01	ND<0.01	ND<0.01	ND<0.01	ND<0.01	--	ND<0.005	ND<0.01
	8/2/2000	ND<0.1	ND<0.01	ND<0.01	0.15	0.094	0.14	ND<0.01	ND<0.01	ND<0.01	ND<0.01	ND<0.01	ND<0.01	ND<0.01	ND<0.01	ND<0.01	--	ND<0.006	ND<0.01
	2/7/2001	ND<0.1	ND<0.01	ND<0.01	0.18	--	--	ND<0.1	ND<0.01	ND<0.01	--	ND<0.01	ND<0.01	ND<0.01	ND<0.01	ND<0.01	--	0.0065	ND<0.01
	7/25/2001	ND<0.1	ND<0.01	--	0.21	--	--	ND<0.1	ND<0.01	ND<0.01	--	ND<0.01	ND<0.01	ND<0.01	ND<0.01	ND<0.01	--	ND<0.005	ND<0.01
	5/8/2002	ND<0.02	0.011	ND<2	0.19	--	--	ND<0.02	ND<0.002	0.0093	--	ND<0.002	ND<0.002	ND<0.002	ND<0.002	ND<0.002	--	0.0024	ND<0.002
	9/26/2002	ND<0.1	0.038	ND<10	0.38	--	--	ND<0.1	ND<0.01	0.024	--	ND<0.01	ND<0.01	ND<0.01	ND<0.01	ND<0.01	--	0.0055	ND<0.01
MW-502	6/1/1988	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	9/1/1988	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/1/1988	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	3/1/1989	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	9/1/1994	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/1/1994	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	3/1/1995	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	9/1/1995	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/13/1995	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	7/13/1996	ND<0.0003	--	--	--	--	--	--	--	--	--	ND<0.0003	ND<0.0003	0.00052	--	--	--	ND<0.0003	--
	12/18/1996	ND<0.5	ND<0.5	--	ND<0.5	--	--	ND<0.5	ND<0.5	ND<0.5	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	--	ND<1	--
	1/22/1998	ND<0.025	ND<0.025	--	0.18	--	--	0.32	ND<0.025	ND<0.025	--	ND<0.025	ND<0.025	ND<0.025	0.3	0.07	--	ND<0.05	ND<0.025
	8/19/1998	ND<0.005	0.016	--	0.14	--	--	0.28	ND<0.005	0.01	--	ND<0.005	ND<0.005	ND<0.005	0.34	0.06	--	ND<0.01	ND<0.005
	1/26/1999	ND<0.005	ND<0.005	--	0.135	--	--	0.255	ND<0.005	0.0151	--	ND<0.005	ND<0.005	ND<0.005	0.179	0.0471	--	ND<0.01	ND<0.005
	7/19/1999	ND<50	ND<5	--	ND<5	--	--	ND<50	ND<5	ND<5	--	ND<5	ND<5	ND<5	ND<5	ND<5	--	ND<2.5	ND<5
	1/13/2000	ND<10	ND<1	--	ND<1	--	--	ND<10	ND<10	ND<10	--	ND<1	ND<1	ND<1	ND<1	ND<1	--	ND<0.5	ND<1
	8/2/2000	ND<0.1	ND<0.1	ND<0.1	0.11	0.03	0.045	0.16	ND<0.1	ND<0.1	0.08	ND<0.1	ND<0.1	ND<0.1	ND<0.1	ND<0.1	--	ND<0.05	ND<0.1

TABLE E-3
HISTORICAL GROUNDWATER ANALYTICAL RESULTS
SUMMARY OF TPH-g, VOCs, AND OXYGENATES DATA

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Well ID	Date	MC	n-BB	i-BB	n-PB	1-Methyl Naphthalene	2-Methyl Naphthalene	Naphthalene	p-IsoPT	sec-BB	Phenol	PCE	t-1,2-DCE	TCE	1,2,4 TMB	1,3,5 TMB	TOX	VC	CB
	2/7/2001	ND<0.5	ND<0.05	ND<0.05	0.092	--	--	ND<0.5	ND<0.05	ND<0.05	--	ND<0.05	ND<0.05	ND<0.05	ND<0.05	ND<0.05	--	ND<0.025	ND<0.05
	7/25/2001	ND<0.5	ND<0.05	--	0.11	--	--	ND<0.5	ND<0.05	ND<0.05	--	ND<0.05	ND<0.05	ND<0.05	0.089	ND<0.05	--	ND<0.025	ND<0.05
	5/9/2002	ND<2	ND<0.2	ND<200	ND<0.2	--	--	ND<2	ND<0.2	ND<0.2	--	ND<0.2	ND<0.2	ND<0.2	ND<0.2	ND<0.2	--	ND<0.1	ND<0.2
	9/26/2002	ND<1	ND<0.1	ND<100	0.1	--	--	ND<1	ND<0.1	ND<0.1	--	ND<0.1	ND<0.1	ND<0.1	0.1	ND<0.1	--	ND<0.05	ND<0.1
MW-503	6/1/1988	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Abandoned	9/1/1988	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/1/1988	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	3/1/1989	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	6/1/1989	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	9/1/1989	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/1/1989	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	3/1/1990	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	6/1/1990	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	9/1/1990	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/1/1990	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	3/1/1991	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	6/1/1991	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/1/1992	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	3/1/1993	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/1/1994	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	3/1/1995	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	9/1/1995	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/13/1995	0.001	--	--	--	--	--	--	--	--	--	--	0.0012	0.085	--	--	--	0.0014	--
	7/31/1996	ND<0.0003	--	--	--	--	--	--	--	--	--	0.09	ND<0.0003	0.13	--	--	--	ND<0.0003	--
	12/18/1996	ND<0.01	ND<0.01	--	0.048	--	--	0.028	ND<0.01	0.012	--	0.014	ND<0.01	0.27	0.063	0.023	--	ND<0.02	--
	1/21/1998	ND<0.005	0.006	ND<2	0.068	--	--	0.017	ND<0.005	0.012	--	ND<0.005	0.027	0.46	0.0058	0.014	--	ND<0.01	ND<0.005
	8/19/1998	ND<0.005	ND<0.005	1.8	0.014	--	--	0.0053	ND<0.005	ND<0.005	--	ND<0.005	0.071	0.063	0.005	ND<0.005	--	ND<0.01	ND<0.005
MW-503B	2/9/1999	ND<0.05	ND<0.05	--	0.084	--	--	ND<0.05	ND<0.05	ND<0.05	--	ND<0.05	0.15	ND<0.05	ND<0.05	ND<0.05	--	ND<0.1	ND<0.05
	7/19/1999	ND<0.2	ND<0.02	--	0.13	--	--	ND<0.2	ND<0.02	0.02	--	ND<0.02	0.25	0.025	ND<0.02	ND<0.02	--	ND<0.01	ND<0.02
	1/14/2000	ND<0.2	ND<0.02	--	0.17	--	--	ND<0.2	ND<0.02	ND<0.02	--	ND<0.02	0.2	ND<0.02	ND<0.02	ND<0.02	--	ND<0.01	ND<0.02
	8/4/2000	ND<0.01	ND<0.01	ND<0.01	0.1	ND<0.01	ND<0.01	0.023	ND<0.01	0.014	ND<0.01	ND<0.01	0.16	ND<0.01	ND<0.01	ND<0.01	--	ND<0.005	ND<0.01
	2/6/2001	ND<0.2	ND<0.02	ND<0.02	0.13	--	--	ND<0.2	ND<0.02	ND<0.02	--	ND<0.02	0.15	ND<0.02	ND<0.02	ND<0.02	--	ND<0.01	ND<0.02
	7/25/2001	ND<0.5	ND<0.05	--	0.091	--	--	ND<0.5	ND<0.05	ND<0.05	--	ND<0.05	0.057	ND<0.05	ND<0.05	ND<0.05	--	ND<0.025	ND<0.05
	5/9/2002	ND<0.02	0.0071	--	0.12	--	--	0.026	0.0028	0.018	--	ND<0.002	0.023	ND<0.002	0.0025	0.0022	--	0.0077	ND<0.002
	9/26/2002	ND<0.01	0.0086	--	0.15	--	--	0.048	0.0033	0.018	--	ND<0.001	0.016	ND<0.001	0.0025	0.0037	--	0.01	ND<0.001
	7/1/2004	ND<0.005	0.014	0.003J	0.2E	--	--	0.042	--	0.028	--	ND<0.005	--	ND<0.005	0.003J	0.004J	--	ND<0.005	ND<0.005
Operational Area 6: Former AST Area a																			
W-3	11/1/1989	ND<0.0005	--	--	--	--	--	--	--	--	--	ND<0.0005	ND<0.0005	ND<0.0005	--	--	--	0.0071(A)	ND<0.0005
Abandoned	1/1/1990	ND<0.002	--	--	--	--	--	--	--	--	--	ND<0.0005	ND<0.001	ND<0.0005	--	--	--	ND<0.002	ND<0.001
	3/1/1990	ND<0.002	--	--	--	--	--	--	--	--	--	ND<0.0005	ND<0.001	ND<0.0005	--	--	--	ND<0.002	ND<0.001
	4/1/1990	ND<0.002	--	--	--	--	--	--	--	--	--	ND<0.0005	ND<0.001	ND<0.0005	--	--	--	ND<0.002	ND<0.001
	12/18/1996	ND<0.025	ND<0.025	--	ND<0.025	--	--	ND<0.025	ND<0.025	ND<0.025	--	ND<0.025	ND<0.025	ND<0.025	ND<0.025	ND<0.025	--	ND<0.05	--
	1/13/1998	ND<0.005	ND<0.005	--	0.016	--	--	ND<0.01	ND<0.005	0.006	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	0.051	ND<0.005
	8/20/1998	NS	NS	--	NS	--	--	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
W-3A	1/13/1998	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	8/20/1998	ND<0.025	ND<0.025	--	ND<0.025	--	--	0.35	ND<0.025	ND<0.025	--	ND<0.025	ND<0.025	ND<0.025	ND<0.025	ND<0.025	--	ND<0.05	ND<0.025
	1/28/1999	ND<0.05	ND<0.05	--	ND<0.05	--	--	0.24	ND<0.05	ND<0.05	--	ND<0.05	ND<0.05	ND<0.05	ND<0.05	ND<0.05	--	ND<0.1	ND<0.05
	7/19/1999	ND<0.2	0.025	--	0.026	--	--	ND<0.2	ND<0.02	ND<0.02	--	ND<0.02	ND<0.02	ND<0.02	0.037	ND<0.02	--	ND<0.01	ND<0.02
	1/13/2000	ND<0.1	ND<0.01	--	ND<0.01	--	--	ND<0.1	ND<0.01	ND<0.01	--	ND<0.01	ND<0.01	ND<0.01	ND<0.01	ND<0.01	--	0.007	ND<0.01
	8/4/2000	ND<0.02	0.0097	ND<0.002	0.021	0.47	0.74	ND<0.05	ND<0.002	0.0073	ND<0.05	ND<0.002	ND<0.002	ND<0.002	0.002	0.002	--	0.005	ND<0.002
	2/8/2001	ND<0.01	0.0039	ND<0.001	0.012	--	--	0.063	ND<0.001	0.0036	--	ND<0.001	ND<0.001	ND<0.001	0.013	0.0044	--	0.0017	ND<0.001
	7/26/2001	ND<0.01	0.0087		0.024	--	--	0.011	ND<0.001	0.0075	--	ND<0.001	ND<0.001	ND<0.001	0.015	ND<0.001	--	0.027	ND<0.001
	5/6/2002	NS	NS	NS	NS	--	--	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	9/25/2002	NS	NS	NS	NS	--	--	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Off-Site Wells: Walker Property																			
W-1	11/1/1989	ND<0.0005(A)	--	--	--	--	--	--	--	--	--	ND<0.0005(A)	ND<0.0005(A)	ND<0.0005(A)	--	--	--	0.021	ND<0.0005
	3/1/1990	ND<0.02	--	--	--	--	--	--	--	--	--	ND<0.005	ND<0.01	ND<0.005	--	--	--	ND<0.02	ND<0.01
	4/1/1990	ND<0.005	--	--	--	--	--	--	--	--	--	ND<0.005	ND<0.005	ND<0.005	--	--	--	ND<0.005	ND<0.005
	12/18/1996	ND<0.005	ND<0.005	--	0.031	--	--	0.01	ND<0.005	ND<0.005	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	ND<0.01	--
	1/14/1998	ND<0.005	ND<0.005	--	0.02	--	--	ND<0.01	ND<0.005	ND<0.005	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	0.016	ND<0.005
	8/20/1998	ND<0.005	ND<0.005	--	0.03	--	--	ND<0.01	ND<0.005	0.005	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	0.026	ND<0.005
	1/29/1999	ND<0.005	ND<0.005	--	0.028	--	--	ND<0.01	ND<0.005	ND<0.005	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	0.018	ND<0.005
	7/19/1999	ND<0.02	0.0027	--	0.023	--	--	ND<0.02	ND<0.002	0.0044	--	ND<0.002	ND<0.002	ND<0.002	ND<0.002	ND<0.002	--	ND<0.001	ND<0.002
	1/1300	ND<0.01	0.0027	--	0.024	--	--	ND<0.01	ND<0.001	0.0039	--	ND<0.001	ND<0.001	ND<0.001	ND<0.001	ND<0.001	--	0.013	ND<0.001
	8/3/2000	ND<0.01	0.002	ND<0.001	0.018	0.041	0.041	ND<0.01	ND<0.001	0.0032	ND<0.01	ND<0.001	ND<0.001	ND<0.001	ND<0.001	ND<0.001	--	0.0073	ND<0.001
	2/8/2001	ND<0.01	ND<0.001	--	0.0059	--	--	ND<0.01	ND<0.001	0.0018	--	ND<0.001	ND<0.001	ND<0.001	ND<0.001	ND<0.001	--	0.0063	ND<0.001
	7/26/2001	ND<0.01	ND<0.001	--	0.0077	--	--	ND<0.01	ND<0.001	0.0022	--	ND<0.001	ND<0.001	ND<0.001	ND<0.001	ND<0.001	--	0.0068	ND<0.001
	5/8/2002	ND<0.01	ND<0.001	ND<1	0.0024	--	--	ND<0.01	ND<0.001	ND<0.001	--	ND<0.001	ND<0.001	ND<0.001	ND<0.001	ND<0.001	--	0.0064	ND<0.001

TABLE E-3
HISTORICAL GROUNDWATER ANALYTICAL RESULTS
SUMMARY OF TPH-g, VOCs, AND OXYGENATES DATA

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Well ID	Date	MC	n-BB	t-BB	n-PB	1-Methyl Naphthalene	2-Methyl Naphthalene	Naphthalene	p-IsoPT	sec-BB	Phenol	PCE	c-1,2-DCE	TCE	1,2,4 TMB	1,3,5 TMB	TOX	VC	CB
	9/25/2002	ND<0.01	ND<0.001	ND<1	0.0027	--	--	ND<0.01	ND<0.001	0.001	--	ND<0.001	ND<0.001	ND<0.001	ND<0.001	ND<0.001	--	0.014	ND<0.001
	7/1/2004	ND<0.005	ND<0.005	ND<0.005	--	--	--	ND<0.005	--	0.001J	--	ND<0.005	0.004J	ND<0.005	ND<0.005	ND<0.005		0.002	ND<0.005
W-2	11/1/1989	ND<0.0005(A)	--	--	--	--	--	--	--	--	--	ND<0.0005(A)	ND<0.0005(A)	ND<0.0005(A)	--	--	--	0.075(A)	ND<0.0005
Abandoned	3/1/1990	ND<0.002	--	--	--	--	--	--	--	--	--	ND<0.0005	ND<0.001	ND<0.0005	--	--	--	ND<0.002	ND<0.001
	4/1/1990	ND<0.005	--	--	--	--	--	--	--	--	--	ND<0.0025	ND<0.005	ND<0.0025	--	--	--	0.0059	ND<0.001
	12/18/1996	ND<0.002	ND<0.002	--	0.012	--	--	ND<0.002	ND<0.002	ND<0.002	--	ND<0.002	ND<0.002	ND<0.002	ND<0.002	ND<0.002	--	0.011	--
	1/14/1998	ND<0.005	ND<0.005	--	0.006	--	--	ND<0.01	ND<0.005	ND<0.005	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	0.027	ND<0.005
	8/20/1998	NS	NS	--	NS	--	--	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
W-4	3/1/1990	ND<0.0005	--	--	--	--	--	--	--	--	--	ND<0.0005	ND<0.0005	ND<0.0005	--	--	--	ND<0.0005	ND<0.0005
	4/1/1990	ND<0.002	--	--	--	--	--	--	--	--	--	ND<0.001	ND<0.001	ND<0.001	--	--	--	0.0043	ND<0.001
	12/18/1996	ND<0.005	ND<0.005	--	0.018	--	--	ND<0.005	ND<0.005	ND<0.005	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	ND<0.01	--
	1/14/1998	ND<0.005	ND<0.005	--	0.027	--	--	ND<0.01	ND<0.005	ND<0.005	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	0.016	ND<0.005
	8/20/1998	ND<0.005	ND<0.005	--	0.025	--	--	ND<0.01	ND<0.005	ND<0.005	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	0.0098	ND<0.005
	1/29/1999	ND<0.005	ND<0.005	--	0.016	--	--	ND<0.01	ND<0.005	ND<0.005	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	0.011	ND<0.005
	7/19/1999	ND<0.02	ND<0.002	--	0.015	--	--	ND<0.02	ND<0.002	0.0027	--	ND<0.002	ND<0.002	ND<0.002	ND<0.002	ND<0.002	--	ND<0.001	ND<0.002
	1/13/2000	ND<0.01	ND<0.001	--	0.0016	--	--	ND<0.01	ND<0.001	0.0014	--	ND<0.001	ND<0.001	ND<0.01	ND<0.001	ND<0.001	--	0.013	ND<0.001
	8/3/2000	ND<0.01	ND<0.001	ND<0.001	0.0023	ND<0.01	ND<0.01	ND<0.01	ND<0.001	0.0015	ND<0.01	ND<0.001	0.0012	ND<0.01	ND<0.001	ND<0.001	--	0.012	ND<0.001
	2/8/2001	ND<0.01	ND<0.001	--	0.003	--	--	ND<0.01	ND<0.001	0.0011	--	ND<0.001	ND<0.001	ND<0.001	ND<0.001	ND<0.001	--	0.007	ND<0.001
	7/26/2001	ND<0.01	ND<0.001	--	0.0057	--	--	ND<0.01	ND<0.001	0.0017	--	ND<0.001	ND<0.001	ND<0.001	ND<0.001	ND<0.001	--	ND<0.0005	ND<0.001
	5/8/2002	ND<0.01	ND<0.001	ND<1	0.0023	--	--	ND<0.01	ND<0.001	0.0014	--	ND<0.001	0.002	ND<0.001	ND<0.001	ND<0.001	--	0.0052	ND<0.001
	9/25/2002	ND<0.01	ND<0.001	ND<1	0.0049	--	--	ND<0.001	ND<0.001	0.0023	--	ND<0.001	0.0038	ND<0.001	ND<0.001	ND<0.001	--	ND<0.0005	ND<0.001
	7/1/2004	ND<0.005	ND<0.005	ND<0.005	0.003J	--	--	ND<0.005	--	0.001J	--	ND<0.005	0.001J	ND<0.005	ND<0.005	ND<0.005	--	0.011	ND<0.005
EW-1	11/1/1989	ND<0.005	--	--	--	--	--	--	--	--	--	ND<0.005	0.0098	ND<0.005	--	--	--	0.029	ND<0.005
	3/1/1990	ND<0.1	--	--	--	--	--	--	--	--	--	ND<0.025	ND<0.05	ND<0.025	--	--	--	ND<0.1	ND<0.05
	4/1/1990	ND<0.005	--	--	--	--	--	--	--	--	--	ND<0.001	0.02	ND<0.01	--	--	--	ND<0.02	ND<0.01
	8/21/1998	ND<0.05	ND<0.05	--	0.17	--	--	0.15	ND<0.05	ND<0.05	--	ND<0.05	ND<0.05	ND<0.05	ND<0.05	ND<0.05	--	ND<0.1	ND<0.05
	1/28/1999	ND<0.05	ND<0.05	--	0.15	--	--	0.13	ND<0.05	ND<0.05	--	ND<0.05	ND<0.05	ND<0.05	ND<0.05	ND<0.05	--	ND<0.1	ND<0.05
	7/19/1999	ND<0.25	ND<0.025	--	0.16	--	--	ND<0.25	ND<0.025	ND<0.025	--	ND<0.025	ND<0.025	ND<0.025	ND<0.025	0.025	--	<0.013	ND<0.025
	1/13/2000	NS	NS	--	NS	--	--	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	7/31/2000	NS	NS	--	NS	--	--	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/6/2001	NS	NS	--	NS	--	--	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	7/26/2001	NS	NS	--	NS	--	--	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	5/6/2002	NS	NS	NS	NS	--	--	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	9/25/2002	NS	NS	NS	NS	--	--	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Off-Site Wells: Metropolitan State Hos																			
MW-600	8/1/1990	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Abandoned	2/20/1991	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/13/1995	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	8/1/1996	ND<0.001	--	--	--	--	--	--	--	--	--	ND<0.001	ND<0.001	0.00053	--	--	--	ND<0.001	--
	12/19/1996	ND<0.5	ND<0.5	--	ND<0.5	--	--	ND<0.5	ND<0.5	ND<0.5	--	ND<0.5	ND<0.5	ND<0.5	1.8	0.58	--	ND<1	--
	1/22/1998	NS	NS	--	NS	--	--	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	8/20/1998	NS	NS	--	NS	--	--	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	1/28/1999	NS	NS	--	NS	--	--	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-600A	7/19/1999	NS	NS	--	NS	--	--	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	1/10/2000	NS	NS	--	NS	--	--	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	7/31/2000	NS	NS	--	NS	--	--	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/6/2001	NS	NS	--	NS	--	--	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	7/24/2001	NS	NS	--	NS	--	--	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	5/6/2002	NS	NS	NS	NS	--	--	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	9/23/2002	NS	NS	NS	NS	--	--	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-601	8/1/1990	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Abandoned	2/20/1991	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/13/1995	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	8/1/1996	ND<0.001	--	--	--	--	--	--	--	--	--	ND<0.001	ND<0.001	0.00051	--	--	--	0.0019	--
	12/19/1996	ND<0.5	ND<0.5	--	ND<0.5	--	--	ND<0.5	ND<0.5	ND<0.5	--	ND<0.5	ND<0.5	ND<0.5	1.1	ND<0.5	--	ND<1	--
	1/22/1998	NS	NS	--	NS	--	--	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	8/20/1998	NS	NS	--	NS	--	--	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	1/28/1999	NS	NS	--	NS	--	--	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-601A	7/19/1999	ND<50	ND<5	--	ND<5	--	--	ND<50	ND<5	ND<5	--	ND<5	ND<5	ND<5	ND<5	ND<5	--	<25	ND<5
	1/13/2000	ND<10	ND<1	--	ND<1	--	--	ND<10	ND<1	ND<1	--	ND<1	ND<1	ND<1	ND<1	ND<1	--	ND<0.5	ND<1
	8/3/2000	ND<0.2	ND<0.2	--	ND<0.2	--	--	0.069	ND<0.2	ND<0.2	ND<0.01	ND<0.2	ND<0.2	ND<0.2	ND<0.2	ND<0.2	--	ND<0.1	ND<0.2
	2/7/2001	ND<0.5	ND<0.05	ND<0.2	0.13	0.015	0.025	ND<0.5	ND<0.05	ND<0.05	--	ND<0.05	ND<0.05	ND<0.05	ND<0.05	ND<0.05	--	ND<0.025	ND<0.05
	7/24/2001	ND<0.1	ND<0.1	ND<0.05	0.0018	--	--	ND<0.1	ND<0.1	ND<0.1	--	ND<0.1	ND<0.1	ND<0.1	ND<0.1	ND<0.1	--	ND<0.05	ND<0.1
	5/9/2002	ND<0.1	ND<0.1	ND<100	0.15	--	--	ND<1	ND<0.1	ND<0.1	--	ND<0.1	ND<0.1	ND<0.1	ND<0.1	ND<0.1	--	ND<0.05	ND<0.1
	9/26/2002	ND<1	ND<0.1	ND<100	0.2	--	--	ND<1	ND<0.1	ND<0.1	--	ND<0.1	ND<0.1	ND<0.1	ND<0.1	ND<0.1	--	ND<0.05	ND<0.1
	5/9/2002DUP	ND<1	ND<0.1	ND<100	0.17	--	--	ND<1	ND<0.1	ND<0.1	--	ND<0.1	ND<0.1	ND<0.1	ND<0.1	ND<0.1	--	ND<0.05	ND<0.1
	9/26/2002DUP	ND<1	ND<0.1	ND<100	0.11	--	--	ND<1	ND<0.1	ND<0.1	--	ND<0.1	ND<0.1	ND<0.1	ND<0.1	ND<0.1	--	ND<0.05	ND<0.1
MW-603	12/1/1995	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

TABLE E-3
HISTORICAL GROUNDWATER ANALYTICAL RESULTS
SUMMARY OF TPH-g, VOCs, AND OXYGENATES DATA

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Well ID	Date	MC	n-BB	t-BB	n-PB	1-Methyl Naphthalene	2-Methyl Naphthalene	Naphthalene	p-Isop Tr	Sec-BB	Phenol	PCE	t-1,2-DCE	TCE	1,2,4 TMB	1,3,5 TMB	TOX	VC	CB
	7/30/1996	ND<0.0003	--	--	--	--	--	--	--	--	--	0.053	ND<0.0003	0.056	--	--	--	0.00045	--
	12/16/1996	0.006	ND<0.005	--	ND<0.005	--	--	ND<0.005	ND<0.005	ND<0.005	--	0.037	ND<0.005	0.056	ND<0.005	ND<0.005	--	ND<0.01	--
	1/22/1998	ND<0.005	ND<0.005	--	ND<0.005	--	--	ND<0.01	ND<0.005	ND<0.005	--	0.059	ND<0.005	0.089	ND<0.005	ND<0.005	--	ND<0.01	ND<0.005
	8/19/1998	ND<0.005	ND<0.005	--	ND<0.005	--	--	ND<0.01	ND<0.005	ND<0.005	--	0.013	ND<0.005	0.031	ND<0.005	ND<0.005	--	ND<0.01	ND<0.005
	1/27/1999	ND<0.005	ND<0.005	--	ND<0.005	--	--	ND<0.01	ND<0.005	ND<0.005	--	0.025	ND<0.005	0.042	ND<0.005	ND<0.005	--	ND<0.01	ND<0.005
	7/19/1999	ND<0.01	ND<0.01	--	ND<0.001	--	--	ND<0.01	ND<0.001	ND<0.001	--	0.037	ND<0.001	0.062	ND<0.001	ND<0.001	--	ND<0.0005	ND<0.001
	1/11/2000	ND<0.01	ND<0.001	ND<0.001	ND<0.001	ND<0.011	ND<0.011	ND<0.001	ND<0.001	ND<0.001	--	0.056	ND<0.001	0.074	ND<0.001	ND<0.001	--	ND<0.0005	ND<0.001
	7/31/2000	ND<0.01	ND<0.001	ND<0.001	ND<0.001	--	--	ND<0.001	ND<0.001	ND<0.001	ND<0.01	0.095	ND<0.001	0.11	ND<0.001	ND<0.001	--	0.00071	ND<0.001
	2/7/2001	ND<0.01	ND<0.001	--	ND<0.001	--	--	ND<0.001	ND<0.001	ND<0.001	--	0.089	0.0028	0.14	ND<0.001	ND<0.001	--	0.00096	ND<0.001
	7/24/2001	ND<0.01	ND<0.001	--	ND<0.001	--	--	ND<0.001	ND<0.001	ND<0.001	--	0.11	0.0083	0.21	ND<0.001	ND<0.001	--	ND<0.0005	ND<0.001
	5/7/2002	ND<0.002	ND<0.002	ND<2	ND<0.002	--	--	ND<0.02	ND<0.002	ND<0.002	--	0.17	0.0034	0.16	ND<0.002	ND<0.002	--	ND<0.001	ND<0.002
	9/24/2002	ND<0.002	ND<0.002	ND<2	ND<0.002	--	--	ND<0.02	ND<0.002	ND<0.002	--	0.21	0.0053	0.21	ND<0.002	ND<0.002	--	0.0016	ND<0.002
	7/1/2004	ND<0.005	ND<0.005	ND<0.005	0.002J	--	--	0.002J	--	ND<0.005	--	0.12	0.003J	0.087	ND<0.005	ND<0.005	--	ND<0.005	ND<0.005
MW-604	12/20/1995	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	7/30/1996	ND<0.0003	--	--	--	--	--	--	--	--	--	ND<0.0003	ND<0.0003	ND<0.0003	--	--	--	ND<0.0003	--
	12/17/1996	ND<0.002	ND<0.002	--	0.0036	--	--	ND<0.002	ND<0.002	0.0022	--	<0.0020	ND<0.002	ND<0.002	ND<0.002	ND<0.002	--	ND<0.004	--
	1/22/1998	ND<0.005	ND<0.005	--	ND<0.005	--	--	ND<0.01	ND<0.005	ND<0.005	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	ND<0.01	--
	8/19/1998	ND<0.005	ND<0.005	--	ND<0.005	--	--	ND<0.01	ND<0.005	ND<0.005	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	ND<0.01	ND<0.005
	1/27/1999	ND<0.005	ND<0.005	--	ND<0.005	--	--	ND<0.01	ND<0.005	ND<0.005	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	ND<0.01	ND<0.005
	7/19/1999	ND<0.01	ND<0.001	--	0.0013	--	--	ND<0.01	ND<0.001	0.0026	--	ND<0.001	ND<0.001	ND<0.001	ND<0.001	ND<0.001	--	ND<0.0005	ND<0.001
	1/11/2000	ND<0.01	ND<0.001	--	0.0082	--	--	ND<0.01	ND<0.001	0.0043	--	ND<0.001	ND<0.001	ND<0.001	ND<0.001	ND<0.001	--	ND<0.0005	ND<0.001
	8/3/2000	ND<0.01	ND<0.001	ND<0.001	0.0011	ND<0.01	ND<0.01	ND<0.01	ND<0.001	0.0056	ND<0.01	ND<0.001	ND<0.001	ND<0.001	ND<0.001	ND<0.001	--	--	ND<0.001
	2/7/2001	ND<0.05	ND<0.005	ND<0.005	0.025	--	--	ND<0.05	ND<0.005	ND<0.005	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	0.0068	ND<0.005
	7/24/2001	ND<0.001	0.0021	--	0.034	--	--	ND<0.01	ND<0.001	0.0056	--	ND<0.001	ND<0.001	ND<0.001	ND<0.001	ND<0.001	--	ND<0.0005	ND<0.001
	5/8/2002	ND<0.01	0.0022	ND<1	0.034	--	--	ND<0.01	ND<0.001	0.0052	--	ND<0.001	ND<0.001	ND<0.001	ND<0.001	ND<0.001	--	0.0053	ND<0.001
	9/25/2002	ND<0.01	0.0032	1	0.034	--	--	ND<0.01	0.0012	0.0067	--	ND<0.001	ND<0.001	ND<0.001	ND<0.001	0.0013	--	0.0041	ND<0.001
	5/8/2002DUP	ND<0.01	0.0022	ND<1	0.032	--	--	ND<0.01	ND<0.001	0.0052	--	ND<0.001	ND<0.001	ND<0.001	ND<0.001	ND<0.001	--	0.0053	ND<0.001
	9/25/2002DUP	ND<0.01	0.0028	1.1	0.033	--	--	ND<0.01	0.0012	0.0068	--	ND<0.001	ND<0.001	ND<0.001	ND<0.001	0.0013	--	0.0048	ND<0.001
MW-605	12/20/1995	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	7/31/1996	ND<0.0003	--	--	--	--	--	--	--	--	--	0.013	ND<0.0003	0.018	--	--	--	ND<0.0003	--
	12/16/1996	ND<0.001	ND<0.001	--	ND<0.001	--	--	ND<0.001	ND<0.001	ND<0.001	--	0.011	ND<0.001	2	ND<0.001	ND<0.001	--	ND<0.002	--
	1/22/1998	ND<0.005	ND<0.005	--	ND<0.005	--	--	ND<0.01	ND<0.005	ND<0.005	--	0.014	ND<0.005	0.032	ND<0.005	ND<0.005	--	ND<0.01	ND<0.005
	8/19/1998	ND<0.005	ND<0.005	--	ND<0.005	--	--	ND<0.01	ND<0.005	ND<0.005	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	ND<0.01	ND<0.005
	1/28/1999	ND<0.005	ND<0.005	--	ND<0.005	--	--	ND<0.01	ND<0.005	ND<0.005	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	ND<0.01	ND<0.005
	7/19/1999	ND<0.01	ND<0.001	--	ND<0.001	--	--	ND<0.01	ND<0.001	ND<0.001	--	0.0016	0.0032	ND<0.001	ND<0.001	ND<0.001	--	ND<0.0005	ND<0.001
	1/11/2000	ND<0.01	ND<0.001	--	ND<0.001	--	--	ND<0.01	ND<0.001	ND<0.001	--	0.007	ND<0.001	0.036	ND<0.001	ND<0.001	--	ND<0.0005	ND<0.001
	8/2/2000	ND<0.01	ND<0.001	ND<0.001	ND<0.001	ND<0.01	ND<0.01	ND<0.01	ND<0.001	ND<0.001	ND<0.01	0.022	ND<0.001	0.034	ND<0.001	ND<0.001	--	ND<0.01	ND<0.001
	2/7/2001	ND<0.01	ND<0.001	ND<0.001	ND<0.001	--	--	ND<0.01	ND<0.001	ND<0.001	--	0.0071	ND<0.001	0.025	ND<0.001	ND<0.001	--	ND<0.0005	ND<0.001
	7/24/2001	ND<0.01	ND<0.001	--	ND<0.001	--	--	ND<0.01	ND<0.001	ND<0.001	--	0.026	ND<0.001	0.01	ND<0.001	ND<0.001	--	ND<0.0005	ND<0.001
	5/7/2002	ND<0.01	ND<0.001	ND<1	ND<0.001	--	--	ND<0.01	ND<0.001	ND<0.001	--	0.019	ND<0.001	0.022	ND<0.001	ND<0.001	--	ND<0.0005	ND<0.001
	9/24/2002	ND<0.01	ND<0.001	ND<1	ND<0.001	--	--	ND<0.01	ND<0.001	ND<0.001	--	0.013	ND<0.001	0.033	ND<0.001	ND<0.001	--	ND<0.0005	ND<0.001
	6/30/2004	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	--	ND<0.005	--	ND<0.005	--	0.005J	ND<0.005	0.24	ND<0.005	ND<0.005	--	ND<0.005	ND<0.005
MW-606	12/19/1995	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	7/31/1996	ND<0.0003	--	--	--	--	--	--	--	--	--	ND<0.0003	ND<0.0003	ND<0.0003	--	--	--	ND<0.0003	--
	12/16/1996	ND<0.001	ND<0.001	--	ND<0.001	--	--	ND<0.001	ND<0.001	ND<0.001	--	ND<0.001	ND<0.001	ND<0.001	ND<0.001	ND<0.001	--	ND<0.002	--
	1/22/1998	ND<0.005	ND<0.005	--	ND<0.005	--	--	ND<0.01	ND<0.005	ND<0.005	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	ND<0.01	ND<0.005
	8/19/1998	ND<0.005	ND<0.005	--	ND<0.005	--	--	ND<0.01	ND<0.005	ND<0.005	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	ND<0.01	ND<0.005
	1/28/1999	ND<0.005	ND<0.005	--	ND<0.005	--	--	ND<0.01	ND<0.005	ND<0.005	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	ND<0.01	ND<0.005
	7/19/1999	ND<0.01	ND<0.001	--	ND<0.001	--	--	ND<0.01	ND<0.001	ND<0.001	--	ND<0.001	ND<0.001	ND<0.001	ND<0.001	ND<0.001	--	ND<0.0005	ND<0.001
	1/11/2000	ND<0.01	ND<0.001	ND<0.001	ND<0.001	ND<0.01	ND<0.01	ND<0.01	ND<0.001	ND<0.001	--	ND<0.001	ND<0.001	ND<0.001	ND<0.001	ND<0.001	--	ND<0.0005	ND<0.001
	8/2/2000	ND<0.01	ND<0.001	ND<0.001	ND<0.001	--	--	ND<0.01	ND<0.001	ND<0.001	ND<0.01	ND<0.001	ND<0.001	ND<0.001	ND<0.001	ND<0.001	--	ND<0.0005	ND<0.001
	2/7/2001	ND<0.01	ND<0.001	--	ND<0.001	--	--	ND<0.01	ND<0.001	ND<0.001	--	ND<0.001	ND<0.001	ND<0.001	ND<0.001	ND<0.001	--	ND<0.0005	ND<0.005
	7/24/2001	ND<0.01	ND<0.001	--	ND<0.001	--	--	ND<0.01	ND<0.001	ND<0.001	--	ND<0.001	ND<0.001	ND<0.001	ND<0.001	ND<0.001	--	ND<0.0005	ND<0.001
	5/7/2002	ND<0.01	ND<0.001	ND<1	ND<0.001	--	--	ND<0.01	ND<0.001	ND<0.001	--	ND<0.001	ND<0.001	ND<0.001	ND<0.001	ND<0.001	--	ND<0.0005	ND<0.001
	9/24/2002	ND<0.01	ND<0.001	ND<1	ND<0.001	--	--	ND<0.01	ND<0.001	ND<0.001	--	ND<0.001	ND<0.001	ND<0.001	ND<0.001	ND<0.001	--	ND<0.0005	ND<0.001
	6/30/2004	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	--	ND<0.005	--	ND<0.005	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	ND<0.005	ND<0.005
MW-607	12/19/1995	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	7/31/1996	ND<0.0003	--	--	--	--	--	--	--	--	--	ND<0.0003	ND<0.0003	ND<0.0003	--	--	--	0.0011	--
	12/17/1996	ND<0.001	0.0033	--	0.027	--	--	0.002	ND<0.001	0.0036	--	ND<0.001	ND<0.001	ND<0.001	ND<0.001	0.0017	--	ND<0.002	--
	1/22/1998	ND<0.025	ND<0.025	--	0.029	--	--	ND<0.05	ND<0.025	ND<0.025	--	ND<0.025	ND<0.025	ND<0.025	ND<0.025	ND<0.025	--	ND<0.05	ND<0.025
	8/19/1998	ND<0.005	ND<0.005	--	ND<0.005	--	--	ND<0.01	ND<0.005	ND<0.005	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	ND<0.01	ND<0.005
	1/27/1999	ND<0.005	ND<0.005	--	0.025	--	--	ND<0.01	ND<0.005	ND<0.005	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	ND<0.01	ND<0.005
	7/19/1999	ND<0.05	0.0055	--	0.02	--	--	ND<0.05	ND<0.005	0.0052	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	ND<0.0025	ND<0.005
	1/11/2000	ND<0.02	ND<0.002	--	0.0073	--	--	ND<0.02	ND<0.002	0.0033	--	ND<0.002	ND<0.002	ND<0.002	ND<0.002	ND<0.002	--	ND<0.001	ND<0.002
	7/31/2000	ND<0.02	ND<0.002	ND<0.002	0.0038	ND<0.011	ND<0.011	ND<0.01	ND<0.002	0.0041	ND<0.01	ND<0.002	ND<0.002	ND<0.002	ND<0.002	ND<0.002	--	0.0011	ND<0.002
	2/7/2001	ND<0.01	ND<0.001	ND<0.001	0.0013	--	--	ND<0.01	ND<0.001	0.0025	--	ND<0.001	ND<0.001	ND<0.001	ND<0.001	ND<0.001	--	0.00055	ND<0.001
	7/24/2001	ND<0.01	ND<0.001	--	0.0024	--	--	ND<0.01	ND<0.001	0.0033	--	ND<0.001	ND<0.001	ND<0.001	ND<0.001	ND<0.001	--	ND<0.0005	ND<0.001
	5/7/2002	ND<0.01	ND<0.001	ND<1	ND<0.001	--	--	ND<0.01	ND<0.001	0.0037	--	ND<0.001	ND<0.001	ND<0.001	ND<0.001	ND<0.002	--	ND<0.0005	ND<0.001

TABLE E-3
HISTORICAL GROUNDWATER ANALYTICAL RESULTS
SUMMARY OF TPH-g, VOCs, AND OXYGENATES DATA

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Well ID	Date	MC	n-BB	t-BB	n-PB	1-Methyl Naphthalene	2-Methyl Naphthalene	Naphthalene	p-isoPT	sec-BB	Phenol	PCE	t-1,2-DCE	TCE	1,2,4 TMB	1,3,5 TMB	TOX	VC	CB
	9/24/2002	ND<0.01	ND<0.001	ND<1	ND<0.001	--	--	ND<0.01	ND<0.001	0.0036	--	ND<0.001	ND<0.001	ND<0.001	ND<0.001	ND<0.003	--	ND<0.0005	ND<0.001
	5/7/2002DUP	ND<0.01	ND<0.001	ND<1	ND<0.001	--	--	ND<0.01	ND<0.001	0.0037	--	ND<0.001	ND<0.001	ND<0.001	ND<0.001	ND<0.003	--	ND<0.0005	ND<0.001
	9/24/2002DUP	ND<0.01	ND<0.001	ND<1	ND<0.001	--	--	ND<0.01	ND<0.001	0.0035	--	ND<0.001	ND<0.001	ND<0.001	ND<0.001	ND<0.003	--	ND<0.0005	ND<0.001
	6/30/2004	ND<0.005	ND<0.005	ND<0.005	0.019	--	--	ND<0.005	--	0.005J	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	0.003J	--	0.003J	ND<0.005
MW-A	2/20/1991	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND<0.25
Abandoned	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-B	2/25/1991	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND<0.0005
Abandoned	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-I	2/19/1991	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND<0.05
Abandoned	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-C	3/31/1995	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Abandoned	7/11/1995	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	10/5/1995	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/8/1995	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	3/7/1996	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	6/17/1996	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-D	3/31/1995	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Abandoned	7/11/1995	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	10/5/1995	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/8/1995	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	3/7/1996	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	6/17/1996	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-E	3/31/1995	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Abandoned	7/11/1995	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	10/5/1995	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/8/1995	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	3/7/1996	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	6/17/1996	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

NOTES:
Table recreated from Versar, Inc. *Revised Master Work Plan, CENCO Refining Company, Santa Fe Springs, California*, dated January 28, 2000
All concentrations reported in milligrams per liter (mg/L)
Blank - Not analyzed
ND<0.001 - Not detected above the laboratory reporting limit shown
* - Sample was analyzed by both EPA Methods 8010/8020 and 8240; highest detection value of the two analyses is shown
NS - Not sampled due to well damage, free product in well, or not scheduled for sampling
(A) - EPA Method 601/8010
(B) - EPA Method 602/8020
Abbreviations:

TPH-g = Total petroleum hydrocarbons as gasoline (Method 8020)
TPH-d = Total petroleum hydrocarbons as diesel (Method 8015)
TRPH = ASTM Method 2887 (unless otherwise indicated)
MTBE = Methyl tertiary butyl ether
B = Benzene
T = Toluene
E = Ethylbenzene
X = Total xylenes
BDCM = Bromodichloromethane
BCM = Bromochloromethane
c-1,2-DCE = cis-1,2-Dichloroethene
CB = Chlorobenzene
1,2-DCB = 1,2-Dichlorobenzene
1,1-DCA = 1,1-Dichloroethane
1,2-DCA = 1,2-Dichloroethane
1,1-DCE = 1,1-Dichloroethene
1,2-DCP = 1,2-Dichloropropane
iso-PB = iso-Propylbenzene
MC = Methylene chloride
n-BB = n-Butylbenzene
n-PB = n-Propylbenzene
p-iso-PT = p-iso-Propyltoluene
sec-BB = sec-Butylbenzene
PCE = Tetrachloroethene
t-1,2-DCE = trans-1,2-Dichloroethene
TCE = Trichloroethene
1,2,4-TMB = 1,2,4-Trimethylbenzene
1,3,5-TMB = 1,3,5-Trimethylbenzene
TOX = Total halogenated volatile organics (ASTM Method 2885)
VC = Vinyl chloride
t-BB= Tertiary Butylbenzene

Appendix C

Boring Logs

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Date Start/Finish: 12/05/05-12/05/05 **Drilling Company:** WDC Exploration **Driller's Name:** Gilbert Martinez **Drilling Method:** Direct Push/Hollow Stem Auger **Bit Size:** 2-inch/8-inch **Auger Size:** NA/8-inch **Rig Type:** Geoprobe/CME-75 **Sampling Method:** 1.75"ID Macrocore/2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Megan Smoley **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B001 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Counts	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	0-4			NA			Clayey SILT (ML), dark brown (7.5YR 3/2), dry	
		X	0.0					
5	4-8			NA			Sandy SILT (ML), dark yellowish brown (10YR 3/4), moist	
		X	0.0					
	8-12			NA	ML			
10		X	0.0				SILT (ML), dark yellowish brown (10YR 3/4), dry, 10% fine- to coarse-grained sand	
	12-16			NA				
15		X	0.0		SM		Silty SAND (SM), dark yellowish brown (10YR 3/4), dry, fine- to medium-grained sand, trace coarse-grained sand	
	16-20			NA				
20	20-24	X	0.0	NA	SW-SM		SAND with Silt and Gravel (SW-SM), gray (5Y 5/1), dry, fine- to coarse-grained sand, subrounded gravel.	Borehole backfilled wth Neat Cement with 5% Bentonite
25								
30	30-31.5	X	0.0	24 34 38	SM		Silty SAND (SM), greenish gray (GLEY 1 5GY 5/1), moist, fine- to medium-grained sand, 15% silt, trace coarse-grained sand	
35	35-36.5			21 30 44	SW		SAND (SW), greenish gray (GLEY 1 5GY 5/1), moist, fine- to coarse-grained sand, 5% silt.	
40	40-41.5	X	0.0	35 45 50			Silty SAND (SM), dark greenish gray (GLEY 1 5GY 4/1), moist, fine-grained sand, 15% silt, trace medium-grained sand	
45	45-46.5		0.0	27 33 47	SM		Silty SAND (SM), greenish gray (GLEY 1 5GY 5/1), moist, fine- to coarse-grained sand, 15% silt.	
50	50-51.5	X	0.0	30 38 45			Silty SAND (SM), olive (5Y 4/4), moist, fine- to coarse-grained sand, 15% silt	

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Remarks: bgs = below ground surface; NA = Not Applicable/Available
NM = Not Measured
Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 12/05/05-12/06/05 **Drilling Company:** WDC Exploration **Driller's Name:** Gilbert Martinez **Drilling Method:** Direct Push/Hollow Stem Auger **Bit Size:** 2-inch/8-inch **Auger Size:** NA/8-inch **Rig Type:** Geoprobe/CME-75 **Sampling Method:** 1.75"ID Macrocore/2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Megan Smoley **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B002 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Counts	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	0-4						SILT (ML), dark reddish brown (2.5YR 2.5/4), moist	
		X	0.0	NA				
	4-8							
5		X	0.0	NA				
							Clayey SILT (ML), dark brown (7.5YR 3/3), moist	
	8-12				ML			
10		X	0.0	NA			Sandy SILT (ML), dark brown (7.5YR 3/3), moist, with clay	
	12-16							Borehole backfilled wth Neat Cement with 5% Bentonite
							Silty SAND (SM), dark brown (7.5YR 3/3), moist, fine-grained sand, few coarse-grained sand	
15		X	3.6	NA				
	16-20							
					SM			
20	20-24.5	X	0.0	NA			Silty SAND (SM), fine- to coarse-grained sand, dark greenish gray (GLEY 1 5GY 4/1), moist, 20% silt	
							Decreases to 15 % silt	
25	25-26.5		0.0	NA	SP		SAND (SP), greenish gray (GLEY 1 5GY 5/1), moist, fine- to medium-grained sand, 5% silt	

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Remarks: bgs = below ground surface; NA = Not Applicable/Available
NM = Not Measured
Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 12/05/05-12/06/05 **Drilling Company:** WDC Exploration **Driller's Name:** Gilbert Martinez **Drilling Method:** Direct Push/Hollow Stem Auger **Bit Size:** 2-inch/8-inch **Auger Size:** NA/8-inch **Rig Type:** Geoprobe/CME-75 **Sampling Method:** 1.75"ID Macrocore/2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Megan Smoley **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B002 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Counts	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	26.5-28			20 30 42	CL		CLAY (CL), dark greenish gray (GLEY 1 5GY 4/1), moist, 10% silt	
	28-29.5			23 27 45	SM		Silty SAND (SM), olive (GLEY 1 5Y 4/1), moist, fine-grained sand, 20% silt	
30	30-31.5	X	0.0	15 24 28	SM		Becomes dark greenish gray (GLEY 1 5GY 4/1) Increases to 40% silt	
	31.5-33			18 25 38	SM			
	33-34.5			28 30 44	SM		Silty SAND (SM), dark greenish gray (GLEY 1 5GY 4/1), moist, fine- to medium-grained sand, 20% silt	
35	35-36.5		0.0	24 34 39	SP-SM		SAND with Silt (SP-SM), light olive gray (5Y 6/2), moist, fine- to medium-grained sand, 10% silt, trace coarse-grained sand	Borehole backfilled wth Neat Cement with 5% Bentonite
	36.5-38			31 34 46	SP-SM			
	38-39.5		128.0	45 50	SM		Silty SAND (SM), light olive gray (5Y 6/2), moist, fine- to medium-grained sand, 20% silt	
40	40-41.5	X	0.0	27 38 40	SM		Silty SAND (SM), light olive gray (5Y 6/2), moist, fine- to coarse-grained sand, 15% silt	
	41.5-43			35 50 39	SP-SM		SAND with Silt (SP-SM), greenish gray (GLEY 1 5GY 5/1), moist, 10% silt, trace gravel	
	43-44.5			45 50	SP-SM		SAND with Silt (SP-SM), dark greenish gray (GLEY 1 5GY 4/1), moist, medium- to coarse-grained sand, 10% silt, trace fine-grained sand	
45	45-46.5		221.0	27 38 46	SM		Sitly SAND (SM), light olive gray (5Y 6/2), moist, fine- to medium-grained sand, 15% silt	
	46.5-48			40 50 28	SP-SM		SAND with Silt (SP-SM), greenish gray (GLEY 1 5GY 5/1), moist, fine-grained sand, 10% silt, trace coarse-grained sand	
	48-49.5			36 49	SM		Silty SAND (SM), greenish gray (GLEY 1 5GY 5/1), moist, fine- to coarse-grained sand, 20% silt	
50	49.5-51	X	8.2	38 50	SM		Decreases to 15% silt	

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Remarks: bgs = below ground surface; NA = Not Applicable/Available
NM = Not Measured
Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 12/07/05-12/07/05 **Drilling Company:** WDC Exploration **Driller's Name:** Gilbert Martinez **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 LAR **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Veronique Lee **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B003 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Counts	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	1.9	20 25 27	ML		SILT with Sand (ML), very stiff, very dark grayish brown (10YR 3/2), damp, 10% fine-grained sand	
5	5-6.5	X	48.8	18 28 32			Becomes 10% fine- to medium-grained sand	
					GP		Gravel No recovery due to gravel.	
10								
					SP-SM		SAND with Silt (SP-SM), medium dense, dark greenish gray (GLEY 1 10Y 4/1), moist, 10% silt, strong hydrocarbon odor	
15	15-18	X	357	22 30 38 30 39 43				
20							No recovery at 20 feet bgs.	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5	X	6.6	38 45 50	SM		Silty SAND (SM), very dense, dark olive gray (5Y 3/2), moist, 15% silt	
30	30-31.5	X	3.9	35 45 50			Silty SAND (SM), very dense, dark greenish gray (GLEY 1 10Y 4/1), moist, fine- to medium-grained, 20% silt	
35	35-35.5		3.0	50 50	SP-SM		SAND with Silt (SP-SM), very dense, olive (5Y 4/3), moist, medium- to coarse-grained, 10% silt, trace fine-grained sand	
40							No recovery at 40 feet bgs.	
45	45-45.5	X	7.5	40 50	SC		Clayey SAND (SC), very dense, very dark greenish gray (GLEY 1 10Y 3/1), moist, fine- to medium-grained sand, 10%silt, 15% clay is light olive brown (2.5Y 5/4)	
					SP-SM			
50	50-51.5	X	3.8	50 48 50			SAND with Silt (SP-SM), very dense, greenish gray (GLEY 1 5GY 5/1), moist, fine- to medium-grained sand, 10% silt	

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Remarks: bgs = below ground surface; NA = Not Applicable/Available.
Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 12/08/05-12/08/05 **Drilling Company:** WDC Exploration **Driller's Name:** Gilbert Martinez **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 LAR **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Veronique Lee **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B004 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Counts	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3	X	1.9	35 50	ML		SILT with Sand (ML), hard, very dark brown (10YR 2/2), damp, 10% fine-grained sand	
5	5-6	X	0.1	30 45 50			Becomes dark brown (10YR 3/3)	
10	10-11.5	X	0.0	28 35 43	SM		Silty SAND (SM), dense, dark olive brown (2.5Y 3/3), moist, fine-grained sand, 25% silt	
15	15-16.5	X	0.0	27 42 48	SP		SAND (SP), very dense, olive (5Y 5/4), moist, fine- to medium-grained sand, 5% silt	
20	20-21.5	X	0.0	30 39 47			Becomes fine- to medium grained sand with trace coarse-grained sand	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		0.0	26 40 45			SAND (SP), dense, olive gray (5Y 5/2), moist, fine-grained sand, trace silt, trace medium-grained sand	
30	30-31.5	X	0.7	29 35 46			Becomes fine- to medium-grained sand	
35	35-36.5		1.2	40 45 50	SW		Becomes fine- to coarse-grained sand with trace gravel	
40	40-41.5	X	2.4	38 43 50	CL		CLAY with Sand (CL), hard, light olive brown (2.5Y 5/3), moist, 10% fine-grained sand	
45	45-46.5		0.6	34 48 50			CLAY with Sand (CL), hard, olive gray (5Y 4/2), moist, 15% fine-grained sand	
50	50-51.5	X	0.7	40 40 50	SC		Clayey SAND (SC), very dense, dark gray (5Y 4/1), moist, fine-grained sand, 15% clay	

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Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 12/08/05-12/08/05 **Drilling Company:** WDC Exploration **Driller's Name:** Gilbert Martinez **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 LAR **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Veronique Lee **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B005 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Counts	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3	X	0.0	21 35 43	ML		SILT with Sand (ML), hard, very dark grayish brown (2.5Y 3/2), damp, 10% fine-grained sand	
5	5-6.5	X	0.0	26 38 40			Becomes dark yellowish brown (10YR 4/4)	
10	10-11.5	X	0.0	30 40 45			SILT with Sand (ML), hard, dark yellowish brown (10YR 3/4), moist, 15% fine-grained sand	
15	15-16.5	X	0.0	28 36 42	SP-SM		SAND with Silt (SP-SM), very dense, olive (5Y 4/3), moist, fine- to medium-grained sand, 10% silt	
20	20-21.5	X	0.0	33 40 46	SP		SAND (SP), very dense, olive gray (5Y 4/2), moist, fine- to medium grained sand	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		0.0	29 34 40			Becomes fine- to medium-grained sand with trace coarse-grained sand	
30	30-31.5	X	0.0	40 46 50	SW		SAND (SW), very dense, olive gray (5Y 4/2), moist, fine- to coarse-grained sand, trace clay	
35	35-36.5		0.0	37 42 48	CL		CLAY with Sand (CL), hard, dark grayish brown (2.5Y 4/2), moist, 15% fine-grained sand	
40	40-41.5	X	0.0	40 40 50	SC		Clayey SAND (SC), very dense, olive gray (5Y 4/2), moist, fine-grained sand, 20% clay	
45	45-46.5		0.0	38 40 46	SP		SAND (SP), very dense, olive gray (5Y 4/2), moist, fine- to medium grained sand, trace clay	
50	50-51.5	X	0.7	35 45 50			Increases to 5% clay	

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Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 12/12/05-12/12/05 **Drilling Company:** WDC Exploration **Driller's Name:** Miguel **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 LAR **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Megan Smoley **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B006 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Counts	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	0.0	9 14 17	CL		Silty CLAY (CL), very hard, dark yellowish brown (10YR 3/6), dry	
5	5-6.5	X	0.0	14 20 24	ML		Clayey SILT (ML), very hard, dark yellowish brown (10YR 3/6), dry, 10% fine- to medium-grained sand	
10	10-11.5	X	0.0	4 5 5			SILT (ML), firm, dark yellowish brown (10YR 3/6), dry	
15	15-16.5	X	0.0	19 20 22	SM		Silty SAND (SM), dense, olive brown (2.5Y 4/4), dry, fine-grained sand	
20	20-21.5	X	0.0	13 30 35	SP		SAND (SP), dense, light olive brown (2.5Y 5/6), dry, medium-grained sand	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		0.0	14 19 21			SAND (SP), dense, light olive brown (2.5Y 5/4), dry, medium-grained sand	
30	30-31.5	X	0.0	7 9 14	CL		Silty CLAY (CL), hard, olive brown (2.5Y 4/4), dry	
35	35-36.5		0.0	6 8 12	ML		Clayey SILT (ML), hard, olive brown (2.5Y 4/4), damp	
40	40-41.5	X	0.0	25 50	SP		SAND (SP), very dense, olive (5Y 4/3), damp, fine- to medium-grained sand	
45	45-46.5		0.0	19 41 50			Becomes olive gray (5Y 5/2)	
50	50-51.5	X	0.0	22 31 36			(Same as above)	

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NM = Not Measured
Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 12/12/05-12/12/05 **Drilling Company:** WDC Exploration **Driller's Name:** Miguel **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 LAR **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Megan Smoley **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B007 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	0.0	10 15 17	ML		SILT (ML), very hard, black (2.5Y 2.5/2), dry, with sand and gravel	
5	5-6.5	X	1.3	3 14 16	CL		Silty CLAY (CL), hard, dark olive gray (5Y 3/2), moist	
10	10-11.5	X	0.0	5 10 10	SM		Silty SAND (SM), medium dense, dark olive brown (2.5Y 3/3), moist, very fine-grained sand	
15	15-16.5	X	259.0	12 18 19			Becomes dense, olive brown (2.5Y 4/4)	
20	20-21.5	X	172.0	21 25 30	SP		SAND (SP), very dense, olive brown (2.5Y 4/4), dry, fine-grained sand	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		90.5	12 20 25			SAND (SP), dense, light olive brown (2.5Y 5/4), dry, medium- to coarse-grained sand	
30	30-31.5	X	562.0	8 9 10	ML		SILT (ML), very stiff, olive brown (2.5Y 4/4), dry, with sand	
35	35-36.5		278.0	9 12 14			SILT (ML), firm, olive brown (2.5Y 4/4), moist, with clay	
40	40-41.5	X	266.0	13 20 27			Sandy SILT (ML), hard, olive gray (5Y 4/2), dry	
45	45-46.5		483.0	12 14 27	SP		SAND (SP), dense, olive gray (5Y 5/2), dry, medium- to coarse-grained subrounded sand, 10% coarse-grained sand	
50	50-51.5	X	427.0	21 50 50	SM		Silty SAND (SM), very dense, black (5Y 2.5/2), dry, medium-grained sand	

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NM = Not Measured
Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 12/08/05-12/08/05 **Drilling Company:** WDC Exploration **Driller's Name:** Gilbert Martinez **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 LAR **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Veronique Lee **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B008 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3	X	0.0	27 30 38	ML		SILT (ML), hard, very dark brown (10YR 2/2), moist, 10% fine-grained sand	
5	5-6.5	X	0.0	30 41 48	ML		Becomes dark yellowish brown (10YR 3/4)	
10	10-11.5	X	0.0	25 30 37	ML		Becomes olive (5Y 4/3), 5% fine-grained sand	
15	15-16.5	X	0.0	27 37 40	SM		Silty SAND (SM), very dense, olive (5Y 4/3), moist, fine-grained sand, 20% silt	
20	20-21.5	X	0.0	32 44 46	SP		SAND (SP), very dense, olive gray (5Y 4/2), moist, fine-grained sand, 5% silt	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		1.6	25 31 42	SC		Clayey SAND (SC), dense, dark greenish gray (GLEY 1 10Y 4/1), moist, fine-grained sand, 20% clay	
30	30-31.5	X	0.3	25 37 42	SP		SAND (SP), dense, greenish gray (GLEY 1 10Y 5/1), moist, fine- to medium-grained sand	
35	35-36.5		0.7	30 42 50	CL		CLAY (CL), hard, olive (5Y 5/4), moist, 15% fine-grained sand	
40	40-41.5	X	3.7	38 43 50	SC		Clayey SAND (SC), very dense, dark greenish gray (GLEY 1 10Y 4/1), moist, fine-grained sand, 20% clay	
45	45-46.5		1.9	29 36 50	SP		SAND (SP), very dense, dark greenish gray (GLEY 1 10Y 4/1), moist, fine-grained sand, 5% clay	
50	50-51.5	X	0.3	27 30 50	SP-SC		SAND with Clay (SP-SC), very dense, very dark greenish gray (GLEY 1 10Y 3/1), moist, fine-grained sand, 10% clay	

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NM = Not Measured
Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 12/09/05-12/09/05 **Drilling Company:** WDC Exploration **Driller's Name:** Gilbert Martinez **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 LAR **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Veronique Lee **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B009 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	0.0	16 29 30	ML		SILT (ML), hard, dark yellowish brown (10YR 3/6), damp, 5% fine-grained sand	
5	5-6.5	X	0.0	23 30 41			Becomes dark yellowish brown (10YR 4/4)	
10	10-11.5	X	0.0	25 32 45	SM		Silty SAND (SM), very dense, light olive brown (2.5Y 5/4), damp, fine-grained sand, 20% silt	
15	15-16.5	X	0.0	26 29 33			Becomes olive brown (2.5Y 4/3), moist, fine- to medium-grained sand	
20	20-21.5	X	0.0	23 30 38	SP		SAND (SP), very dense, light yellowish brown (2.5Y 6/3), moist, fine- to medium-grained sand	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		0.2	29 35 42	SM		Silty SAND (SM), very dense, olive (5Y 4/3), moist, fine- to coarse-grained sand, 15% silt, with gravel	
30	30-31.5	X	2.0	30 42 50			CLAY (CL), hard, dark yellowish brown (10YR 4/4), moist, 5% fine-grained sand	
35	35-36.5		0.8	28 39 45	CL		Becomes light olive brown (2.5Y 5/3), 10% fine-grained sand	
40	40-41.5	X	6.3	33 40 47			CLAY with Sand (CL), hard, dark greenish gray (GLEY 1 10Y 4/1), moist, 20% fine-grained sand	
45	45-46.5		2.1	30 43 50	SP		SAND (SP), very dense, dark greenish gray (GLEY 1 10Y 4/1), moist, fine-grained sand, 5% clay	
50	50-51.5	X	1.2	38 45 50			Decreases to trace clay	

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NM = Not Measured
Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 12/09/05-12/09/05 **Drilling Company:** WDC Exploration **Driller's Name:** Gilbert Martinez **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 LAR **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Veronique Lee **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B010 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	0.0	16 18 24	ML		SILT (ML), hard, dark brown (10YR 3/3), damp, 5% fine-grained sand	
5	5-6.5	X	0.0	18 33 34			Becomes dark yellowish brown (10YR 4/4)	
10	10-11.5	X	0.2	23 30 38			SILT (ML), hard, greenish gray (GLEY 1 10Y 5/1), damp, 10% fine-grained sand	
15	15-16.5	X	0.0	27 32 40	SC		Clayey SAND (SC), very dense, dark greenish gray (GLEY 1 10Y 4/1), moist, fine-grained sand, 20% clay	
20	20-21.5	X	0.8	30 37 43	CL		CLAY (CL), hard, olive (5Y 4/3), moist, 15% fine-grained sand	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		1.7	29 34 45			CLAY (CL), hard, dark gray (5Y 4/1), moist, 5% fine-grained sand	
30	30-31.5	X	1.6	32 42 50	SP-SC		SAND with Clay (SP-SC), very dense, dark olive gray (5Y 3/2), moist, fine-grained sand, 10% clay	
35	35-36.5		28.2	34 40 50	SP		SAND (SP), very dense, olive gray (5Y 5/2), moist, fine- to medium-grained sand	
40	40-41.5	X	15.0	38 45 50			Becomes medium-grained sand	
45	45-46.5		13.6	36 40 45			Becomes dark greenish gray (GLEY 1 5GY 4/1), medium-grained sand with 5% fine-grained sand	
50	50-51.5	X	7.5	40 40 50			Becomes greenish gray (GLEY 1 10Y 5/1), increases to 15% fine-grained sand	

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NM = Not Measured
Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 01/09/05-01/09/05 **Drilling Company:** WDC Exploration **Driller's Name:** Gilbert Martinez **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 LAR **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51' bgs **Surface Elevation:** NM **Geologist:** Megan Smoley **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B011 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3	X	0.0		ML		SILT (ML), hard, dark yellowish brown (10YR 3/4), dry	Borehole backfilled wth Neat Cement with 5% Bentonite
5	5-6.5	X	0.0	17 23 27			Becomes very hard	
10	10-11.5	X	0.0	19 20 25			Becomes dark olive brown (2.5Y 3/3)	
15	15-16.5	X	0.0	20 21 20	SM		Silty SAND with Clay (SM), dense, olive (5Y 4/3), dry, fine- to medium-grained sand	
20	20-21	X	0.1	22 29 36	SW		SAND (SW), very dense, olive (5Y 4/3), dry, medium- to coarse-grained subangular sand, trace gravel	
25	25-26.5		0.2	23 28 32	SM		Silty SAND (SM), very dense, dark olive gray (5Y 3/3), dry, fine- to medium-grained subangular sand, trace gravel	
30	30-31.5	X	0.0	30 35 40	ML		Clayey SILT (ML), very hard, olive (5Y 4/3), dry	
35	35-36.5		0.3	24 29 34	SC		Clayey SAND (SC), very dense, dark greenish gray (GLEY 1 5GY 4/1), dry, fine- to medium-grained sand, trace coarse-grained sand	
40	40-41.5	X	0.0	27 34 44	SP		SAND (SP), very dense, dark greenish gray (GLEY 1 5GY 4/1), dry, medium-grained subrounded sand	
45	45-46.5		0.0	28 30 42	SC		Clayey SAND (SC), very dense, dark greenish gray (GLEY 1 5GY 4/1), dry, fine-grained sand (at 45 feet bgs)	
					SP		SAND (SP), very dense, greenish gray (GLEY 1 5GY 5/1), dry, fine- to coarse-grained subangular sand (at 45.5 feet bgs)	
50	50-51	X	23.1	28 38 48	SM		Silty SAND with Clay (SM), very dense, dark greenish gray (GLEY 1 5GY 4/1), dry, fine- to medium-grained subrounded sand, 10% clay, trace coarse-grained sand, slight hydrocarbon odor (at 50 feet bgs)	

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Remarks: bgs = below ground surface; NA = Not Applicable/Available
NM = Not Measured
Total Depth = 51 feet bgs
Water not enountered during drilling.

Date Start/Finish: 01/06/06-01/06/06 **Drilling Company:** WDC Exploration **Driller's Name:** Gilbert Martinez **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 LAR **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Megan Smoley **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B012 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3	X	0.2	19 24	CL		Silty CLAY (CL), very hard, dark yellowish brown (10YR 3/6), dry	
5	5-6.5	X	0.3	18 20 25	ML		Clayey SILT (ML), very hard, dark yellowish brown (10YR 3/6), dry	
10	10-11.5	X	0.1	18 25 27			Becomes light olive brown (2.5Y 5/4), trace gravel	
15	15-16.5	X	0.3	20 27 31	SP		SAND (SP), very dense, light olive brown (2.5Y 5/3), dry, fine-grained sand, trace medium-grained sand	
20	20-21.5	X	0.2	30 32 38			SAND (SP), very dense, light olive brown (2.5Y 5/3), dry, fine- to medium-grained sand, 10% medium-grained sand, trace coarse-grained sand, trace subangular gravel	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		0.4	18 23 37	SM		Silty SAND (SM), very dense, dark grayish brown (2.5Y 4/2), dry, fine- to medium-grained sand, 10% gravel	
30	30-31.5	X	0.4	32 30 40	SP		SAND (SP), very dense, dark grayish brown (2.5Y 4/2), dry, fine- to medium-grained sand, trace coarse-grained sand	
35	35-36.5		0.6	25 30 34			SAND (SP), very dense, grayish brown (2.5Y 5/2), dry, fine- to coarse-grained sand, 20% subangular gravel (at 35.7 feet bgs)	
40	40-41.5	X	0.1	30 38 40			Silty SAND (SM), very dense, dark greenish gray (GLEY 1 5GY 4/1), dry	
45	45-46.5		0.3	27 33 38	SM		(Same as above)	
50	50-51.5	X	0.1	30 39 49			Silty SAND with Clay (SM), very dense, dark greenish gray (GLEY 1 5GY 4/1), dry, fine- to medium-grained sand, 10% clay, trace gravel	

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NM = Not Measured
Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 12/15/05-12/15/05 **Drilling Company:** WDC Exploration **Driller's Name:** Miguel Albarado **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Maher Zein **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B013 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	2.3	19 18 21	ML		SILT (ML), very hard, black (5Y 2.5/2), dry, trace gravel	
5	5-6.5	X	10.1	16 18 23			Becomes dark olive gray (5Y 3/2)	
10	10-11.5	X	3.1	19 27 32			SILT (ML), very hard, dark olive gray (5Y 3/2), dry, few clay	
15	15-16.5	X	1.5	25 50 35			Becomes dark yellowish brown (10YR 4/6)	
20	20-21.5	X	3.1	21 26 32	SP		SAND (SP), very dense, olive (5Y 5/4), coarse-grained sand	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		0.7	15 27 31	CL		CLAY with Silt (CL), very hard, light olive brown (2.5Y 5/4), dry	
30	30-31.5	X	0.7	27 31 36	ML		SILT (ML), very hard, olive (5Y 5/4), dry	
35	35-36.5		0.0	18 23 28	SC		SAND (SC), very dense, dark greenish gray (GLEY 1 5GY 4/1), dry, medium-grained sand, trace gravel	
40	40-41.5	X	1.5	18 27 33			SAND (SC), very dense, dark greenish gray (GLEY 1 5GY 4/1), dry, fine-grained sand	
45	45-46.5		0.0	20 25 37			Becomes medium-grained sand	
50	50-51.5	X	0.7	21 32 35			(Same as above)	

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NM = Not Measured
Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 12/13/05-12/13/05 **Drilling Company:** WDC Exploration **Driller's Name:** Gilbert Martinez **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 LAR **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Veronique Lee **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B014 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Counts	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3	X	NM	25 32	ML		SILT (ML), hard, dark grayish brown (10YR 4/2), damp, 5% fine-grained sand	Borehole backfilled wth Neat Cement with 5% Bentonite
5	5-6.5	X	NM	23 28 32				
10	10-11.5	X	NM	26 30 35			Becomes olive gray (5Y 4/2), increases to 15% fine-grained sand	
15	15-16.5	X	NM	24 31 36	SM		Silty SAND (SM), very dense, greenish gray (GLEY 1 10Y 5/1), moist, fine-grained sand, 15% silt	
20	20-21.5	X	NM	30 39 42 40	SP		SAND (SP), very dense, olive brown (2.5Y 4/3), moist, fine- to medium-grained sand	
25	25-26.5		NM	29 35 42 45	ML		SILT (ML), hard, dark grayish brown (GLEY 1 10Y 4/2), moist, 20% clay, 5% fine-grained sand	
30	30-31.5	X	NM	32 37 46			SILT (ML), hard, dark grayish brown (GLEY 1 10Y 4/2), moist, 10% fine-grained sand	
35	35-36.5		NM	28 38 45				
40	40-41.5	X	0.1	33 43 43 50	SW		SAND (SW), very dense, greenish gray (GLEY 1 10Y 5/1), moist, fine- to coarse-grained sand	
45	45-46.5		NM	34 39 50			Becomes dark greenish gray (GLEY 1 10Y 4/1), trace clay	
50	50-51.5	X	0.1	40 49 50			SAND (SW), very dense, dark greenish gray (GLEY 1 10Y 4/1), moist, fine- to coarse-grained sand, trace gravel	

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NM = Not Measured
Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 12/12/05-12/12/05 **Drilling Company:** WDC Exploration **Driller's Name:** Gilbert Martinez **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 LAR **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Veronique Lee **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B015 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Counts	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3	X	0.0	17 20	ML		SILT (ML), hard, dark yellowish brown (10YR 3/6), dry, 5% fine-grained sand	
5	5-6	X	0.0	15 18 27			Becomes olive (5Y 4/4)	
10	10-11.5	X	0.6	20 23 30	SM		Silty SAND (SM), very dense, dark greenish gray (GLEY 1 10Y 4/1), moist, fine-grained sand, 30% silt	
15	15-16.5	X	2.1	19 24 24	SP		SAND (SP), very dense, dark greenish gray (GLEY 1 10Y 4/1), moist, fine-grained sand	
20	20-21.5	X	44.5	28 35 40			SAND (SP), very dense, dark greenish gray (GLEY 1 5GY 4/1), moist, fine- to medium-grained sand, trace clay, 15% medium-grained	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		104.0	28 35 45	SW		SAND (SW), very dense, greenish gray (GLEY 1 5GY 4/1), moist, fine- to coarse-grained sand, 5% fine-grained, 5% coarse-grained	
30	30-31.5	X	0.0	30 35 45			Increases to 15% coarse-grained sand	
35	35-36.5		71.6	32 40 45			SAND (SW), very dense, greenish gray (GLEY 1 5GY 4/1), moist, fine- to coarse-grained sand, 5% fine-grained, 75% medium-grained, 15% coarse-grained, 5% gravel	
40	40-41.5	X	0.5	34 44 50	SP		SAND (SP), very dense, olive (5Y 5/4), moist, fine- to medium-grained sand, trace clay	
45	45-46.5		3.1	30 40 50			Becomes greenish gray (GLEY 1 5GY 4/1), fine-grained sand	
50	50-51.5	X	114.0	28 35 50				

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Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 12/13/05-12/13/05 **Drilling Company:** WDC Exploration **Driller's Name:** Gilbert Martinez **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 LAR **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Veronique Lee **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B016 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Counts	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3	X	0.0	25 32	ML		SILT (ML), hard, dark grayish brown (10YR 4/2), damp, 15% fine-grained sand	
5	5-6.5	X	0.0	23 28 32	CL		CLAY (CL), hard, dark grayish brown (10YR 4/2), damp, 20% silt	
10	10-11.5	X	0.0	26 30 35	ML		Sandy SILT (ML), hard, brown (10YR 4/3), moist, 30% fine-grained sand	
15	15-16.5	X	0.0	24 31 36	SC		Clayey SAND (SC), very dense, light yellowish brown (2.5Y 6/4), moist, fine-grained sand, 15% clay	
20	20-21.5	X	0.0	30 32 40	SP		SAND (SP), very dense, olive (5Y 5/4), moist, fine- to medium-grained sand, trace silt	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		0.2	29 35 45			CLAY (CL), hard, dark olive gray (5Y 3/2), moist, 20% fine-grained sand	
30	30-31.5	X	0.0	32 37 46	CL		Becomes dark yellowish brown (10YR 4/4), decreases to 5% fine-grained sand	
35	35-36.5		0.0	28 38 45				
40	40-41.5	X	0.1	33 43 50			SAND (SP), very dense, olive gray (5Y 4/2), moist, fine-grained sand, 5% clay	
45	45-46.5		0.0	34 39 50	SP		Becomes olive gray (5Y 4/2)	
50	50-51.5	X	0.6	40 40 50			Becomes gray (5Y 6/1)	

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NM = Not Measured
Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 12/29/05-12/29/05 **Drilling Company:** WDC Exploration **Driller's Name:** Jorge Gutierrez **Drilling Method:** Hand Auger **Bit Size:** NA **Auger Size:** 3-inch **Rig Type:** NA **Sampling Method:** Core Sampler/Slide Hammer	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 16' bgs **Surface Elevation:** NM **Geologist:** Veronique Lee **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B017 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Counts	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3	X	0.0	NA	ML		SILT (ML), dark brown (10YR 3/3), moist, 5% fine-grained sand	
5	5-6	X	0.0	NA	ML		Becomes dark yellowish brown (10YR 3/6)	Borehole backfilled wth Neat Cement with 5% Bentonite
10	10-11	X	0.0	NA	ML		Becomes dark yellowish brown (10YR 4/4), increases to 10% fine-grained sand	
15	15-16	X	0.0	NA	SP		SAND (SP), light olive brown (2.5Y 5/4), moist, fine-grained sand, 5% silt	

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NM = Not Measured
Total Depth = 16 feet bgs
Water not enountered during drilling.

Date Start/Finish: 12/29/05-12/29/05 **Drilling Company:** WDC Exploration **Driller's Name:** Jorge Gutierrez **Drilling Method:** Hand Auger **Bit Size:** NA **Auger Size:** NA **Rig Type:** NA **Sampling Method:** Core Sampler/Slide Hammer	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 16' bgs **Surface Elevation:** NM **Geologist:** Veronique Lee **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B018 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Counts	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3	X	0.0	NA	ML		SILT (ML), dark brown (10YR 3/3), damp, 5% fine-grained sand	
5	5-6	X	0.0	NA	ML		Becomes dark yellowish brown (10YR 3/6)	Borehole backfilled wth Neat Cement with 5% Bentonite
10	10-11	X	0.0	NA	ML		Becomes dark yellowish brown (10YR 4/4), moist, increases to 10% fine-grained sand	
15	15-16	X	0.0	NA	SM		Silty SAND (SM), light olive brown (2.5Y 5/4), moist, fine-grained sand, 20% silt	

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NM = Not Measured
Total Depth = 16 feet bgs
Water not enountered during drilling.

Date Start/Finish: 12/28/05-12/28/05 **Drilling Company:** WDC Exploration **Driller's Name:** Jorge Gutierrez **Drilling Method:** Hand Auger **Bit Size:** NA **Auger Size:** NA **Rig Type:** NA **Sampling Method:** Core Sampler/Slide Hammer	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 11' bgs **Surface Elevation:** NM **Geologist:** Veronique Lee **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B019 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Counts	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3	X	26.0	NA			SILT (ML), very dark grayish brown (10YR 3/2), moist, 5% fine-grained sand	
5	5-6	X	10.8	NA	ML		Becomes dark yellowish brown (10YR 3/6)	Borehole backfilled wth Neat Cement with 5% Bentonite
10	10-11	X	2.3	NA			Becomes light olive brown (5Y 5/4), moist, increases to 20% fine-grained sand	

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Remarks: bgs = below ground surface; NA = Not Applicable/Available.
Total Depth = 11 feet bgs
Water not enountered during drilling.

Date Start/Finish: 12/12/05-12/12/05 **Drilling Company:** WDC Exploration **Driller's Name:** Gilbert Martinez **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 LAR **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Veronique Lee **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B020 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Counts	USCS Code	Stratigraphic Description
	2-3	X	0.0	26 30	ML	SILT (ML), hard, dark olive brown (2.5Y 3/3), damp, 10% fine-grained sand
5	5-6.5	X	0.0	25 33 38		Becomes olive (5Y 4/4)
10	10-11.5	X	221.0	30 30 35	SM	Silty SAND (SM), very dense, dark greenish gray (GLEY 1 10Y 4/1), moist, fine-grained sand, 20% silt
15	15-16.5	X	12.2	28 35 42		
20	20-21.5	X	0.0	33 36 40	SP	SAND (SP), very dense, dark greenish gray (GLEY 1 10Y 4/1), moist, fine- to medium-grained sand, 5% silt, 5% gravel
25	25-26.5		6.7	36 40 43	SP-SC	SAND with Clay (SP-SC), very dense, dark greenish gray (GLEY 1 10Y 4/1), moist, fine- to medium-grained sand, 10% clay, 5% medium-grained sand
30	30-31.5	X	0.0	29 36 43	SP	SAND (SP), very dense, greenish gray (GLEY 1 5GY 5/1), moist, fine-grained sand
35	35-36.5		16.6	33 43 48	CL	CLAY (CL), hard, olive (5Y 4/4), moist, 15% fine-grained sand
40	40-41.5	X	12.8	38 45 50	SP-SC	SAND with Clay (SP-SC), very dense, dark greenish gray (GLEY 1 10Y 4/1), moist, fine-grained sand, 10% clay
45	45-46.5		0.4	34 43 50	SP	SAND (SP), very dense, greenish gray (GLEY 1 10Y 6/1), moist, fine-grained sand
50	50-51.5	X	0.0	40 40 50		SAND (SP), very dense, dark greenish gray (GLEY 1 10Y 4/1), moist, fine-grained sand, trace clay

Well/Boring Construction

Borehole backfilled wth Neat Cement with 5% Bentonite

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NM = Not Measured
Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 12/28/05-12/28/05 **Drilling Company:** WDC Exploration **Driller's Name:** Jorge Gutierrez **Drilling Method:** Hand Auger **Bit Size:** NA **Auger Size:** NA **Rig Type:** NA **Sampling Method:** Core Sampler/Slide Hammer	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 11' bgs **Surface Elevation:** NM **Geologist:** Veronique Lee **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B021 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Counts	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3	X	10.9	NA			SILT (ML), very dark grayish brown (10YR 3/2), moist, 5% fine-grained sand	
5	5-6	X	4.3	NA	ML		(Same as above)	Borehole backfilled wth Neat Cement with 5% Bentonite
10	10-11	X	133.0	NA			Becomes dark olive gray (5Y 3/2), increases to 10% fine-grained sand	

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Remarks: bgs = below ground surface; NA = Not Applicable/Available.
Total Depth = 11 feet bgs
Water not enountered during drilling.

Date Start/Finish: 12/28/05-12/28/05 **Drilling Company:** WDC Exploration **Driller's Name:** Jorge Gutierrez **Drilling Method:** Hand Auger **Bit Size:** NA **Auger Size:** NA **Rig Type:** NA **Sampling Method:** Core Sampler/Slide Hammer	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 14' bgs **Surface Elevation:** NM **Geologist:** Veronique Lee **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B022 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Counts	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3	X	154.2	NA			SILT (ML), dark brown (10YR 3/3), damp, 5% fine-grained sand	
5	5-6	X	264.0	NA	ML		Becomes dark yellowish brown (10YR 3/6)	Borehole backfilled wth Neat Cement with 5% Bentonite
10	10-11	X	40.9	NA			Becomes olive brown (2.5Y 4/4), moist, increases to 10% fine-grained sand, strong solvent odor	
	13-14	X	37.6	NA			Increases to 20% fine-grained sand	

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Total Depth = 14 feet bgs
Water not enountered during drilling.

Date Start/Finish: 12/28/05-12/28/05 **Drilling Company:** WDC Exploration **Driller's Name:** Jorge Gutierrez **Drilling Method:** Hand Auger **Bit Size:** NA **Auger Size:** NA **Rig Type:** NA **Sampling Method:** Core Sampler/Slide Hammer	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 16' bgs **Surface Elevation:** NM **Geologist:** Veronique Lee **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B023 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Counts	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3	X	291.0	NA			SILT (ML), dark brown (10YR 3/3), moist, 10% fine-grained sand, strong solvent odor	
5	5-6	X	301.0	NA	ML		Becomes very dark grayish brown (10YR 3/2)	Borehole backfilled wth Neat Cement with 5% Bentonite
10	10-11	X	478.0	NA			Becomes olive (5Y 4/4)	
15	15-16	X	208.0	NA	SM		Silty SAND (SM), light olive brown (2.5Y 5/3), moist, fine-grained sand, 15% silt	

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Remarks: bgs = below ground surface; NA = Not Applicable/Available.
Total Depth = 16 feet bgs
Water not enountered during drilling.

Date Start/Finish: 12/16/05-12/16/05 **Drilling Company:** WDC Exploration **Driller's Name:** Gilbert Martinez **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 LAR **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Veronique Lee **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B024 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	0.0	20 24	ML		SILT (ML), hard, dark brown (10YR 3/3), dry, 5% fine-grained sand	
5	5-6.5	X	0.0	18 22 22			Becomes dark yellowish brown (10YR 4/4)	
10	10-11.5	X	0.0	20 23 25			Becomes dark yellowish brown (10YR 4/4), 10% fine-grained sand	
15	15-16.5	X	17.1	23 25 29	SM		Silty SAND (SM), very dense, olive (5Y 4/3), moist, fine-grained sand, 20% silt	
20	20-21.5	X	3.8	21 28 32	SP		SAND (SP), very dense, olive gray (5Y 4/2), moist, fine- to medium-grained sand	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		0.0	20 27 35	CL		CLAY (CL), hard, dark gray (5Y 4/1), moist, 10% silt	
30	30-31.5	X	0.0	27 30 38			CLAY (CL), hard, olive brown (2.5Y 4/4), moist, 10% fine-grained sand	
35	35-36.5		4.5	23 28 33	ML		Sandy SILT (ML), hard, olive brown (2.5Y 4/4), moist, 30% fine-grained sand	
40	40-41.5	X	2.1	30 37 42	SC		Clayey SAND (SC), very dense, olive brown (2.5Y 4/4), moist, fine-grained sand, 40% clay, strong odor	
45	45-46.5		0.0	26 30 34	SP-SC		SAND with Clay (SP-SC), very dense, light olive brown (2.5Y 5/4), moist, fine-grained sand, 10% clay	
50	50-51.5	X	2.5	20 23 28	SC		Clayey SAND (SC), very dense, olive brown (2.5Y 4/4), moist, fine- to medium-grained sand, 15% clay	

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Remarks: bgs = below ground surface; NA = Not Applicable/Available
NM = Not Measured
Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 12/15/05-12/15/05 **Drilling Company:** WDC Exploration **Driller's Name:** Gilbert Martinez **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 LAR **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Veronique Lee **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B025 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	0.0	20 24	ML		SILT (ML), hard, very dark grayish brown (10YR 3/2), dry, 5% fine-grained sand	Borehole backfilled wth Neat Cement with 5% Bentonite
5	5-6.5	X	0.0	18 19 22			(Same as above)	
10	10-11.5	X	0.0	20 23 25			SILT (ML), hard, olive (5Y 4/3), moist, 20% fine-grained sand	
15	15-16.5	X	0.0	23 25 29	SP-SM		SAND with Silt (SP-SM), very dense, olive (5Y 4/3), moist, fine-grained sand, 10% silt	
20	20-21.5	X	0.0	21 28 32	SM		Silty SAND (SM), very dense, dark olive gray (5Y 3/2), moist, fine- to medium-grained sand, 5% medium-grained sand, 15% silt	
					CL		CLAY (CL), hard, dark olive gray (5Y 3/2), moist, 5% fine-grained sand	
25	25-26.5		0.0	20 27 35	SP		SAND (SP), very dense, olive gray (5Y 4/2), moist, fine- to medium-grained sand, 5% clay	
30	30-31.5	X	0.0	27 30 38	CL		CLAY (CL), hard, olive brown (2.5Y 4/4), moist, trace fine-grained sand	
35	35-36.5		0.0	23 28 33	SC		Clayey SAND (SC), very dense, olive gray (5Y 4/2), moist, fine-grained sand, 20% clay	
40	40-41.5	X	0.0	30 39 42	CL		Sandy CLAY (CL), hard, olive gray (5Y 4/2), moist, 40% fine-grained sand	
45	45-46.5		0.0	26 30 34	SP		SAND (SP), very dense, greenish gray (GLEY 1 10Y 5/1), moist, fine-grained sand, 5% silt	
50	50-51.5	X	0.0	20 22 28			Becomes light olive gray (5Y 6/2)	

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Remarks: bgs = below ground surface; NA = Not Applicable/Available
NM = Not Measured
Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 12/15/05-12/15/05 **Drilling Company:** WDC Exploration **Driller's Name:** Gilbert Martinez **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 LAR **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Veronique Lee **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B026 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	0.0	18 21			SILT (ML), hard, dark yellowish brown (10YR 4/4), dry, fine-grained sand	
5	5-6.5	X	0.0	20 23 30	ML		SILT (ML), hard, dark yellowish brown (10YR 3/4), damp, fine- to coarse-grained sand	
10	10-11.5	X	0.0	18 23 28			SILT (ML), hard, brown (10YR 4/3), damp, fine-grained sand	
15	15-16.5	X	0.0	23 23 27	SP-SM		SAND with Silt (SP-SM), very dense, light olive brown (2.5Y 5/3), moist, fine-grained sand	
20	20-21.5	X	0.0	25 30 35	SM		Silty SAND (SM), very dense, olive (5Y 5/4), moist, fine- to coarse-grained sand	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		0.0	27 30 38			Becomes light olive brown (2.5Y 5/4), fine- to medium-grained sand	
30	30-31.5	X	0.0	30 37 42	ML		SILT (ML), hard, dark yellowish brown (10YR 4/6), moist, fine-grained sand	
35	35-36.5		0.1	34 34 40	SM		Silty SAND (SM), very dense, olive brown (2.5Y 4/4), moist, fine-grained sand, 20% silt	
40	40-41.5	X	0.1	30 40 45			(Same as above)	
45	45-46.5		0.5	39 45 50	SP		SAND (SP), very dense, light olive brown (2.5Y 5/3), moist, fine- to medium-grained sand, 5% silt	
50	50-51.5	X	0.6	36 40 50			(Same as above)	

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NM = Not Measured
Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 12/14/05-12/15/05 **Drilling Company:** WDC Exploration **Driller's Name:** Gilbert Martinez **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 LAR **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Veronique Lee **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B027 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Counts	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	0.0	17 29	ML		SILT (ML), hard, dark yellowish brown (10YR 3/6), damp, 5% fine-grained sand	
5	5-6.5	X	0.0	20 21 27				
10	10-11.5	X	240.0	18 26 30			Becomes light olive brown (2.5Y 5/4), dry	
15	15-16	X	210.0	23 30 33				
20	20-21.5	X	906.0	27 32 35	SM		SAND (SP), very dense, olive (5Y 5/4), moist, fine-grained sand, 5% silt	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		37.3	24 29 36			SAND (SW), very dense, olive (5Y 4/4), moist, fine- to coarse-grained sand, 5% silt	
30	30-31.5	X	25.6	30 35 40			Increases to 15% silt	
35	35-36.5		30.4	30 38 45	SC		Clayey SAND (SC), very dense, brown (10YR 4/3), moist, fine-grained sand, 30% clay	
40	40-41	X	21.2	34 37 44			Decreases to 20% clay	
45	45-46.5		14.6	38 48 50	SP-SC		SAND with Clay (SP-SC), very dense, olive (5Y 5/3), moist, fine- to medium-grained sand, 10% clay	
50	50-51.5	X	15.9	40 40 50	SP		SAND (SP), very dense, olive (5Y 5/3), moist, fine- to medium-grained sand, 5% clay	

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NM = Not Measured
Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 12/13/05-12/13/05 **Drilling Company:** WDC Exploration **Driller's Name:** Gilbert Martinez **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 LAR **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Veronique Lee **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B028 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	0.0	15 25	ML		SILT (ML), hard, dark yellowish brown (10YR 4/4), damp, 5% fine-grained sand	Borehole backfilled wth Neat Cement with 5% Bentonite
5	5-6.5	X	0.0	18 20 22 25			Becomes dark yellowish brown (10YR 3/6),	
10	10-11.5	X	0.0	19 18 19 27			Becomes grayish brown (2.5Y 5/2), increases to 15% fine-grained sand	
15	15-16.5	X	0.0	20 23 30	SM		Silty SAND (SM), very dense, olive (5Y 4/3), moist, fine-grained sand, 15% silt	
20	20-21.5	X	1.7	26 30 33	ML		Sandy SILT (ML), hard, olive (5Y 4/3), moist, 30% fine-grained sand	
25	25-26.5		1.3	28 28 28 37			SILT (ML), hard, dark olive gray (5Y 3/2), moist, 20% fine-grained sand	
30	30-31.5	X	1.0	30 35 40	SW		SAND (SW), very dense, light olive gray (5Y 6/2), moist, fine- to coarse-grained sand, trace silt	
35	35-36.5		0.2	33 40 48			SAND (SW), very dense, greenish gray (GLEY 1 10Y 5/1), moist, fine- to coarse-grained sand, 5% silt	
40	40-41.5	X	0.3	36 40 46	SW-SM		Increases to 10% silt	
45	45-46.5		0.0	27 30 40			SAND with Silt (SW-SP), very dense, dark greenish gray (GLEY 1 10Y 4/1), moist, fine- to coarse-grained sand, 10% silt, 5% coasre-grained sand	
50	50-51.5	X	0.5	40 50	SP-SM		SAND with Silt (SP-SM), very dense, dark greenish gray (GLEY 1 10Y 4/1), moist, fine-grained sand, 10% silt	

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NM = Not Measured
Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 12/14/05-12/14/05 **Drilling Company:** WDC Exploration **Driller's Name:** Miguel Albarado **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51' bgs **Surface Elevation:** NM **Geologist:** Maher Zein **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B029 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3	X	0.0	19 27 31	ML		SILT (ML), very hard, dark brown (10YR 3/3), dry	
5	5-6	X	37.5	13 17 20			SILT (ML), very hard, dark brown (10YR 3/3), dry, trace clay	
10	10-11.1	X	14.0	7 11 21			(Same as above)	
15	15-16.5	X	0.0	12 17 22			SILT (ML), very hard, olive brown (2.5Y 4/4), dry, trace clay	
20	20-21	X	0.0	17 25 30	SP-SM		SAND with Silt (SP-SM), very dense, olive brown (2.5Y 4/3), dry, coarse-grained sand	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		0.0	17 18 21	ML		Clayey SILT (ML), very hard, olive brown (2.5Y 4/4), dry	
30	30-31.1	X	0.0	21 24 28	CL		Silty CLAY (CL), very hard, olive gray (5Y 4/2), dry	
35	35-36.5		0.0	20 25 28	SP		SAND (SP), very dense, dark gray (5Y 4/1), moist, medium-grained sand Becomes coarse-grained sand	
40	40-41.5	X	0.0	4 9 12			SAND (SP), medium dense, dark gray (5Y 4/1), moist, medium- to coarse-grained sand	
45	45-46		0.0	5 8 12	SP-SC		SAND with Clay (SP-SC), medium dense, dark gray (5Y 4/1), moist, coarse-grained sand	
50	50-51	X	0.0	12 15 18	SP		SAND (SP), dense, dark gray (5Y 4/1), dry, medium-grained sand	

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NM = Not Measured
Total Depth = 51 feet bgs
Water not enountered during drilling.

Date Start/Finish: 12/14/05-12/14/05 **Drilling Company:** WDC Exploration **Driller's Name:** Gilbert Martinez **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Maher Zein **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B030 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3	X	0.0	15 25	ML		SILT with Clay (ML), very hard, olive brown (2.5Y 4/3), dry	
5	5-6.5	X	0.0	18 20 25			(Same as above)	
10	10-11.5	X	0.0	19 19 27			SILT with Clay (ML), very hard, dark brown (7.5Y 3/4), dry	
15	15-16.5	X	0.0	20 23 30	SM		Silty SAND (SM), very dense, dark yellowish brown (10YR 4/4), dry, medium-grained sand	
20	20-21.5	X	0.0	26 30 33			Silty SAND (SM), dense, dark brown (10YR 3/3), dry, medium-grained sand, trace coarse-grained sand, trace gravel	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		0.0	28 28 37	ML		Clayey SILT (ML), very hard, light olive brown (2.5Y 5/3), moist	
30	30-31.5	X	0.0	30 35 40			SILT (ML), very hard, dark greenish gray (GLEY 1 5GY 4/1), dry	
35	35-36.5		0.0	33 40 48	SP		SAND (SP), dense, greenish gray (GLEY 1 5GY 6/1), dry, medium-grained sand	
40	40-41.5	X	0.0	36 40 46			Becomes very dense	
45	45-46.5		0.0	27 30 40			SAND (SP), very dense, greenish gray (GLEY 1 5GY 6/1), dry, medium-grained sand	
50	50-51.5	X	0.0	40 50			(Same as above)	

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NM = Not Measured
Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 01/06/06-01/06/06 **Drilling Company:** WDC Exploration **Driller's Name:** Gilbert Martinez **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 LAR **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Megan Smoley **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B031 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	1.5-2.5		0.8	14	ML		Clayey SILT (ML), very hard, olive brown (2.5Y 4/4), dry	Borehole backfilled wth Neat Cement with 5% Bentonite
	2.5-4	X		19 13				
	4-5			20 24				
5	5-6.5	X	0.4	20 24 16 24 28			Becomes dark yellowish brown (10YR 3/4)	
10	10-11.5	X	0.3	20 26 32 27			SILT (ML), very hard, olive brown (2.5Y 4/4), dry, 25% gravel	
15	15-16.5	X	0.5	18 25 27			Clayey SILT (ML), very hard, olive brown (2.5Y 4/4), dry, presence of mud	
20	20-21.5	X	0.7	23 28 30	SW		SAND (SW), very dense, light olive brown (2.5Y 5/3), dry, fine- to coarse-grained sand, 5% subangular gravel	
25	25-26.5		0.8	23 28 31	SM		Silty SAND (SM), very dense, olive (5Y 4/3), dry, fine-grained sand with 10% medium-grained sand, 5% gravel	
30	30-31.5	X	0.6	29 40 45			Becomes medium-grained sand	
35	35-36.5		0.9	25 30 34			Silty SAND (SM), very dense, olive gray (5Y 4/2), dry, fine-grained sand with 10% medium-grained sand, 5% gravel	
40	40-41.5	X	0.4	28 35 45	SC		Clayey SAND (SC), very dense, olive (5Y 4/4), dry, fine- to medium-grained sand, trace gravel	
45	45-46.5		0.3	30 35 40			Silty SAND (SM), very dense, greenish gray (GLEY 1 5GY 5/1), dry, fine-grained sand	
50	50-51.5	X	0.4	27 32 34	SM		(Same as above)	

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Remarks: bgs = below ground surface; NA = Not Applicable/Available
NM = Not Measured
Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 01/06/06-01/06/06 **Drilling Company:** WDC Exploration **Driller's Name:** Gilbert Martinez **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 LAR **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Megan Smoley **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B032 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Stratigraphic Description
	2-3.5	X	0.0	18 23	ML	Clayey SILT (ML), very hard, dark brown (10YR 3/3), dry
5	5-6.5	X	0.4	19 20 23	ML	(Same as above)
10	10-11.5	X	0.9	18 23 23	ML	Clayey SILT (ML), very hard, black (10YR 2.5/1), dry, 30% gravel Clayey SILT (ML), very hard, olive brown (2.5Y 4/4), dry
15	15-16.5	X	0.8	20 24 24	CL	Silty CLAY (CL), very hard, dark olive gray (5Y 3/2), moist
20	20-21.5	X	0.2	21 26 27	CL	Becomes dark brown (10YR 3/3)
25	25-26.5		0.3	21 22 28	SM	Silty SAND (SM), dense, dark olive gray (5Y 3/2), dry, fine-grained sand with 15% medium- to coarse-grained sand, 20% fine to coarse subangular gravel
30	30-31.5	X	0.4	27 30 36	ML	Clayey SILT (ML), very hard, dark olive brown (2.5Y 3/3), dry
35	35-36.5		0.1	24 26 32	SM	Silty SAND (SM), very dense, dark greenish gray (GLEY 1 5GY 4/1), dry fine-grained sand, 5% gravel
40	40-41.5	X	1.0	31 36 46	SM	Increases to 10% gravel
45	45-46.5		0.1	27 30 35	SM	Silty SAND (SM), very dense, dark greenish gray (GLEY 1 5GY 4/1), dry, fine-grained sand, 5% clay, 10% gravel
50	50-51.5	X	0.3	30 36 48	ML	Clayey SILT (ML), very hard, greenish gray (GLEY 1 5GY 5/1), dry

Well/Boring Construction

Borehole backfilled wth Neat Cement with 5% Bentonite

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NM = Not Measured
Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 12/29/05-12/29/05 **Drilling Company:** WDC Exploration **Driller's Name:** Gilbert Martinez **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 LAR **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Megan Smoley **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B033 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	6.2	18 25	CL		CLAY (CL), very hard, olive brown (2.5Y 4/4), dry, with clay	
5	5-6.5	X	4.9	24 23 27	SP-SM		SAND with Silt (SP-SM), very dense, dark yellowish brown (10YR 3/4), dry, fine-grained sand	
10	10-11.5	X	5.8	18 20 23	CL		CLAY (CL), very hard, very dark grayish brown (2.5Y 3/2), dry, with silt	
15	15-16.5	X	10.6	20 25 27	ML		SILT (ML), very hard, very dark grayish brown (2.5Y 3/2), dry, with clay	
20	20-21.5	X	10.8	20 25 30	SM		Silty SAND (SM), very dense, olive gray (5Y 4/2), dry, fine-grained sand, 10% clay	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		9.2	19 25 31	SW		SAND (SW), very dense, olive (5Y 5/3), dry, fine- to coarse-grained sand, 5% fine subrounded gravel	
					SP		SAND (SP), very dense, light yellowish brown (2.5Y 6/3), dry, fine-grained sand, trace medium-grained sand	
30	30-31.5	X	6.4	23 28 38	SM		Silty SAND (SM), very dense, olive brown (2.5Y 4/4), dry, fine-grained sand, 10% clay	
35	35-36.5		3.8	24 31 34			Silty SAND (SM), very dense, olive (5Y 4/3), dry, fine-grained sand, trace medium-grained sand, 10% clay, trace gravel	
					CL		Silty CLAY (CL), very hard, olive (5Y 4/4), moist	
40	40-41.5	X	14.0	30 39 45	SM		Silty SAND (SM), very dense, dark olive gray (5Y 3/2), dry, fine-grained sand,15% clay, trace gravel	
45	45-46.5		2.6	28 30 32	SP		SAND (SP), very dense, gray (5Y 6/1), dry, fine-grained sand, few medium-grained sand	
50	50-51.5	X	36.6	28 37 50			Becomes dark greenish gray (GLEY 1 5GY 4/1), increases to medium-grained sand	

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NM = Not Measured
Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 12/14/05-12/14/05 **Drilling Company:** WDC Exploration **Driller's Name:** Gilbert Martinez **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 LAR **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Veronique Lee **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B034 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	0.0	18 23	ML		SILT (ML), hard, dark yellowish brown (10YR 3/6), dry, 5% fine-grained sand	
5	5-6.5	X	0.0	13 20 27			Becomes dark yellowish brown (10YR 4/4)	
10	10-11.5	X	0.1	20 30 36			SILT (ML), hard, dark greenish gray (GLEY 1 10Y 4/1), moist, 15% fine-grained sand	
15	15-16.5	X	1.0	27 32 35	SP		SAND (SP), very dense, greenish gray (GLEY 1 10Y 5/1), moist, fine-grained sand	
20	20-21.5	X	1.2	26 28 33			Becomes fine- to medium-grained sand, 5% medium-grained sand	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		0.0	30 33 39			SAND (SP), very dense, dark greenish gray (GLEY 1 10Y 4/1), moist, fine- to medium-grained sand	
30	30-31.5	X	0.0	33 40 48			SAND (SP), very dense, dark greenish gray (GLEY 1 10Y 4/1), fine- to medium-grained sand	
35	35-36.5		0.0	30 38 45			SAND (SP), very dense, dark greenish gray (GLEY 1 10Y 4/1), moist, fine- to medium-grained sand, 5% medium-grained sand, trace clay	
40	40-41.5	X	0.0	29 35 49	SP-SC		SAND with Clay (SP-SC), very dense, dark greenish gray (GLEY 1 10Y 4/1), moist, fine- to medium-grained sand	
45	45-46.5		0.0	38 45 50	ML		SILT (ML), hard, dark greenish gray (GLEY 1 10Y 4/1), moist	
					CL		CLAY (CL), hard, dark greenish gray (GLEY 1 10Y 4/1), moist	
50	50-51.5	X	0.0	27 38 50	SP-SC		SAND with Clay (SP-SC), very dense, dark greenish gray (GLEY 1 10Y 4/1), moist, fine- to coarse-grained sand	

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Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 12/14/05-12/14/05 **Drilling Company:** WDC Exploration **Driller's Name:** Gilbert Martinez **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 LAR **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Veronique Lee **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B035 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	0.0	20 32	ML		SILT (ML), hard, very dark brown (10YR 2/2), dry, 5% gravel	Borehole backfilled wth Neat Cement with 5% Bentonite
5	5-6.5	X	5.0	26 30 32			SILT (ML), hard, dark yellowish brown (10YR 4/6), moist, fine-grained sand	
10	10-11.5	X	0.0	26 30 36			Sandy SILT (ML), hard, olive (5Y 4/3), moist, fine-grained sand	
15	15-16.5	X	0.0	25 35 46	SP-SM		SAND with Silt (SP-SM), very dense, greenish gray (GLEY 1 10Y 5/1), moist, fine-grained sand	
20	20-21.5	X	0.0	25 30			Becomes dark greenish gray (GLEY 1 10Y 4/1), fine- to medium-grained sand	
25	25-26.5		0.0	25 30 34	SP		SAND (SP), very dense, greenish gray (GLEY 1 5GY 5/1), moist, fine- to coarse-grained sand, trace gravel	
					ML		SILT (ML), hard, greenish gray (GLEY 1 5GY 5/1), moist, with clay	
30	30-31.5	X	5.6	29 35 45			Sandy SILT (ML), very dense, olive (5Y 4/1), moist, fine-grained sand	
35	35-36.5		23.9	34 40 44			Sandy SILT (ML), very dense, dark greenish gray (GLEY 1 10Y 4/1), moist, fine-grained sand	
40	40-41.5	X	0.0	30 33 48	SP		SAND (SP), very dense, greenish gray (GLEY 1 10Y 5/1), moist, fine- to medium-grained sand	
45	45-46.5		15.6	27 35 43	ML		SILT (ML), very dense, dark greenish gray (GLEY 1 10Y 4/1), moist, fine-grained sand	
50	50-51.5	X	2.7	30 39 50	SC		Clayey SAND (SC), very dense, dark greenish gray (GLEY 1 10Y 4/1), moist, fine-grained sand	

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Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 12/14/05-12/14/05 **Drilling Company:** WDC Exploration **Driller's Name:** Gilbert Martinez **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 LAR **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Veronique Lee **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B036 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3	X	0.0	18 27	ML		SILT (ML), hard, dark yellowish brown (10YR 3/6), dry, fine-grained sand	Borehole backfilled wth Neat Cement with 5% Bentonite
5	5-6.5	X	0.0	20 23 27			(Same as above)	
10	10-11	X	5.2	22 26 30			Sandy SILT (ML), hard, dark greenish gray (GLEY 1 10Y 4/1), dry, fine-grained sand	
15	15-16.5	X	11.1	25 35 38	SP		SAND (SP), very dense, greenish gray (GLEY 1 10Y 5/1), moist, fine-grained sand	
20	20-21.2	X	1.3	26 30 33			(Same as above)	
25	25-26.5		2.3	36 40 46			SAND (SP), very dense, greenish gray (GLEY 1 10Y 5/1), moist, fine- to medium-grained sand, trace gravel	
30	30-31.5	X	5.8	40 40 43			SAND (SP), very dense, greenish gray (GLEY 1 10Y 5/1), moist, fine-grained sand	
35	35-36.5		12.1	36 38 45	CL		Sandy CLAY (CL), hard, olive (5Y 4/3), moist, fine-grained sand	
40	40-41.4	X	75.5	29 35 43	SC		Clayey SAND (SC), very dense, dark greenish gray (GLEY 1 10Y 4/1), moist, fine-grained sand	
45	45-46.5		5.0	24 29 40	SP-SC		SAND with Clay (SP-SC), very dense, greenish gray (GLEY 1 10Y 5/1), moist, fine- to medium-grained sand	
50	50-51.5	X	162	26 30 50			Becomes dark greenish gray (GLEY 1 10Y 4/1), fine- to coarse-grained sand	

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Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 12/19/05-12/19/05 **Drilling Company:** WDC Exploration **Driller's Name:** Gilbert Martinez **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 LAR **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Veronique Lee **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B037 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description
	2-3.5	X	0.0	25 33 33	ML		SILT (ML), hard, dark yellowish brown (10YR 3/6), moist, 5% fine-grained sand
5	5-6.5	X	0.0	20 21 37			Becomes dark brown (10YR 3/3)
10	10-11.5	X	0.0	18 25 31			SILT (ML), hard, light olive brown (2.5Y 5/4), dry, 15% fine-grained sand
15	15-16.5	X	0.0	19 24 30	SP		SAND (SP), very dense, light yellowish brown (2.5Y 6/4), moist, fine-grained sand, 5% silt
20	20-21.5	X	0.0	20 25 35	SP-SM		SAND with Silt (SP-SM), very dense, light olive brown (2.5Y 5/4), moist, fine-grained sand, 10% silt
25	25-26.5		0.0	20 21 26	SP		SAND (SP), very dense, light olive brown (2.5Y 5/4), moist, fine-grained sand, trace silt
30	30-31.5	X	1.4	29 33 39	SP-SC		SAND with Clay (SP-SC), very dense, olive brown (2.5Y 4/4), moist, 10% clay
35	35-36.5		3.6	20 25 35	ML		Sandy SILT (ML), hard, olive brown (2.5Y 4/4), moist, 30% fine-grained [illegible] (ML), hard, olive brown (2.5Y 4/4), moist, 15% clay
40	40-41.5	X	0.0	25 33 43	SP-SM		SAND with Silt (SP-SM), very dense, olive brown (2.5Y 5/3), moist, fine-grained sand, 10% silt
45	45-46.5		0.0	22 30 40			Becomes olive gray (5Y 5/2)
50	50-51.5	X	0.0	27 33 48	SP		SAND (SP), very dense, olive gray (5Y 5/2), moist, fine-grained sand

Well/Boring Construction

Borehole backfilled wth Neat Cement with 5% Bentonite

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Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 12/19/05-12/19/05 **Drilling Company:** WDC Exploration **Driller's Name:** Gilbert Martinez **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 LAR **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51' bgs **Surface Elevation:** NM **Geologist:** Veronique Lee **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B038 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.2	X	5.4	22 30	ML		SILT (ML), hard, dark grayish brown (10YR 4/2), damp, 5% fine-grained sand	
5	5-6.1	X	2.7	29 25 31	ML		Becomes brown (10YR 5/3)	
10	10-11	X	0.0	20 26 30	ML		Becomes dark grayish brown (10YR 4/2)	
15	15-16.2	X	0.0	19 24 30	SP		SAND (SP), very dense, very pale brown (10YR 7/4), moist, fine-grained sand, trace silt	
20	20-21.4	X	0.0	25 31 36	SP		SAND (SP), very dense, yellowish brown (10YR 5/4), moist, fine- to medium-grained sand, trace coarse-grained sand	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		2.7	29 29 31 36	SP		SAND (SP), very dense, grayish brown (2.5Y 5/2), moist, fine- to medium-grained sand	
30	30-31.5	X	0.0	25 35 35 37	CL		CLAY (CL), hard, olive brown (2.5Y 4/4), moist, 10% silt	
35	35-36.5		2.9	23 23 30	ML		SILT (ML), hard, dark greenish gray (GLEY 1 10Y 4/1), moist, 5% clay, trace fine-grained sand	
					SC		Clayey SAND (SC), very dense, olive (2.5Y 4/4), moist, fine-grained sand, 20% clay	
40	40-41.2	X	12.2	25 32 42	SP-SC		SAND with Clay (SP-SC), very dense, olive brown (2.5Y 4/4), moist, fine-grained sand, 10% clay	
45	45-46.5		0.6	23 28 35	SP		SAND (SP), very dense, light olive brown (2.5Y 5/3), moist, fine-grained sand, 5% clay	
50	50-51	X	39.2	27 32 37	SP		SAND (SP), very dense, light olive brown (2.5Y 5/4), moist, fine- to medium-grained sand, 5% clay	

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NM = Not Measured
Total Depth = 51 feet bgs
Water not enountered during drilling.

Date Start/Finish: 12/16/05-12/16/05 **Drilling Company:** WDC Exploration **Driller's Name:** Gilbert Martinez **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 LAR **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51' bgs **Surface Elevation:** NM **Geologist:** Veronique Lee **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B039 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.2	X	0.0	20 26	ML		SILT (ML), hard, dark brown (10YR 3/3), damp, 5% fine-grained sand	
5	5-6.4	X	0.0	18 25 30			Becomes dark yellowish brown (10YR 3/6)	
10	10-11.4	X	0.0	20 23 32 28			Becomes olive brown (2.5Y 4/3), increases to 15% fine-grained sand	
15	15-16.4	X	0.1	20 22 27	SW		SAND (SW), dense, yellowish brown (10YR 5/6), moist, fine- to coarse-grained sand, 5% silt, trace gravel	
20	20-21.5	X	0.0	19 27 33	SP-SM		SAND with Silt (SP-SM), very dense, dark yellowish brown (10YR 4/6), moist, fine- to medium-grained sand, 10% silt	Borehole backfilled wth Neat Cement with 5% Bentonite
					SM		Silty SAND (SM), dense, light olive brown (2.5Y 5/6), moist, fine-grained sand, 20% silt	
25	25-26.5		2.2	20 22 27	ML		Clayey SILT (ML), hard, greenish gray (GLEY 1 5GY 4/1), moist, 20% clay	
30	30-31.3	X	0.2	27 30 35	CL		Silty CLAY (CL), hard, olive gray (5Y 1 5/2) and strong brown (7.5YR 5/8) with bluish black (GLEY 1 5PB 2.5/1) specs, dry, trace fine-grained sand	
35	35-36.5		0.2	21 23 30	SC		Clayey SAND (SC), very dense, olive brown (2.5Y 4/4), moist, fine-grained sand, 40% clay	
40	40-41.3	X	0.0	23 30 32			Becomes light olive brown (2.5Y 5/4), decreases to 15% clay	
45	45-46.5		0.0	20 30 35	SP-SC		SAND with Clay (SP-SC), very dense, light olive brown (2.5Y 5/4), moist, fine-grained sand, 10% clay	
50	50-51	X	6.0	23 30 38	SP		SAND (SP), very dense, dark greenish gray (GLEY 1 10Y 4/1), moist, fine-grained sand	

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NM = Not Measured
Total Depth = 51 feet bgs
Water not enountered during drilling.

Date Start/Finish: 12/19/05-12/19/05 **Drilling Company:** WDC Exploration **Driller's Name:** Gilbert Martinez **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 LAR **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Veronique Lee **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B040 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	3.4	28 32	ML		SILT (ML), hard, very dark grayish brown (2.5Y 3/2), dry, 5% fine-grained sand	
5	5-6.5	X	0.0	25 30 36			Becomes olive brown (2.5Y 4/3)	
10	10-11.5	X	0.0	21 27 32			Becomes dark yellowish brown (10YR 3/6)	
15	15-16.5	X	0.0	17 24 30			Becomes brown (10YR 4/3)	
20	20-21.5	X	0.0	20 28 38			Sandy SILT (ML), hard, light olive brown (2.5Y 5/4), moist, 30% fine-grained sand	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		2.6	23 30 33	SM		Silty SAND (SM), very dense, olive (5Y 5/3), moist, fine-grained sand, 15% silt	
30	30-31.5	X	0.0	23 30 39	SW		SAND (SW), very dense, olive (5Y 5/3), moist, fine- to coarse-grained sand, trace silt, 20% medium-grained sand, 5% coarse-grained sand	
					CL		CLAY (CL), hard, dark greenish gray (GLEY 1 10Y 4/1), moist, 15% silt	
35	35-36.5		2.6	21 29 35	ML		SILT (ML), hard, yellowish brown (10YR 5/6), moist, 15% fine-grained sand	
40	40-41.5	X	0.0	24 26 41	CL		CLAY (CL), hard, dark yellowish brown (10YR 4/6), moist, trace fine-grained sand	
45	45-46.5		0.0	26 30 38	ML		SILT (ML), hard, olive (5Y 5/4), moist, 20% fine-grained sand	
50	50-51.5	X	0.0	26 33 42	SM		Silty SAND (SM), very dense, olive (5Y 5/3), moist, fine-grained sand, 15% silt	

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Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 12/28/05-12/28/05 **Drilling Company:** WDC Exploration **Driller's Name:** Jorge Gutierrez **Drilling Method:** Hand Auger **Bit Size:** NA **Auger Size:** 3-inch **Rig Type:** NA **Sampling Method:** Core Sampler/Slide Hammer	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 11' bgs **Surface Elevation:** NM **Geologist:** Veronique Lee **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B041 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Counts	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3	X	0.0	NA			SILT (ML), dark yellowish brown (10YR 3/4), damp, 5% fine-grained sand	
	5-6	X	0.0	NA	ML		Becomes dark yellowish brown (10YR 3/6)	Borehole backfilled wth Neat Cement with 5% Bentonite
10	10-11	X	0.0	NA			Becomes dark greenish gray (GLEY 1 10Y 4/1), 10% fine-grained sand SILT (ML), dark greenish gray (GLEY 1 10Y 4/1), damp, 5% fine-grained sand, 10% gravel	

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Total Depth = 11 feet bgs
Water not enountered during drilling.

Date Start/Finish: 12/20/05-12/20/05 **Drilling Company:** WDC Exploration **Driller's Name:** Gilbert Martinez **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 LAR **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Veronique Lee **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B042 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.2	X	23.0	13 24			SILT (ML), hard, black (10YR 2/1), moist, 5% fine-grained sand	
5	5-6	X	1.3	18 20 25	ML		Becomes dark greenish gray (GLEY 1 10Y 4/1)	
10	10-11.5	X	0.0	20 23 29			SILT (ML), hard, olive brown (2.5Y 4/4), moist, 5% clay, 15% fine-grained sand	
15	15-16.4	X	0.0	20 24 29	SW		SAND (SW), very dense, olive brown (2.5Y 4/4), moist, fine- to coarse-grained sand, 5% silt, 15% medium-grained sand, 5% coarse-grained sand	
20	20-21.4	X	0.0	21 27 29			(Same as above)	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		0.0	23 29 34	SP-SM		SAND with Silt (SP-SM), very dense, light olive brown (2.5Y 5/4), moist, fine-grained sand, 10% silt	
30	30-31.5	X	0.0	24 29 35	CL		CLAY (CL), hard, dark yellowish brown (10YR 3/6), moist, trace fine-grained sand	
35	35-36.5		1.9	18 22 25	ML		Sandy SILT (ML), hard, yellowish brown (10YR 5/4), moist, 30% fine-grained sand	
40	40-41.4	X	0.0	26 30 38			SILT (ML), hard, olive brown (2.5Y 4/4), moist, 15% clay	
45	45-46.5		1.3	21 25 37	SM		Silty SAND (SM), very dense, light olive brown (2.5Y 5/3), moist, fine-grained sand, 20% silt	
50	50-51.5	X	0.0	25 29 40	SP-SM		SAND with Silt (SP-SM), very dense, olive gray (5Y 5/2), moist, fine-grained sand, 10% silt	

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Remarks: bgs = below ground surface; NA = Not Applicable/Available
NM = Not Measured
Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 12/16/05-12/16/05 **Drilling Company:** WDC Exploration **Driller's Name:** Miguel Alvarado **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51' bgs **Surface Elevation:** NM **Geologist:** Maher Zein **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B043 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Stratigraphic Description
	2-3.4	X	12.5	20 30 50	ML	SILT (ML), very hard, grayish brown (10YR 5/2), dry, trace gravel
5	5-6.5	X	79.9	25 35 40	ML	SILT (ML), very hard, very dark grayish brown (10YR 3/2), dry
10	10-11.5	X	62.5	39 35 41	ML	SILT (ML), very hard, dark gray (10YR 4/1), moist
15	15-16.5	X	132	31 37 42	ML	SILT (ML), very hard, olive (5Y 4/3), dry
20	20-21.2	X	18.7	27 32 37	SP	SAND (SP), very dense, olive gray (5Y 5/2), dry medium- to coarse-grained sand
					CL	CLAY with Silt (CL), hard, olive gray (5Y 5/2), dry
25	25-26.2		3.1	24 31 40	CL	CLAY with Silt (CL), very hard, olive gray (5Y 4/2), moist
30	30-31.2	X	0.0	30 37 45	ML	SILT (ML), very hard, olive gray (5Y 5/2), dry
35	35-36.2		12.6	29 39 40	ML	Clayey SILT (ML), very hard, olive (5Y 4/3), dry
40	40-41.1	X	14.8	35 38 45	ML	SILT (ML), very hard, olive (5Y 4/4), dry, trace clay
45	45-46.5		7.7	22 32 38	ML	SILT (ML), very hard, light olive brown (2.5Y 5/3), dry
50	50-51	X	0.0	22 32 42	SM	Silty SAND (SM), very dense, light olive brown (2.5Y 5/4), dry, medium-grained sand

Geologic Column

Well/Boring Construction

Borehole backfilled wth Neat Cement with 5% Bentonite

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NM = Not Measured
Total Depth = 51 feet bgs
Water not enountered during drilling.

Date Start/Finish: 12/16/05-12/16/05 **Drilling Company:** WDC Exploration **Driller's Name:** Miguel Alvarado **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Maher Zein **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B044 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	14.0	17 18 20	ML		SILT (ML), very hard, black (2.5Y 5/1), dry, trace clay	
5	5-6.5	X	0.0	20 21 24	CL		Silty CLAY (CL), very hard, dark yellowish brown (10YR 3/6), dry	
10	10-11.5	X	6.9	25 35 39	ML		SILT (ML), very hard, yellowish brown (10YR 5/6), dry	
15	15-16.5	X	42.9	24 29 34	SP-SM		SAND with Silt (SP-SM), very dense, olive (5Y 5/3), dry, fine-grained sand	
20	20-21.1	X	64	15 20 25	SP		SAND (SP), dense, olive (5Y 5/3), dry, medium-grained sand	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.4		102	25 26 26			SAND (SP), very dense, gray (5Y 5/1), dry, medium-grained sand	
30	30-31.5	X	102	27 32 37			SAND (SP), very dense, olive brown (2.5Y 4/4), dry, medium- to coarse-grained sand, trace gravel	
					CL		CLAY (CL), hard, olive brown (2.5Y 4/4), dry	
35	35-36.5		10.9	30 35 40			CLAY (CL), very hard, olive brown (2.5Y 4/4), dry, trace fine-grained sand	
40	40-41.1	X	126	15 20 31	ML		SILT (ML), very hard, olive brown (2.5Y 4/4), dry	
45	45-46.4		11.7	27 37 42	SP		SAND (SP), very dense, grayish brown (2.5Y 5/2), dry, medium-grained sand	
50	50-51.5	X	0.0	41 46 40			Becomes olive brown (2.5Y 4/4)	

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NM = Not Measured
Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 12/15/05-12/15/05 **Drilling Company:** WDC Exploration **Driller's Name:** Miguel Alvarado **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Maher Zein **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B045 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.2	X	0.0	16 27 31	ML		SILT (ML), very hard, dark yellowish brown (10YR 3/4), dry, trace gravel	
5	5-6.5	X	273	17 29 31	ML		SILT (ML), very hard, dark brown (7.5YR 3/2), dry	
10	10-11.5	X	634	14 25 35	ML		Becomes brown (7.5YR 4/3)	
15	15-16.4	X	26.5	24 28 32	ML		Becomes dark yellowish brown (10YR 4/6)	
20	20-21.4	X	1464	25 35 36	SP		SAND (SP), very dense, olive (5Y 5/3), dry, medium-grained sand	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		629	19 22 27	SP		SAND (SP), dense, olive (5Y 5/4), dry, medium-grained sand	
					SP-SC		SAND with Clay (SP-SC), dense, olive (5Y 5/4), dry, medium-grained sand	
30	30-31	X	678	21 27 30	SP-SC		SAND with Clay (SP-SC), very dense, olive (5Y 4/4), moist, medium-grained sand	
35	35-36.5		690	15 19 20	CL		CLAY (CL), very hard, olive gray (5Y 4/2), dry, trace fine-grained sand	
40	40-41	X	945	15 20 25	SP		SAND (SP), dense, pale olive (5Y 6/4), dry, medium-grained sand	
45	45-46		1011	25 30 35	SP		Becomes very dense	
50	50-51.5	X	949	25 30 35	SP		SAND (SP), very dense, pale olive (5Y 6/4), dry, fine-grained sand	

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NM = Not Measured
Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 12/15/05-12/15/05 **Drilling Company:** WDC Exploration **Driller's Name:** Miguel Alvarado **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51' bgs **Surface Elevation:** NM **Geologist:** Maher Zein **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B046 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.2	X	0.0	25 27 31	ML		Sandy SILT (ML), very hard, dark yellowish brown (10YR 3/4), dry, trace gravel	Borehole backfilled wth Neat Cement with 5% Bentonite
5	5-6.1	X	0.0	15 21 25	ML		SILT with Sand (ML), very hard, olive brown (2.5Y 4/3), dry, fine- to coarse-grained sand	
10	10-11	X	4.6	20 25 25 30	ML		SILT (ML), very hard, dark olive gray (5Y 3/2), dry	
15	15-16.2	X	0.0	25 29 31	ML		Becomes olive gray (5Y 5/2)	
20	20-21.4	X	0.0	23 25 32	SP		SAND (SP), very dense, olive gray (5Y 5/2), dry, fine-grained sand, trace silt	
25	25-26.5		0.0	17 19 20	SP		SAND (SP), dense, olive (5Y 5/3), dry, medium-grained sand	
30	30-31.5	X	13.2	24 29 32	SP		SAND (SP), very dense, olive (5Y 5/3), dry, medium- to coarse-grained sand	
35	35-36.5		0.0	25 30 35	CL		CLAY (CL), hard, olive (5Y 5/3), dry CLAY with Sand (CL), very hard, olive brown (2.5Y 4/3), moist	
40	40-41.2	X	50.0	26 28 35 38	SP-SC		SAND with Clay (SP-SC), very dense, olive (5Y 4/3), moist, medium-grained sand	
45	45-46.5		8.5	30 35 40	SP		SAND (SP-SC), very dense, olive gray (5Y 4/2), dry, medium-grained sand, trace silt	
50	50-51	X	14.6	15 26 36	SP-SM		SAND with Silt (SP-SM), very dense, olive gray (5Y 4/2), dry, medium-grained sand	

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NM = Not Measured
Total Depth = 51 feet bgs
Water not enountered during drilling.

Date Start/Finish: 12/15/05-12/15/05 **Drilling Company:** WDC Exploration **Driller's Name:** Miguel Alvarado **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Jeff Hebert **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B047 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description
	2-3.5	X	0.0	22 25 27	CL		CLAY with Silt (CL), very hard, dark brown (7.5YR 3/4), dry
5	5-6.5	X	0.0	19 22 30			CLAY (CL), very hard, dark yellowish brown (10YR 3/6), dry
10	10-11.5	X	3.1	23 28 32	ML		Clayey SILT (ML), very hard, dark greenish gray (GLEY 1 5GY 4/1), dry
15	15-16.5	X	0.0	31 34 37	SP		SAND (SP), very dense, dark greenish gray (GLEY 1 5GY 1/1), dry, medium-grained sand
20	20-21.5	X	0.0	21 27 31			(Same as above)
25	25-26.5		0.0	10 11 17			SAND (SP), medium dense, dark greenish gray (GLEY 1 5GY 4/1), dry, medium-grained sand
30	30-31.5	X	10.0	35 38 39 41	SP-SC		SAND with Clay (SP-SC), very dense, dark greenish gray (GLEY 1 5GY 4/1), dry, fine-grained sand
35	35-36.5		5.4	16 19 21	ML		Clayey SILT (ML), very hard, dark greenish gray (GLEY 1 5GY 4/1), dry
40	40-41.5	X	0.0	19 21 31	SP		SAND (SP), very dense, olive (5Y 5/3), dry, medium-grained sand, trace coarse-grained sand
45	45-46.5		0.0	27 31 37	SP-SC		Clayey SAND (SP-SC), very dense, dark greenish gray (GLEY 1 5GY 4/1), moist, medium-grained sand
50	50-51.5	X	6.2	39 45 50			(Same as above)

Well/Boring Construction

Borehole backfilled wth Neat Cement with 5% Bentonite

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Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 12/20/05-12/20/05 **Drilling Company:** WDC Exploration **Driller's Name:** Gilbert Martinez **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 LAR **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Veronique Lee **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B048 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	0.0	20 35	ML		SILT (ML), hard, dark yellowish brown (10YR 3/6), dry, 5% fine-grained sand	
5	5-6.5	X	0.0	17 20 28			Becomes greenish gray (GLEY 1 5GY 4/1)	
10	10-11.5	X	9.8	19 23 27			SILT (ML), hard, dark greenish gray (GLEY 1 10Y 4/1), moist, 15% fine-grained sand	
15	15-16.5	X	4.5	20 21 25	SM		Silty SAND (SM), very dense, dark greenish gray (GLEY 1 10Y 4/1), moist, fine- to medium-grained sand, 15% silt, 5% medium-grained sand	
20	20-21.5	X	11.8	23 27 32	ML		SILT (ML), hard, dark greenish gray (GLEY 1 10Y 4/1), moist	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		9.1	18 28 35	SW		SAND (SW), very dense, dark greenish gray (GLEY 1 10Y 4/1), moist, fine- to coarse-grained sand, 5% silt, 20% medium-grained sand, 5% coarse-grained sand	
30	30-31.5	X	26.9	24 40 30 45	SP		SAND (SP), very dense, dark greenish gray (GLEY 1 10Y 4/1), moist, fine- to medium-grained sand, 5% silt, 20% medium-grained sand	
35	35-36.5		10.5	21 27 32	ML		Sandy SILT (ML), hard, greenish gray (GLEY 1 10Y 6/1), moist, 30% fine-grained sand	
40	40-41.5	X	26.2	22 30 38	SW		SAND (SW), very dense, greenish gray (GLEY 1 10Y 6/1), moist, fine- to coarse-grained sand	
45	45-46.5		21	20 30 35			(Same as above)	
50	50-51.5	X	50.6	25 35 47	SP		SAND (SP), very dense, greenish gray (GLEY 1 10Y 6/1), moist, fine-grained sand	

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Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 12/14/05-12/14/05 **Drilling Company:** WDC Exploration **Driller's Name:** Miguel Alvarado **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Maher Zein **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B049 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	0.0	14 17 21	ML		SILT (ML), with Clay, very hard, dark brown (10YR 3/3), dry	
5	5-6.5	X	0.0	15 14 22			SILT (ML), very hard, dark brown (10YR 3/3), dry	
10	10-11.5	X	2.5	10 14 16			SILT (ML), hard, dark brown (10YR 3/3), dry	
15	15-16.5	X	4.0	13 15 17	SP		SAND (SP), dense, light olive brown (2.5Y 5/6), dry, fine-grained sand, trace silt	
20	20-21.5	X	0.0	21 25 27			SAND (SP), very dense, light olive brown (2.5Y 5/4), dry, coarse-grained sand, trace gravel	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		0.0	15 18 22			SAND (SP), dense, olive (5Y 5/3), dry, medium-grained sand	
30	30-31.5	X	0.0	16 19 25	CL		CLAY (CL), very hard, olive (5Y 5/4), moist	
35	35-36.5		0.0	20 22 25	ML		SILT (ML), very hard, olive gray (5Y 4/2), dry	
40	40-41.5	X	9.0	29 35 50	SP-SC		SAND with Clay (SP-SC), very dense, olive (5Y 4/3), dry, coarse-grained sand with medium-grained	
45	45-46.5		0.0	27 32 39	SP		SAND (SP), very dense, greenish gray (GLEY 1 5GY 5/1), dry, medium-grained sand	
50	50-51.5	X	0.0	11 16 21			SAND (SP), dense, greenish gray (GLEY 1 5GY 5/1), dry, medium-grained sand	

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NM = Not Measured
Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 12/12/05-12/13/05 **Drilling Company:** WDC Exploration **Driller's Name:** Miguel Alvarado **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Megan Smoley/Maher Zein **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B050 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	0.0	10 10 10	ML		SILT (ML), hard, dark yellowish brown (10YR 3/4), dry, trace gravel	
5	5-6.5	X	0.0	10 11 15			(Same as above)	
10	10-11.5	X	19.6	5 8 14			Clayey SILT (ML), hard, black (10YR 2/1), moist	
15	15-16.5	X	4.6	6 7 10	CL		Silty CLAY (CL), hard, very dark gray (10YR 3/1), moist	
20	20-21.5	X	1.5	8 12 14	SM		Silty SAND (SM), medium dense, olive gray (5Y 4/2), moist, fine-grained sand	Borehole backfilled with Neat Cement with 5% Bentonite
25	25-26.5		0.0	19 25 27	SP		SAND (SP), very dense, olive (5Y 5/3), dry, medium-grained sand	
30	30-31.5	X	0.0	25 30 50			SAND (SP), very dense, olive gray (5Y 4/2), dry, coarse-grained sand	
35	35-36.5		0.0	9 11 15			SAND (SP), medium dense, olive gray (5Y 5/2), dry, medium-grained sand	
40	40-41.5	X	0.0	25 30 35			SAND with Silt (SP), very dense, olive gray (5Y 4/2), dry, medium-grained sand with few coarse-grained sand	
45	45-46.5		0.0	23 25 31			SAND (SP), very dense, dark gray (5Y 4/1), dry, medium-grained	
50	50-51.5	X	0.0	23 26 29			Becomes moist	

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Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 12/13/05-12/13/05 **Drilling Company:** WDC Exploration **Driller's Name:** Miguel Alvarado **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Maher Zein **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B051 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	0.0	9 10 10	ML		SILT (ML), hard, dark yellowish brown (10YR 3/4), dry, trace gravel	
5	5-6.5	X	0.0	5 7 11	CL		Sandy CLAY (CL), hard, very dark gray (2.5Y 3/1), dry	
10	10-11.5	X	0.0	15 18 20	SP-SM		SAND with Silt (SP-SM), dense, dark yellowish brown (10YR 3/6), dry, medium-grained sand	
15	15-16.5	X	5.2	12 14 16	CL		CLAY (CL), hard, black (5Y 2.5/2), moist, trace fine-grained sand	
20	20-21.5	X	5.8	7 12 14	ML		Clayey SILT (ML), hard, dark brown (10YR 3/3)	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		2.6	14 17 17	SP		SAND (SP), dense, olive (5Y 5/3), dry, coarse-grained sand	
30	30-31.5	X	2.9	19 23 27			(Same as above)	
35	35-36.5		0.0	12 14 17	SP-SM/ SP-SC		SAND with Silt and Clay (SP-SM/SP-SC), dense, olive gray (5Y 4/2), moist, fine-grained sand	
40	40-41.5	X	0.0	25 33 50			SAND (SP), very dense, gray (5Y 6/1), dry, medium-grained sand	
45	45-46.5		5.6	23 23 27	SP		Becomes gray (5Y 5/1)	
50	50-51.5	X	10.5	27 31 36			SAND (SP), very dense, dark greenish gray (GLEY 1 10Y 4/1), dry, medium-grained sand	

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NM = Not Measured
Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 12/29/05-12/29/05 **Drilling Company:** WDC Exploration **Driller's Name:** Gilbert Martinez **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 LAR **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Megan Smoley **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B052 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	5.2	22 31 38	CL		Silty CLAY (CL), very hard, dark olive brown (2.5Y 3/3), dry, 25% gravel	
5	5-6.5	X	2.1	18 20 23			Silty CLAY (CL), very hard, dark olive brown (2.5Y 3/3), moist, 5% gravel	
10	10-11.5	X	1.0	20 25 25 27	ML		SILT (ML), very hard dark olive brown (2.5Y 3/3), dry	
15	15-16.5	X	2.3	20 23 23 30	CL		Silty CLAY (CL), very hard, dark yellowish brown (10YR, 3/4), moist	
20	20-21.5	X	3.9	23 28 28 38	SM		Silty SAND (SM), very dense, olive brown (2.5Y 4/4), moist, fine-grained sand	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		4.8	21 27 27 27	SW		SAND (SW), very dense, light olive brown (2.5Y 5/3), fine- to coarse-grained sand, 25% fine to medium gravel, subangular	
30	30-31.5	X	4.9	27 30 30 39			SAND (SW), very dense, olive brown (2.5Y 4/4), medium- to coarse-grained sand, 10% fine to medium gravel, subangular	
35	35-36.5		4.3	23 33 32 34	ML		Clayey SILT (ML), very hard, olive brown (2.5Y 4/3), dry, 20% medium- to coarse-grained sand and fine subangular gravel	
40	40-41.5	X	5.0	39 49 50	SW		SAND (SW), very dense, greenish gray (GLEY 1 5GY 5/1), dry, medium-grained sand with 30% coarse-grained sand	
45	45-46.5		3.9	28 50 50 39			SAND (SW), very dense, greenish gray (GLEY 1 5GY 5/1), dry, medium-grained sand with 30% coarse-grained sand, 5-10% subangular gravel	
50	50-51.5	X	4.2	35 45 50 50	SP		SAND (SP), very dense, greenish gray (GLEY 1 5GY 5/1), dry, medium-grained sand with 10% coarse-grained sand, subangular, 10% silt, trace gravel	

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Remarks: bgs = below ground surface; NA = Not Applicable/Available
NM = Not Measured
Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 12/28/05-12/28/05 **Drilling Company:** WDC Exploration **Driller's Name:** Gilbert Martinez **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 LAR **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Megan Smoley **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B053 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	4.1	8 16 22	ML		Clayey SILT (ML), very hard, light olive brown (2.5Y 5/3), dry	
5	5-6.5	X	4.3	15 20 28	CL		Silty CLAY (CL), very hard, dark olive brown (2.5Y 3/3), dry	
10	10-11.5	X	4.1	17 23 29	ML		Clayey SILT (ML), very hard, light olive brown (2.5Y 5/3), dry, trace fine gravel	
15	15-16.5	X	4.2	17 25 29			Silty SAND (SM), very dense, olive brown (2.5Y 4/3), dry, fine-grained sand, 10% clay	
20	20-21.5	X	5.0	23 28 30	SM		Silty SAND (SM), very dense, dark yellowish brown (10YR 4/6), dry, fine-grained sand	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		5.2	22 27 32			Becomes olive vrown (2.5Y 4/4)	
30	30-31.5	X	5.3	23 29 35	SP		SAND (SP), very dense, olive brown (2.5Y 4/3), dry, medium-grained sand with 10% coarse-grained sand, 20% fine subrounded gravel	
35	35-36.5		6.0	25 30 38	SC		Clayey SAND (SC), very dense, olive brown (2.5Y 4/3), moist, fine-grained sand with 15% medium-grained sand, trace gravel	
40	40-41.5	X	4.6	35 40 49	SW		SAND (SW), very dense, very dark gray (5Y 3/1), dry, medium-grained sand with 5% coarse-grained sand and fine subrounded gravel	
45	45-46.5		4.7	28 32 40			(Same as above)	
50	50-51.5	X	5.1	38 48 50			(Same as above)	

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NM = Not Measured
Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 1213/05-12/13/05 **Drilling Company:** WDC Exploration **Driller's Name:** Miguel Alvarado **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Megan Smoley/Maher Zein **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B054 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	0.0	19 25 27	ML		SILT (ML), very hard, dark yellowish brown (10YR 3/6), dry, trace gravel	
5	5-6.5	X	0.0	19 31 50			(Same as above)	
10	10-11.5	X	0.0	12 14 17	CL		Sandy CLAY (CL), very hard, dark yellowish brown (10YR 3/6), moist, few fine to coarse gravel	
15	15-16.5	X	11.8	5 5 15	SC		Clayey SAND (SC), hard, dark olive gray (5Y 3/2), moist, medium- to coarse-grained sand, slight hydrocarbon odor, few fine to medium gravel	
20	20-21.5	X	3.9	7 10 13	SM		Silty SAND (SM), hard, olive brown (2.5Y 4/4), moist, fine-grained sand	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		0.0	7 8 10	SP		SAND (SP), medium dense, olive (5Y 5/3), dry, medium-grained sand	
30	30-31.5	X	1.9	30 35 50			SAND (SP), very dense, light olive gray (5Y 6/2), dry, medium-grained sand	
35	35-36.5		3.2	13 19 24			SAND (SP), dense, greenish gray (GLEY 1 10Y 6/1), dry, medium-grained sand	
40	40-41.5	X	4.5	25 30 35			SAND (SP), very dense, dark greenish gray (GLEY 1 10Y 4/1), dry	
45	45-48.5		3.9	13 17 31			SAND (SP), very dense, greenish gray (GLEY 1 5GY 5/1), dry, medium-grained sand	
50	50-51.5	X	17.3	30 50 50			SAND (SP), very dense, greenish gray (GLEY 1 5GY 5/1), medium-grained sand	

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Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 12/21/05-12/21/05 **Drilling Company:** WDC Exploration **Driller's Name:** Gilbert Martinez **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 LAR **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Veronique Lee **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B055 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	2.5	7 10	ML		SILT (ML), hard, very dark brown (10YR 2/2), dry, 5% fine-grained sand	
5	5-6.5	X	12.5	13 20 23			Becomes black (10YR 2/1)	
10	10-11.5	X	18.2	15 18 25			SILT (ML), hard, dark greenish gray (GLEY 1 10Y 4/1), moist	
15	15-16.5	X	33.2	13 18 23			SILT (ML), hard, dark greenish gray (GLEY 1 10Y 4/1), moist, 15% fine-grained sand	
20	20-21.5	X	220.0	20 28 32	SP		SAND (SP), very dense, greenish gray (GLEY 1 10Y 5/1), moist, fine-grained sand, 5% silt	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		15.7	21 25 30			SAND (SP), very dense, greenish gray (GLEY 1 10Y 5/1), moist, fine-grained sand	
30	30-31.5	X	0.8	23 29 35	ML		SILT (ML), hard, dark greenish gray (GLEY 1 10Y 4/1), moist, 10% fine-grained sand	
35	35-36.5		34.9	20 30 33	SM		Silty SAND (SM), very dense, very dark greenish gray (GLEY 1 10Y 3/1), moist, fine-grained sand, 20% silt	
40	40-41.5	X	0.0	26 32 39	SP		SAND (SP), very dense, dark gray (GLEY 1 4/N), moist, fine-grained sand	
45	45-46.5		0.0	21 30 36			Becomes dark greenish gray (GLEY 1 10Y 4/1), fine- to medium-grained sand, 5% medium-grained sand	
50	50-51.5	X	0.0	23 32 47			SAND (SP), very dense, greenish black (GLEY 1 10Y 2.5/1), moist, fine-grained sand, trace silt	

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Water not enountered during drilling.

Date Start/Finish: 12/14/05-12/14/05 **Drilling Company:** WDC Exploration **Driller's Name:** Miguel Alvarado **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Maher Zein **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B056 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description
	2-3.5	X	401	12 14 17	ML		SILT (ML), very hard, olive yellow (5Y 6/6), dry, trace gravel
5	5-6.5	X	38.1	8 10 15	ML		SILT (ML), hard, olive yellow (5Y 6/6), dry, trace gravel
10	10-11.5	X	34	11 12 14	ML		SILT (ML), with Clay, hard, olive (5Y 5/3), moist
15	15-16.5	X	0.0	14 16 17	SP		SAND (SP), dense, olive gray (5Y 4/2), dry, medium-grained sand
20	20-21.5	X	0.0	17 19 21	SP		SAND (SP), dense, greenish gray (GLEY 1 5GY 5/1), dry, coarse-grained sand
25	25-26.5		0.0	16 19 23	SP		SAND (SP), dense, greenish gray (GLEY 1 5GY 5/1), coarse-grained sand
30	30-31.5	X	2.0	19 23 25	ML		SILT (ML), very hard, grayish brown (2.5Y 5/2), dry
35	35-36.5		0.0	15 23 27	SP		SAND (SP), dense, light olive gray (5Y 6/2), dry, coarse-grained sand, trace gravel
40	40-41.5	X	95	21 27 31	SP		Becomes very dense, medium-grained sand
45	45-46.5		0.0	25 35 40	SP		SAND (SP), very dense, gray (5Y 5/1), dry, medium-grained sand
50	50-51.5	X	0.5	7 15 27	ML		Clayey SILT (ML), very hard, dark greenish gray (GLEY 1 5GY 4/1), moist

Well/Boring Construction

Borehole backfilled wth Neat Cement with 5% Bentonite

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Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 12/13/05-12/13/05 **Drilling Company:** WDC Exploration **Driller's Name:** Miguel Alvarado **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Maher Zein **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B057 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	1.9	19 20 20	ML		Clayey SILT (ML), very hard, olive brown (2.5Y 4/4), moist	
5	5-6.5	X	5.2	20 30 50 50	ML		SILT (ML), very hard, dark olive brown (2.5Y 3/3), dry	
10	10-11.5	X	11.8	10 25 35	ML		SILT (ML), very hard, olive gray (2.5Y 35/2), dry	
15	15-16.5	X	13.7	11 14 20	ML		SILT (ML), with Sand, very hard, dark olive brown (2.5Y 3/3), coarse-grained sand	
20	20-21.5	X	13.1	10 18 18 21	SP		SAND (SP), dense, olive (5Y 4/3), dry, medium-grained sand	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		3.9	12 20 20 25	SP		Becomes olive gray (5Y 5/2)	
30	30-31.5	X	33.5	25 30 30 35	SP		SAND (SP), very dense, olive gray (5Y 5/2), dry, medium-grained sand, trace gravel	
35	35-36.5		197	21 27 27 33	SP		SAND (SP), very dense, olive (5Y 4/3), dry, medium-grained sand	
40	40-41.5	X	30.8	17 25 50	SP		(Same as above)	
45	45-46.5		0.0	19 24 27 31	SP		SAND (SP), very dense, greenish gray (GLEY 1 5GY 5/1), dry, medium-grained sand	
50	50-51.5	X	0.0	28 35 35 50	SP		(Same as above)	

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Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 12/20/05-12/20/05 **Drilling Company:** WDC Exploration **Driller's Name:** Gilbert Martinez **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 LAR **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Veronique Lee **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B058 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	2.6	20 29	ML		SILT (ML), hard, very dark grayish brown (10YR 3/2), damp, 5% fine-grained sand	
5	5-6.5	X	0.6	19 23 28			Becomes dark yellowish brown (10YR 3/4)	
10	10-11.5	X	11.8	23 27 30			SILT (ML), hard, dark greenish gray (GLEY 1 10Y 4/1), moist, 15% fine-grained sand	
15	15-16.5	X	47.3	20 29 31	SP		SAND (SP), very dense, light olive brown (2.5Y 5/3), moist, fine-grained sand, trace silt	
20	20-21.5	X	30.8	25 25 30			Becomes light yellowish brown (2.5Y 6/4), fine- to medium-grained sand	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		47.3	19 23 32			SAND (SP), very dense, greenish gray (GLEY 1 10Y 5/1), moist, fine-grained sand, 5% silt	
30	30-31.5	X	8.4	25 30 34	ML SP		SILT (ML), hard, dark greenish gray (GLEY 1 10Y 4/1), moist SAND (SP), very dense, greenish gray (GLEY 1 10Y 6/1), moist, fine-grained sand, 5% silt	
35	35-36.5		21.6	23 33 40	SW		SAND (SW), very dense, greenish gray (GLEY 1 10Y 5/1), moist, fine- to coarse-grained sand, 5% silt, 5% gravel	
40	40-41.5	X	27.6	29 30 39	SC		Clayey SAND (SC), very dense, yellowish brown (10YR 5/6), moist, fine-grained sand, 20% clay	
45	45-46.5		187.0	22 27 32	SP		SAND (SP), very dense, light olive brown (2.5Y 5/3), moist, fine- to medium-grained sand, 5% silt, 5% medium-grained sand	
50	50-51.5	X	49.9	27 37 50	SW		SAND (SW), very dense, light olive brown (2.5Y 5/3), moist, fine- to coarse-grained sand, 5% silt, 5% coarse-grained sand	

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Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 12/20/05-12/20/05 **Drilling Company:** WDC Exploration **Driller's Name:** Miguel Alvarado **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Jeff Hebert **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B059 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	0.0	15 19 23	ML		SILT (ML), very hard, strong brown (7.5YR 4/6), moist, trace fine-grained sand	
5	5-6.5	X	0.0	19 30 36			Becomes strong brown (7.5YR 4/4)	
10	10-11.5	X	0.0	22 26 29 31	SM		Silty SAND (SM), very dense, dark yellowish brown (10YR 4/4), moist, fine-grained sand	
15	15-16.5	X	0.2	22 27 27 31			SAND (SP), very dense, greenish gray (GLEY 1 10Y 6/1), dry, fine-grained sand	
20	20-21.5	X	0.4	25 30 35	SP		Becomes bluish gray (GLEY 2 5B 5/1)	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		0.3	30 32 32 35			SAND (SP), very dense, light bluish gray (GLEY 2 10B 8/1), dry, medium-grained sand	
30	30-31.5	X	0.0	27 30 30 35	SM		Silty SAND (SM), very dense, yellowish brown (10YR 5/6), moist, fine-grained sand	
35	35-36.5		0.9	30 35 35 40			Silty SAND (SM), very dense, greenish gray (GLEY 1 10Y 5/1), moist, fine-grained sand	
40	40-41.5	X	3.5	30 35 35 40	SP		SAND (SP), very dense, light bluish gray (GLEY 2 10B 7/1), dry, fine-grained sand	
45	45-46.5		0.0	37 42 42 45			Becomes light bluish gray (GLEY 2 10B 8/1)	
50	50-51.5	X	3.3	33 42 42 47	CL		CLAY (CL), very hard, dark greenish gray (GLEY 1 10Y 4/1), moist, fine-grained sand	

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Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 12/20/05-12/20/05 **Drilling Company:** WDC Exploration **Driller's Name:** Miguel Alvarado **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Jeff Hebert **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B060 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	3.0	15 16 17	ML		SILT (ML), very hard, strong brown (7.5YR 4/6), moist, trace fine-grained sand	
5	5-6.5	X	0.0	19 20 21			Becomes brown (7.5YR 4/4)	
10	10-11.5	X	14.9	27 28 30	SM		Silty SAND (SM), very dense, greenish gray (GLEY 1 10Y 5/1), moist, fine-grained sand	
15	15-16.5	X	398	26 29 31 36			SAND (SP), very dense, bluish gray (GLEY 2 10B 7/1), dry, fine-grained sand	
20	20-21.5	X	971	31 36 38			SAND (SP), very dense, bluish gray (GLEY 2 10B 5/1), dry, fine-grained sand	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		1534	20 25 29 30			Becomes light bluish gray (GLEY 2 10B 7/1)	
30	30-31.5	X	527	23 29 29 32	SP		SAND (SP), very dense, greenish gray (GLEY 2 10G 6/1), dry, fine-grained sand	
35	35-36.5		95	27 31 34 36			SAND (SP), very dense, light bluish gray (GLEY 2 10B 7/1), dry, fine-grained sand	
40	40-41.5	X	106	30 35 35 40			Becomes light gray (2.5Y 7/2)	
45	45-46.5		172	31 46 46 31	ML		SILT (ML), very hard, greenish gray (GLEY 2 10G 5/1), dry, fine-grained sand	
50	50-51.5	X	173	33 35 35 42	SP		SAND (SP), very dense, greenish gray (GLEY 2 10G 6/1), dry, fine-grained sand	

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NM = Not Measured
Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 12/20/05-12/20/05 **Drilling Company:** WDC Exploration **Driller's Name:** Miguel Alavado **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Jeff Hebert **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B061 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	2.6	10 18 20	ML		SILT (ML), very hard, strong brown (7.5YR 4/6), moist, few fine-grained sand	
5	5-6.5	X	0.0	15 20 25			SILT (ML), very hard, brown (7.5YR 4/4), moist, few fine-grained sand	
10	10-11.5	X	0.0	22 27 31	SM		Silty SAND (SM), very dense, greenish gray (GLEY 1 10Y 5/1), moist, fine-grained sand	
15	15-16.5	X	0.0	25 30 31	SP		SAND (SP), very dense, light bluish gray (GLEY 2 10B 7/1), dry, fine-grained sand	
20	20-21.5	X	0.0	21 23 27			Becomes bluish gray (GLEY 2 5B 5/1)	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		0.0	24 29 31	ML		SILT (ML), very hard, greenish gray (GLEY 1 10Y 5/1), moist, trace fine-grained sand	
30	30-31.5	X	0.0	23 28 33	SM		Silty SAND (SM), very dense, yellowish brown (10YR 5/6), moist, fine-grained sand	
35	35-36.5		3.9	28 35 40			Silty SAND (SM), very dense, greenish gray (GLEY 1 10Y 5/1), moist, fine-grained sand	
40	40-41.5	X	2.6	33 38 39	SP		SAND (SP), very dense, light bluish gray (GLEY 2 10B 7/1), dry, fine-grained sand	
45	45-46.5		0.0	31 36 39	ML		SILT (ML), very hard, greenish gray (GLEY 2 5B 5/1), dry, trace fine-grained sand	
50	50-51.5	X	0.6	31 41 46	SP		SAND (SP), very dense, greenish gray (GLEY 2 10Y 6/1), dry, fine-grained sand	

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Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 12/21/05-12/21/05 **Drilling Company:** WDC Exploration **Driller's Name:** Miguel Alvarado **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Jeff Hebert **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B062 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	2.8	14 17 19	ML		SILT (ML), very hard, dark yellowish brown (10YR 4/4), moist, trace fine-grained sand	
5	5-6.5	X	21.2	17 21 23			SILT (ML), very hard, grayish brown (10YR 5/3), moist, trace fine-grained sand	
10	10-11.5	X	5.5	18 19 20			SILT (ML), very hard, greenish gray (GLEY 1 10Y 5/1), moist, trace fine-grained sand	
15	15-16.5	X	6.5	13 18 21	SP		SAND (SP), dense, light greenish gray (GLEY 1 10Y 7/1), dry, fine-grained sand	
20	20-21.5	X	1.9	21 21 28			(Same as above)	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		7.2	18 21 26	CL		CLAY (CL), very dense, brown (7.5YR 4/3), moist, trace fine-grained sand	
30	30-31.5	X	0.9	21 36 31	ML		SILT (ML), very hard, strong brown (7.5YR 5/6), moist, trace fine-grained sand	
35	35-36.5		3.5	24 26 33	SM		Silty SAND (SM), very dense, greenish gray (GLEY 1 10Y 5/1), moist, fine-grained sand	
40	40-41.5	X	3.3	27 32 34	SP		SAND (SP), very dense, light greenish gray (GLEY 1 10Y 7/1), moist, fine-grained sand	
45	45-46.5		0.1	32 36 40			SAND (SP), very dense, light gray (GLEY 1 N 7/), moist, fine-grained sand	
50	50-51.5	X	0.1	28 42 46	SM		Silty SAND (SM), very dense, light greenish gray (GLEY 1 10Y 7/1), moist, fine-grained sand	

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Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 01/09/06-01/09/06 **Drilling Company:** WDC Exploration **Driller's Name:** Gilbert Martinez **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 LAR **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Megan Smoley **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B063 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	13.7	2 3 3	CL		CLAY (CL), soft, black (5Y 2.5/1), moist	
5	5-6.5	X	26.8	10 16 21			CLAY (CL), very hard, black (5Y 2.5/1), moist	
10	10-11.5	X	503.0	18 20 27	ML		Clayey SILT (ML), very hard, dark olive gray (5Y 3/2), dry, strong hydrocarbon odor	
15	15-16.5	X	72.4	17 20 23	SM		Silty SAND (SM), very dense, dark greenish gray (GLEY 1 5GY 4/1), dry, fine- to medium-grained sand, hydrocarbon odor	
20	20-21.5	X	219.0	19 29 27	SC		Clayey SAND (SC), very dense, olive gray (5Y 4/2), dry, fine- to medium-grained sand	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		2.3	13 22 26	SM		Silty SAND (SM), very dense, olive gray (5Y 5/2), dry, fine-grained sand with 10% medium-grained sand	
30	30-31.5	X	0.0	20 30 36			Silty SAND (SM), very dense, olive gray (5Y 5/2), dry, fine-grained sand with 15-20% medium-grained sand	
35	35-36.5		0.0	24 34 38	ML		SILT (ML), very hard, olive brown (2.5Y 4/3), dry	
40	40-41.5	X	1.9	24 34 45			Silty SAND (SM), very dense, light olive brown (2.5Y 5/4), dry, fine-grained sand, slight hydrocarbon odor	
45	45-46.5		993.0	25 35 45	SM		Silty SAND (SM), very dense, dark olive gray (5Y 3/2), dry, fine-grained, very strong hydrocarbon odor	
50	50-51.5	X	88.5	24 40 50			Silty SAND (SM), very dense, light olive brown (2.5Y 5/4), dry, fine-grained sand, strong hydrocarbon odor	

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Water not enountered during drilling.

Date Start/Finish: 12/23/05-12/23/05 **Drilling Company:** WDC Exploration **Driller's Name:** Gilbert Martinez **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 LAR **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Veronique Lee **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B064 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	2.6	18 27	ML		SILT (ML), hard, olive brown (2.5Y 4/3), moist, 5% fine-grained sand	
5	5-6.5	X	0.6	15 21 23			SILT (ML), hard, light olive brown (2.5Y 5/4), moist	
10	10-11.5	X	11.8	20 22 30			SILT (ML), hard, light olive brown (2.5Y 5/4), moist, 5% fine-grained sand	
15	15-16.5	X	47.3	18 28 31			Sandy SILT (ML), hard, yellowish brown (10YR 5/8), moist, 30% fine-grained sand	
20	20-21.5	X	30.8	30 38 42			SILT (ML), hard, dark yellowish brown (10YR 4/4), moist, 10% fine-grained sand	
					SW-SM		SAND with Silt (SW-SM), very dense, brownish yellow (10YR 6/6), damp, fine- to coarse-grained sand, 10% silt	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		47.3	38 50			SAND with Silt (SW-SM), very dense, yellowish brown (10YR 5/4), damp, fine- to coarse-grained sand, 10% silt, 5% gravel	
30	30-31.5	X	8.4	28 39 50	ML		Sandy SILT (ML), hard, olive brown (2.5Y 4/4), moist, 30% fine-grained sand	
35	35-36.5		21.6	27 37 43	SP		SAND (SP), very dense, greenish gray (GLEY 1 10GY 5/1), moist, fine- to medium-grained sand, 5% silt	
40	40-41.5	X	27.6	30 38 49			Becomes greenish gray (GLEY 1 5GY 6/1)	
45	45-46.5		187.0	29 39 45	SW		SAND (SW), very dense, greenish gray (GLEY 1 5GY 6/1), moist, fine- to coarse-grained sand, 5% silt, 10% gravel	
50	50-51.5	X	49.9	34 43 50	SP		SAND (SP), very dense, dark greenish gray (GLEY 1 10Y 4/1), moist, fine- to medium-grained sand, 5% silt	

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Water not enountered during drilling.

Date Start/Finish: 01/12/06-01/12/06 **Drilling Company:** WDC Exploration **Driller's Name:** Jorge Gutierrez **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Megan Smoley **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B065 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description
	2-3.5	X	0.2	10 10 15	ML		SILT (ML), hard, dark olive brown (2.5Y 3/3), dry
5	5-6.5	X	0.4	5 5 7	CL		CLAY (CL), firm, dark olive brown (2.5Y 3/3), dry, little silt
10	10-11.5	X	0.7	5 7 9	ML		SILT (ML), hard, dark olive brown (2.5Y 3/3), dry, trace fine gravel, little clay
15	15-16.5	X	1.0	10 12 16	CL		CLAY (CL), hard, dark olive brown (2.5Y 3/3), dry, trace fine gravel
20	20-21.5	X	2.3	5 5 6	ML		SILT (ML), firm, olive gray (5Y 4/2), dry
25	25-26.5		0.6	10 14 18	SM		Silty SAND (SM), dense, olive gray (5Y 5/2), dry fine-grained sand with 10% medium-grained sand
					CL		CLAY (CL), dense, dark greenish gray (GLEY 1 5GY 4/1), dry, little silt
30	30-31.5	X	0.8	18 23 27	SP		SAND (SP), very dense, olive gray (5Y 5/2), dry, fine-grained sand SAND (SW), very dense, olive gray (5Y 5/2), dry, medium- to coarse-grained sand, 10% fine gravel
35	35-36.5		1.3	20 20 20	CL		Gravelly CLAY (CL), very hard, olive gray (5Y 4/2), dry, subrounded
40	40-41.5	X	1.0	25 28 50	SP		SAND (SP), very dense, greenish gray (GLEY 1 5GY 5/1), dry, fine-grained sand with 20% medium-grained sand
45	45-46.5		1.4	20 25 30	SC		Clayey SAND (SC), very dense, dark greenish gray (GLEY 1 5GY 4/1), dry, fine- to medium-grained sand
50	50-51.5	X	0.9	25 28 50	SM		Silty SAND (SM), very dense, dark greenish gray (GLEY 1 5GY 4/1), dry, fine-grained sand with 10% medium-grained sand

Well/Boring Construction

Borehole backfilled wth Neat Cement with 5% Bentonite

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Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 01/12/06-01/12/06 **Drilling Company:** WDC Exploration **Driller's Name:** Jorge Gutierrez **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Megan Smoley **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B066 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	0.4	5, 9, 13	CL		Silty CLAY (CL), hard, light olive brown (2.5Y 5/3), dry	
				10, 17, 20	ML		Sandy SILT (ML), hard, yellowish brown (10YR 5/6), dry, 15% clay and gravel	
5	5-6.5	X	0.4	10, 10, 15				
				12, 16, 18, 13, 15, 17			trace cobbles	
10	10-11.5	X	0.4	12, 16, 20				
				7, 7, 11, 13, 15, 16	SM		Silty SAND (SM), dense, dark yellowish brown (10YR 4/6), dry, fine to coarse-grained sand, 15% clay and 20% fine to coarse gravel, trace cobbles	Borehole backfilled wth Neat Cement with 5% Bentonite
15	15-16.5	X	0.3	9, 11	CL		Sandy CLAY (CL), very hard, dark yellowish brown (10YR 4/6), dry, fine-grained sand with few medium- to coarse-grained sand, 15% fine gravel	
			7.7	13, 10, 12			Silty CLAY (CL), hard, very dark grayish brown (2.5Y 3/2), dry, hydrocarbon odor	
				16, 7			Silty CLAY (CL), hard, dark brown (10YR 3/3), dry	
				7, 9	ML		SILT (ML), hard, dark olive gray (5Y 3/2), dry	
20	20-21.5	X	1.0	6, 6, 7, 7, 7, 15	SM		Silty SAND (SM), medium dense, olive gray (5Y 4/2), dry, fine-grained sand	
				20, 20	SP		SAND (SP), dense, olive gray (5Y 5/2), dry, fine- to medium-grained sand	
25	25-26.5		0.3	17, 23, 25	SM		Silty SAND (SM), dense, olive gray (5Y 4/2), dry, fine- to medium-grained sand, trace gravel	

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Water not enountered during drilling.

Date Start/Finish: 01/12/06-01/12/06 **Drilling Company:** WDC Exploration **Driller's Name:** Jorge Gutierrez **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Megan Smoley **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B066 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
				20				
				25	SP		SAND (SP), very dense, gray (5Y 5/1), dry, medium-grained sand with few coarse-grained sand, few gravel	
				30				
				25				
				25				
				50	SW		SAND (SW), very dense, gray (5Y 5/1), dry, medium-grained sand with 30% coarse-grained sand	
30	30-31.5	X	1.0	27				
				35	SC		Clayey SAND (SC), very dense, olive gray (5Y 5/2), dry, fine-grained sand with 10% medium-grained sand, trace fine gravel	
				50				
				33				
				41	SP		SAND (SP), very dense, olive gray (5Y 5/2), dry, medium-grained sand with 20% coarse-grained sand, subangular	
				50				
				25	SM		Silty SAND (SM), very dense, olive gray (5Y 5/2), dry, fine-grained sand with 10% medium-grained sand	
				35				
				50				
35	35-36.5		0.3	28				
				37				
				50	SW		SAND (SW), very dense, olive gray (5Y 5/2), dry, medium- to coarse-grained sand, 10% fine gravel	
				23				
				33				
				50				
				29				Borehole backfilled wth Neat Cement with 5% Bentonite
				42				
				50				
40	40-41.5	X	2.8	33	SM		Silty SAND (SM), very dense, gray (5Y 5/1), dry, fine-grained sand with 25% medium-grained sand, trace fine gravel	
				41				
				50				
				25				
				28			Silty SAND (SM), very dense, dark gray (5Y 4/1), dry, fine- to medium-grained sand with 10% coarse-grained sand, subangular, few fine and coarse gravel	
				50				
				30				
				35				
				50				
45	45-46.5		2.7	20				
				20				
				30			Silty SAND (SM), very dense, dark greenish-gray (GLEY 1 5GY 4/1), dry, medium-grained sand, trace coarse-grained sand, subangular, slight hydrocarbon odor, trace fine gravel	
				18				
				25	CL		Silty CLAY (CL), very dense, dark greenish gray (GLEY 1 5GY 4/1), dry, 15% medium- to coarse-grained sand and gravel, slight hydrocarbon odor	
				28				
				23				
				27				
				30				
50	50-51.5	X	0.3	30	SP		SAND (SP), very dense, dark greenish gray (GLEY 1 5GY 4/1), dry, medium-grained sand with 30% fine-grained sand	
				40				
				50				

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Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 12/21/05-12/21/05 **Drilling Company:** WDC Exploration **Driller's Name:** Gilbert Martinez **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 LAR **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Veronique Lee **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B067 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	1.2	21 32	ML		SILT (ML), hard, yellowish brown (10YR 5/6), dry, 5% fine- to medium-grained sand	
5	5-6.5	X	3.4	18 25 29			Becomes brown (10YR 4/3)	
10	10-11.5	X	10.2	25 32 38			SILT (ML), hard, olive (5Y 4/4), damp, 15% fine- to medium-grained sand	
15	15-16.5	X	0.0	19 25 33			(Same as above)	
20	20-21.5	X	1.3	25 32 38			SAND with Silt (SP-SM), very dense, olive gray (5Y 4/2), moist, fine-grained sand, 10% silt	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		0.0	20 30 32	SP-SM		Becomes greenish gray (GLEY 1 10Y 6/1)	
30	30-31.5	X	0.0	24 30 36			Becomes greenish gray (GLEY 1 10Y 5/1)	
35	35-36.5		0.0	22 31 34	SW		SAND (SW), very dense, dark greenish gray (GLEY 1 10Y 4/1), moist, fine- to coarse-grained sand, 5% silt, 30% medium-grained sand, 10% coarse-grained sand	
40	40-41.5	X	0.0	26 33 40	SM		Silty SAND (SM), very dense, greenish gray (GLEY 1 10Y 4/1), moist, fine- to coarse-grained sand, 20% silt, 5% coarse-grained sand	
45	45-46.5		0.0	21 30 35	SP-SM		SAND with Silt (SP-SM), very dense, greenish gray (GLEY 1 10Y 4/1), moist, fine- to coarse-grained sand, 10% silt, 10% coarse-grained sand, 5% gravel	
50	50-51.5	X	0.0	24 30 48			(Same as above)	

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NM = Not Measured
Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 12/21/05-12/21/05 **Drilling Company:** WDC Exploration **Driller's Name:** Gilbert Martinez **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 LAR **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Veronique Lee **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B068 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	8.3	30 42	ML		SILT (ML), hard, dark brown (10YR 3/3), damp, 5% fine-grained sand	
5	5-6.5	X	15.9	20 30 34			Becomes olive brown (2.5Y 4/4)	
10	10-11.5	X	16.8	21 29 33			SILT (ML), hard, dark greenish gray (GLEY 1 10Y 4/1), moist, 15% fine-grained sand	
15	15-16.5	X	24.5	23 31 33	SP-SM		SAND with Silt (SP-SM), very dense, greenish gray (GLEY 1 10Y 5/1), moist, fine-grained sand, 10% silt	
20	20-21.5	X	76.3	25 30 36	SM		Silty SAND (SM), very dense, greenish gray (GLEY 1 10Y 4/1), moist, fine-grained sand, 30% silt	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		29.4	22 27 31	SP-SM		SAND with Silt (SP-SM), very dense, olive (5Y 4/2), moist, fine-grained sand, 10% silt	
30	30-31.5	X	25.9	20 30 38	SW		SAND (SW), very dense, olive (5Y 5/3), moist, fine- to coarse-grained sand, 10% silt	
35	35-36.5		61.4	19 25 31	SP-SM		SAND with Silt (SP-SM), very dense, olive (5Y 5/4), moist, fine-grained sand, 10% silt	
40	40-41.5	X	7.4	25 33 38	SC		Clayey SAND (SC), very dense, olive (5Y 5/3), moist, fine-grained sand, 15% clay	
45	45-46.5		14.3	22 35 39	SP		SAND (SP), very dense, greenish gray (GLEY 1 10Y 5/1), moist, fine-grained sand, 5% silt	
50	50-51.5	X	38.5	25 35 50	SM		Silty SAND (SM), very dense, dark greenish gray (GLEY 1 10Y 4/1), moist, fine-grained sand, 15% silt	

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NM = Not Measured
Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 12/22/05-12/22/05 **Drilling Company:** WDC Exploration **Driller's Name:** Miguel Alvarado **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Jeff Hebert **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B069 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	0.0	20 20 25	CL		CLAY (CL), very hard, dark yellowish brown (10YR 3/4), moist, trace fine-grained sand	
5	5-6.5	X	0.0	21 22 27			CLAY (CL), very hard, dark greenish gray (GLEY 1 10Y 4/1), moist, trace fine-grained sand	
10	10-11.5	X	0.0	24 27 32	SM		Silty SAND (SM), very dense, dark greenish gray (GLEY 1 10Y 4/1), moist, fine-grained sand	
15	15-16.5	X	0.0	23 27 33	SP		SAND (SP), very dense, gray (GLEY 1 N 5/), moist,, fine-grained sand	
20	20-21.5	X	0.0	23 27 31			SAND (SP), very dense, bluish gray (GLEY 2 10B 5/1), moist, fine-grained sand	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		0.0	29 33 37			(Same as above)	
30	30-31.5	X	0.0	26 35 38	SM		Silty SAND (SM), very dense, light olive brown (2.5Y 5/4), moist, fine-grained sand	
35	35-36.5		0.3	30 35 40	SP		SAND (SP), very dense, light brownish gray (2.5Y 6/2), moist, fine-grained sand	
40	40-41.5	X	0.0	34 37 43			Becomes greenish gray (GLEY 1 10Y 6/1)	
45	45-46.5		0.0	27 33 37			SAND (SP), very dense, greenish gray (GLEY 1 10Y 6/1), moist, fine-grained sand	
50	50-51.5	X	0.0	33 38 43			Becomes greenish gray (GLEY 1 10Y 5/1)	

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Remarks: bgs = below ground surface; NA = Not Applicable/Available
NM = Not Measured
Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 12/22/05-12/22/05 **Drilling Company:** WDC Exploration **Driller's Name:** Miguel Alvarado **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Jeff Hebert **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B070 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	0.0	10 12 17	SP		SAND (SP), medium dense, brown (10YR 5/3), dry, fine-grained sand	
5	5-6.5	X	0.0	17 18 19	CL		CLAY (CL), very hard, dark yellowish brown (10YR 4/6), moist, fine-grained sand	
10	10-11.5	X	5.9	13 17 20	SM		Silty SAND (SM), dense, very dark greenish gray (GLEY 1 10Y 3/1), moist, fine-grained sand	
15	15-16.5	X	23.6	16 20 21			Becomes dark greenish gray (GLEY 1 10Y 4/1)	
20	20-21.5	X	3.5	21 24 27			SAND (SP), very dense, dark yellowish brown (10YR 4/6), moist, fine-grained sand	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		136	28 27 30			Becomes bluish gray (GLEY 2 10B 5/1)	
30	30-31.5	X	16.2	24 27 33	SP		SAND (SP), very dense, greenish gray (GLEY 1 10Y 5/1), moist, fine-grained sand	
35	35-36.5		548	25 37 39			Becomes bluish gray (GLEY 2 10B 5/1)	
40	40-41.5	X	28	33 37 40			SAND (SP), very dense, bluish gray (GLEY 2 10B 5/1), moist, fine-grained sand	
45	45-46.5		18	37 39 42	ML		SILT (ML), very hard, dark greenish gray (GLEY 1 10Y 4/1), moist, trace fine-grained sand	
50	50-51.5	X	25.8	28 33 43	SP		SAND (SP), very dense, dark greenish gray (GLEY 1 10Y 4/1), moist, fine-grained sand	

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NM = Not Measured
Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 12/21/05-12/21/05 **Drilling Company:** WDC Exploration **Driller's Name:** Miguel Alvarado **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Jeff Hebert **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B071 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	0.0	17 19 21	ML		SILT (ML), very hard, very dark brown (10YR 2/2), moist	
5	5-6.5	X	0.0	21 23 24			SILT (ML), very hard, very dark gray (10YR 3/1), moist	
10	10-11.5	X	0.0	23 27 31			SILT (ML), very hard, very dark brown (10YR 2/2), moist	
15	15-16.5	X	0.0	15 20 25	SP		SAND (SP), dense, olive brown (2.5Y 4/4), moist, fine-grained sand	
20	20-21.5	X	0.0	19 23 27			SAND (SP), dense, olive (5Y 5/4), moist, fine- to medium-grained sand	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		0.0	27 32 35	CL		CLAY (CL), very hard, light olive brown (2.5Y 5/4), moist	
30	30-31.5	X	0.0	29 31 34			CLAY (CL), very hard, light olive brown (2.5Y 5/4), moist	
35	35-36.5		0.0	29 35 38	SP-SM		SAND with Silt (SP-SM), very dense, olive brown (2.5Y 4/4), moist, fine-grained sand	
40	40-41.5	X	0.0	28 35 39	SM		Silty SAND (SM), very dense, olive brown (2.5Y 4/3), moist, fine-grained sand	
45	45-46.5		0.2	31 36 39	ML		SILT (ML), very hard, dark greenish gray (GLEY 1 10Y 4/1), moist	
50	50-51.5	X	0.0	22 25 31	SP		SAND (SP), very dense, light olive brown (2.5Y 5/6), moist, fine-grained sand	

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Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 12/21/05-12/21/05 **Drilling Company:** WDC Exploration **Driller's Name:** Miguel Alvarado **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Jeff Hebert **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B072 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Stratigraphic Description
	2-3.5	X	4.2	10 12 15	ML	SILT (ML), hard, very dark greenish gray (GLEY 1 10Y 3/1), moist
5	5-6.5	X	13.0	14 19 21	ML	SILT (ML), very hard, greenish gray (GLEY 1 10Y 5/1), moist
10	10-11.5	X	5.8	15 20 25	ML	(Same as above)
15	15-16.5	X	12.3	23 28 30	SP	SAND (SP), dense, light greenish gray (GLEY 1 10Y 7/1), moist, fine-grained sand
20	20-21.5	X	1.3	23 37 31	SP	(Same as above)
25	25-26.5		4.0	31 32 37	CL	CLAY (CL), very hard, brown (2.5YR 4/3), moist
30	30-31.5	X	3.6	23 28 33	ML	SILT (ML), very hard, light brownish gray (2.5Y 6/2), moist
35	35-36.5		4.3	34 37 42	SM	Silty SAND (SM), very dense, light greenish gray (GLEY 1 10Y 7/1), moist, fine-grained sand
40	40-41.5	X	4.6	37 41 46	SM	Silty SAND (SM), very dense, greenish gray (GLEY 1 10Y 5/1), moist, fine-grained sand
45	45-46.5		0.0	36 39 41	SP	SAND (SP), very dense, light gray (GLEY 1 N 7/), moist, fine-grained sand
50	50-51.5	X	4.6	36 39 43	SM	Silty SAND (SM), very dense, light greenish gray (GLEY 1 10Y 7/1), moist, fine-grained sand

Well/Boring Construction

Borehole backfilled wth Neat Cement with 5% Bentonite

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Water not enountered during drilling.

Date Start/Finish: 01/30/06-01/30/06 **Drilling Company:** WDC Exploration **Driller's Name:** Eddie Herrera **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 LAR **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Megan Smoley **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B073 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	0.0	15, 19, 23	CL		CLAY (CL), very hard, very dark grayish brown (2.5Y 3/2), dry, 5% silt	
	3.5-5			17, 21				
5	5-7	X	0.0	25, 19, 25, 27			(Same as above)	
	7-8.5			32, 16, 23	ML		Clayey SILT (ML), very hard, dark yellowish brown (10YR 4/4), dry, 10% fine-grained sand Becomes dark olive gray (5Y 3/2)	
	8.5-10			31, 19, 27				
10	10-12	X	1.2	35, 20, 20, 25			(Same as above)	
	12-13.5			31, 14, 19	SP		SAND (SP), dense, olive gray (5Y 4/2), dry, fine-grained sand with 10% medium-grained sand, trace silt	Borehole backfilled wth Neat Cement with 5% Bentonite
	13.5-15			25, 19, 23			SAND (SP), very dense, olive gray (5Y 4/2), dry, medium-grained sand with 15% fine-grained sand	
15	15-17	X	1.0	27, 22, 23, 29				
	17-18.5			38, 22, 22			SAND (SP), dense, olive gray (5Y 5/2), dry, medium-grained sand with 15% coarse-grained sand, subangular, few fine to coarse gravel	
	18.5-20			24, 16, 19				
20	20-22	X	0.0	20, 19, 25				
	22-23.5			25, 31	SM		Silty SAND (SM), very dense, olive gray (5Y 4/2), dry, fine-grained sand, 40% silt	
	23.5-25			16, 17, 19	SC		Clayey SAND (SC), dense, olive gray (5Y 4/2), dry, fine-grained sand, 20% fines	
25	25-26.5		0.0	22, 22, 25, 21	SP		SAND (SP), dense, olive (5Y 4/4), dry, fine-grained sand with trace medium-grained sand, 5% silt	

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Water not enountered during drilling.

Date Start/Finish: 01/30/06-01/30/06 **Drilling Company:** WDC Exploration **Driller's Name:** Eddie Herrera **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 LAR **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Megan Smoley **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B073 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
				21, 29, 19, 19, 20, 21	SP		SAND (SP), dense, olive (5Y 4/4), dry, fine-grained sand with trace medium-grained sand, few silt, trace coarse sand and fine subangular gravel	
	27-28.5							
							SAND (SP) dense, olive gray (5Y 5/2), dry, medium-grained sand with 10% coarse-grained sand, 10% fines, trace fine to coarse gravel	
	28.5-30							
				21, 24, 17, 21, 21, 27, 16, 19	CL		CLAY (CL), very hard, olive brown (2.5Y 4/3), dry, 10% silt	
30	30-32	X	0.5					
	32-33.5							
				21, 14, 17, 21, 17, 19	SM		Silty SAND (SM), dense, olive brown (2.5Y 4/4), dry, fine-grained sand, 30% silt Becomes olive (5Y 4/4)	
	33.5-35							
35	35-37		0.0					Borehole backfilled wth Neat Cement with 5% Bentonite
				27, 31, 17, 20	SC		Clayey SAND (SC), dense, dark greenish gray (GLEY 1 5GY 4/1), dry, fine-grained sand, 40% clay	
	37-38.5							
				20, 21, 21, 22	SM		Silty SAND (SM), dense, dark greenish gray (GLEY 1 5GY 4/1), dry, fine-grained sand, 20% silt	
	38.5-40							
40	40-42	X	0.0	18	SC		Clayey SAND (SC), dense, dark greenish gray (GLEY 1 5GY 4/1), dry, fine-grained sand, 40% clay	
				19, 24, 31	SM		Silty SAND (SM), very dense, olive gray (5Y 5/2), dry, fine-grained sand, 25% fines	
	42-43.5			19, 24, 24, 21, 24, 25, 24, 25, 30, 35, 21, 27, 29, 31, 31, 35, 21, 22, 24	SP		SAND (SP), dense, olive gray (5Y 5/2), dry, fine- to medium-grained sand, subangular	
	43.5-45							
45	45-47		2.1				Becomes greenish gray (GLEY 1 5GY 5/1)	
	47-48.5							
							(Same as above)	
	48.5-50							
50	50-51.5	X	1.2					

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Water not enountered during drilling.

Date Start/Finish: 01/11/06-01/11/06 **Drilling Company:** WDC Exploration **Driller's Name:** Miguel Alvarado **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Maher Zein **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B074 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	3.6	15 20 25	CL		CLAY (CL), very hard, black (5Y 2.5/1), dry	
5	5-6.5	X	81.8	19 20 25	ML		SILT (ML), very hard, dark olive gray (5Y 3/2), dry	
10	10-11.5	X	41.7	25 27 32			SILT (ML), very hard, olive gray (5Y 4/2), dry, trace gravel	
15	15-16.5	X	6.3	20 27 30	SM		Silty SAND (SM), very dense, olive (5Y 5/3), dry, fine-grained sand	
20	20-21.5	X	8.0	40 45 49	ML		Sandy SILT (ML), very hard, olive (5Y 5/3), dry, trace gravel	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		4.4	33 39 43	SM		Silty SAND (SM), very dense, dark greenish gray (GLEY 1 10Y 4/1), dry, medium- to coarse-grained sand, trace gravel	
30	30-31.5	X	3.6	39 51 55	ML		SILT (ML), very hard, olive brown (2.5Y 4/3), moist	
35	35-36.5		8.1	37 43 49			SILT (ML), very hard, olive (5Y 4/3), moist	
40	40-41.5	X	5.6	47 53 57	SM		Silty SAND (SM), very dense, olive (5Y 5/4), moist, fine-grained sand	
45	45-46.5		1.4	47 59 62			Silty SAND (SM), very dense, olive gray (5Y 5/2), dry, medium-grained sand	
50	50-51.5	X	3.4	35 40 49			(Same as above)	

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Water not enountered during drilling.

Date Start/Finish: 01/11/06-01/11/06 **Drilling Company:** WDC Exploration **Driller's Name:** Jorge Gutierrez **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Megan Smoley **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B075 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	2.5	6 8 10	CL		CLAY (CL), hard, dark brown (10YR 3/3), dry, little silt	
5	5-6.5	X	1.6	5 7 9			(Same as above)	
10	10-11.5	X	12.7	7 9 11	ML		SILT (ML), hard, olive brown (2.5Y 4/4), dry Hydrocarbon odor	
15	15-16.5	X	66.9	10 10 12	SM		Silty SAND (SM), medium dense, dark olive brown (2.5Y 3/3), fine-grained sand, strong hydrocarbon odor	
20	20-21.5	X	14.6	13 17 20			Silty SAND (SM), dense, olive gray (5Y 4/2), dry, fine- to medium-grained sand with trace coarse-grained sand, trace subangular gravel	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		65.2	5 10 15	ML		SILT (ML), hard, olive gray (5Y 4/2), dry, hydrocarbon odor, little clay	
30	30-31.5	X	14.8	12 14 16	CL		CLAY (CL), very hard, olive gray (5Y 4/2), dry, 10% silt	
35	35-36.5		22.8	15 17 21	SM		Silty SAND (SM), dense, light olive brown (2.5Y 5/4), dry, fine-grained sand	
40	40-41.5	X	5.9	14 25 50			(Same as above)	
45	45-46.5		2.6	17 21 27			Becomes olive gray (5Y 4/2)	
					SW		SAND (SW), dense, olive gray (5Y 5/2), dry, fine- to medium-grained sand with 20% coarse-grained sand, 10% fine gravel	
50	50-51.5	X	1.5	16 27 33	SM		Silty SAND (SM), dense, olive (5Y 5/3), dry, fine-grained sand	

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Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 12/22/05-12/22/05 **Drilling Company:** WDC Exploration **Driller's Name:** Miguel Alvarado **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Jeff Hebert **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B076 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	113.0	10 15 20	CL		CLAY (CL), very hard, greenish black (GLEY 1 10Y 2.5/1), moist	Borehole backfilled wth Neat Cement with 5% Bentonite
5	5-6.5	X	12.9	18 19 21			(Same as above)	
10	10-11.5	X	78.6	14 17 22			(Same as above)	
15	15-16.5	X	149.0	18 23 27	SP		SAND (SP), dense, dark greenish gray (GLEY 1 10Y 4/1), moist, fine-grained sand	
20	20-21.5	X	23.6	17 19 24			SAND (SP), very dense, bluish gray (GLEY 2 5B 5/1), moist, fine-grained sand	
25	25-26.5		0.0	19 29 31			(Same as above)	
30	30-31.5	X	43.2	21 25 30	CL		CLAY (CL), very hard, greenish black (GLEY 1 10Y 2.5/1), moist	
35	35-36.5		2.7	21 27 34	SP		SAND (SP), very dense, dark greenish gray (GLEY 1 10Y 4/1), moist, fine-grained sand	
40	40-41.5	X	106.0	32 36 38	CL		CLAY (CL), very hard, greenish black (GLEY 1 10Y 2.5/1), moist	
45	45-46.5		11.0	33 37 39	SM		Silty SAND (SM), very dense, dark greenish gray (GLEY 1 10Y 4/1), moist, fine-grained sand	
50	50-51.5	X	10.9	35 38 43			(Same as above)	

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Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 12/23/05-12/23/05 **Drilling Company:** WDC Exploration **Driller's Name:** Miguel Alvarado **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Maher Zein **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B077 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	20.3	12 17 18	ML		Clayey SILT (ML), very hard, black (5Y 2.5/1), dry	
5	5-6.5	X	4.7	13 17 19	CL		CLAY (CL), very hard, dark gray (5Y 4/1), dry	
10	10-11.5	X	12.2	17 19 21	ML		SILT (ML), with Clay, very hard, olive gray (5Y 4/2), dry	
15	15-16.5	X	13.0	20 25 28	SP		SAND (SP), very dense, greenish gray (GLEY 1 10Y 5/1), dry, fine-grained sand	
20	20-21.5	X	2.8	24 27 30			SAND (SP), very dense, dark greenish gray (GLEY 1 10Y 4/1), dry, medium-grained sand	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		7.5	25 30 35	CL		Silty CLAY (CL), very hard, dark greenish gray (GLEY 1 10Y 4/1), dry	
30	30-31.5	X	7.1	32 35 37	SP-SC		SAND with Clay (SP-SC), very dense, olive gray (5Y 4/2), dry, medium-grained sand	
35	35-36.5		15.7	33 37 40	SM		Silty SAND (SM), very dense, olive (5Y 4/3), dry, coarse-grained sand	
40	40-41.5	X	3.5	30 35 39	SP		SAND (SP), with Gravel, very dense, olive (5Y 4/3), dry, coarse-grained sand	
45	45-46.5		14.9	34 39 32	ML		SILT (ML), very hard, olive gray (5Y 4/2), dry	
50	50-51.5	X	10.3	37 42 46	SM		Silty SAND (SM), very dense, olive (5Y 5/3), dry, fine-grained sand	

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NM = Not Measured
Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 12/23/05-12/23/05 **Drilling Company:** WDC Exploration **Driller's Name:** Miguel Alvarado **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Maher Zein **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B078 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	2.8	12 12 13	ML		Sandy SILT (ML), hard, olive gray (5Y 4/2), dry, trace gravel	Borehole backfilled wth Neat Cement with 5% Bentonite
5	5-6.5	X	0.7	15 19 21			Sandy SILT (ML), very hard, olive gray (5Y 4/2), dry, trace gravel	
10	10-11.5	X	0.0	22 27 32			Clayey SILT (ML), very hard, dark olive brown (2.5Y 3/3), dry	
15	15-16.5	X	1.9	27 31 41			SILT (ML), with Clay, very hard, dark greenish gray (GLEY 1 10Y 4/1), dry	
20	20-21.5	X	0.4	33 37 42	SP		SAND (SP), very dense, dark greenish gray (GLEY 1 10Y 4/1), dry, medium-grained sand	
25	25-26.5		4.8	26 30 35			SAND (SP), very dense, dark greenish gray (GLEY 1 10Y 4/1), dry, coarse-grained sand	
30	30-31.5	X	1.6	33 40 42	CL		Silty CLAY (CL), very hard, olive gray (5Y 4/2), dry	
35	35-36.5		7.2	36 39 43	SP-SM		SAND with Silt (SP-SM), very dense, greenish gray (GLEY 1 10Y 5/1), dry, medium-grained sand	
40	40-41.5	X	3.5	39 44 47			(Same as above)	
45	45-46.5		0.0	40 45 47	SP		SAND (SP), very dense, greenish gray (GLEY 1 10Y 5/1), dry, coarse-grained sand, trace gravel	
50	50-51.5	X	5.2	38 44 47	SM		Silty SAND (SM), very dense, dark greenish gray (GLEY 1 10Y 4/1), dry, medium-grained sand	

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NM = Not Measured
Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 12/23/05-12/23/05 **Drilling Company:** WDC Exploration **Driller's Name:** Miguel Alvarado **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Maher Zein **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B079 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	2.6	12 15 18	CL		CLAY (CL), with Silt, very hard, dark olive gray (5Y 3/2), dry	
5	5-6.5	X	2.3	15 21 20			Clayey SILT (ML), very hard, black (5Y 2.5/1), dry	
10	10-11.5	X	1.2	21 26 29	ML		SILT (ML), with Clay, very hard, dark olive gray (5Y 3/2), dry	
15	15-16.5	X	0.0	27 30 31			SILT (ML), very hard, olive (5Y 4/3), dry	
20	20-21.5	X	0.0	24 27 30	SP		SAND (SP), very dense, olive gray (5Y 4/2), dry, medium-grained sand, trace gravel	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		5.3	33 34 36	SM		Silty SAND (SM), very dense, dark greenish gray (GLEY 1 10Y 4/1), dry, medium-grained	
30	30-31.5	X	0.6	29 31 36			SAND (SP), very dense, greenish gray (GLEY 1 10Y 5/1), dry, medium- to coarse-grained sand	
35	35-36.5		3.7	33 37 40	SP		SAND (SP), very dense, greenish gray (GLEY 1 10Y 5/1), dry, coarse-grained sand	
40	40-41.5	X	0.0	29 45 48			SAND (SP), very dense, dark greenish gray (GLEY 1 10Y 4/1), dry, medium-grained sand, trace gravel	
45	45-46.5		1.5	33 39 45			SAND (SP), very dense, dark greenish gray (GLEY 1 10Y 4/1), dry, medium-grained sand	
50	50-51.5	X	0.0	41 46 47	SM		Silty SAND (SM), very dense, dark gray (5Y 4/1), dry, fine-grained sand	

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Water not enountered during drilling.

Date Start/Finish: 12/22/05-12/22/05 **Drilling Company:** WDC Exploration **Driller's Name:** Javier Rios **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 LAR **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Veronique Lee **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B080 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	0.7	15 15 15	ML		SILT (ML), hard, grayish brown (2.5Y 5/2), dry, fine-grained sand	
5	5-6.5	X	0.5	8 12 15			Becomes dark grayish brown (2.5Y 4/2)	
10	10-11.5	X	0.0	20 25 35	CL		CLAY (CL), hard, dark yellowish brown (10YR 3/4), moist, trace fine-grained sand	
15	15-16.5	X	6.3	15 21 23	ML		SILT (ML), hard, dark greenish gray (GLEY 1 10Y 4/1), moist, 5% fine-grained sand	
20	20-21.5	X	13.9	20 20 40	SP		SAND (SP), very dense, greenish gray (GLEY 1 10Y 5/1), moist, fine- to medium-grained sand, 5% silt	Borehole backfilled with Neat Cement with 5% Bentonite
25	25-26.5		9.1	35 50	SW		SAND (SW), very dense, light greenish gray (GLEY 1 10Y 7/1), moist, fine- to coarse-grained sand, trace coarse-grained sand, trace silt	
30	30-31.5	X	0.0	33 35 38	SP		SAND (SP), very dense, greenish gray (GLEY 1 10Y 6/1), moist, fine-grained sand, trace silt	
35	35-36.5		1.2	45 50	SW		SAND (SW), very dense, greenish gray (GLEY 1 10Y 6/1), moist, fine- to coarse-grained sand, 10% gravel	
40	40-41.5	X	6.3	47 50			SAND (SW), very dense, greenish gray (GLEY 1 10Y 5/1), moist, fine- to coarse-grained sand, trace gravel	
45	45-46.5		0.0	45 50	SM		Silty SAND (SM), very dense, dark greenish gray (GLEY 1 10Y 4/1), moist, fine- to coarse-grained sand, 15% silt, 5% gravel	
50	50-51.5	X	7.9	32 45 50	SP		SAND (SP), very dense, very dark greenish gray (GLEY 1 5GY 4/1), moist, fine-grained sand, trace silt	
					ML		SILT (ML), hard, very dark greenish gray (GLEY 1 10Y 3/1), moist	

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Date Start/Finish: 12/22/05-12/22/05 **Drilling Company:** WDC Exploration **Driller's Name:** Javier Rios **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 LAR **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Veronique Lee **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B081 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	0.0	15 19 19	ML		SILT (ML), hard, dark olive gray (5Y 3/2), moist, 5% fine-grained sand	
5	5-6.5	X	0.0	10 25 33	ML		Becomes very dark greenish gray (GLEY 1 10Y 3/1) Becomes olive gray (5Y 5/2), increases to 10% fine-grained sand, cemented	
10	10-11.5	X	2.8	23 23 24 26	ML		SILT (ML), hard, dark yellowish brown (10YR 4/4), moist, 10% fine-grained sand	
15	15-16.5	X	1.8	23 31 32	SW-SM		SAND with Silt (SW-SM), very dense, dark greenish gray (GLEY 1 10Y 4/1), moist, fine- to coarse-grained sand, 10% silt	
20	20-21.5	X	1.2	18 20 22	SM		Silty SAND (SM), very dense, dark greenish gray (GLEY 1 5GY 4/1), moist, fine-grained sand, 15% silt	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		0.0	12 23 26	SP-SM		SAND with Silt (SP-SM), very dense, dark greenish gray (GLEY 1 10Y 4/1), moist, fine-grained sand, 10% silt	
30	30-31.5	X	0.0	21 24 26 30	ML		SILT (ML), hard, dark greenish gray (GLEY 1 10Y 4/1), moist, 20% fine-grained sand	
35	35-36.5		0.0	40 50	SM		Silty SAND (SM), very dense, dark greenish gray (GLEY 1 10Y 4/1), moist, fine-grained sand, 20% silt	
40	40-41.5	X	0.0	25 27 27 30	SP-SM		SAND with Silt (SP-SM), very dense, greenish gray (GLEY 1 10Y 5/1), moist, fine-grained sand, 10% silt	
					ML		SILT (ML), hard, very dark greenish gray (GLEY 1 10Y 3/1), moist	
45	45-46.5		0.0	48 50	SP		SAND (SP), very dense, greenish gray (GLEY 1 10Y 5/1), moist, fine-grained sand, trace silt	
50	50-51.5	X	0.0	45 50	SP		SAND (SP), very dense, greenish gray (GLEY 1 10Y 5/1), moist, fine-grained sand, 5% silt	

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Water not enountered during drilling.

Date Start/Finish: 12/23/05-12/23/05 **Drilling Company:** WDC Exploration **Driller's Name:** Gilbert Martinez **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 LAR **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Veronique Lee **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B082 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	0.0	8 15	ML		SILT (ML), hard, dark yellowish brown (10YR 3/6), moist, 10% fine-grained sand	
5	5-6.5	X	0.0	10 18 22	CL		CLAY (CL), hard, dark yellowish brown (10YR 3/4), moist, trace fine-grained sand	
10	10-11.5	X	0.0	17 22 30	ML		SILT (ML), hard, dark yellowish brown (10YR 4/4), moist, 20% fine-grained sand	
15	15-16.5	X	0.0	21 25 39	SM		Silty SAND (SM), very dense, yellowish brown (10YR 5/6), moist, fine-grained sand, 20% silt	
20	20-21.5	X	0.0	25 29 35	ML		SILT (ML), hard, olive gray (5Y 5/2), dry, 10% fine-grained sand, cemented	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		0.0	20 23 27	SP-SM		SAND with Silt (SP-SM), very dense, dark yellowish brown (10YR 4/6), moist, fine-grained sand, 10% silt	
30	30-31.5	X	0.0	23 30 36			(Same as above)	
					SP		SAND (SP), very dense, greenish gray (GLEY 1 10Y 6/1), moist, fine-grained sand, trace silt	
35	35-36.5		0.0	25 25 38			SAND (SP), very dense, greenish gray (GLEY 1 10Y 5/1), moist, fine- to medium-grained sand, 5% silt	
40	40-41.5	X	0.0	19 28 37			Becomes greenish gray (GLEY 1 5GY 6/1)	
45	45-46.5		0.0	22 28 30	SW		SAND (SW), very dense, greenish gray (GLEY 1 5GY 6/1), moist, fine- to coarse-grained sand, 5% silt, 10% gravel	
50	50-51.5	X	0.0	30 35 42	SP		SAND (SP), very dense, dark greenish gray (GLEY 1 10Y 4/1), moist, fine- to medium-grained sand, 5% silt	

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Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 01/04/06-01/04/06 **Drilling Company:** WDC Exploration **Driller's Name:** Gilbert Martinez **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 LAR **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Megan Smoley **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B083 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	0.0	19 27	CL		CLAY (CL), very hard, very dark grayish brown (2.5Y 3/2), dry, 30% silt	
5	5-6.5	X	0.7	18 23 29			(Same as above)	
10	10-11.5	X	0.0	20 25 28	ML		SILT (ML), very hard, olive gray (5Y 4/2), dry, little clay	
15	15-16.5	X	0.5	18 24 27	SM		Silty SAND (SM), very dense, dark greenish gray (GLEY 1 5GY 4/1), dry, fine-grained sand	
20	20-21.5	X	0.0	24 27 31	SP-SM		SAND with Silt (SP-SM), very dense, dark greenish gray (GLEY 1 5GY 4/1), dry, fine-grained sand with trace medium-grained sand	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		0.0	21 23 29	SW		SAND (SW), dense, dark greenish gray (GLEY 1 5GY 4/1), dry, fine-grained with 10% medium-grained, 15% fine to coarse subangular gravel	
30	30-31.5	X	0.2	22 27 32	CL		CLAY (CL), very hard, dark greenish gray (GLEY 1 5GY 4/1), dry, little sand and fine gravel	
35	35-36.5		0.6	23 23 30	SW		SAND (SW), very dense, dark greenish gray (GLEY 1 5GY 4/1), dry, fine-grained sand with trace medium-grained sand, little fine subrounded gravel	
40	40-41.5	X	0.4	27 35 43	SC		Clayey SAND (SC), very dense, dark greenish gray (GLEY 1 5GY 4/1), fine-grained sand	
45	45-46.5		0.0	23 25 32			(Same as above), fine to coarse subrounded gravel	
50	50-51.5	X	0.4	26 33 34	SM		Silty SAND (SM), very dense, dark greenish gray (GLEY 1 5GY 4/1), dry, fine-grained sand	

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Water not enountered during drilling.

Date Start/Finish: 01/05/06-01/05/06 **Drilling Company:** WDC Exploration **Driller's Name:** Rubin Lares **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Maher Zein **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B084 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	1.9	7 11 12	ML		SILT (ML), hard, black (10YR 2/1), moist, trace gravel	
5	5-6.5	X	2.7	12 13 15	CL		Silty CLAY (CL), hard, very dark grayish brown (10YR 3/2), moist	
10	10-11.5	X	3.2	18 20 21	ML		SILT (ML), very hard, brown (10YR 4/3), dry	
15	15-16.5	X	3.2	23 24 27			SILT (ML), with Gravel, very hard, dark grayish brown (10YR 4/2), dry	
20	20-21.5	X	3.7	21 24 29	SP		SAND (SP), very dense, olive gray (5Y 5/2), dry, medium-grained sand	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		0.3	25 30 35			SAND (SP), very dense, light olive brown (2.5Y 5/4), moist, coarse-grained sand	
30	30-31.5	X	1.1	20 25 30	SM		Silty SAND (SM), very dense, dark yellowish brown (10YR 4/4), dry, coarse-grained sand	
35	35-36.5		0.8	25 28 30	SW		SAND (SP), very dense, greenish gray (GLEY 1 10Y 5/1), dry, few gravel	
40	40-41.5	X	2.6	25 34 43			(Same as above)	
45	45-46.5		4.0	36 38 43	SP		SAND (SP), very dense, greenish gray (GLEY 1 10Y 5/1), dry, coarse-grained sand, trace gravel	
50	50-51.5	X	5.6	43 45 50	SM		Silty SAND (SM), very dense, dark greenish gray (GLEY 1 10Y 4/1), dry, coarse-grained sand, trace gravel	

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Water not enountered during drilling.

Date Start/Finish: 12/28/05-12/28/05 **Drilling Company:** WDC Exploration **Driller's Name:** Miguel Alvarado **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Maher Zein **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B085 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	1.0	10 15 20	ML		Clayey SILT (ML), very hard, brown (10YR 4/3), dry	
5	5-6.5	X	1.1	16 18 21			SILT (ML), very hard, dark yellowish brown (10YR 4/4), moist	
10	10-11.5	X	1.2	19 20 24	CL		Silty CLAY (CL), very hard, dark grayish brown (10YR 4/2), dry	
15	15-16.5	X	1.4	20 23 24	SM		Silty SAND (SM), dense, dark greenish gray (GLEY 1 10Y 4/1), dry, medium-grained sand	
20	20-21.5	X	0.5	19 23 25	SP		SAND (SP), dense, greenish gray (GLEY 1 10Y 5/1), dry, medium- to coarse-grained sand, trace clay	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		1.5	24 27 29	ML		Clayey SILT (ML), very hard, greenish gray (GLEY 1 10Y 5/1), dry	
30	30-31.5	X	0.7	25 28 30			SILT (ML), with Clay, very hard, olive brown (2.5Y 4/3), moist	
35	35-36.5		0.8	28 32 34 36	SP-SM		SAND with Silt (SP-SM), very dense, greenish gray (GLEY 1 10Y 5/1), dry, medium- to coarse-grained sand	
40	40-41.5	X	2.5	33 34 39	SP		SAND (SP), very dense, greenish gray (GLEY 1 10Y 5/1), medium-grained sand, trace coarse-grained sand	
45	45-46.5		6.1	30 35 40	SP-SM		SAND with Silt (SP-SM), very dense, greenish gray (GLEY 1 10Y 5/1), dry, medium-grained sand	
50	50-51.5	X	3.9	31 39 41	ML		SILT (ML), very hard, dark greenish gray (GLEY 1 10Y 4/1), moist	

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Water not enountered during drilling.

Date Start/Finish: 01/11/06-01/11/06 **Drilling Company:** WDC Exploration **Driller's Name:** Jorge Gutierrez **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Megan Smoley **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B086 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	0.0	6 8 8	CL		Silty CLAY (CL), hard, dark yellowish brown (10YR 3/4), dry	
5	5-6.5	X	0.6	10 16 20			Silty CLAY (CL), very hard, dark yellowish brown (10YR 3/4), moist	
10	10-11.5	X	0.6	5 7 12	ML		SILT (ML), hard, dark olive gray (5Y 3/2), dry	
15	15-16.5	X	0.5	12 18 20	SP		SAND (SP), dense, dark gray (5Y 4/1), dry, fine- to medium-grained sand	
20	20-21.5	X	0.0	11 16 19	SP-SM		SAND with Silt (SP-SM), dense, dark greenish gray (GLEY 1 5GY 4/1), dry, medium-grained sand with 25% fine-grained sand, 10% silt	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		0.0	15 20 20	SM		Silty SAND (SM), dense, dark greenish gray (GLEY 1 5GY 4/1), dry, fine- to medium-grained sand with 5% coarse-grained sand, subangular, 10% clay	
30	30-31.5	X	0.0	9 11 13	ML		Clayey SILT (ML), hard, dark olive gray (5Y 3/2), dry	
35	35-36.5		0.0	20 25 30	SM		Silty SAND (SM), very dense, olive gray (5Y 4/2), dry, fine- to medium-grained sand with 20% coarse-grained sand, subangular, trace gravel	
40	40-41.5	X	0.4	18 23 28			(Same as above)	
45	45-46.5		0.3	20 25 30			Silty SAND (SM), very dense, olive gray (5Y 5/2), dry, fine-grained sand	
50	50-51.5	X	0.7	23 25 30			(Same as above)	

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Remarks: bgs = below ground surface; NA = Not Applicable/Available
NM = Not Measured
Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 01/11/06-01/11/06 **Drilling Company:** WDC Exploration **Driller's Name:** Miguel Alvarado **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Maher Zein **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B087 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	0.3	22 24 27	CL		CLAY (CL), very hard, dark brown (10YR 3/3), dry, few gravel	
5	5-6.5	X	0.7	15 20 25	ML		SILT (ML), with Clay, very hard, dark brown (10YR 3/3), dry	
10	10-11.5	X	2.0	26 27 31 30	ML		SILT (ML), very hard, dark greenish gray (GLEY 1 10Y 4/1), dry, few gravel	
15	15-16.5	X	1.3	28 33 35 37	ML		Sandy SILT (ML), very hard, dark greenish gray (GLEY 1 10Y 4/1), dry	
20	20-21.5	X	1.0	29 33 35 37	SP-SM		SAND with Silt (SP-SM), very dense, greenish gray (GLEY 1 10Y 5/1), moist, medium- to coarse-grained sand	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		3.3	29 30 30 35	SP		SAND (SP), very dense, greenish gray (GLEY 1 10Y 5/1), moist, coarse-grained sand	
30	30-31.5	X	2.2	30 34 34 39	ML		SILT (ML), with Clay, very hard, olive (5Y 4/3), moist	
35	35-36.5		3.2	37 40 40 45	ML		SILT (ML), very hard, olive (5Y 4/3), moist	
40	40-41.5	X	0.7	43 47 47 49	ML		SILT (ML), with Sand, very hard, olive gray (5Y 4/2), moist	
45	45-46.5		0.8	39 40 40 46	SM		Silty SAND (SM), very dense, olive gray (5Y 5/2), moist, medium-grained sand	
50	50-51.5	X	0.3	40 49 49 55	ML		SILT (ML), with Sand, very hard, olive gray (5Y 5/2), moist	

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NM = Not Measured
Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 01/18/06-01/18/06 **Drilling Company:** WDC Exploration **Driller's Name:** Eddie Herrera **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 LAR **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Megan Smoley **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B088 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	0.0	12 13 15	CL		Silty CLAY (CL), hard, very dark grayish brown (2.5Y 3/2), dry	
5	5-6.5	X	0.1	13 16 19			Clayey SILT (ML), very hard, very dark grayish brown (2.5Y 3/2), dry	
10	10-11.5	X	0.2	19 25 29	ML		SILT (ML), very hard, olive gray (5Y 4/2), dry, with clay	
15	15-16.5	X	0.5	23 28 30			(Same as above)	
20	20-21.5	X	0.0	25 27 30	SW		SAND (SW), very dense, gray (5Y 5/1), dry, fine- to medium-grained sand with 25% coarse-grained sand, subangular	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		0.6	29 29 35	CL		CLAY (CL), very hard, dark yellowish brown (10YR 4/4), dry	
30	30-31.5	X	0.4	25 27 34			Silty CLAY (CL), very hard, olive brown (2.5Y 4/4), dry	
35	35-36.5		2.5	19 21 26	ML		Clayey SILT (ML), very hard, olive gray (5Y 4/2), dry	
40	40-41.5	X	0.0	25 35 40	SM		Silty SAND (SM), very dense, olive (5Y 5/3), dry, fine-grained sand	
45	45-46.5		0.1	19 28 31	SP-SM		SAND with Silt (SP-SM), very desne, olive (5Y 5/3), dry, fine- to medium-grained sand	
50	50-51.5	X	0.0	24 27 32	SP		SAND (SP), very dense, olive (5Y 4/3), dry, medium-grained sand with trace coarse-grained sand	

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Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 01/09/06-01/09/06 **Drilling Company:** WDC Exploration **Driller's Name:** Miguel Alvarado **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Maher Zein **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B089 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	11.7	14 15 17	CL		CLAY (CL), very hard, very dark greenish gray (GLEY 1 10Y 3/1), moist	
5	5-6.5	X	36.0	18 20 22	ML		SILT (ML), with Clay, very hard, olive brown (2.5Y 4/3), dry	
10	10-11.5	X	10.1	15 20 22 25	CL		CLAY (CL), with Silt, very hard, olive brown (2.5Y 4/3), moist	
15	15-16.5	X	5.7	28 28 30 34	ML		SILT (ML), very hard, dark greenish gray (GLEY 1 10Y 4/1), moist	
20	20-21.5	X	4.3	27 30 32 35	SW		SAND (SW), very dense, greenish gray (GLEY 1 10Y 5/1), dry	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		4.0	20 25 25 28	CL		Silty CLAY (CL), very hard, dark brown (7.5YR 3/4), dry	
30	30-31.5	X	4.2	25 28 28 31	ML		Clayey SILT (ML), very hard, brown (7.5YR 4/3), dry	
35	35-36.5		20.0	36 40 40 42	ML		SILT (ML), very hard, dark greenish gray (GLEY 1 10Y 4/1), moist	
40	40-41.5	X	4.9	39 45 48 49	ML		(Same as above)	
45	45-46.5		4.1	30 31 31 36	SM		Silty SAND (SM), very dense, olive gray (5Y 5/2), dry, medium-grained sand	
50	50-51.5	X	0.8	47 47 47 50	SP		SAND (SP), very dense, olive (5Y 5/3), dry, medium-grained sand	

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Water not enountered during drilling.

Date Start/Finish: 01/10/06-01/10/06 **Drilling Company:** WDC Exploration **Driller's Name:** Miguel Alvarado **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Maher Zein **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B090 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	0.3	20 25 30	CL		CLAY (CL), with Sand, very hard, very dark grayish brown (2.5Y 3/2), dry, trace gravel	
5	5-6.5	X	0.5	18 20 25	ML		SILT (ML), very hard, dark yellowish brown (10YR 3/4), dry	
10	10-11.5	X	0.5	28 30 32			SILT (ML), with Clay, very hard, olive (5Y 5/3), moist	
15	15-16.5	X	0.5	29 35 40	SW		SAND (SW), very dense, greenish gray (GLEY 1 10Y 5/1), dry, trace gravel	
20	20-21.5	X	5.5	33 36 39	SP		SAND (SP), very dense, dark greenish gray (GLEY 1 10Y 4/1), dry, medium- to coarse-grained sand, trace gravel	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		1.0	27 40 43			SAND (SP), very dense, dark greenish gray (GLEY 1 10Y 4/1), moist, coarse-grained sand	
30	30-31.5	X	2.0	35 40 45	ML		SILT (ML), very hard, olive brown (7.5YR 4/4), moist	
35	35-36.5		1.6	39 45 50	SM		Silty SAND (SM), very dense, olive (5Y 5/3), dry, medium-grained sand	
40	40-41.5	X	4.7	48 52 55			SILT (ML), very hard, olive (5Y 5/3), moist	
45	45-46.5		3.3	43 52 56	ML		SILT (ML), with Sand, very hard, olive (5Y 5/3), moist	
50	50-51.5	X	3.6	35 52 55			(Same as above)	

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Water not enountered during drilling.

Date Start/Finish: 01/10/06-01/10/06 **Drilling Company:** WDC Exploration **Driller's Name:** Miguel Alvarado **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Maher Zein **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B091 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	1.2	9 14 19	ML		SILT (ML), very hard, dark brown (7.5YR 3/3), moist	Borehole backfilled wth Neat Cement with 5% Bentonite
5	5-6.5	X	1.0	16 20 25			SILT (ML), with Clay, very hard, brown (7.5YR 4/3), dry	
10	10-11.5	X	1.0	18 20 23			SILT (ML), very hard, olive (5Y 4/3), dry, trace gravel	
15	15-16.5	X	0.9	19 23 27	SM		Silty SAND (SM), dense, olive (5Y 5/3), moist, medium- to coarse-grained sand	
20	20-21.5	X	0.8	25 28 32			Silty SAND (SM), very dense, dark greenish gray (GLEY 1 10Y 4/1), dry, medium- to coarse-grained sand	
25	25-26.5		1.0	28 34 38	SW		SAND (SW), very dense, greenish gray (GLEY 1 10Y 5/1), moist	
30	30-31.5	X	1.1	29 33 39	ML		SILT (ML), very hard, olive brown (2.5Y 4/4), dry	
35	35-36.5		5.5	27 30 42			SILT (ML), very hard, olive (5Y 5/3), moist	
40	40-41.5	X	2.0	43 49 50			Becomes dry	
45	45-46.5		2.0	45 50 55	SM		Silty SAND (SM), very dense, olive gray (5Y 5/2), dry, medium-grained sand	
50	50-51.5	X	6.1	50 55 60			Becomes olive (5Y 5/3)	

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Water not enountered during drilling.

Date Start/Finish: 01/05/06-01/05/06 **Drilling Company:** WDC Exploration **Driller's Name:** Rubin Lares **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Maher Zein **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B092 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description
	2-3.5	X	4.0	5 11 12	ML		SILT (ML), hard, very dark gray (5Y 3/1), dry, with clay
5	5-6.5	X	2.0	15 19 21			Becomes dark olive gray (5Y 3/2)
10	10-11.5	X	1.3	21 25 28			SILT (ML), very hard, olive gray (5Y 5/2), moist
15	15-16.5	X	2.4	19 25 29	SP		SAND (SP), very dense, pale olive (5Y 6/3), dry, medium- to coarse-grained sand
20	20-21.5	X	2.5	25 28 30			Becomes medium-grained sand, trace gravel
25	25-26.5		1.4	25 28 29			SAND (SP), very dense, olive gray (5Y 5/2), dry, medium- to coarse-grained sand
30	30-31.5	X	1.3	25 30 35	SW		SAND (SW), very dense, pale olive (5Y 6/3), dry
					SP		SAND (SP), very dense, olive (5Y 5/3), dry, coarse-grained sand, trace gravel
35	35-36.5		1.9	27 29 33	CL		CLAY (CL), olive (5Y 4/3)
40	40-41.5	X	1.1	19 23 28	SP		SAND (SP), very dense, greenish gray (GLEY 1 10Y 5/1), moist, coarse-grained sand
45	45-46.5		2.8	12 17 20			Becomes dense, medium-grained sand
50	50-51.5	X	3.1	35 38 42	SW		SAND (SW), very dense, greenish gray (GLEY 1 10Y 5/1), dry

Well/Boring Construction

Borehole backfilled wth Neat Cement with 5% Bentonite

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Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 01/05/06-01/05/06 **Drilling Company:** WDC Exploration **Driller's Name:** Rubin Lares **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Maher Zein **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B093 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	12.3	7 8 10	ML		SILT (ML), with Clay, hard, very dark gray (5Y 3/1), dry, trace gravel	Borehole backfilled wth Neat Cement with 5% Bentonite
5	5-6.5	X	3.3	11 17 20			SILT (ML), very hard, very dark gray (5Y 3/1), dry, trace gravel	
10	10-11.5	X	0.2	19 20 24			SILT (ML), very hard, brown (10YR 4/3), moist	
15	15-16.5	X	1.0	20 22 23	SP-SM		SAND with Silt (SP-SM), very dense, light olive brown (2.5Y 5/3), dry, medium-grained sand	
20	20-21.5	X	1.1	25 27 30	SP		SAND (SP), very dense, light olive brown (2.5Y 5/3), dry, medium-grained sand	
25	25-26.5		0.7	25 27 30			Becomes greenish gray (GLEY 1 10Y 5/1), moist	
30	30-31.5	X	3.0	27 30 33	ML		SILT (ML), very hard, olive gray (5Y 5/2), moist	
35	35-36.5		1.6	30 33 36			Sandy SILT (ML), very hard, olive gray (5Y 4/2), dry, some gravel	
40	40-41.5	X	0.9	33 37 39	SW		SAND (SW), very dense, gray (5Y 5/1), dry	
45	45-46.5		1.8	39 42 46	SP		SAND (SP), very dense, greenish gray (GLEY 1 10Y 5/1), moist, coarse-grained sand, trace gravel	
50	50-51.5	X	2.0	30 35 40	SW		SAND (SW), very dense, dark greenish gray (GLEY 1 10Y 4/1), dry	

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Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 01/05/06-01/05/06 **Drilling Company:** WDC Exploration **Driller's Name:** Gilbert Martinez **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 LAR **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Megan Smoley **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B094 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	0.0	12 13 15			CLAY (CL), very hard, very dark grayish brown (2.5Y 3/2), moist	
5	5-6.5	X	0.1	13 16 19	CL		Silty CLAY (CL), very hard, very dark grayish brown (2.5Y 3/2), dry	
10	10-11.5	X	0.2	19 25 25 28			(Same as above)	
15	15-16.5	X	0.5	23 28 28 30	SM		Silty SAND (SM), dense, olive gray (5Y 4/2), dry, fine-grained sand	
20	20-21.5	X	0.0	25 25 25 30			Silty SAND (SM), very dense, olive gray (5Y 4/2), medium-grained sand, 15% gravel	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		0.6	29 29 29 35	SC		Clayey SAND (SC), very dense, olive gray (5Y 4/2), dry, fine-grained sand with 5% medium-grained sand, 5% fine subangular gravel	
30	30-31.5	X	0.4	25 29 27 34	SM		Silty SAND (SM), very dense, dark olive gray (5Y 3/2), dry, very fine-grained sand, presence of mica Becomes coarser-grained	
35	35-36.5		2.5	19 21 21 25			Clayey SAND (SC), very dense, dark gray (5Y 4/1), dry, fine-grained sand	
40	40-41.5	X	0.0	25 35 35 40	SC		Clayey SAND (SC), very dense, olive gray (5Y 4/2), dry, fine-grained sand, with fine gravel	
45	45-46.5		0.1	19 28 28 31			Becomes dark greenish gray (GLEY 1 5GY 4/1)	
50	50-51.5	X	0.0	24 27 27 32	SM		Silty SAND (SM), very dense, dark greenish gray (GLEY 1 5GY 4/1), fine-grained sand, 5% fine to coarse subangular gravel	

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Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 01/04/06-01/04/06 **Drilling Company:** WDC Exploration **Driller's Name:** Miguel Alvarado **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Maher Zein **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B095 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	0.0	7 11 12	CL		Silty CLAY (CL), hard, dark grayish brown (10YR 4/2), moist, trace gravel	
5	5-6.5	X	0.0	13 21 27	ML		SILT (ML), very hard, light olive brown (2.5Y 5/3), dry	
10	10-11.5	X	0.5	19 23 25	SP		SAND (SP), dense, dark greenish gray (GLEY 1 10Y 4/1), dry, medium-grained sand	
15	15-16.5	X	0.0	21 23 27	ML		SILT (ML), very hard, greenish gray (GLEY 1 10Y 5/1), dry	
20	20-21.5	X	0.0	27 29 31	SP		SAND (SP), very dense, greenish gray (GLEY 1 10Y 5/1), dry, coarse-grained sand	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		0.0	23 24 30			(Same as above)	
30	30-31.5	X	1.0	29 29 34	SM		Silty SAND (SM), very dense, dark greenish gray (GLEY 1 10Y 4/1), dry, medium- to coarse-grained sand	
35	35-36.5		23.3	33 36 38	SW		SAND (SW), very dense, greenish gray (GLEY 1 10Y 5/1), dry	
40	40-41.5	X	118.0	37 40 43			(Same as above)	
45	45-46.5		161.0	30 35 39	SP-SM		SAND with Silt (SP-SM), very dense, greenish gray (GLEY 1 10Y 5/1), dry, medium-grained	
50	50-51.5	X	5.0	35 40 45			SAND with Silt (SP-SM), very dense, greenish gray (GLEY 1 10Y 5/1), dry, medium-grained, trace gravel	

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NM = Not Measured
Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 12/28/05-12/28/05 **Drilling Company:** WDC Exploration **Driller's Name:** Rubin Lares **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Megan Smoley **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B096 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	2.2	8 16 16	ML		Clayey SILT (ML), very hard, very dark grayish brown (2.5Y 3/2), dry	
5	5-6.5	X	2.7	8 11 26	ML		Clayey SILT (ML), very hard, (2.5Y 4/3), dry	
10	10-11.5	X	4.0	16 19 21	SW		SAND (SW), dense, very dark gray (2.5Y 3/1), dry, medium-grained sand with 25% coarse-grained sand, subrounded	
15	15-16.5	X	2.3	20 33 45	SW		(Same as above)	
20	20-21.5	X	2.4	18 36 50	SP		SAND (SP), very dense, olive gray (5Y 4/2), medium-grained sand with 15% coarse-grained sand, subangular, 5-10% silt	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		2.6	20 26 42	SP		SAND (SP), very dense, olive gray (5Y 4/2), medium-grained sand with 15% coarse-grained sand, subangular, 5-10% silt, 5% medium to coarse gravel	
30	30-31.5	X	2.9	38 35 45 50	SP-SM		SAND with Silt (SP-SM), very dense, dark olive gray (5Y 3/2), dry, medium-grained sand with 15% coarse-grained sand, subangular	
35	35-36.5		2.6	29 38 50	SP-SM		SAND with Silt (SP-SM), very dense, dark olive gray (5Y 3/2), dry, medium-grained sand with 15% coarse-grained sand, subangular, 15% fine to medium subrounded gravel	
40	40-41.5	X	2.4	30 39 47	SM		Silty SAND (SM), very dense, dark gray (5Y 4/1), dry, fine-grained sand	
45	45-46.5		2.2	29 35 45	SM		Silty SAND (SM), very dense, dark gray (5Y 4/1), dry, fine-grained sand, 5-10% fine subrounded gravel	
50	50-51.5	X	2.3	30 35 44	SM		(Same as above)	

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Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 01/05/06-01/05/06 **Drilling Company:** WDC Exploration **Driller's Name:** Gilbert Martinez **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 LAR **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Megan Smoley **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B097 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-4	X	0.5	20, 21, 25	CL		Silty CLAY (CL), very hard, dark brown (10YR 3/3), dry	
	4-5			36, 16				
5	5-7	X	0.0	20, 19, 20				
	7-8.5			27, 32, 23, 23	ML		Clayey SILT (ML), very hard, dark brown (10YR 3/3), dry	
	8.5-10			30, 19, 24	SM		Silty SAND (SM), very dense, dark yellowish brown (10YR 4/4), dry, fine-grained sand	
10	10-12	X	0.0	27, 22, 22				
	12-13.5			30, 34	SC		Clayey SAND (SC), very dense, dark yellowish brown (10YR 3/6), dry, fine-grained sand	Borehole backfilled wth Neat Cement with 5% Bentonite
	13.5-15			18, 25, 28, 19	SM		Silty SAND (SM), very dense, yellowish brown (10YR 5/4), dry, fine-grained sand with 5% medium-grained sand Silty SAND (SM), very dense, brown (10 YR 5/3), dry, fine-grained sand	
15	15-17	X	0.0	21, 26, 20, 23				
	17-18.5			27, 31, 21	SP		SAND (SP), very dense, light olive brown (2.5Y 5/3), dry, fine-grained sand with 10% medium-grained sand, 5% silt	
	18.5-20			25, 30, 20	SM		Silty SAND (SM), dense, light olive brown (2.5Y 5/3), dry, fine-grained sand	
20	20-22	X	0.0	23, 27, 23, 27	SP SM		SAND (SP), very dense, light olive brown (2.5Y 5/3), dry, fine-grained sand with 10% medium-grained sand, 5% silt Silty SAND (SM), very dense, light olive brown (2.5Y 5/3), dry, fine-grained sand	
	22-23.5			30, 36, 20	SW		SAND (SW), very dense, light olive brown (2.5Y 5/3), dry, fine- to coarse-grained sand with 25% coarse-grained sand, few fine to coarse subrounded gravel	
	23.5-25			29, 30, 23				
25	25-27		0.0	27, 33, 27				

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Date Start/Finish: 01/05/06-01/05/06 **Drilling Company:** WDC Exploration **Driller's Name:** Gilbert Martinez **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 LAR **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Megan Smoley **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B097 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
				28				
	27-28.5			30 23 30 32	SP		SAND (SP), very dense, olive gray (5Y 4/2), dry, fine-grained sand with 15% medium-grained sand, 5% silt, and 5% fine to coarse subangular gravel	
	28.5-30			20 30	SM		Silty SAND (SM), very dense, olive (5Y 4/3), dry, fine-grained sand, presence of mica	
30	30-32	X	0.0	36 26 30	SC		Clayey SAND (SC), very dense, olive gray (5Y 4/2), dry, fine-grained sand with 10% medium-grained sand	
	32-33.5			35 42 27	SP		SAND (SP), very dense, gray (5Y 5/1), dry, fine-grained sand with trace medium-grained sand	
				32 35	SM		Silty SAND (SM), very dense, greenish gray (GLEY 1 5GY 5/1), dry, fine- to medium-grained sand, few fine to coarse subangular gravel	
	33.5-35			23 29	SW		SAND (SW), very dense, greenish gray (GLEY 1 5GY 5/1), dry, fine-grained sand with 10% medium- to coarse-grained sand, few fine to coarse subangular gravel	
35	35-37		0.0	32 37 29	ML		Clayey SILT (ML), very hard, olive (5Y 4/3), dry	Borehole backfilled wth Neat Cement with 5% Bentonite
	37-38.5			32 36 20 26	SM		Silty SAND (SM), very dense, dark greenish gray (GLEY 1 5GY 4/1), dry, fine- to medium-grained sand, 5% fine to coarse subangular gravel	
	38.5-40			32 23 30 34				
40	40-42	X	0.0	30 34 39			Silty SAND (SM), very dense, dark greenish gray (GLEY 1 5GY 4/1), dry, fine-grained sand	
	42-43.5			45 29 36			(Same as above)	
	43.5-45			38 28 38	SM			
45	45-47		0.0	40 26 30				
	47-48.5			36 42 30			Silty SAND (SM), very dense, dark greenish gray (GLEY 1 5GY 4/1), fine-grained sand with 10% medium- to coarse-grained, 5% fine gravel	
	48.5-50			33 40 23 30 42			Silty SAND (SM), very dense, greenish gray (GLEY 1 5GY 5/1), dry, fine-grained sand with 10% medium- to coarse-grained, 15% fine to coarse gravel Silty SAND (SM), very dense, dark greenish gray (GLEY 1 5GY 4/1), dry, fine-grained sand	
50	50-51.5	X	0.0	30 45 50				

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Date Start/Finish: 01/04/06-01/04/06 **Drilling Company:** WDC Exploration **Driller's Name:** Gilbert Martinez **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 LAR **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Megan Smoley **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B098 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	14.7	17 21	ML		Clayey SILT (ML), very hard, black (2.5Y 2.5/1), dry, hydrocarbon odor	
5	5-6.5	X	1.6	20 21 24	CL		Silty CLAY (CL), very hard, dark olive brown (2.5Y, 3/3), dry	
10	10-11.5	X	1.5	18 20 27	ML		Clayey SILT (ML), very hard, dark olive gray (5Y 3/2), dry	
15	15-16.5	X	2.1	23 28 32	SC		Clayey SAND (SC), very dense, dark olive gray (5Y 3/2), dry, fine-grained sand	
20	20-21.5	X	0.2	21 24 24	SM		Silty SAND (SM), dense, dark gray (5Y 4/1), dry, fine-grained sand	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		1.7	18 23 27			Silty SAND (SM), very dense, dark gray (5Y 4/1), dry, fine-grained sand with 25% medium-grained sand, 15% clay	
30	30-31.5	X	1.9	26 25 33	ML		Clayey SILT (ML), very hard, dark greenish gray (GLEY 1 5GY 4/1), dry	
35	35-36.5		2.6	23 28 34	SW		SAND (SW), very dense, dark greenish gray (GLEY 1 5GY 4/1), dry, fine- to coarse-grained sand, subrounded, 20% gravel	
40	40-41.5	X	2.9	25 34 38			SAND (SW), very dense, dark greenish gray (GLEY 1 5GY 4/1), dry, fine- to medium-grained sand, subrounded, 20% gravel	
45	45-46.5		2.5	24 30 32	SC		Clayey SAND (SC), very dense, dark greenish gray (GLEY 1 5GY 4/1), dry, fine- to medium-grained sand	
50	50-51.5	X	1.8	26 35 48			Clayey SAND (SC), very dense, dark greenish gray (GLEY 1 5GY 4/1), dry, fine-grained with 10% medium-grained, 15% clay	

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Date Start/Finish: 01/03/06-01/03/06 **Drilling Company:** WDC Exploration **Driller's Name:** Gilbert Martinez **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 LAR **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Megan Smoley **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B099 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	0.0	8 15	SM		Silty SAND (SM), medium dense, dark olive brown (2.5Y 3/3), dry, fine-grained sand	
					CL		CLAY (CL), hard, dark olive brown (2.5Y 3/3), moist	
5	5-6.5	X	0.0	12 16 21	ML		Clayey SILT (ML), very hard, olive brown (2.5Y 4/3), dry	
10	10-11.5	X	0.0	16 20 26			(Same as above)	
15	15-16.5	X	0.0	19 25 32	SM		Silty SAND (SM), very dense, olive gray (5Y 4/2), dry, fine-grained sand	
20	20-21.5	X	0.0	20 21 35			(Same as above)	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		0.0	20 20 26	SW		SAND (SW), dense, olive gray (5Y 4/2), dry, medium-grained with 20% coarse-grained, subangular, 10% gravel	
30	30-31.5	X	0.0	23 30 36	SC		Clayey SAND (SC), very dense, dark olive gray (5Y 3/2), dry, fine-grained sand	
35	35-36.5		0.0	20 28 32			Clayey SAND (SC), very dense, dark greenish gray (GLEY 1 5GY 4/1), dry, medium- to coarse-grained, subrounded, 15% gravel	
40	40-41.5	X	0.0	25 36 39 47			(Same as above)	
45	45-46.5		0.0	21 31 37			Clayey SAND (SC), very dense, dark greenish gray (GLEY 1 5GY 4/1), dry, fine-grained sand	
50	50-51.5	X	0.0	29 35 41			Becomes greenish gray (GLEY 1 5GY 5/1)	

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Water not enountered during drilling.

Date Start/Finish: 01/10/06-01/10/06 **Drilling Company:** WDC Exploration **Driller's Name:** Gilbert Martinez **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 LAR **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Megan Smoley **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B100 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	1.4	18 20	CL		CLAY (CL), very hard, very dark grayish brown (2.5Y 3/2), moist	Borehole backfilled wth Neat Cement with 5% Bentonite
5	5-6.5	X	0.9	18 23 23			Silty CLAY very hard, dark olive brown (2.5Y 3/3), moist, 5% fine gravel	
10	10-11.5	X	1.5	20 24 28	ML		SILT (ML), very hard, olive gray (5Y 4/2), dry	
15	15-16.5	X	1.8	19 23 27	SM		Silty SAND (SM), very dense, greenish gray (GLEY 1 5GY 5/1), dry, fine-grained sand	
20	20-21.5	X	1.0	23 29 31			Silty SAND (SM), very dense, greenish gray (GLEY 1 5GY 5/1), dry, fine-grained sand, trace fine to coarse subrounded gravel	
25	25-26.5		0.9	25 28 33			Silty SAND (SM), very dense, dark greenish gray (GLEY 1 5GY 4/1), dry, fine- to medium-grained sand	
30	30-31.5	X	2.2	30 36 39			Silty SAND (SM), very dense, dark greenish gray (GLEY 1 5GY 4/1), dry, fine- to medium-grained sand, 10% clay	
35	35-36.5		0.6	23 29 33	ML		Clayey SILT (ML), very hard, dark yellowish brown (10YR 4/4), dry	
40	40-41.5	X	1.0	32 40 42	SP		SAND (SP), very dense, olive gray (5Y 4/2), dry, fine- to medium-grained sand with 5% coarse-grained sand	
45	45-46.5		1.1	28 30 35	SC		Clayey SAND (SC), very dense, dark greenish gray (GLEY 1 5GY 4/1), dry, fine- to medium-grained sand with 5% coarse-grained sand	
50	50-51.5	X	1.0	35 40 45	SM		Silty SAND (SM), very dense, dark greenish gray (GLEY 1 5GY 4/1), dry, micaceous	

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Date Start/Finish: 01/10/06-01/10/06 **Drilling Company:** WDC Exploration **Driller's Name:** Miguel Alvarado **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Maher Zein **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B101 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	0.7	7 11 18	ML		Clayey SILT (ML), hard, brown (7.5YR 4/4), dry	
5	5-6.5	X	0.6	17 18 22	CL		CLAY (CL), very hard, brown (7.5YR 4/4), dry	
10	10-11.5	X	0.6	22 27 27 29	ML		SILT (ML), very hard, dark greenish gray (GLEY 1 10Y 4/1), moist	
15	15-16.5	X	2.6	22 28 28 30	SP		SAND (SP), very dense, greenish gray (GLEY 1 10Y 5/1), moist, medium-grained sand	
20	20-21.5	X	1.2	20 25 25 25			SAND (SP), very dense, greenish gray (GLEY 1 10Y 5/1), moist, medium- to coarse-grained sand	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		2.2	21 27 28 30			SAND (SP), very dense, greenish gray (GLEY 1 10Y 5/1), moist, medium- to coarse-grained sand, trace gravel	
30	30-31.5	X	1.4	30 32 35 40	ML		SILT (ML), with Clay, very hard, brown (7.5YR 4/3), dry	
35	35-36.5		2.4	29 34 34 37			SILT (ML), with Sand, very hard, olive (5Y 5/4), moist	
40	40-41.5	X	0.8	36 38 38 43	SM		Silty SAND (SM), very dense, olive gray (5Y 4/2), dry, fine-grained sand	
45	45-46.5		1.3	38 45 50	SP		SAND (SP), very dense, greenish gray (GLEY 1 10Y 5/1), dry, medium-grained sand	
50	50-51.5	X	17.7	45 50 55			(Same as above)	

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Water not enountered during drilling.

Date Start/Finish: 01/09/06-01/09/06 **Drilling Company:** WDC Exploration **Driller's Name:** Miguel Alvarado **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Maher Zein **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B102 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	1.2	8 11 11	ML		SILT (ML), hard, dark brown (7.5YR 3/3), moist	
5	5-6.5	X	0.9	7 11 17			SILT (ML), with Clay, hard, dark yellowish brown (10YR 4/4), dry	
10	10-11.5	X	1.0	18 18 22			SILT (ML), very hard, olive (5Y 5/4), dry	
15	15-16.5	X	1.8	19 24 24	SM		Silty SAND (SM), very dense, dark greenish gray (GLEY 1 10Y 4/1), moist, medium-grained sand	
20	20-21.5	X	2.7	21 23 28	SP		SAND (SP), very dense, olive gray (5Y 5/2), dry, medium- to coarse-grained sand, trace gravel	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		2.1	25 27 30			Becomes gray (5Y 5/1), medium-grained sand	
30	30-31.5	X	5.2	27 30 35	ML		SILT (ML), very hard, olive gray (5Y 5/2), moist	
35	35-36.5		7.3	27 29 38			SILT (ML), with Clay, very hard, dark greenish gray (GLEY 1 10Y 4/1), dry	
40	40-41.5	X	6.1	35 38 40			Becomes moist	
45	45-46.5		3.8	30 35 40			SILT (ML), very hard, dark greenish gray (GLEY 1 10Y 4/1), dry	
50	50-51.5	X	4.8	30 35 40	SP		SAND (SP), very dense, olive gray (5Y 5/2), moist, medium-grained sand	

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Water not enountered during drilling.

Date Start/Finish: 01/06/06-01/06/06 **Drilling Company:** WDC Exploration **Driller's Name:** Miguel Alvarado **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Maher Zein **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B103 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	0.0	7 8 11			SILT (ML), hard, dark brown (10YR 3/3), dry	
5	5-6.5	X	0.7	11 15 18			Clayey SILT (ML), very hard, dark yellowish brown (10YR 4/4), dry	
10	10-11.5	X	5.1	15 20 23	ML		SILT (ML), very hard, very dark grayish brown (10YR 3/2), dry	
15	15-16.5	X	1.1	20 24 26			SILT (ML), very hard, light olive brown (2.5Y 5/3), moist	
20	20-21.5	X	1.3	20 25 28			Sandy SILT (ML), very hard, olive gray (5Y 4/2), dry, trace gravel	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		4.5	22 27 30	SM		Silty SAND (SM), very dense, olive gray (5Y 4/2), dry, coarse-grained sand, trace gravel	
30	30-31.5	X	2.0	30 35 41			SILT (ML), very hard, olive (5Y 4/3), dry	
35	35-36.5		5.1	20 30 35	ML		Becomes dark greenish gray (GLEY 1 10Y 4/1), moist	
40	40-41.5	X	2.1	30 35 40			SILT (ML), very hard, dark greenish gray (GLEY 1 10Y 4/1), dry	
45	45-46.5		2.6	31 41 47	SP		SAND (SP), very dense, greenish gray (GLEY 1 10Y 5/1), dry, medium-grained sand, trace gravel	
50	50-51.5	X	1.8	40 45 45			SAND (SP), very dense, greenish gray (GLEY 1 10Y 5/1), dry, medium-grained sand	

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Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 02/03/06-02/03/06 **Drilling Company:** WDC Exploration **Driller's Name:** Eddie Herrera **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 LAR **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Megan Smoley **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B104 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	0.9	9 10 12	CL		CLAY (CL), hard, dark brown (10YR 3/3), dry, little silt	
5	5-6.5	X	1.7	13 14 18			(Same as above)	
10	10-11.5	X	0.3	19 23 25	SM		Silty SAND (SM), dense, light olive brown (2.5Y 5/4), dry, 30% silt	
15	15-16.5	X	0.6	22 25 25 30	SC		Clayey SAND (SC), very dense, olive brown (2.5Y 4/4), dry, fine- to medium-grained sand	
20	20-21.5	X	0.3	19 23 28	SP		SAND (SP), very dense, greenish gray (GLEY 1 5GY 5/1), dry, medium-grained sand with 10% fine-grained sand, subangular	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		0.2	19 24 33			SAND (SP), very dense, greenish gray (GLEY 1 5GY 5/1), dry, medium-grained sand with trace coarse-grained sand, subangular	
30	30-31.5	X	1.3	23 27 30	SM		Silty SAND (SM), very dense, light olive brown (2.5Y 5/4), dry, fine-grained sand with few medium-grained sand, 15% silt	
35	35-36.5		303.0	27 32 37	CL		CLAY (CL), very hard, light olive brown (2.5Y 5/4), dry, little silt	
					SM		Silty SAND (SM), light olive brown (2.5Y 5/3), dry, fine-grained sand, micaceous, 20% silt	
40	40-41.5	X	221.0	23 28 30			Silty SAND (SM), very dense, dark greenish gray (5GY 4/1), dry, fine-grained sand, micaceous, 15% silt	
45	45-46.5		26.3	27 30 35	SP		SAND (SP), very dense, greenish gray (GLEY 1 5GY 5/1), dry, medium-grained with 5% coarse-grained sand, subangular SAND (SP), very dense, greenish gray (GLEY 1 5GY 5/1), dry, fine- to medium-grained sand, subangular, 5-10% fines	
50	50-51.5	X	68.1	32 35 40			SAND (SP), very dense, dark greenish gray (GLEY 1 5GY 4/1), dry, fine-grained sand with few medium-grained sand, 5-10% fines	

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NM = Not Measured
Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 01/10/06-01/10/06 **Drilling Company:** WDC Exploration **Driller's Name:** Gilbert Martinez **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 LAR **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Megan Smoley **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B105 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	0.0	16 20	ML		Clayey SILT (ML), very hard, dark olive gray (5Y 3/2), dry	Borehole backfilled wth Neat Cement with 5% Bentonite
5	5-6.5	X	0.0	18 20 24			(Same as above)	
10	10-11.5	X	0.8	20 24 27			Clayey SILT (ML), very hard, dark olive gray (5Y 3/2), dry, micaceous	
15	15-16.5	X	0.2	21 25 28	SP		SAND (SP), very dense, greenish gray (GLEY 1 5GY 5/1), dry, fine- to medium-grained sand	
20	20-21.5	X	0.1	23 30 32			SAND (SP), very dense, greenish gray (GLEY 1 5GY 5/1), dry, fine- to medium-grained sand with 5% coarse-grained sand	
25	25-26.5		1.0	20 26 31	SM		Silty SAND (SM), very dense, greenish gray (GLEY 1 5GY 5/1), dry, medium-grained sand with 20% coarse-grained sand, 5% gravel	
30	30-31.5	X	2.0	28 33 35			Silty SAND (SM), very dense, greenish gray (GLEY 1 5GY 5/1), dry, fine- to medium-grained sand with 5% coarse-grained sand, subangular	
35	35-36.5		1.8	23 27 30	SC		Clayey SAND (SC), very dense, dark greenish gray (GLEY 1 5GY 4/1), dry, fine- to medium-grained sand	
40	40-41.5	X	2.0	30 34 44			(Same as above)	
45	45-46.5		2.4	27 30 33	SM		Silty SAND (SM), very dense, dark greenish gray (GLEY 1 5GY 4/1), dry, fine- to medium-grained sand, subangular	
50	50-51.5	X	1.7	32 40 50			(Same as above)	

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Water not enountered during drilling.

Date Start/Finish: 12/29/05-12/29/05 **Drilling Company:** WDC Exploration **Driller's Name:** Jorge Gutierrez **Drilling Method:** Hand Auger **Bit Size:** NA **Auger Size:** 3-inch **Rig Type:** NA **Sampling Method:** Core Sampler/Slide Hammer	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 10.5' bgs **Surface Elevation:** NM **Geologist:** Veronique Lee **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B106 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Counts	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3	X	0.0	NA			SILT (ML), dark gray (5Y 4/1), moist, 5% fine-grained sand	
5	5-6	X	0.0	NA	ML		SILT (ML), very dark gray (5Y 3/1), moist, 5% fine-grained sand, 5% gravel	Borehole backfilled wth Neat Cement with 5% Bentonite
10	10-10.5	x	0.0	NA			SILT (ML), olive (5Y 4/3), moist, 5% fine-grained sand	

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Total Depth = 10.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 01/04/06-01/04/06 **Drilling Company:** WDC Exploration **Driller's Name:** Miguel Alvarado **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Maher Zein **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B107 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	0.5	10 15 18	ML		SILT (ML), with Clay, very hard, olive gray (5Y 4/2), moist	Borehole backfilled wth Neat Cement with 5% Bentonite
5	5-6.5	X	1.3	18 19 23			SILT (ML), very hard, olive (5Y 4/3), dry	
10	10-11.5	X	0.9	17 19 23			SILT (ML), very hard, dark greenish gray (GLEY 1 10Y 4/1), moist	
15	15-16.5	X	2.3	17 23 27	SP		SAND (SP), very dense, greenish gray (GLEY 1 10Y 5/1), moist, medium-grained sand	
20	20-21.5	X	1.2	21 26 29			Becomes medium- to coarse-grained sand	
25	25-26.5		1.8	19 25 27	ML		SILT (ML), with Sand, very hard, greenish gray (GLEY 1 10Y 5/1), moist	
30	30-31.5	X	1.5	23 25 28			SILT (ML), very hard, dark greenish gray (GLEY 1 10Y 4/1), moist	
35	35-36.5		2.5	27 29 30			SILT (ML), very hard, dark greenish gray (GLEY 1 10Y 4/1), moist, trace gravel	
40	40-41.5	X	1.8	31 34 37	SP		SAND (SP), very dense, greenish gray (GLEY 1 10Y 5/1), dry, coarse-grained sand, few gravel	
45	45-46.5		5.0	33 38 38 39	ML		Sandy SILT (ML), very hard, greenish gray (GLEY 1 10Y 5/1), moist	
50	50-51.5	X	2.0	38 43 45	SP-SM		SAND with Silt (SP-SM), very dense, greenish gray (GLEY 1 10Y 5/1), dry, medium-grained sand	

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Water not enountered during drilling.

Date Start/Finish: 01/09/06-01/09/06 **Drilling Company:** WDC Exploration **Driller's Name:** Miguel Alvarado **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Maher Zein **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B108 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	0.9	20 23 24	ML		SILT (ML), very hard, dark yellowish brown (10YR 4/4), dry	Borehole backfilled wth Neat Cement with 5% Bentonite
5	5-6.5	X	0.4	18 22 26			SILT (ML), very hard, olive (5Y 5/4), dry	
10	10-11.5	X	1.1	22 26 28	SM		Silty SAND (SM), very dense, olive (5Y 5/4), dry, medium-grained sand	
15	15-16.5	X	0.9	25 27 30			(Same as above)	
20	20-21.5	X	0.9	23 27 33	SP		SAND (SP), very dense, olive (5Y 5/3), moist, medium-grained sand	
25	25-26.5		0.3	27 30 35			SAND (SP), very dense, olive gray (5Y 5/2), moist, medium-grained sand	
30	30-31.5	X	0.4	35 40 43			SAND (SP), very dense, olive (5Y 5/3), moist, medium-grained sand, trace gravel	
35	35-36.5		3.3	37 40 45	SW		SAND (SW), very dense, greenish gray (GLEY 1 10Y 5/1), dry, trace gravel	
40	40-41.5	X	3.5	30 35 40	SM		Silty SAND (SM), very dense, dark greenish gray (GLEY 1 10Y 4/1), moist, medium- to coarse-grained sand, trace gravel	
45	45-46.5		1.5	37 45 50			(Same as above)	
50	50-51.5	X	2.9	47 50 55	ML		SILT (ML), very hard, dark greenish gray (GLEY 1 10Y 4/1), dry	

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Water not enountered during drilling.

Date Start/Finish: 01/04/06-01/04/06 **Drilling Company:** WDC Exploration **Driller's Name:** Miguel Alvarado **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Maher Zein **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B109 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	2.0	9 12 15	ML		SILT (ML), hard, dark yellowish brown (10YR 4/4), dry	Borehole backfilled wth Neat Cement with 5% Bentonite
5	5-6.5	X	3.7	12 15 20			SILT (ML), very hard, olive (5Y 5/3), dry	
10	10-11.5	X	2.5	17 20 24	SP		SAND (SP), dense, olive (5Y 5/3), dry, medium-grained sand	
15	15-16.5	X	4.0	23 22 25 28			SAND (SP), very dense, olive gray (5Y 5/2), dry, medium- to coarse-grained sand	
20	20-21.5	X	2.8	18 20 25	SM		Silty SAND (SM), dense, light olive brown (2.5Y 5/3), dry, medium-grained sand, trace gravel	
25	25-26.5		1.5	24 26 26 28	SW		SAND (SW), very dense, olive (5Y 5/3), dry, trace gravel	
30	30-31.5	X	3.9	24 27 27 31	SM		Silty SAND (SM), very dense, olive (5Y 4/3), dry, medium- to coarse-grained sand	
35	35-36.5		2.8	24 30 35	SW-SM		SAND with Silt (SW-SM), very dense, gray (5Y 5/1), dry, medium- to coarse-grained sand	
40	40-41.5	X	2.8	24 30 34	SP		SAND (SP), very dense, dark gray (5Y 4/1), dry, medium- to coarse-grained sand, few gravel	
45	45-46.5		2.9	25 32 35 40	ML		SILT (ML), very hard, dark greenish gray (GLEY 1 10Y 4/1), moist	
50	50-51.5	X	2.4	35 40 45	SM		Silty SAND (SM), very dense, dark greenish gray (GLEY 1 10Y 4/1), dry, medium-grained sand	

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Water not enountered during drilling.

Date Start/Finish: 12/28/05-12/28/05 **Drilling Company:** WDC Exploration **Driller's Name:** Miguel Alvarado **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Maher Zein **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B110 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	2.4	15 18 20	ML		Clayey SILT (ML), very hard, brown (7.5YR 4/4), dry	
5	5-6.5	X	2.4	15 19 22	CL		Silty CLAY (CL), very hard, olive brown (2.5Y 4/4), dry	
10	10-11.5	X	2.9	14 17 22	ML		SILT (ML), very hard, olive (5Y 4/3), moist	
15	15-16.5	X	6.0	17 21 24			Sandy SILT (ML), very hard, dark greenish gray (GLEY 1 10Y 4/1), moist	
20	20-21.5	X	4.8	19 21 23			SAND (SP), dense, greenish gray (GLEY 1 10Y 5/1), dry, medium- to coarse-grained sand, trace gravel	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		3.9	20 21 23			SAND (SP), dense, dark greenish gray (GLEY 1 10Y 4/1), moist, coarse-grained sand, trace gravel	
30	30-31.5	X	2.8	23 27 29	SP		SAND (SP), very dense, dark greenish gray (GLEY 1 10Y 4/1), moist, coarse-grained sand, trace gravel	
35	35-36.5		5.1	26 29 33			(Same as above)	
40	40-41.5	X	23.0	27 32 37			(Same as above)	
45	45-46.5		64.6	29 33 34	SM		Silty SAND (SM), very dense, dark greenish gray (GLEY 1 10Y 4/1), moist, medium-grained sand	
50	50-51.5	X	34.2	29 33 34			(Same as above)	

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Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 12/28/05-12/28/05 **Drilling Company:** WDC Exploration **Driller's Name:** Miguel Alvarado **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Maher Zein **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B111 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	2.3	10 15 20	ML		Clayey SILT (ML), very hard, dark yellowish brown (10YR 3/4), dry	Borehole backfilled wth Neat Cement with 5% Bentonite
5	5-6.5	X	3.6	13 18 22			SILT (ML), with Clay, very hard, dark brown (10YR 3/3), dry	
10	10-11.5	X	3.1	19 21 23			SILT (ML), very hard, light olive brown (2.5Y 5/4), dry, trace gravel	
15	15-16.5	X	2.6	17 23 25	SP		SAND (SP), dense, olive (5Y 5/4), dry, medium- to coarse-grained sand, trace gravel	
20	20-21.5	X	2.6	19 23 28	SM		Silty SAND (SM), very dense, olive (5Y 4/3), dry, medium-grained sand	
25	25-26.5		0.0	20 24 27	ML		Sandy SILT (ML), trace Gravel, very hard, olive (5Y 5/3), dry	
30	30-31.5	X	0.0	24 27 29	SP		SAND (SP), trace Gravel, very dense, olive gray (5Y 5/2), dry, medium- to coarse-grained sand	
35	35-36.5		0.8	25 26 28			(Same as above)	
40	40-41.5	X	0.0	24 27 31	SP-SM		SAND with Silt (SP-SM), very dense, olive gray (5Y 4/2), dry, medium-grained sand	
45	45-46.5		0.6	26 29 32	ML		SILT (ML), with Sand, very hard, dark greenish gray (GLEY 1 10Y 4/1), dry	
50	50-51.5	X	0.3	35 37 41			(Same as above)	

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NM = Not Measured
Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 12/29/05-12/29/05 **Drilling Company:** WDC Exploration **Driller's Name:** Miguel Alvarado **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Maher Zein **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B112 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	0.0	17 16 21	ML		SILT (ML), with Clay, very hard, olive brown (2.5Y 4/4), dry	Borehole backfilled wth Neat Cement with 5% Bentonite
5	5-6.5	X	0.0	18 20 24			SILT (ML), with Clay, very hard, light olive brown (2.5Y 5/3), moist	
10	10-11.5	X	0.4	20 23 25			SILT (ML), very hard, olive brown (2.5Y 4/4), moist	
15	15-16.5	X	0.0	15 20 25	SP		SAND (SP), dense, light olive brown (2.5Y 5/3), dry, coarse-grained sand	
20	20-21.5	X	2.3	25 28 30			SAND (SP), very dense, olive gray (5Y 5/2), dry, medium-grained sand	
25	25-26.5		4.9	21 24 27	ML		Sandy SILT (ML), very hard, olive (5Y 5/3), moist	
30	30-31.5	X	3.7	23 28 32	SW		26 SAND (SW), very dense, dark greenish gray (GLEY 1 10Y 4/1), moist, trace gravel	
35	35-36.5		6.8	29 30 31			(Same as above)	
40	40-41.5	X	8.6	33 36 37	ML		SILT (ML), with Sand, very hard, dark greenish gray (GLEY 1 10Y 4/1), moist, trace gravel	
45	45-46.5		8.9	34 37 41	SP-SM		SAND with Silt (SP-SM), very dense, dark greenish gray (GLEY 1 10Y 4/1), dry, medium-grained sand	
50	50-51.5	X	9.4	20 35 40			(Same as above)	

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NM = Not Measured
Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 12/29/05-12/29/05 **Drilling Company:** WDC Exploration **Driller's Name:** Miguel Alvarado **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Maher Zein **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B113 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	0.2	20 25 30	CL		Silty CLAY (CL), very hard, dark yellowish brown (10YR 3/4), dry	
5	5-6.5	X	1.6	28 30 32			SILT (ML), with Clay, very hard, light yellowish brown (10YR 6/3), dry	
10	10-11.5	X	2.8	37 39 43	ML		SILT (ML), very hard, olive brown (2.5Y 4/4), dry	
15	15-16.5	X	5.0	20 25 35			Sandy SILT (ML), very hard, light olive brown (2.5Y 5/3), dry	
20	20-21.5	X	2.8	35 37 43	SP		SAND (SP), very dense, olive (5Y 5/3), dry, coarse-grained sand	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		12.7	35 39 44	SP-SM		SAND with Silt (SP-SM), very dense, olive (5Y 5/4), dry, medium- to coarse-grained sand	
30	30-31.5	X	0.0	42 44 49	ML		SILT (ML), very hard, olive (5Y 4/3), moist	
35	35-36.5		1.0	30 32 35 40			SAND with Silt (SP-SM), very dense, dark greenish gray (GLEY 1 10Y 4/1), dry, coarse-grained sand, trace gravel	
40	40-41.5	X	1.9	39 42 47	SP-SM		(Same as above)	
45	45-46.5		2.6	49 50 53			SAND with Silt (SP-SM), very dense, greenish gray (GLEY 1 10Y 5/1), dry, medium-grained sand	
50	50-51.5	X	2.0	43 48 50			(Same as above)	

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NM = Not Measured
Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 01/03/06-01/03/06 **Drilling Company:** WDC Exploration **Driller's Name:** Miguel Alvarado **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Maher Zein **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B114 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	0.5	8 12 15	ML		SILT (ML), with Clay, hard, very dark gray (5Y 3/1), moist, trace gravel	
5	5-6.5	X	0.0	11 16 18	CL		CLAY (CL), very hard, dark olive gray (5Y 3/2), moist	
10	10-11.5	X	0.0	19 23 24	ML		Clayey SILT (ML), very hard, very dark greenish gray (GLEY 1 10Y 3/1), moist	
15	15-16.5	X	0.0	21 22 24	SM		Silty SAND (SM), dense, dark greenish gray (GLEY 1 10Y 4/1), dry, medium-grained sand	
20	20-21.5	X	0.0	19 23 27	SP		SAND (SP), very dense, dark greenish gray (GLEY 1 10Y 4/1), dry, medium- to coarse-grained sand	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		0.0	24 27 29	ML		SILT (ML), with Clay, very hard, dark greenish gray (GLEY 1 10Y 4/1), dry	
30	30-31.5	X	0.0	20 22 26	SM		Silty SAND (SM), dense, dark greenish gray (GLEY 1 10Y 4/1), dry, medium- to coarse-grained sand, trace gravel	
35	35-36.5		0.0	26 28 30	SW		SAND (SW), very dense, greenish gray (GLEY 1 10Y 5/1), dry, few gravel	
40	40-41.5	X	0.0	31 36 37	SP		SAND (SP), very dense, dark greenish gray (GLEY 1 10Y 5/1), dry, coarse-grained sand	
45	45-46.5		0.0	36 39 40			SAND (SP), very dense, dark greenish gray (GLEY 1 10Y 5/1), dry, coarse-grained sand, trace gravel	
50	50-51.5	X	0.0	39 43 46	SM/SC		Silty Clayey SAND (SM/SC), dark greenish gray (GLEY 1 10Y 4/1), dry, coarse-grained sand, few gravel	

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NM = Not Measured
Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 01/03/06-01/03/06 **Drilling Company:** WDC Exploration **Driller's Name:** Miguel Alvarado **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Maher Zein **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B115 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	1.2	9 12 15	ML		SILT (ML), with Clay, hard, dark gray (5Y 4/1), dry, trace gravel	
5	5-6.5	X	57.8	19 21 23			SILT (ML), with Clay, very hard, black (5Y 2.5/1), dry, some gravel	
10	10-11.5	X	5.6	20 22 24			SILT (ML), very hard, olive gray (5Y 4/2), dry	
15	15-16.5	X	8.3	23 27 28	SP-SM		SAND with Silt (SP-SM), very dense, olive gray (5Y 4/2), dry, medium-grained sand	
20	20-21.5	X	0.0	24 27 28	SP		SAND (SP), very dense, dark greenish gray (GLEY 1 10Y 4/1), dry, coarse-grained sand	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		0.0	15 20 25			SAND (SP), dense, dark greenish gray (GLEY 1 10Y 4/1), dry, coarse-grained sand	
30	30-31.5	X	0.0	24 28 32	ML		SILT (ML), with Sand, very hard, dark greenish gray (GLEY 1 10Y 4/1), moist, some gravel	
35	35-36.5		0.6	28 30 33			SILT (ML), very hard, dark greenish gray (GLEY 1 10Y 4/1), dry	
40	40-41.5	X	0.0	29 33 38	SP		SAND (SP), very dense, greenish gray (GLEY 1 10Y 5/1), dry, medium- to coarse-grained sand, trace gravel	
45	45-46.5		0.0	34 33 37			SAND (SP), very dense, greenish gray (GLEY 1 10Y 5/1), moist, medium-grained sand	
50	50-51.5	X	0.0	37 40 45	ML		Sandy SILT (ML), very hard, dark greenish gray (GLEY 1 10Y 4/1), moist, medium-grained sand	

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Water not enountered during drilling.

Date Start/Finish: 01/04/06-01/04/06 **Drilling Company:** WDC Exploration **Driller's Name:** Miguel Alvarado **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Maher Zein **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B116 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	1.1	7 8 10	ML		SILT (ML), hard, very dark gray (5Y 3/1), dry, trace gravel	
5	5-6.5	X	1.6	11 17 18	CL		CLAY (CL), very hard, very dark grayish brown (2.5Y 3/2), dry	
10	10-11.5	X	0.5	7 16 21	ML		Clayey SILT (ML), very hard, black (2.5Y 2.5/1), dry	
15	15-16.5	X	1.5	15 18 22			SILT (ML), with Clay, very hard, very dark gray (2.5Y 3/1), dry	
20	20-21.5	X	0.7	19 20 22	SP		SAND (SP), dense, dark greenish gray (GLEY 1 10Y 4/1), dry, medium-grained sand	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		0.8	17 20 24	SW		SAND (SW), dense, greenish gray (GLEY 1 10Y 5/1), dry, trace gravel	
30	30-31.5	X	0.7	29 27 30			SAND (SW), very dense, greenish gray (GLEY 1 10Y 5/1), dry, trace gravel	
35	35-36.5		4.0	20 24 28	ML		SILT (ML), very hard, dark greenish gray (GLEY 1 10Y 4/1), moist	
40	40-41.5	X	4.1	27 29 34			SILT (ML), very hard, dark greenish gray (GLEY 1 10Y 4/1), dry	
45	45-46.5		1.6	27 30 39	SP		SAND (SP), very dense, greenish gray (GLEY 1 10Y 5/1), moist, medium-grained sand	
50	50-51.5	X	2.1	29 32 39			(Same as above)	

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Date Start/Finish: 01/06/06-01/06/06 **Drilling Company:** WDC Exploration **Driller's Name:** Miguel Alvarado **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Maher Zein **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B117 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	15.8	7 12 21	CL		CLAY (CL), very hard, very dark grayish brown (2.5Y 3/2), dry, some gravel	
5	5-6.5	X	0.6	17 18 19			SILT (ML), very hard, dark yellowish brown (10YR 4/4), dry	
10	10-11.5	X	1.1	19 20 23	ML		SILT (ML), very hard, olive gray (5Y 4/2), moist	
15	15-16.5	X	6.0	23 27 30			SILT (ML), with Sand, very hard, dark gray (5Y 4/1), dry, trace gravel	
20	20-21.5	X	1.1	30 31 34			SAND (SP), very dense, gray (5Y 5/1), dry, medium- to coarse-grained sand	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		4.1	36 39 43	SP		SAND (SP), very dense, gray (5Y 5/1), dry, coarse-grained sand	
30	30-31.5	X	1.7	22 27 30 35			SAND (SP), very dense, dark gray (5Y 4/1), moist, coarse- to very coarse-grained sand, trace gravel	
35	35-36.5		2.6	31 35 39			SAND (SP), very dense, dark gray (5Y 4/1), dry, coarse- to very coarse-grained sand	
40	40-41.5	X	3.5	30 35 41	SM		Silty SAND (SM), very dense, dark greenish gray (GLEY 1 10Y 4/1), dry, medium-grained sand	
45	45-46.5		10.4	34 39 43	ML		SILT (ML), with Sand, very hard, dark greenish gray (GLEY 1 10Y 4/1), dry	
50	50-51.5	X	3.3	47 49 53	SM		Silty SAND (SM), very dense, dark greenish gray (GLEY 1 10Y 4/1), dry, medium-grained sand	

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Date Start/Finish: 01/06/06-01/06/06 **Drilling Company:** WDC Exploration **Driller's Name:** Miguel Alvarado **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Maher Zein **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B118 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	11.1	11 12 18	ML		SILT (ML), with Clay, hard, dark yellowish brown (10YR 4/4), dry	Borehole backfilled wth Neat Cement with 5% Bentonite
5	5-6.5	X	3.1	15 25 28			SILT (ML), with Clay, very hard, brown (10YR 4/3), dry	
10	10-11.5	X	3.0	17 18 23			SILT (ML), very hard, dark greenish gray (GLEY 1 10Y 4/1), moist	
15	15-16.5	X	3.6	22 25 28			Sandy SILT (ML), very hard, dark greenish gray (GLEY 1 10Y 4/1), dry, trace gravel	
20	20-21.5	X	6.4	25 26 28	SM		Silty SAND (SM), very dense, dark greenish gray (GLEY 1 10Y 4/1), dry, medium-grained sand	
25	25-26.5		3.2	28 30 32	ML		Clayey SILT (ML), very hard, dark greenish gray (GLEY 1 10Y 4/1), moist	
30	30-31.5	X	3.4	25 35 38			Clayey SILT (ML), very hard, olive brown (2.5Y 4/3), moist	
35	35-36.5		6.8	30 35 38			SILT (ML), with Clay, very hard, olive gray (5Y 4/2), moist	
40	40-41.5	X	5.5	38 40 45			SILT (ML), very hard, dark greenish gray (GLEY 1 10Y 4/1), moist	
45	45-48.5		4.4	38 42 45	SP-SM		SAND with SILT (SP-SM), very dense, greenish gray (GLEY 1 10Y 5/1), moist, medium-grained sand	
50	50-51.5	X	2.4	30 35 50			(Same as above)	

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Date Start/Finish: 01/27/06-01/27/06 **Drilling Company:** WDC Exploration **Driller's Name:** Javier Rios **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 LAR **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Megan Smoley **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B119 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	0.0	NA	CL		Silty CLAY (CL), hard, dark yellowish brown (10YR 3/4), dry, 30% silt	
	3.5-5			NA				
5	5-7	X	0.0	19 26 32				
	7-8.5			32 13 19	ML		Clayey SILT (ML), very hard, dark yellowish brown (10YR 4/4), dry	
	8.5-10			22 9 15 18				
10	10-12	X	0.0	19 30 50	SM		Silty SAND (SM), very dense, dark yellowish brown (10YR 4/4), dry fine-grained sand, 30% silt and clay	
	12-13.5			20 26 29	SP		SAND (SP), very dense, light olive brown (2.5Y 5/3), dry, medium-grained sand with 10% fine-grained sand	Borehole backfilled wth Neat Cement with 5% Bentonite
	13.5-15			16 21	SM		Silty SAND (SM), dense, light olive brown (2.5Y 5/3), dry, fine- to medium-grained sand, 20% silt	
15	15-17	X	0.0	26 37 39 50	SP		SAND (SP), dense, light olive brown (2.5Y 5/3), dry, medium-grained sand with trace coarse-grained sand, subangular, micaceous	
	17-18.5			56 30 50	SP-SM		SAND with Silt (SP-SM), very dense, light olive brown (2.5Y 5/3), dry, fine- to medium-grained, 10% silt	
	18.5-20			32 50	SW		SAND (SW), very dense, grayish brown (2.5Y 5/2), dry, medium- to coarse-grained sand with 25% fine-grained sand, subangular, trace fine gravel	
20	20-22	X	0.0	30 50				
	22-23.5			27 50	SP		SAND (SP), very dense, olive brown (2.5Y 4/4), dry, medium-grained sand with 10% coarse-grained sand, subangular	
	23.5-25			28 50			SAND (SP), very dense, light olive brown (2.5Y 5/3), dry, medium-grained sand	
25	25-27		0.0	38 50	SP-SM		SAND with Silt (SP-SM), very dense, olive brown (2.5Y 4/3), dry, medium-grained sand with 20% coarse-grained sand and 10% fine-grained sand, subangular, 10% silt and clay, 5% fine to coarse gravel	

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Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 01/27/06-01/27/06 **Drilling Company:** WDC Exploration **Driller's Name:** Javier Rios **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 LAR **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Megan Smoley **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B119 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
					CL		Silty CLAY (CL), very hard, olive brown (2.5Y 4/3), dry, 30% silt	
	27-28.5			23 29 30	SW-SM		SAND with Silt (SW-SM), dense, olive brown (2.5Y 4/3), dry, medium-grained sand with 25% coarse-grained sand, subangular, 10% silt and clay, few fine to coarse gravel	
	28.5-30			38 50	CL		CLAY (CL), very hard, olive brown (2.5Y 4/4), dry	
30	30-32	X	0.0	8 18 22				
	32-33.5			31 13 17				
	33.5-35			20 15 20 25	SM		Silty SAND (SM), dense, olive (5Y 4/4), dry, fine-grained sand, micaceous, 40% silt	
35	35-37		0.0	23 50	SC		Clayey SAND (SC), dense, olive gray (5Y 4/2), dry, 35% clay	Borehole backfilled wth Neat Cement with 5% Bentonite
	37-38.5			20 23 24	SM		Silty SAND (SM), very hard, dark greenish gray (GLEY 1 5GY 4/1), dry, 25% silt	
	38.5-40			20 21 26	SC		Clayey SAND (SC), very hard, dark greenish gray (GLEY 1 5GY 4/1), dry, 30% clay	
40	40-42	X	0.0	35 50				
	42-43.5			17 19 23	SP-SM		SAND with Silt (SP-SM), very dense, olive (5Y 5/3), dry, fine-grained sand, 10% silt	
	43.5-45			18 20 21			Becomes dark greenish gray (GLEY 1 5GY 4/1)	
45	45-47		1.2	49 50				
	47-48.5			12 17 21	SC		Clayey SAND (SC), dense, dark greenish gray (GLEY 1 5GY 4/1), dry, 40% clay	
	48.5-50			14 21	SW		SAND (SW), dense, dark greenish gray (GLEY 1 5GY 4/1), dry, fine- to coarse-grained sand, subangular, trace fine gravel	
50	50-51.5	X	0.0	22 42 50	SM		Silty SAND (SM), dense dark greenish gray (GLEY 1 5GY 4/1), dry, fine-grained sand with 10% medium-grained sand, 25% silt	

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Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 01/30/06-01/30/06 **Drilling Company:** WDC Exploration **Driller's Name:** Eddie Herrera **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 LAR **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Megan Smoley **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B120 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	33.0	12 15 19	ML		SILT (ML), very hard, black (5Y 2.5/1), dry, slight hydrocarbon odor, 25% clay	
5	5-6.5	X	11.5	11 12 18			CLAY (CL), very hard, very dark grayish brown (2.5Y 3/2), dry, 15% silt	
10	10-11.5	X	1.9	15 19 25	CL		CLAY (CL), very hard, dark olive gray (5Y 3/2), dry, 25% silt	
15	15-16.5	X	5.7	22 25 30			SILT (ML), very hard, greenish gray (GLEY 1 5GY 5/1), dry	
20	20-21.5	X	0.1	19 21 25	ML		SILT (ML), very hard, light olive brown (2.5Y 5/3), dry	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		4.5	21 30 31			SILT (ML), very hard, olive gray (5Y 4/2), dry, 25% fine-grained sand	
30	30-31.5	X	0.0	22 25 25	SM		Silty SAND (SM), dense, olive gray (5Y 5/2), dry, fine-grained sand, 40% silt	
35	35-36.5		43.1	22 27 30	SC		Clayey SAND (SC), very dense, olive gray (5Y 4/2), dry, fine-grained sand 30% clay	
40	40-41.5	X	2.3	19 27 31			Silty SAND (SM), very dense, dark greenish gray (GLEY 1 5GY 4/1), dry, fine-grained sand, 25% silt	
45	45-46.5		52.1	23 25 29 27	SM		Silty SAND (SM), very dense, dark greenish gray (GLEY 1 5GY 4/1), dry, 15% silt	
50	50-51.5	X	30.1	27 30 33			Becomes dark greenish gray (GLEY 1 5GY 5/1)	

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NM = Not Measured
Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 02/01/06-02/01/06 **Drilling Company:** WDC Exploration **Driller's Name:** Miguel Alvarado **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Megan Smoley **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B121 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
							Silty CLAY (CL), firm, dark yellowish brown (10YR 3/6), dry, 15% silt	
	1.5-2.5			5	CL			
			0.0	7				
	2.5-4	X		5				
				7			Clayey SILT (ML), hard, very dark grayish brown (2.5Y 3/2), dry, 20% clay	
				8				
	4-5			5				
				7				
5	5-6.5		2.93	5				
		X		7				
				9				
	6.5-8			5			Becomes olive gray (5Y 4/2)	
				9				
				11				
	8-10			3				
				5				
				5				
				7				
10	10-11.5		0.0	3	ML			
		X		6				
				9			Sandy SILT (ML), firm, olive gray (5Y 4/2), dry, 15% fine-grained sand	
	11.5-13			5				
				5				Borehole backfilled wth Neat Cement with 5% Bentonite
				7				
	13-15			5				
				7				
				7				
				8				
15	15-16.5		0.0	15				
		X		20			Silty SAND (SM), dense, olive gray (5Y 5/2), dry, fine-grained sand, 25% silt	
				25				
	18.5-18			12	SM			
				14				
				16				
	18-20			23			Clayey SILT (ML), very hard, light gray (5Y 6/1), dry, 20% clay	
				24				
				26				
				28	ML			
20	20-21.5		14.6	25				
		X		26				
				15			Silty SAND (SM), very dense, olive gray (5Y 4/2), dry, fine-grained sand, 20% silt	
	21.5-23			34				
				24			Becomes gray (5Y 5/1)	
				16				
	23-25			24	SM		Silty SAND (SM), very dense, olive gray (5Y 5/2), dry, fine-grained sand, 15% silt	
				26				
				29				
25	25-28.5		8.9	10				
				12				

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Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 02/01/06-02/01/06 **Drilling Company:** WDC Exploration **Driller's Name:** Miguel Alvarado **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Megan Smoley **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B121 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	26.5-28			15, 9, 18	SC		Clayey SAND (SC), medium dense, dark gray (5Y 4/1), dry, fine-grained sand, 20% clay	
	28-30			20, 14	SM		Silty SAND (SM), dense, dark greenish gray (GLEY 1 5GY 4/1), dry, fine-grained sand, 30% silt	
				20, 21, 25	SP-SM		SAND with Silt (SP-SM), dense, olive (5Y 4/3), dry, fine-grained sand, 10% silt	
30	30-31.5	X	16.0	9, 10, 32	SM		Silty SAND (SM), dense, olive gray (5Y 4/2), dry, fine-grained sand, 15% silt	
	31.5-33			7, 11, 15	ML		Sandy SILT (ML), hard, olive brown (2.5Y 4/3), dry, 15% fine-grained sand	
	33-35			6, 13, 14, 17	SM		Silty SAND (SM), dense, olive gray (5Y 4/2), dry, fine- to medium-grained sand with 10% coarse-grained sand, strong odor, trace fine gravel	
35	35-36.5		1013.0	5, 8, 14	ML		Sandy SILT (ML), hard, olive gray (5Y 5/2), dry, strong odor, 15% fine-grained sand	Borehole backfilled wth Neat Cement with 5% Bentonite
	36.5-38			14, 14, 21	SM		Silty SAND (SM), dense olive gray (5Y 4/2), dry, fine- to medium-grained sand, 15% silt	
	38-40			9, 9, 10	CL		Sandy CLAY (CL), very hard, dark greenish gray (GLEY 1 5GY 4/1), dry, 20% fine-grained sand	
40	40-41.5	X	758.0	24, 9, 17	SM		Silty SAND (SM), dense, olive gray (5Y 5/2), dry, fine-grained sand, 25% silt	
	41.5-43			31, 12, 14	SM		Becomes olive gray (5Y 4/2)	
	43-45			15, 9, 10, 10	SM		Silty SAND (SM), medium dense, olive gray (5Y 4/2), dry, fine-grained sand, strong odor, 30% silt and clay, clay content increases with depth	
45	45-46.5		1069.0	16, 16, 14	SC		Clayey SAND (SC), dense, olive (5Y 4/3), dry, fine-grained sand, strong odor, 40% fines	
	46.5-48			20, 11, 16	SM		Silty SAND (SM), dense, olive gray (5Y 5/2), dry, fine-grained sand, strong odor, 15-20% silt	
	48-50			20, 6, 11	SM		Becomes dark gray (5Y 4/1)	
				14, 15	SC		Silty SAND (SM), medium dense, dark gray (5Y 4/1), dry, fine-grained sand, 15% medium-grained sand Clayey SAND (SC), dense, dark greenish gray (GLEY 1 5GY 4/1), dry, fine-grained sand, 15% clay	
50	50-51.5	X	892.0	8, 14, 20	SP-SM CL		SAND with Silt (SP-SM), dense, dark greenish gray (GLEY 1 5GY 4/1), dry, fine-grained sand Silty CLAY (CL), very hard, dark greenish gray (GLEY 1 5GY 4/1), dry, 15% silt	

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Remarks: bgs = below ground surface; NA = Not Applicable/Available
NM = Not Measured
Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 01/23/06-01/23/06 **Drilling Company:** WDC Exploration **Driller's Name:** Javier Rios **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Jennifer Wiley **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B122 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	0.0	50	ML		Sandy SILT (ML), very dense, brown (10YR 5/3), dry, trace gravel	
5	5-6.5	X	0.1	20 25 40			Sandy SILT (ML), very dense, very dark grayish brown (10YR 3/2), moist	
10	10-11.5	X	2.2	10 24 27 28	SC		Clayey SAND (SC), dense, dark brown (10YR 4/3), moist, fine- to coarse-grained sand	
15	15-16.5	X	0.0	NR	SM		Silty SAND (SM), light olive brown (2.5Y 5/3), moist, fine- to coarse-grained sand	
20	20-21.5	X	0.0	NR			(Same as above)	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		12.6	NR			Silty SAND (SM), light olive brown (2.5Y 5/6), moist, fine-grained sand	
30	30-31.5	X	0.9	47 50	SP		SAND (SP), very dense, light olive brown (2.5Y 5/4), moist, fine-grained sand	
35	35-36.5		35.4	18 22 25 26	SW		SAND (SW), dense, yellowish brown (10YR 5/4), moist, fine- to coarse-grained sand	
					SC		Clayey SAND (SC), dense, olive gray (5Y 5/2), moist, fine-grained sand	
40	40-41.5	X	2.1	25 50	CL		CLAY (CL), very hard, gray (5Y 6/2), moist	
45	45-46.5		88.3	12 18 19 31	SM		Silty SAND (SM), dense, dark greenish gray (GLEY 1 5GY 4/1), moist, fine-grained sand	
50	50-51.5	X	NM	NR	SP		SAND (SP), olive gray (5Y 5/2), moist, fine- to medium-grained sand	

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Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 01/19/06-01/19/06 **Drilling Company:** WDC Exploration **Driller's Name:** Eddie Herrera **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Megan Smoley **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B123 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
0	2-6.5	X	187 133.0 101.0	2 4 6 4 7 9 2 5 7 9 6 7	ML		SILT (ML), medium stiff, very dark greenish gray (GLEY 1 10Y 3/1), moist, 5% fine-grained sand	
5					FILL		Sludge and gravel mixed with Silt Becomes 10% fine-grained sand Increases to 10% gravel Mostly sludge, very little Silt soil Creamy sludge, black (2.5Y 2.5/1) with wet visible oil Becomes very dark greenish gray (GLEY 1 10Y 3/1) (Same as above)	
10	11-12.5	X	839	12 19 21	ML		Clayey SILT (ML), very hard, gray (5Y 5/1), dry, strong hydrocarbon odor	
15	15-16.5	X	1061.0	19 27 31			Clayey SILT (ML), very hard, gray (5Y 5/1), dry, fine gravel, strong hydrocarbon odor	
20	20-21.5	X	371.0	22 24 22	SM		Silty SAND (SM), very dense, dark greenish gray (GLEY 1 5GY 4/1), dry, fine-grained sand, hydrocarbon odor	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		14.2	21 33 34	SC		Clayey SAND (SC), very dense, olive gray (5Y 4/2), dry, fine-grained sand	
30	30-31.5	X	5.4	21 23 27	CL		Silty CLAY (CL), very hard, dark gray (5Y 4/1), dry	
35	35-36.5		4.5	31 35 40	SC		Clayey SAND (SC), very dense, olive (5Y 4/3), dry, fine-grained sand, trace gravel	
40	40-41.5	X	11.7	35 35 46			Clayey SAND (SC), very dense, dark gray (5Y 4/1), dry, fine-grained sand, trace gravel	
45	45-46.5		29.6	27 31 35			(Same as above)	
50	50-51.5	X	54.6	27 33 36	SM		Silty SAND (SM), very dense, dark gray (5Y 4/1), dry, fine- to medium-grained sand	

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Date Start/Finish: 01/16/06-01/16/06 **Drilling Company:** WDC Exploration **Driller's Name:** Ignacio Gutierrez **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-95 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Megan Smoley **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B124 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	0.3	17 21 29	CL		Silty CLAY (CL), very hard, dark olive gray (5Y 3/2), dry	
5	5-6.5	X	0.7	16 29 29			(Same as above)	
10	10-11.5	X	1.3	18 31 33	ML		SILT (ML), very hard, olive gray (5Y 4/2), dry	
15	15-16.5	X	16.2	21 28 35			Clayey SILT (ML), very hard, gray (5Y 5/1), dry	
20	20-21.5	X	93.4	19 27 39	SM		Silty SAND (SM), very dense, olive gray (5Y 5/2), dry, fine-grained sand	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		282.0	14 18 22	ML		SILT (ML), very hard, light olive brown (2.5Y 5/3), dry	
30	30-31.5	X	55.7	23 30 37			Clayey SILT (ML), very hard, olive brown (2.5Y 4/4), dry	
35	35-36.5		748.0	18 22 29	CL		Silty CLAY (CL), very hard, light olive brown (2.5Y 5/3), dry	
40	40-41.5	X	161.0	28 35 38	SP		SAND (SP), very dense, light olive brown (2.5Y 5/3), dry	
45	45-46.5		39.6	18 20 27	SM		Silty SAND (SM), very dense, dark greenish gray (GLEY 1 5GY 4/1), dry, fine-grained sand	
50	50-51.5	X	19.3	25 37 40			Silty SAND (SM), very dense, dark greenish gray (GLEY 1 5GY 4/1), dry, very fine-grained sand	

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Water not enountered during drilling.

Date Start/Finish: 01/20/06-01/20/06 **Drilling Company:** WDC Exploration **Driller's Name:** Eddie Herrera **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 LAR **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Veronique Lee **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B125 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	0.0	5 7 9	ML		SILT (ML), stiff, dark yellowish brown (10YR 3/4), dry, 5% fine-grained sand	
5	5-6.5	X	0.0	7 9 17	ML		Becomes very stiff, dark yellowish brown (10YR 3/6)	
10	10-11.5	X	1.2	20 22 35	ML		Becomes hard, dark brown (10YR 3/3), moist	
15	15-16.5	X	0.1	19 21 26	SM		Silty SAND (SM), dense, greenish gray (GLEY 1 10Y 5/1), moist, fine-grained sand, 20% silt	
20	20-21.5	X	58.3	21 27 30	SP		SAND (SP), very dense, greenish gray (GLEY 1 10Y 5/1), moist, fine-grained sand, 5% silt	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		129.0	26 27 30	ML		SILT (ML), hard, dark greenish gray (GLEY 1 10Y 4/1), moist, 10% fine-grained sand	
30	30-31.5	X	47.9	27 30 33	ML		SILT (ML), hard, dark greenish gray (GLEY 1 10Y 4/1), moist	
35	35-36.5		155.0	26 28 30	ML		Sandy SILT (ML), hard, dark greenish gray (GLEY 1 10Y 4/1), moist, 20% fine-grained sand	
40	40-41.5	X	4.6	30 31 35	SP		SAND (SP), very dense, dark greenish gray (GLEY 1 10Y 4/1), moist, fine-grained sand, trace silt	
45	45-46.5		6.3	27 35 40	SM		Silty SAND (SM), very dense, dark greenish gray (GLEY 1 10Y 4/1), moist, fine-grained sand, 20% silt	
50	50-51.5	X	0.0	31 37 40	SP-SM		SAND with Silt (SP-SM), very dense, greenish gray (GLEY 1 10Y 5/1), moist, fine-grained sand, 10% silt	

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Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 01/20/06-01/20/06 **Drilling Company:** WDC Exploration **Driller's Name:** Eddie Herrera **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 LAR **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Veronique Lee **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B126 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	0.0	7 10 19	ML		SILT (ML), very stiff, dark yellowish brown (10YR 4/6), dry, 5% fine-grained sand	
5	5-6.5	X	0.0	12 16 22			Becomes dark yellowish brown (10YR 3/6)	
10	10-11.5	X	0.0	14 16 25			Becomes olive gray (5Y 4/2)	
15	15-16.5	X	0.0	17 19 23	SM		Silty SAND (SM), dense, greenish gray (GLEY 1 10Y 5/1), moist, fine-grained sand, 20% silt	
20	20-21.5	X	0.0	21 22 25 26	SP		SAND (SP), dense, greenish gray (GLEY 1 5GY 5/1), moist, fine-grained sand, 5% silt	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		0.0	22 28 28 30	ML		SILT (ML), hard, dark greenish gray (GLEY 1 10Y 4/1), moist, 10% fine-grained sand	
30	30-31.5	X	0.0	27 35 33			SILT (ML), hard, greenish gray (GLEY 1 10Y 5/1) with yellowish brown (10YR 5/8) mottling, moist	
35	35-36.5		36.2	33 35 35 38	SP		SAND (SP), very dense, dark greenish gray (GLEY 1 10Y 4/1), moist, fine-grained sand, 5% silt	
40	40-41.5	X	0.1	35 37 45	SM		Silty SAND (SM), very dense, dark greenish gray (GLEY 1 10Y 4/1), moist, fine-grained sand, 20% silt	
45	45-46.5		0.5	37 40 41			Becomes very dark greenish gray (GLEY 1 10Y 3/1)	
50	50-51.5	X	0.0	39 45 47	SP		SAND (SP), very dense, greenish gray (GLEY 1 10Y 5/1), moist, fine- to medium-grained sand, trace silt	

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Water not enountered during drilling.

Date Start/Finish: 01/18/06-01/18/06 **Drilling Company:** WDC Exploration **Driller's Name:** Miguel Alvarado **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Maher Zein **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B127 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	0.0	7 10 14	ML		SILT (ML), with Clay, hard, dark brown (10YR 3/3), dry	
5	5-6.5	X	19.9	11 17 21			SILT (ML), very hard, dark brown (10YR 3/3), dry, trace gravel	
10	10-11.5	X	11.7	17 24 27			SILT (ML), very hard, olive brown (2.5Y 4/3), moist	
15	15-16.5	X	1.1	19 21 24			SILT (ML), with Sand, very hard, light olive brown (2.5Y 5/3), dry	
20	20-21.5	X	578.0	23 27 34	CL		Silty CLAY (CL), very hard, olive gray (5Y 4/2), moist	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		245.0	13 15 18	ML		Clayey SILT (ML), very hard, olive gray (5Y 5/2), dry	
30	30-31.5	X	90.7	20 25 30			SILT (ML), very hard, dark greenish gray (GLEY 1 10Y 4/1), moist	
35	35-36.5		19.5	18 20 25			SILT (ML), with Clay, very hard, dark greenish gray (GLEY 1 10Y 4/1), moist	
40	40-41.5	X	8.9	35 40 45	SM		Silty SAND (SM), very dense, olive (5Y 5/3), dry, medium-grained sand	
45	45-46.5		36.7	36 42 46			Silty SAND (SM), very dense, olive gray (5Y 4/2), dry, coarse-grained sand	
50	50-51.5	X	13.1	40 45 50			Silty SAND (SM), very dense, olive gray (5Y 5/2), dry, coarse-grained sand	

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Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 02/01/06-02/02/06 **Drilling Company:** WDC Exploration **Driller's Name:** Miguel Alvarado **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Megan Smoley **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B128 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	0.3	3, 4, 7	ML		Clayey SILT (ML), firm, dark brown (10YR 3/3), dry, trace fine gravel	
	3.5-5			4, 4, 6	CL		CLAY (CL), firm, very dark grayish brown (10YR 3/2), dry, trace black hydrocarbon staining, 10% silt	
5	5-6.5	X	2.8	6, 6, 15	CL			
	6.5-8			7, 9, 12	CL		CLAY (CL), hard, dark yellowish brown (10YR 4/4), dry, 20% silt	
	8-10			7, 9, 5, 4	CL			
10	10-11.5	X	0.4	3, 3, 4	CL			
	11.5-13			4, 4, 4	SM		Silty SAND (SM), loose, light olive brown (2.5Y 5/4), dry, fine-grained sand with 5-10% medium-grained sand, 25% silt	Borehole backfilled wth Neat Cement with 5% Bentonite
	13-15			5, 6, 10	SP-SM		SAND with Silt (SP-SM), medium dense, light olive brown (2.5Y 5/3), dry, fine- to medium-grained sand, 10% silt, trace fine gravel	
15	15-16.5	X	0.2	14, 5, 7, 10	ML		Clayey SILT (ML), hard, olive brown (2.5Y 4/3), dry, 10% sand	
	16.5-18			17, 18, 20	ML		SILT (ML), very hard, olive brown (2.5Y 4/3), dry, 10% clay and fine-grained sand	
	18-20			13, 16, 18, 20	SP		SAND (SP), dense, light yellowish brown (2.5Y 6/3), dry, fine-grained sand with 15% medium-grained sand, 10% silt	
20	20-21.5	X	0.1	25, 39, 40	ML		SILT(ML), light olive brown (2.5Y 5/3), dry, 15% fine-grained sand	
	21.5-23			7, 16, 17	ML		SILT (ML), very hard, olive brown (2.5Y 4/4), dry, 15% fine- to medium-grained sand, 10% clay	
	23-25			14, 15, 25, 18	ML		SILT (ML), very hard, olive gray (5Y 5/2), dry, 20% clay, 10% fine-grained sand, 5% fine gravel	
25	25-26.5		0.0	12, 16	ML		SILT (ML), very hard, olive (5Y 4/4), dry, 10% clay, 10% fine-grained sand	

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Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 02/01/06-02/02/06 **Drilling Company:** WDC Exploration **Driller's Name:** Miguel Alvarado **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Megan Smoley **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B128 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description
				24			
	26.5-28			17			
				27			Silty SAND (SM), very dense, olive (5Y 4/3), dry, fine-grained sand, 15% silt
				27	SM		Silty SAND (SM), very dense, olive (5Y 4/3), dry, fine-grained sand, 20% silt, 5-10% fine to coarse gravel
	28-30			16			
				26			Clayey SAND (SC), very dense, dark greenish gray (GLEY 1 5GY 4/1), dry, fine-grained sand, 20% clay
				27			
				29			Clayey SAND (SC), very dense, dark greenish gray (GLEY 1 5GY 4/1), dry, fine-grained sand, 20% clay, 5% gravel
30	30-31.5		0.7	9			
		X		17			
				23	SC		Clayey SAND (SC), medium dense, olive brown (2.5Y 4/3), dry, fine-grained sand, 30% clay
	31.5-33			9			
				11			Clayey SAND (SC), medium dense, olive brown (2.5Y 4/3), dry, fine- to medium-grained, 30% clay
				12			
	33-35			8			
				11			Silty SAND (SM), dense, olive (5Y 4/3), dry, fine-grained sand with 25% medium-grained sand, 15% silt
				15			
				18			
35	35-36.5		0.8	9	SM		
				14			
				20			
	36.5-38			8			
				15	CL		Silty CLAY (CL), very hard, olive gray (5Y 5/2), dry, 10% fine-grained sand
				15			Silty SAND (SM), dense, dark greenish gray (GLEY 1 5GY 4/1), dry, fine- to medium-grained sand, 30% silt
	38-40			10			
				19			
				21	SM		
				22			Silty SAND (SM), dense, dark greenish gray (GLEY 1 5GY 4/1), dry, fine-grained sand, 30% silt
40	40-41.5		0.1	17			
		X		42			
				50			SAND (SW), very dense, greenish gray (GLEY 1 5GY 6/1), dry, medium- to coarse-grained sand with 10-15% fine-grained sand, subangular, few fine gravel, trace fines
	41.5-43			14			
				22	SW		SAND (SW), dense, olive gray (5Y 5/2), dry, fine-grained sand with 10% medium-grained sand, trace fines
				23			
	43-45			20			SAND (SP), dense, olive gray (5Y 5/2), dry, medium-grained sand with 10% coarse-grained sand, subangular
				20			
				23			
				25			
45	45-46.5		0.0	22			
				34			
				50			SAND (SP), very dense, dark greenish gray (GLEY 1 5GY 4/1), dry, fine- to medium-grained sand
	46.5-48			14			
				31	SP		
				37			
	48-50			19			Becomes olive gray (5Y 5/2)
				24			
				27			
				45			
50	50-51.5		0.0	20			SAND with Silt (SP-SM), very dense, olive gray (5Y 4/2), dry, fine-grained sand with 10% medium-grained sand, 10% silt
		X		47	SP-SM		
				50			

Well/Boring Construction

Borehole backfilled with Neat Cement with 5% Bentonite

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Remarks: bgs = below ground surface; NA = Not Applicable/Available
NM = Not Measured
Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 01/18/06-01/18/06 **Drilling Company:** WDC Exploration **Driller's Name:** Miguel Alvarado **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Maher Zein **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B129 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	0.0	8 12 16	CL		CLAY (CL), hard, brown (10YR 4/3), wet	
5	5-6.5	X	0.0	15 17 20			CLAY (CL), very hard, brown (10YR 4/3), wet	
10	10-11.5	X	0.0	17 22 25	ML		SILT (ML), with Clay, very hard, olive brown (2.5Y 4/3), moist	
15	15-16.5	X	0.0	19 23 26	SM		Silty SAND (SM), very dense, light olive brown (2.5Y 5/4), dry, medium-grained sand	
20	20-21.5	X	23.5	20 25 30			SILT (ML), very hard, light yellowish brown (2.5Y 6/3), dry	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		1.0	23 29 27 31			SILT (ML), with Sand, very hard, olive brown (2.5Y 4/4), dry	
30	30-31.5	X	0.5	29 33 37			SILT (ML), very hard, olive brown (2.5Y, 4/3), moist	
35	35-36.5		2.9	30 33 38	ML		SILT (ML), with Sand, very hard, olive brown (2.5Y 4/3), dry	
40	40-41.5	X	0.8	35 38 42			SILT (ML), very hard, olive gray (5Y 5/2), dry	
45	45-46.5		18.9	39 40 45			Sand SILT (ML), very hard, dark gray (2.5Y 4/1), moist	
50	50-51.5	X	6.2	45 50 55			(Same as above)	

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Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 01/19/06-01/19/06 **Drilling Company:** WDC Exploration **Driller's Name:** Miguel Alvarado **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Maher Zein **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B130 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	777.0	8 10 11	ML		SILT (ML), hard, black (5Y 2.5/2), dry	
5	5-6.5	X	670.0	13 15 18			SILT (ML), very hard, black (5Y 2.5/2), dry	
10	10-11.5	X	140.0	11 18 23			SILT (ML), very hard, olive gray (5Y 4/2), dry	
15	15-16.5	X	11.4	23 25 27			SILT (ML), with Sand, very hard, light yellowish brown (2.5Y 6/3), dry	
20	20-21.5	X	79.3	21 24 30			SILT (ML), with Sand, very hard, light olive brown (2.5Y 5/4), moist	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		300.0	25 30 34			Sandy SILT (ML), very hard, olive (5Y 4/3), moist	
30	30-31.5	X	65.1	28 33 39			SILT (ML), very hard, olive brown (2.5Y 4/4), dry	
35	35-36.5		20.5	36 40 46			Clayey SILT (ML), very hard, olive gray (5Y 5/2), dry	
40	40-41.5	X	11.7	25 30 35			Clayey SILT (ML), very hard, dark greenish gray (GLEY 1 10Y 4/1), moist	
45	45-46.5		2.1	40 45 50	SP		SAND (SP), very dense, olive gray (5Y 5/2), dry, coarse-grained sand, trace gravel	
50	50-51.5	X	1.7	45 49 53			SAND (SP), very dense, olive gray (5Y 5/2), dry, medium-grained sand	

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Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 01/19/06-01/19/06 **Drilling Company:** WDC Exploration **Driller's Name:** Miguel Alvarado **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Maher Zein **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B131 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	0.0	8 11 12	CL		Sandy CLAY (CL), hard, dark yellowish brown (10YR 3/4), dry	
5	5-6.5	X	0.0	12 15 18			Silty CLAY (CL), very hard, dark yellowish brown (10YR 3/4), dry	
10	10-11.5	X	0.0	15 18 19 22	ML		SILT (ML), very hard, dark yellowish brown (10YR 4/4), dry	
15	15-16.5	X	0.4	22 22 34 37			SILT (ML), very hard, light yellowish brown (2.5Y 6/3), dry, trace gravel	
20	20-21.5	X	0.8	23 26 29			SILT (ML), very hard, light olive brown (2.5Y 5/3), dry, trace gravel	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		0.4	19 20 20 25			SILT (ML), very hard, olive brown (2.5Y 4/3), dry	
30	30-31.5	X	0.0	27 33 33 37			SILT (ML), with Clay, very hard, light olive brown (2.5Y 5/4), moist	
35	35-36.5		2.3	23 29 35			SILT (ML), very hard, olive brown (2.5Y 4/3), moist	
40	40-41.5	X	0.0	35 40 45	SP-SM		SAND with Silt (SP-SM), very dense, light olive brown (2.5Y 5/3), dry, medium-grained sand	
45	45-46.5		0.2	42 47 47 50	SP		SAND (SP), very dense, olive gray (5Y 5/2), dry, coarse-grained	
50	50-51.5	X	0.0	52 55 55 55			SAND (SP), very dense, greenish gray (GLEY 1 10Y 5/1), dry, coarse-grained sand	

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Water not enountered during drilling.

Date Start/Finish: 01/19/06-01/19/06 **Drilling Company:** WDC Exploration **Driller's Name:** Miguel Alvarado **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Maher Zein **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B132 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	0.4	8 10 15	ML		SILT (ML), hard, dark yellowish brown (10YR 4/4), dry	
5	5-6.5	X	71.9	10 12 18	ML		SILT (ML), with Clay, hard, dark brown (10YR 3/3), dry	
10	10-11.5	X	1.4	15 20 25	ML		SILT (ML), very hard, olive brown (2.5Y 4/4), dry	
15	15-16.5	X	1.4	20 25 29	ML		SILT (ML), very hard, pale olive (5Y 6/3), dry, some gravel	
20	20-21.5	X	1.6	25 30 35	ML		SILT (ML), very hard, light yellowish brown (2.5Y 6/3), dry	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		2.7	27 33 39	ML		SILT (ML), very hard, olive brown (2.5Y 4/3), dry	
30	30-31.5	X	2.1	36 37 43	ML		Clayey SILT (ML), very hard, dark grayish brown (2.5Y 4/2), dry	
35	35-36.5		4.4	39 45 50	ML		Sandy SILT (ML), very hard, olive brown (2.5Y 4/3), dry	
40	40-41.5	X	5.9	45 60 55	SP		SAND (SP), very dense, pale olive (5Y 6/3), dry, medium-grained sand	
45	45-46.5		4.0	37 47 65	SW		SAND (SW), very dense, olive gray (5Y 5/2), dry	
50	50-51.5	X	2.0	50 55 60	SP		SAND (SP), very dense, dark greenish gray (GLEY 1 10Y 4/1), dry, coarse-grained sand, few gravel	

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Water not enountered during drilling.

Date Start/Finish: 01/23/06-01/23/06 **Drilling Company:** WDC Exploration **Driller's Name:** Miguel Alvarado **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Maher Zein **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B134 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	12.1	8 12 13	CL		Silty CLAY (CL), hard, dark yellowish brown (10YR 3/4), dry	
5	5-6.5	X	4.8	11 14 17			SILT (ML), very hard, dark yellowish brown (10YR 3/4), dry	
10	10-11.5	X	6.6	14 16 20			SILT (ML), very hard, olive gray (5Y 4/2), moist, trace gravel	
15	15-16.5	X	1.5	14 20 23	ML		SILT (ML), with Sand, very hard, olive (5Y 5/3), dry	
20	20-21.5	X	479.0	17 23 28			SILT (ML), very hard, olive (5Y 5/3), dry	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		20.1	19 24 27			SILT (ML), with Clay, very hard, olive (5Y 4/3), moist, trace gravel	
30	30-31.5	X	2.8	25 28 30	SM		Silty SAND (SM), very dense, olive brown (2.5Y 4/3), moist, medium-grained sand	
35	35-36.5		3.5	30 33 38	ML		SILT (ML), with Sand, very hard, light olive brown (2.5Y 5/3), dry	
40	40-41.5	X	2.3	36 40 44	SM		Silty SAND (SM), very dense, olive (5Y 4/3), moist, medium-grained sand	
45	45-46.5		18.0	40 45 48	ML		Sandy SILT (ML), very hard, olive gray (5Y 5/2), dry	
					SM		Silty SAND (SM), very dense, dark olive gray (5Y 3/2), moist, medium-grained sand	
50	50-51.5	X	46.5	45 50 55	SP		SAND (SP), very dense, light olive gray (5Y 6/1), coarse- to very coarse-grained sand	

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Water not enountered during drilling.

Date Start/Finish: 01/16/06-01/16/06 **Drilling Company:** WDC Exploration **Driller's Name:** Ignacio Gutierrez **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-95 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Megan Smoley **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B135 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Stratigraphic Description
	2-3.5	X	0.1	6 8 12	ML	Clayey SILT (ML), hard, dark olive gray (5Y 3/2), dry
5	5-6.5	X	0.2	8 17 17	CL	CLAY (CL), 20% Silt), very hard, dark olive gray (5Y 3/2), dry
10	10-11.5	X	1.0	14 17 19	ML	SILT (ML), very hard, dark olive gray (5Y 3/2), dry
15	15-16.5	X	0.9	16 18 23	CL	Silty CLAY (CL), very hard, dark gray (5Y 4/1), dry
20	20-21.5	X	0.6	16 23 25		(Same as above)
25	25-26.5		0.4	8 14 18	SM	Silty SAND (SM), dense, dark greenish gray (GLEY 1 5GY 4/1), dry, fine-grained sand
30	30-31.5	X	8.2	17 27 30	ML	Clayey SILT (ML), very hard, olive gray (5Y 4/2), dry
35	35-36.5		31.9	15 18 20	SC	Clayey SAND (SC), dense, gray (5Y 5/1), dry, fine-grained sand
					CL	CLAY (CL), very hard, gray (5Y 5/1), dry
40	40-41.5	X	18.7	22 31 34	SM	Silty SAND (SM), very dense, olive (5Y 4/3), dry
45	45-46.5		9.2	14 18 24		Silty SAND (SM), very dense, olive gray (5Y 5/2), dry
50	50-51.5	X	11.4	18 26 27		(Same as above)

Geologic Column

Well/Boring Construction

Borehole backfilled wth Neat Cement with 5% Bentonite

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Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 01/12/06-01/12/06 **Drilling Company:** WDC Exploration **Driller's Name:** Jorge Gutierrez **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Megan Smoley **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B136 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	15.1	5 5 7	CL		CLAY (CL), firm, black (2.5Y N2), dry, strong hydrocarbon odor	Borehole backfilled wth Neat Cement with 5% Bentonite
5	5-6.5	X	86.1	7 9 11			CLAY (CL), hard, dark olive gray (5Y 3/2), dry, hydrocarbon odor	
10	10-11.5	X	455.0	5 5 5	ML		SILT (ML), firm, olive (5Y 4/3), dry, strong hydrocarbon odor, little clay	
15	15-16.5	X	25.3	7 12 15			SILT (ML), hard, olive gray (5Y 5/2), dry	
20	20-21.5	X	4.2	19 20 25			(Same as above)	
25	25-26.5		24.6	19 27 30			SILT (ML), very hard, olive (5Y 5/3), dry, little clay, 5% fine gravel	
30	30-31.5	X	118.0	31 37 40			SILT (ML), very hard, olive brown (2.5Y 4/4), dry, hydrocarbon odor	
35	35-36.5		833.0	34 37 42	CL		CLAY (CL), very hard, light olive brown (2.5Y 5/3), dry, strong hydrocarbon odor, little silt	
40	40-41.5	X	822.0	34 38 40	ML		SILT (ML), very hard, light olive brown (2.5Y 5/4), dry, strong hydrocarbon odor	
45	45-46.5		76.7	30 35 40	SM		Silty SAND (SM), very dense, dark greenish gray (GLEY 1 5GY 4/1), dry, fine-grained sand, strong hydrocarbon odor	
50	50-51.5	X	563.0	32 36 38			(Same as above)	

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Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 01/13/06-01/13/06 **Drilling Company:** WDC Exploration **Driller's Name:** Jorge Gutierrez **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Megan Smoley **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B137 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	34.5	3 5 5	ML		SILT (ML), firm, black (5Y 2.5/1), dry, hydrocarbon odor	
5	5-6.5	X	62.3	11 13 15			(Same as above)	
10	10-11.5	X	4.1	5 5 7	CL		CLAY (CL), firm, dark olive gray (5Y 3/2), dry, hydrocarbon odor, little silt	
15	15-16.5	X	84.9	6 8 12	SM		Silty SAND (SM), medium dense, olive gray (5Y 5/2), dry, fine-grained sand with 30% medium- to coarse-grained sand, subangular, hydrocarbon odor	
20	20-21.5	X	78.8	13 16 19			Silty SAND (SM), dense, olive brown (2.5Y 4/4), dry, hydrocarbon odor, 10% clay	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		15.4	11 13 25	ML		SILT (ML), very hard, light olive brown (2.5Y 5/3), dry, little clay	
30	30-31.5	X	18.1	13 15 18			Becomes olive brown (2.5Y 4/3)	
35	35-36.5		384.0	19 21 24	CL		CLAY (CL), very hard, dark yellowish brown (10YR 3/4), dry, 20% silt	
40	40-41.5	X	232.0	20 25 30	SM		Silty SAND (SM), very dense, olive (5Y 4/4), dry, fine-grained sand	
45	45-46.5		863.0	26 28 31	SC		Clayey SAND (SC), very dense, olive gray (5Y 5/2), dry, fine-grained sand	
50	50-51.5	X	394.0	32 33 41	SM		Silty SAND (SM), very dense, dark greenish gray (GLEY 1 5GY 4/1), dry, fine-grained sand, 5% clay	

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Water not enountered during drilling.

Date Start/Finish: 01/13/06-01/13/06 **Drilling Company:** WDC Exploration **Driller's Name:** Jorge Gutierrez **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Megan Smoley **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B139 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X		5 5 7	CL		CLAY (CL), firm, very dark gray (5Y 3/1), dry, slight hydrocarbon odor, little silt	
5	5-6.5	X		7 11 18			Becomes hard	
10	10-11.5	X		13 18 26			Becomes very hard	
15	15-16.5	X		14 19 22	ML		SILT (ML), very hard, olive gray (5Y 5/2), dry, slight hydrocarbon odor, 15% clay	
20	20-21.5	X		12 18 20	SM		Silty SAND (SM), dense, olive (5Y 5/3), dry, fine-grained sand, slight hydrocarbon odor	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5			13 20 25	CL		CLAY (CL), very hard, olive gray (5Y 4/2), dry, little silt	
30	30-31.5	X		14 14 21			(Same as above)	
35	35-36.5			20 20 23			CLAY (CL), very hard, olive brown (2.5Y 4/4), dry, little sand	
40	40-41.5	X		14 21 23			CLAY (CL), very hard, olive gray (5Y 5/2), dry	
45	45-46.5			22 30 33	SM		Silty SAND (SM), very dense, olive (5Y 5/3), dry, fine-grained sand with 10% medium-grained sand	
					SP		SAND (SP), very dense, light yellowish brown (2.5Y 6/3), dry, medium-grained sand with trace coarse-grained sand, subangular, trace fine gravel	
50	50-51.5	X		25 29 32	SM		Silty SAND (SM), very dense, olive gray (5Y 5/2), dry, fine-grained sand	

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Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 01/31/06-01/31/06 **Drilling Company:** WDC Exploration **Driller's Name:** Eddie Herrera **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 LAR **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Megan Smoley **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B140 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	2.5	12 12 15	ML		SILT (ML), hard, light brownish gray (2.5Y 6/2), dry, some fine to coarse gravel SILT (ML), hard, black (5Y 2.5/2), dry, 15% gravel	
5	5-6.5	X	0.4	11 12 14	CL		CLAY (CL), hard, dark olive gray (5Y 3/2), dry, little silt, 5-10% gravel	
10	10-11.5	X	1.1	14 15 18			CLAY (CL), very hard, olive gray (5Y 4/2), dry, 30% silt	
15	15-16.5	X	0.1	17 19 21	SM		Silty SAND (SM), dense, olive (5Y 4/3), dry, fine-grained sand with trace medium-grained sand, 20% silt	
20	20-21.5	X	0.3	21 22 28			Silty SAND (SM), dense, olive gray (5Y 5/2), dry, fine-grained sand, 15% silt	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		0.1	22 27 30			Becomes very dense	
30	30-31.5	X	0.3	23 27 33	ML		SILT (ML), very hard, olive brown (2.5Y 4/4), dry, 5-10% fine- to medium-grained sand	
35	35-36.5		8.6	25 27 31	CL		CLAY (CL), very hard, yellowish brown (10YR 5/4), dry, 5% silt	
40	40-41.5	X	1.5	27 31 35	ML		SILT (ML), very hard, olive (5Y 5/3), dry, trace fine-grained sand	
45	45-46.5		13.6	19 27 31			SILT (ML), very hard, olive (5Y 5/3), dry, 20% fine-grained sand	
50	50-51.5	X	1.8	25 28 30	SM		Silty SAND (SM), very dense, olive (5Y 4/3), dry, fine-grained sand, micaceous, 15% silt	

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Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 01/30/06-01/30/06 **Drilling Company:** WDC Exploration **Driller's Name:** Miguel Alvarado **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Maher Zein **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B141 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description
	2-3.5	X	0.0	12 15 19			Sandy SILT (ML), very hard, very dark gray (5Y 3/1), moist
5	5-6.5	X	58.7	13 14 20	ML		SILT (ML), with Clay, very hard, brown (10YR 4/3), dry, trace gravel
10	10-11.5	X	0.0	18 20 22			Clayey SILT (ML), very hard, olive gray (5Y 4/2), dry
15	15-16.5	X	0.0	20 24 28	SM		Silty SAND (SM), very dense, light yellowish brown (2.5Y 4/2), dry, medium-grained sand
20	20-21.5	X	0.0	24 28 30			SILT (ML), very hard, light olive brown (2.5Y 5/3), dry, trace gravel
25	25-26.5		0.0	28 30 35	ML		Clayey SILT (ML), very hard, dark grayish brown (2.5Y 4/2), moist
30	30-31.5	X	0.0	30 35 35			Clayey SILT (ML), very hard, olive gray (5Y 4/2), moist
35	35-36.5		0.0	38 40 45	CL		Silty CLAY (CL), very hard, yellowish brown (10YR 5/4), moist
40	40-41.5	X	169.0	35 45 50			SILT (ML), very hard, dark yellowish brown (10YR 4/4), dry
45	45-46.5		237.0	50 55 55	ML		SILT (ML), very hard, light olive brown (2.5Y 5/3), moist
50	50-51.5	X	226.0	55 58 65			Becomes light olive brown (2.5Y 5/4), dry

Well/Boring Construction

Borehole backfilled wth Neat Cement with 5% Bentonite

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NM = Not Measured
Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 01/31/06-01/31/06 **Drilling Company:** WDC Exploration **Driller's Name:** Eddie Herrera **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 LAR **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Megan Smoley **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B142 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	199.0	10 12 14	CL		CLAY (CL), hard, black (GLEY 1 N2.5/), dry, staining, hydrocarbon odor	
5	5-6.5	X	50.4	8 10 12			(Same as above)	
10	10-11.5	X	909	17 19 20	ML		SILT (ML), very hard, olive brown (2.5Y 4/4), dry, solvent odor, 25% fine-grained sand	
15	15-16.5	X	43.3	15 19 21	SM		Silty SAND (SM), dense, olive brown (2.5Y 4/4), dry, slight solvent odor, 20% silt	
20	20-21.5	X	613.0	19 22 25			Silty SAND (SM), dense, olive brown (5Y 5/3), dry, solvent odor, fine-grained sand, 15% silt	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		521.0	22 22 25	ML		SILT (ML), very hard, olive brown (2.5Y 4/4), dry, solvent odor, 30% fine-grained sand	
30	30-31.5	X	196.0	17 25 30			SILT (ML), very hard, olive brown (2.5Y 4/3), dry, slight solvent odor, 10% fine gravel	
35	35-36.5		541.0	21 25 27	CL		CLAY (CL), very hard, olive brown (2.5Y 4/4), dry, solvent odor, 15% silt	
40	40-41.5	X	613.0	25 27 31	ML		SILT (ML), very hard, light olive brown (2.5Y 5/4), dry, strong solvent odor, little clay, 10-15% fine-grained sand	
45	45-46.5		587.0	19 19 25	CL		CLAY (CL), very hard, grayish grown (2.5Y 5/2), dry, strong solvent odor CLAY (CL), very hard, grayish grown (2.5Y 5/2), dry, strong solvent odor, 10% fine subangular gravel	
50	50-51.5	X	678.0	27 27 35	SM		Silty SAND (SM), very dense, light yellowish brown (2.5Y 6/3), dry, fine-grained sand	

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Water not enountered during drilling.

Date Start/Finish: 01/18/06-01/18/06 **Drilling Company:** WDC Exploration **Driller's Name:** Eddie Herrera **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 LAR **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Megan Smoley **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B143 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description
	2-3.5	X	0.2	10 16 20	CL		CLAY (CL), very hard, dark olive gray (5Y 3/2), moist
5	5-6.5	X	0.2	15 17 21	CL		(Same as above)
10	10-11.5	X	0.1	20 20 23	CL		(Same as above)
15	15-16.5	X	0.4	17 25 20	CL		Silty CLAY (CL), very hard, olive gray (5Y 4/2), dry
20	20-21.5	X	21.7	22 30 35	SC		Clayey SAND (SC), very dense, dark grayish brown (2.5Y 4/2), dry, fine-grained sand
25	25-26.5		7.5	21 27 31	CL		Silty CLAY (CL), very hard, olive gray (5Y 5/2), dry
30	30-31.5	X	638.0	21 25 36	ML		Sandy SILT (ML), very hard, dark olive gray (5Y 3/2), dry, fine- to medium-grained sand with trace coarse-grained sand, subangular, strong hydrocarbon odor
35	35-36.5		828	31 34 38	ML		Clayey SILT (ML), very hard, olive (5Y 4/3), dry, strong hydrocarbon odor
40	40-41.5	X	51.1	27 35 36	CL		CLAY (CL), very hard, yellowish brown (10YR 5/4), dry, slight odor
45	45-46.5		56.9	21 31 34	SM		Silty SAND (SM), very dense, olive gray (5Y 5/2), dry, fine-grained sticky texture, slight odor
50	50-51.5	X	47.3	26 30 36	SM		Becomes dark gray (5Y 4/1)

Well/Boring Construction

Borehole backfilled wth Neat Cement with 5% Bentonite

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Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 01/13/06-01/13/06 **Drilling Company:** WDC Exploration **Driller's Name:** Miguel Alvarado **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Maher Zein **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B144 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	54.9	11 12 15	ML		SILT (ML), with Clay, hard, black (5Y 2.5/1), moist, trace gravel	Borehole backfilled wth Neat Cement with 5% Bentonite
5	5-6.5	X	178.0	17 20 21			SILT (ML), very hard, very dark gray (5Y 3/1), moist, trace gravel	
10	10-11.5	X	18.9	15 20 25			SILT (ML), very hard, dark greenish gray (GLEY 1 10Y 4/1), moist	
15	15-16.5	X	34.5	18 20 27	SP		SAND (SP), dense, greenish gray (GLEY 1 10Y 5/1), dry, coarse-grained sand,	
20	20-21.5	X	4.9	25 30 35	ML		Sandy SILT (ML), very hard, dark greenish gray (GLEY 1 10Y 4/1), moist, few gravel	
25	25-26.5		28.3	27 35 40			SILT (ML), very hard, dark greenish gray (GLEY 1 10Y 4/1), moist	
30	30-31.5	X	10.1	25 28 30			SILT (ML), with Clay, very hard, olive gray (5Y 4/2), moist	
35	35-36.5		35.8	29 30 35			SILT (ML), with Clay, very hard, olive gray (5Y 4/2), dry	
40	40-41.5	X	31.4	30 35 40			SILT (ML), very hard, dark greenish gray (GLEY 1 10Y 4/1), moist	
45	45-46.5		12.9	33 42 47	SP		SAND (SP), very dense, olive gray (5Y 5/2), moist, medium-grained sand	
50	50-51.5	X	40.5	43 45 50			SAND (SP), very dense, olive gray (5Y 5/2), dry, medium- to coarse-grained sand	

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Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 01/19/06-01/19/06 **Drilling Company:** WDC Exploration **Driller's Name:** Eddie Herrera **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 LAR **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Megan Smoley **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B145 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	185.0	16 13 18	ML		SILT (ML), very hard, black (10YR 2/1), dry, hydrocarbon odor	
5	5-6.5	X	25.5	13 14 15	CL		CLAY (CL), hard, very dark grayish brown (10YR 3/2), moist, trace fine gravel	
10	10-11.5	X	22.7	21 23 29 31			CLAY (CL), very hard, dark olive gray (5Y 3/2), dry, little silt	
15	15-16.5	X	1.9	21 31 34 36	ML		SILT (ML), very hard, dark greenish gray (GLEY 1 5GY 4/1), dry, little clay	
20	20-21.5	X	0.7	31 35 37 41	CL		CLAY (CL), very hard, dark gray (5Y 4/1), dry	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		13.4	27 30 32 36			CLAY (CL), very hard, dark greenish gray (GLEY 1 5GY 4/1), dry, little silt	
30	30-31.5	X	766.0	27 31 37 43	SC		Clayey SAND (SC), very dense, dark grayish brown (2.5Y 4/2), dry, fine- to medium-grained, sticky texture, hydrocarbon odor, trace fine subangular gravel	
35	35-36.5		12.3	33 35 39 41			Becomes dark greenish gray (GLEY 1 5GY 4/1)	
40	40-41.5	X	23.2	27 37 39 43	CL		CLAY (CL), very hard, dark grayish brown (2.5Y 4/2), dry	
45	45-46.5		648.0	29 28 38 39	SM		Silty SAND (SM), very dense, dark gray (5Y 4/1), dry, fine- to medium-grained sand with trace coarse-grained sand, hydrocarbon odor	
50	50-51.5	X	581.0	35 38 39 43	SW		SAND (SW), very dense, greenish gray (GLEY 1 5GY 5/1), dry, medium-grained sand with 30% coarse-grained sand, subangular, 5% fine gravel	

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Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 01/27/06-01/27/06 **Drilling Company:** WDC Exploration **Driller's Name:** Rubin Lares **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-95 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Maher Zein **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B146 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	35.7	10 11 15	ML		SILT (ML), hard, very dark grayish brown (10YR 3/2), moist	Borehole backfilled wth Neat Cement with 5% Bentonite
5	5-6.5	X	10.8	12 13 17			SILT (ML), hard, very dark grayish brown (10YR 3/2), dry	
10	10-11.5	X	4.8	17 18 21			SILT (ML), very hard, dark olive brown (2.5Y 3/3), dry	
15	15-16.5	X	80.1	21 21 27			SILT (ML), very hard, greenish gray (GLEY 1 10Y 5/1), dry	
20	20-21.5	X	8.6	25 28 30			SILT (ML), very hard, dark greenish gray (GLEY 1 10Y 4/1), dry, trace gravel	
25	25-26.5		19.8	13 23 28 29			SILT (ML), with Clay, very hard, dark greenish gray (GLEY 1 10Y 4/1), moist	
30	30-31.5	X	49.3	19 27 27			SILT (ML), with Clay, very hard, olive brown (2.5Y 4/3), dry	
35	35-36.5		29.2	27 27 30			Clayey SILT (ML), very hard, dark brown (10YR 3/3), dry	
40	40-41.5	X	11.4	30 35 40			Clayey SILT (ML), very hard, olive brown (2.5Y 4/3), moist	
45	45-46.5		298.0	30 33 39			Sandy SILT (ML), very hard, olive brown (2.5Y 4/3), dry	
50	50-51.5	X	79.0	37 42 45	SP		SAND (SP), very dense, light yellowish brown (2.5Y 6/3), dry, medium-grained sand	

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NM = Not Measured
Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 02/01/06-02/01/06 **Drilling Company:** WDC Exploration **Driller's Name:** Miguel Alvarado **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Megan Smoley **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B147 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	393.0	10 15 25	ML		SILT (ML), very hard, dark yellowish brown (10YR 3/6), dry, odor, some gravel	
5	5-6.5	X	31.5	10 10 12	CL		CLAY (CL), hard, dark brown (10YR 3/3), dry, odor, little silt, 10% fine subangular gravel	
10	10-11.5	X	2.4	12 15 13 15			CLAY (CL), hard, olive gray (5Y 4/2), dry, 10% silt	
15	15-16.5	X	0.0	15 18 20 20	SM		Silty SAND (SM), dense, olive gray (5Y 4/2), dry, fine-grained sand with 10% medium-grained sand, 5% fine gravel	
20	20-21.5	X	0.0	17 20 23			Silty SAND (SM), dense, olive, (5Y 4/3), dry, fine-grained sand, 20% silt	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		7.1	22 24 24 28	CL		CLAY (CL), very hard, olive gray (5Y 5/2), dry, 15% fine-grained sand	
30	30-31.5	X	0.0	25 28 28 30	SC		Clayey SAND (SC), very dense, olive gray (5Y 4/2), dry, fine- to medium-grained, 5% gravel	
35	35-36.5		20.6	27 30 34	CL		CLAY (CL), very hard, dark yellowish brown (10YR 4/4), dry	
40	40-41.5	X	0.0	34 35 35 38			CLAY (CL), very hard, olive gray (5Y 4/2), dry, little silt	
45	45-46.5		207.0	39 40 40 45	SC		Clayey SAND (SC), very dense, olive gray (5Y 4/2), dry, fine-grained sand, odor	
50	60-61.5	X	5.1	45 50 50 55	SP		SAND (SP), very dense, olive (5Y 5/3), dry, fine- to medium-grained sand with trace coarse-grained sand	

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NM = Not Measured
Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 01/23/06-01/23/06 **Drilling Company:** WDC Exploration **Driller's Name:** Miguel Alvarado **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Maher Zein **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B148 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	1365.0	5 7 10	ML		SILT (ML), hard, dark olive gray (5Y 3/2), dry	Borehole backfilled wth Neat Cement with 5% Bentonite
5	5-6.5	X	670.0	7 10 13			SILT (ML), with Clay, hard, very dark grayish brown (10YR 3/2), dry, some gravel	
10	10-11.5	X	63.5	14 19 22			SILT (ML), with Clay, very hard, olive gray (5Y 4/2), moist	
15	15-16.5	X	39.5	10 15 15			SILT (ML), hard, greenish gray (GLEY 1 10Y 6/1), dry, some gravel	
20	20-21.5	X	116.0	15 19 23			SILT (ML), very hard, greenish gray (GLEY 1 10Y 5/1), dry	
25	25-26.5		1667.0	15 19 20			SILT (ML), with Clay, very hard, olive gray (5Y 4/2), moist	
30	30-31.5	X	1678.0	20 25 25			SILT (ML), very hard, gray (2.5Y 6/1), dry	
35	35-36.5		1488.0	25 28 33			SILT (ML), with Clay, very hard, olive gray (5Y 5/2), dry, trace gravel	
40	40-41.5	X	1673.0	35 40 40			SILT (ML), very hard, olive gray (5Y 4/2), moist	
45	45-46.5		587.0	40 45 45			(Same as above)	
50	50-51.5	X	81.0	50 55 60	SP		SAND (SP), very dense, gray (5Y 6/1), dry, coarse-grained sand	

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NM = Not Measured
Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 01/23/06-01/23/06 **Drilling Company:** WDC Exploration **Driller's Name:** Miguel Alvarado **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Maher Zein **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B149 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	669.0	5 7 11	ML		SILT (ML), with Clay, hard, dark olive gray (5Y 3/2), moist	
5	5-6.5	X	484.0	5 10 10	CL		CLAY (CL), hard, very dark grayish brown (2.5Y, 3/2), moist	
10	10-11.5	X	1192.0	7 12 15			Clayey SILT (ML), hard, very dark gray (5Y 3/1), moist	
15	15-16.5	X	1553.0	15 18 22			SILT (ML), very hard, olive gray (5Y 5/2), dry	
20	20-21.5	X	1935.0	20 25 25			(Same as above)	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		1418.0	23 25 30	ML		SILT (ML), very hard, light yellowish brown (2.5Y 6/3), dry, trace gravel	
30	30-31.5	X	225.0	30 35 35			SILT (ML), very hard, light olive brown (2.5Y 5/3), dry	
35	35-36.5		46.8	35 40 40			SILT (ML), with Sand, very hard, light olive brown (2.5Y 5/3), moist, trace gravel	
40	40-41.5	X	10.4	45 50 50			SILT (ML), very hard, olive gray (5Y 4/2), moist	
45	45-46.5		19.2	40 43 46			SILT (ML), very hard, olive (5Y 5/3), dry	
50	50-51.5	X	11.2	45 50 53	SP		SAND (SP), very dense, gray (5Y 5/1), dry, coarse-grained sand	

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Remarks: bgs = below ground surface; NA = Not Applicable/Available
NM = Not Measured
Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 01/20/06-01/20/06 **Drilling Company:** WDC Exploration **Driller's Name:** Miguel Alvarado **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Maher Zein **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B150 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	8.1	5 10 15	ML		SILT (ML), hard, very dark grayish brown (2.6Y 3/2), dry, trace gravel	
5	5-6.5	X	98.6	12 14 19	CL		Silty CLAY (CL), very hard, black (5Y 2.5/2), moist	
10	10-11.5	X	396.0	15 18 20	ML		SILT (ML), very hard, dark greenish gray (GLEY 1 10Y 4/1), dry	
15	15-16.5	X	397.0	17 22 25	ML		SILT (ML), very hard, olive (5Y 5/3), dry, trace gravel	
20	20-21.5	X	436.0	20 24 27	ML		(Same as above)	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		515.0	24 28 31	ML		SILT (ML), very hard, olive brown (2.5Y 4/3), dry, some gravel	
30	30-31.5	X	548.0	28 34 38	CL		CLAY (CL), with Silt, very hard, light olive brown (2.5Y 5/3), dry	
35	35-36.5		58.9	30 35 40	SC		Clayey SAND (SC), very dense, light olive brown (2.5Y 5/3), moist, medium-grained sand	
40	40-41.5	X	16.4	40 43 48	ML		SILT (ML), very hard, olive brown (2.5Y 4/3), dry	
45	45-46.5		16.7	45 49 49	ML		SILT (ML), very hard, dark greenish gray (GLEY 1 10Y 4/1), moist	
50	50-51.5	X	7.0	48 50 50	SP-SM		SAND with Silt (SP-SM), very dense, olive gray (5Y 5/2), dry, fine-grained sand	

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NM = Not Measured
Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 01/19/06-01/19/06 **Drilling Company:** WDC Exploration **Driller's Name:** Miguel Alvarado **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Maher Zein **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B151 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	0.0	5 10 15	ML		SILT (ML), hard, very dark grayish brown (10YR 3/2), dry	
5	5-6.5	X	0.0	12 13 18			SILT (ML), very hard, dark brown (10YR 3/3), moist	
10	10-11.5	X	0.7	15 18 28			SILT (ML), very hard, olive brown (2.5Y 4/4), moist	
15	15-16.5	X	0.0	23 28 33			SILT (ML), with Sand, very hard, light olive brown (2.5Y 5/3), dry	
20	20-21.5	X	0.7	28 32 36			SILT (ML), very hard, olive gray (5Y 5/2), dry	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		0.0	19 24 29	SP		SAND (SP), very dense, olive brown (2.5Y 4/4), dry, medium-grained sand	
30	30-31.5	X	0.6	25 30 34			(Same as above)	
35	35-36.5		3.3	37 43 45	ML		SILT (ML), with Sand, very hard, olive (5Y 4/4), dry, trace gravel	
40	40-41.5	X	2.8	49 53 53			SILT (ML), very hard, olive (5Y 5/3), moist, trace gravel	
45	45-46.5		0.6	40 45 50	SW		SAND (SW), very dense, olive (5Y 4/3), dry	
50	50-51.5	X	0.4	47 53 58			SAND (SW), very dense, dark greenish gray (GLEY 10Y 4/1), dry	

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Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 01/20/06-01/20/06 **Drilling Company:** WDC Exploration **Driller's Name:** Miguel Alvarado **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Maher Zein **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B152 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	21.2	5 8 11			SILT (ML), hard, black (5Y 2.5/2), dry, few gravel	
5	5-6.5	X	41.4	12 15 20			Clayey SILT (ML), very hard, black (5Y 2.5/2), dry	
10	10-11.5	X	8.1	14 16 29			SILT (ML), very hard, olive gray (5Y 4/2), moist	
15	15-16.5	X	4.8	17 23 27	ML		SILT (ML), very hard, olive gray (5Y 4/2), dry, few gravel	
20	20-21.5	X	2.2	19 23 29			SILT (ML), very hard, olive (5Y 5/3), dry	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		4.2	23 28 28 34			Sandy SILT (ML), very hard, olive (5Y 4/3), dry	
30	30-31.5	X	3.5	22 27 27 28			SILT (ML), very hard, olive (5Y 5/3), dry	
35	35-36.5		4.7	30 34 34 37			SILT (ML), with Clay, very hard, olive gray (5Y 4/2), moist	
40	40-41.5	X	1.3	35 40 40 45	SP-SM		SAND with Silt (SP-SM), very dense, light yellowish brown (2.5Y 6/3), dry, medium-grained sand	
45	45-46.5		4.6	38 46 50	SM		Silty SAND (SM), very dense, dark greenish gray (GLEY 10Y 4/1), moist, medium- to coarse-grained sand	
50	50-51.5	X	1.3	40 45 48	SP		SAND (SP), very dense, dark greenish gray (GLEY 1 10Y 4/1), dry, medium- to coarse-grained sand	

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Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 01/20/06-01/20/06 **Drilling Company:** WDC Exploration **Driller's Name:** Miguel Alvarado **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Maher Zein **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B153 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	1.6	5 8 12	ML		SILT (ML), hard, very dark gray (2.5Y 3/1), dry, few gravel	
5	5-6.5	X	3.1	10 13 16			(Same as above)	
10	10-11.5	X	127.0	15 18 22			SILT (ML), with Clay, very hard, olive gray (5Y 4/2), dry	
15	15-16.5	X	320.0	20 25 25			SILT (ML), very hard, olive gray (5Y 4/2), dry	
20	20-21.5	X	163.0	25 30 30	SP-SM		SAND with Silt (SP-SM), very dense, olive (5Y 5/3), dry, medium-grained sand	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		294.0	30 35 38	ML		SILT (ML), with Sand, very hard, olive brown (2.5Y 4/4), dry	
30	30-31.5	X	257.0	30 35 38			(Same as above)	
35	35-36.5		32.4	35 40 40			(Same as above)	
40	40-41.5	X	3.9	40 45 45			SILT (ML), very hard, olive brown (2.5Y 4/4), moist	
45	45-46.5		14.0	43 47 47	SP		SAND (SP), very dense, pale olive (5Y 6/3), dry, medium-grained sand	
50	50-51.5	X	11.1	45 50 50			SAND (SP), very dense, gray (5Y 5/1), dry, medium-grained sand	

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Water not enountered during drilling.

Date Start/Finish: 01/16/06-01/16/06 **Drilling Company:** WDC Exploration **Driller's Name:** Miguel Alvarado **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Maher Zein **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B154 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	26.1	15 20 23	ML		SILT (ML), very hard, black (5Y 2.5/2), dry, some gravel	
5	5-6.5	X	3.4	19 27 30			Clayey SILT (ML), very hard, dark yellowish brown (10YR 3/4), dry	
10	10-11.5	X	2.0	21 26 29			SILT (ML), very hard, dark greenish gray (GLEY 1 10Y 4/1), dry	
15	15-16.5	X	12.4	18 28 32			SILT (ML), very hard, light olive gray (5Y 6/2), dry, trace gravel	
20	20-21.5	X	2.2	15 20 25			SILT (ML), very hard, olive (5Y 4/3), dry	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		5.0	20 25 30			SILT (ML), with Clay, very hard, olive (5Y 4/3), dry	
30	30-31.5	X	1.8	25 30 39			SILT (ML), with Sand, very hard, olive (5Y 4/3), dry	
35	35-36.5		7.6	35 40 45			SILT (ML), with Clay, very hard, Dark yellowish brown (10YR 4/4), dry	
40	40-41.5	X	15.2	43 47 50			SILT (ML), with Clay, very hard, light olive brown (2.5Y 5/3), moist	
45	45-46.5		18.1	50 55 60			SILT (ML), very hard, olive (5Y 4/4), moist	
50	50-51.5	X	7.3	45 50 50	SW		SAND (SW), very dense, olive (5Y 4/3), dry	

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Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 01/30/06-01/30/06 **Drilling Company:** WDC Exploration **Driller's Name:** Miguel Alvarado **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Maher Zein **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B155 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	453.0	7 10 13	ML		Clayey SILT (ML), hard, black (GLEY 1 N 2.5/), moist	
5	5-6.5	X	514.0	10 10 12	ML		SILT (ML), hard, very dark greenish gray (GLEY 1 10Y 3/1), moist	
10	10-11.5	X	664.0	11 13 16	ML		SILT (ML), with Clay, hard, olive gray (5Y 4/2), dry	
15	15-16.5	X	480.0	15 18 22	ML		SILT (ML), very hard, greenish gray (GLEY 1 10Y 5/1), dry, trace gravel	
20	20-21.5	X	906.0	18 23 26	ML		SILT (ML), very hard, olive (5Y 5/3), dry, trace gravel	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		382.0	25 30 35	ML		SILT (ML), very hard, dark grayish brown (2.5Y 4/2), moist	
30	30-31.5	X	717.0	29 33 38	ML		SILT (ML), very hard, dark yellowish brown (10YR 4/4), dry	
35	35-36.5		516.0	40 45 50	ML		SILT (ML), with Clay, very hard, brown (10YR 4/3), dry, few gravel	
40	40-41.5	X	97.0	43 43 53	CL		Silty CLAY (CL), very hard, light olive brown (2.5Y 5/3), moist	
45	45-46.5		122.0	50 55 55	SP		SAND (SP), very dense, olive (5Y 5/3), dry, medium-grained sand	
50	50-51.5	X	552.0	55 60 60	SP-SM		SAND with Silt (SP-SM), very hard, olive gray (5Y 5/2), dry, medium-grained sand	

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Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 01/13/06-01/13/06 **Drilling Company:** WDC Exploration **Driller's Name:** Miguel Alvarado **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Maher Zein **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B156 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	116.0	20 25 25 30	ML		Clayey SILT (ML), very hard, black (5Y 2.5/1), moist	
5	5-6.5	X	12.6	18 19 19 20	ML		SILT (ML), very hard, very dark grayish brown (2.5Y 3/2), dry	
10	10-11.5	X	128.0	25 28 28 32	ML		SILT (ML), very hard, very dark greenish gray (10Y 3/1), moist	
15	15-16.5	X	440.0	29 28 32 37	ML		Becomes dry	
20	20-21.5	X	445.0	36 39 39 43	SP-SM		SAND with silt (SP-SM), very dense, dark greenish gray (10Y 4/1), dry, medium-grained sand	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		111.0	35 39 39 43	ML		SILT (ML), very hard, very dark greenish gray (10Y 3/1), moist	
30	30-31.5	X	458.0	40 45 45 49	ML		(Same as above)	
35	35-36.5		171.0	45 50 50 50	ML		(Same as above), trace gravel	
40	40-41.5	X	475.0	47 55 55 60	ML		Sandy SILT (ML), very hard, very dark greenish gray (10Y 3/1), dry	
45	45-46.5		736.0	47 50 50 60	SM		Silty SAND (SM), very dense, very dark greenish gray (10Y 3/1), dry, medium-grained sand	
50	50-51.5	X	406.0	50 50 50 60	SM		Silty SAND (SM), very dense, dark gray (4/N), dry, medium-grained sand	

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NM = Not Measured
Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 01/30/06-01/30/06 **Drilling Company:** WDC Exploration **Driller's Name:** Miguel Alvarado **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Maher Zein **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B158 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	651.0	3 5 7	CL		Silty CLAY (CL), firm, dark olive gray (5Y 3/2), moist	
5	5-6.5	X	256.0	10 10 12			Silty CLAY (CL), hard, dark olive gray (5Y 3/2), moist	
10	10-11.5	X	32.9	13 15 17			Clayey SILT (ML), very hard, dark greenish gray (GLEY 1 10Y 4/1), moist	
15	15-16.5	X	17.4	15 18 20	ML		SILT (ML), with Sand, very hard, greenish gray (GLEY 1 10Y 5/1), moist	
20	20-21.5	X	25.1	18 20 23			SILT (ML), with Clay, very hard, greenish gray (GLEY 1 10Y 5/1), moist	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		36.5	23 25 28			SILT (ML), very hard, dark greenish gray (GLEY 1 10Y 4/1), moist, trace gravel	
30	30-31.5	X	2.4	24 28 30	SM		Silty SAND (SM), very dense, olive (5Y 4/3), moist, medium-grained sand	
35	35-36.5		42.7	30 35 35	ML		SILT (ML), with Clay, very hard, light olive brown (2.5Y 5/3), moist	
					SM		Silty SAND (SM), very dense, light yellowish brown (2.5Y 6/4), dry, medium-grained sand	
40	40-41.5	X	168.0	35 40 44			SILT (ML), very hard, light olive brown (2.5Y 5/4), dry	
45	45-46.5		435.0	45 50 56	ML		(Same as above)	
50	50-51.5	X	645.0	45 50 55	SP		SAND (SP), very dense, light olive brown (2.5Y 5/4), dry, medium-grained sand	

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NM = Not Measured
Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 01/31/06-01/31/06 **Drilling Company:** WDC Exploration **Driller's Name:** Miguel Alvarado **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Maher Zein **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B159 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	7.2	10 10 12	CL		CLAY (CL), with Silt, hard, very dark gray (5Y 3/1), moist	
5	5-6.5	X	6.9	13 14 16			Silty CLAY (CL), hard, dark brown (10YR 3/3), dry	
10	10-11.5	X	27.1	15 17 20	ML		SILT (ML), with Clay, very hard, olive brown (2.5Y 4/3), dry	
15	15-16.5	X	2.1	18 20 23	SP		SAND (SP), dense, light yellowish brown (2.5Y 6/3), dry, fine-grained sand	
20	20-21.5	X	2.5	19 24 28			SILT (ML), very hard, light olive gray (5Y 6/2), dry	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		10.1	30 30 35	ML		SILT (ML), with Sand, very hard, olive gray (5Y 4/2), dry	
30	30-31.5	X	0.1	30 35 40			SILT (ML), with Clay, very hard, olive (5Y 4/3), moist	
35	35-36.5		9.9	47 47 52	CL		CLAY (CL), very hard, dark grayish brown (2.5Y 4/2), moist	
40	40-41.5	X	3.1	48 55 58			SILT (ML), with Clay, very hard, olive (5Y 5/3), dry	
45	45-46.5		12.2	55 58 60	ML		Sandy SILT (ML), very hard, olive (5Y 5/3), dry	
50	50-51.5	X	15.2	37 43 49			SILT (ML), very hard, light olive brown (2.5Y 5/3), dry	

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NM = Not Measured
Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 01/31/06-01/31/06 **Drilling Company:** WDC Exploration **Driller's Name:** Eddie Herrera **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 LAR **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Megan Smoley **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B160 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Stratigraphic Description
	2-3.5	X	0.0	7 9 12	CL	CLAY (CL), hard, dark yellowish brown (10YR 3/4), dry, little silt
5	5-6.5	X	1.0	12 18 20	CL	CLAY (CL), very hard, dark olive gray (5Y 3/2), dry, little silt
10	10-11.5	X	0.0	17 19 21	SM	Silty SAND (SM), dense, dark olive gray (5Y 3/2), dry, fine-grained sand, 40% silt
15	15-16.5	X	0.0	22 22 25	SM	Silty SAND (SM), dense, dark greenish gray (GLEY 1 5GY 4/1), dry, fine-grained sand, 25% silt
20	20-21.5	X	0.0	25 27 30	CL	CLAY (CL), very hard, dark gray (5Y 4/1), dry, 15% silt
25	25-26.5		0.0	17 19 25	SM	Silty SAND (SM), dense, olive gray (5Y 4/2), dry, fine-grained sand, 20% silt
					SP	SAND (SP), dense, olive gray (5Y 5/2), dry, fine- to medium-grained sand with trace coarse-grained sand, subangular, 5-10% fine gravel, 5% silt
30	30-31.5	X	0.9	21 25 30	CL	CLAY (CL), very hard, dark yellowish brown (10YR 3/4), dry
35	35-36.5		1.8	19 21 25	CL	CLAY (CL), very hard, light olive brown (2.5Y 5/3), dry, 40% silt, trace fine to coarse gravel,
40	40-41.5	X	0.0	27 30 35	SM	Silty SAND (SM), very dense, light olive brown (2.5Y 5/4), dry, fine-grained sand, 15% silt
45	45-46.5		11.8	25 32 35	CL	CLAY (CL), very hard, olive gray (5Y 4/2), dry, 40% silt
50	50-51.5	X	1.0	22 25 33	ML	SILT (ML), very hard, olive gray (5Y 4/2), dry, 20% fine-grained sand

Geologic Column

Well/Boring Construction

Borehole backfilled wth Neat Cement with 5% Bentonite

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Remarks: bgs = below ground surface; NA = Not Applicable/Available
NM = Not Measured
Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 01/13/06-01/13/06 **Drilling Company:** WDC Exploration **Driller's Name:** Miguel Alvarado **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Maher Zein **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B161 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	246.0	7 8 10			SILT (ML), hard, very dark gray (5Y 3/1), dry, trace sand and gravel	
5	5-6.5	X	593.0	7 11 15			Clayey SILT (ML), hard, very dark greenish gray (GLEY 1 5GY 3/1), dry	
10	10-11.5	X	653.0	11 13 18			SILT (ML), very hard, dark greenish gray (GLEY 1 10Y 4/1), dry	
15	15-16.5	X	42.2	18 19 23			SILT (ML), very hard, dark greenish gray (GLEY 1 10Y 4/1), dry, trace gravel	
20	20-21.5	X	43.7	11 17 19	ML		SILT (ML), very hard, greenish gray (GLEY 1 10Y 6/1), dry, few gravel	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		454.0	17 19 23			SILT (ML), very hard, dark greenish gray (GLEY 1 10Y 4/1), moist	
30	30-31.5	X	179.0	21 25 29			SILT (ML), very hard, dark brown (10YR 3/3), dry	
35	35-36.5		595.0	22 25 29			SILT (ML), very hard, dark greenish gray (GLEY 1 10Y 4/1), dry, trace gravel	
40	40-41.5	X	438.0	29 32 36			SILT (ML), very hard, dark greenish gray (GLEY 1 10Y 4/1), dry, with clay	
45	45-46.5		316.0	29 33 39	SP-SM		SAND with silt (SP-SM), very dense, olive (5Y 5/3), dry, medium-grained sand	
50	50-51.5	X	785.0	30 35 39	ML		SILT (ML), very hard, olive gray (5Y 4/2), dry, with clay	

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NM = Not Measured
Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 01/16/06-01/16/06 **Drilling Company:** WDC Exploration **Driller's Name:** Miguel Alvarado **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Maher Zein **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B162 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	25.1	15 20 25			SILT (ML), very hard, black (5Y 2.5/2), dry	
5	5-6.5	X	11.5	18 23 27			SILT (ML), very hard, dark olive gray (5Y 3/2), dry	
10	10-11.5	X	2.7	20 23 27			SILT (ML), with Clay, very hard, olive gray (5Y 4/2), dry	
15	15-16.5	X	23.0	18 20 25			SILT (ML), very hard, gray (5Y 5/1), dry	
20	20-21.5	X	7.9	29 33 37	ML		SILT (ML), very hard, olive gray (5Y 5/2), dry, trace gravel	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		14.9	23 30 33			SILT (ML), very hard, olive gray (5Y 5/2), moist	
30	30-31.5	X	7.7	29 37 43			Clayey SILT (ML), very hard, dark yellowish brown (10YR 3/4), dry	
35	35-36.5		20.9	35 40 45			SILT (ML), very hard, dark yellowish brown (10YR 4/4), moist	
40	40-41.5	X	11.2	38 43 50			Clayey SILT (ML), very hard, olive gray (5Y 5/2), moist	
45	45-46.5		1.8	37 43 59	SP		SAND (SP), very dense, olive (5Y 5/3), dry, medium-grained sand	
50	50-51.5	X	5.5	40 45 50			(Same as above)	

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Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 01/16/06-01/16/06 **Drilling Company:** WDC Exploration **Driller's Name:** Miguel Alvarado **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Maher Zein **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B163 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	7.0	10 15 20	ML		SILT (ML), with Clay, very hard, dark yellowish brown (10YR 3/4), dry	
5	5-6.5	X	4.1	18 23 27			(Same as above)	
10	10-11.5	X	6.0	21 24 27			SILT (ML), very hard, dark olive gray (5Y 3/2), dry	
15	15-16.5	X	129.0	29 30 34			SILT (ML), very hard, olive gray (5Y 5/2), dry, few gravel	
20	20-21.5	X	534.0	27 34 39	SP		SAND (SP), very dense, olive (5Y 5/3), dry, fine-grained sand	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		819.0	34 39 43	ML		SILT (ML), very hard, olive gray (5Y 4/2), moist	
30	30-31.5	X	864.0	37 43 47			(Same as above)	
35	35-36.5		737.0	39 45 50			SILT (ML), with Clay, very hard, dark yellowish brown (10YR 4/4), dry	
40	40-41.5	X	727.0	45 50 50			SILT (ML), with Clay, very hard, olive (5Y 4/3), dry	
45	45-46.5		637.0	45 53 57			SILT (ML), very hard, dark greenish gray (GLEY 1 10Y 4/1), moist	
50	50-51.5	X	712.0	48 62 56	SM		Silty SAND (SM), very dense, olive gray (5Y 5/2), dry, medium- to coarse-grained sand	

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NM = Not Measured
Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 01/16/06-01/16/06 **Drilling Company:** WDC Exploration **Driller's Name:** Miguel Alvarado **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Maher Zein **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B164 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	0.0	5 10 15	ML		SILT (ML), with Clay, hard, dark olive gray (5Y 3/2), moist, trace gravel	
5	5-6.5	X	0.0	18 20 25	CL		CLAY (CL), very hard, dark olive gray (5Y 3/2), dry	
10	10-11.5	X	0.0	21 23 27	ML		SILT (ML), very hard, olive gray (5Y 4/2), dry	
15	15-16.5	X	106.0	27 35 40	ML		SILT (ML), very hard, dark greenish gray (GLEY 1 10Y 4/1), moist	
20	20-21.5	X	28.6	29 33 37	ML		SILT (ML), very hard, dark greenish gray (GLEY 1 10Y 4/1), dry	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		584.0	33 36 39	ML		SILT (ML), very hard, dark greenish gray (GLEY 1 10Y 4/1), moist	
30	30-31.5	X	14.9	35 40 44	ML		SILT (ML), with Clay, very hard, olive gray (5Y 4/2), dry	
35	35-36.5		10.1	35 40 45	CL		Silty CLAY (CL), very hard, dark gray (5Y 4/1), moist	
40	40-41.5	X	0.5	35 38 40	ML		(Same as above)	
45	45-46.5		15.6	43 47 52	ML		SILT (ML), very hard, olive (5Y 4/3), moist	
50	50-51.5	X	26.6	45 50 50	SM		Silty SAND (SM), very dense, olive (5Y 4/3), dry, medium- to coarse-grained sand	

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Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 01/23/06-01/23/06 **Drilling Company:** WDC Exploration **Driller's Name:** Miguel Alvarado **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Maher Zein **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B165 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description
	2-3.5	X	1.7	6 10 14	ML		SILT (ML), with Clay, hard, dark brown (10YR 3/3), dry
5	5-6.5	X	1.1	11 14 18	ML		SILT (ML), with Clay, very hard, dark brown (10YR 3/3), dry
10	10-11.5	X	0.2	13 17 20	ML		SILT (ML), very hard, olive (5Y 5/3), moist
15	15-16.5	X	0.0	16 20 25	ML		SILT (ML), very hard, olive (5Y 4/3), moist
20	20-21.5	X	0.0	20 24 29	ML		SILT (ML), with Clay, very hard, olive gray (5Y 5/2), dry, trace gravel
25	25-26.5		0.2	25 30 34	ML		Clayey SILT (ML), very hard, olive (5Y 5/3), moist
30	30-31.5	X	0.0	35 40 40	ML		SILT (ML), very hard, olive gray (5Y 4/2), moist
35	35-36.5		0.1	45 49 52	CL		Sandy CLAY (CL), very hard, gray (GLEY 1 5GY 5/1), moist
40	40-41.5	X	0.0	45 52 55	SM		Silty SAND (SM), very dense, dark greenish gray (GLEY 1 10Y 4/1), moist, medium-grained sand
45	45-46.5		16.2	55 58 62	SC		Clayey SAND (SC), very dense, olive gray (5Y 5/2), moist, medium-grained sand
50	50-51.5	X	2.4	63 67 70	SP		SAND (SP), very dense, olive (5Y 4/4), moist, medium-grained sand

Well/Boring Construction

Borehole backfilled wth Neat Cement with 5% Bentonite

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NM = Not Measured
Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 01/24/06-01/24/06 **Drilling Company:** WDC Exploration **Driller's Name:** Miguel Alvarado **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Maher Zein **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B166 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	25.0	7 12 15	ML		SILT (ML), with Clay, hard, very dark grayish brown (10YR 3/2), dry, trace gravel	Borehole backfilled wth Neat Cement with 5% Bentonite
5	5-6.5	X	30.7	7 12 16			SILT (ML), hard, very dark grayish brown (10YR 3/2), dry	
10	10-11.5	X	1.3	10 15 19			SILT (ML), very hard, olive (5Y 4/3), dry, trace gravel	
15	15-16.5	X	1.1	13 18 22			SILT (ML), very hard, olive gray (5Y 4/2), moist	
20	20-21.5	X	0.8	16 20 24			SILT (ML), with Clay, very hard, olive gray (5Y 5/2), dry, trace gravel	
25	25-26.5		0.3	20 24 28			SILT (ML), with Clay, very hard, dark brown (10YR 3/3), moist	
30	30-31.5	X	0.5	25 30 34			SILT (ML), with Clay and Sand, very hard, brown (10YR 4/3), dry	
35	35-36.5		0.5	28 33 34			SILT (ML), with Sand, very hard, dark brown (10YR 3/3), dry	
40	40-41.5	X	0.3	37 40 45	SM		Silty SAND (SM), very dense, yellowish brown (10YR 5/6), dry, medium-grained sand	
45	45-46.5		1.2	44 48 52			Silty SAND (SM), very dense, greenish gray (GLEY 1 10Y 5/1), dry, coarse-grained sand	
50	50-51.5	X	0.0	48 50 51			Becomes olive gray (5Y 5/2), medium-grained sand	

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NM = Not Measured
Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 01/17/06-01/17/06 **Drilling Company:** WDC Exploration **Driller's Name:** Miguel Alvarado **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Maher Zein **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B167 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	0.0	7 11 13			Clayey SILT (ML), hard, dark brown (10YR 3/3), moist	
5	5-6.5	X	0.0	12 15 17			Clayey SILT (ML), very hard, dark brown (10YR 3/3), moist	
10	10-11.5	X	0.0	15 20 25			SILT (ML), very hard, brown (10YR 4/3), moist	
15	15-16.5	X	0.0	18 20 29			SILT (ML), very hard, olive brown (2.5Y 4/4), dry	
20	20-21.5	X	0.0	21 25 31			SILT (ML), very hard, olive (5Y 5/4), dry	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		0.0	30 31 31 36	ML		SILT (ML), very hard, olive gray (5Y 5/2), moist	
30	30-31.5	X	0.0	20 25 25 30			SILT (ML), with Clay, very hard, olive brown (2.5Y 4/3), dry	
35	35-36.5		0.8	27 24 33			SILT (ML), very hard, dark grayish brown (2.5Y 4/2), moist	
40	40-41.5	X	0.9	30 35 40			SILT (ML), with Clay, very hard, dark yellowish brown (10YR 4/4), dry, trace gravel	
45	45-46.5		3.7	38 40 40 43			SILT (ML), very hard, olive (5Y 4/3), moist	
50	50-51.5	X	0.6	20 30 40			SILT (ML), with Sand, very hard, olive (5Y 4/3), dry	

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NM = Not Measured
Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 01/17/06-01/17/06 **Drilling Company:** WDC Exploration **Driller's Name:** Miguel Alvarado **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Maher Zein **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B168 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	0.0	20 25 25 26	ML		SILT (ML), very hard, very dark grayish brown (2.5Y 3/2), dry, some gravel	
5	5-6.5	X	28.0	18 20 25			SILT (ML), very hard, brown (10YR 4/3), dry	
10	10-11.5	X	1.4	23 25 27			SILT (ML), very hard, dark yellowish brown (10YR 4/4), dry	
15	15-16.5	X	10.5	25 30 35			SILT (ML), very hard, olive (5Y 5/3), moist	
20	20-21.5	X	6.9	33 38 39			SILT (ML), very hard, olive gray (5Y 4/2), moist	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		2.1	35 39 42			(Same as above)	
30	30-31.5	X	1.4	30 35 40			SILT (ML), very hard, olive brown (2.5Y 4/3), dry	
35	35-36.5		3.0	38 42 46			SILT (ML), very hard, brown (10YR 4/3), dry	
40	40-41.5	X	8.1	43 47 52	SW		SAND (SW), very dense, olive (5Y 4/3), dry, trace gravel	
45	45-46.5		1.9	43 49 53	ML		SILT (ML), with Sand, very hard, olive gray (5Y 5/2), dry	
50	50-51.5	X	1.0	40 45 50	SM		Silty SAND (SM), very dense, olive gray (5Y 4/2), dry	

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NM = Not Measured
Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 01/17/06-01/17/06 **Drilling Company:** WDC Exploration **Driller's Name:** Miguel Alvarado **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Maher Zein **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B169 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	459.0	10 15 20			SILT (ML), very hard, black (5Y 2.5/1), dry	
5	5-6.5	X	33.7	11 16 29			SILT (ML), with Clay, very hard, very dark grayish brown (2.5Y 3/2), dry	
10	10-11.5	X	10.3	18 24 27			SILT (ML), very hard, olive (5Y 4/3), dry	
15	15-16.5	X	3.8	20 23 29	ML		SILT (ML), very hard, olive gray (5Y 4/2), dry, trace gravel	
20	20-21.5	X	12.8	22 23 27			SILT (ML), very hard, olive gray (5Y 4/2), dry	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		8.8	23 24 28			(Same as above)	
30	30-31.5	X	23.2	31 36 41			SILT (ML), with Clay, very hard, olive gray (5Y 4/2), dry	
35	35-36.5		348.0	26 30 36	SM		Silty SAND (SM), very dense, olive brown (2.5Y 4/3), dry, coarse-grained sand	
40	40-41.5	X	32.4	36 40 43	SW		SAND (SW), very dense, dark grayish brown (2.5Y 4/2), dry	
45	45-46.5		8.9	44 46 48	CL		Silty CLAY (CL), very hard, olive gray (5Y 4/2), moist	
50	50-51.5	X	463.0	45 50 55			CLAY (CL), very hard, olive gray (5Y 4/2), moist	

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NM = Not Measured
Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 01/18/06-01/18/06 **Drilling Company:** WDC Exploration **Driller's Name:** Miguel Alvarado **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Maher Zein **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B170 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	2.0	6 7 11			SILT (ML), with Gravel, hard, very dark grayish brown (10YR 3/2), wet	
5	5-6.5	X	4.4	10 12 18			(Same as above)	
10	10-11.5	X	277.0	19 20 21			SILT (ML), with Clay, very hard, olive gray (5Y 4/2), moist	
15	15-16.5	X	655.0	22 25 26			SILT (ML), very hard, olive gray (5Y 5/2), moist	
20	20-21.5	X	648.0	15 20 25			SILT (ML), very hard, olive gray (5Y 5/2), dry	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		59.6	21 27 31	ML		SILT (ML), very hard, olive gray (5Y 4/2), moist	
30	30-31.5	X	107.0	23 27 32			SILT (ML), with Clay, very hard, dark grayish brown (2.5Y 4/2), moist	
35	35-36.5		167.0	30 33 37			Clayey SILT (ML), very hard, olive (5Y 4/3), moist	
40	40-41.5	X	455.0	29 34 37			SILT (ML), very hard, pale olive (5Y 6/3), moist	
45	45-46.5		309.0	33 37 43			SILT (ML), with Clay, very hard, olive gray (5Y 5/2), moist	
50	50-51.5	X	419.0	30 40 50			SILT (ML), very hard, olive gray (5Y 5/2), moist	

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Remarks: bgs = below ground surface; NA = Not Applicable/Available
NM = Not Measured
Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 01/11/06-01/11/06 **Drilling Company:** WDC Exploration **Driller's Name:** Miguel Alvarado **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Maher Zein **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B171 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	661.0	10 15 20	CL		CLAY (CL), very hard, dark olive gray (5Y 3/2), moist	
5	5-6.5	X	542.0	15 20 20			CLAY (CL), very hard, black (5Y 2.5/1), moist	
10	10-11.5	X	546.0	16 19 23	ML		SILT (ML), very hard, dark yellowish brown (10YR 3/4), dry	
15	15-16.5	X	398.0	29 28 33			SILT (ML), very hard, olive brown (2.5Y 4/4), dry	
20	20-21.5	X	546.0	28 33 36			Sandy SILT (ML), very hard, olive (5Y 5/4), dry	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		530.0	34 40 43			Sandy SILT (ML), very hard, olive (5Y 4/4), dry	
30	30-31.5	X	539.0	18 24 32			SILT (ML), very hard, olive gray (5Y 4/2), moist	
35	35-36.5		316.0	25 32 38			SILT (ML), very hard, olive brown (2.5Y 4/4), dry	
40	40-41.5	X	555.0	28 34 36			SILT (ML), very hard, olive (5Y 4/3), dry	
45	45-46.5		595.0	35 41 43			SILT (ML), very hard, greenish gray (GLEY 1 10Y 5/1), moist	
50	50-51.5	X	575.0	37 45 48			Clayey SILT (ML), very hard, dark greenish gray (GLEY 1 10Y 4/1), dry	

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NM = Not Measured
Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 01/12/06-01/12/06 **Drilling Company:** WDC Exploration **Driller's Name:** Miguel Alvarado **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Maher Zein **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B172 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	115.0	12 16 18	ML		SILT (ML), very hard, black (5Y 2.5/1), moist	
5	5-6.5	X	45.0	10 11 20	CL		CLAY (CL), very hard, black (5Y 2.5/1), moist	
10	10-11.5	X	23.6	19 20 24	ML		SILT (ML), very hard, olive gray (5Y 4/2), dry	
15	15-16.5	X	14.6	20 32 50	ML		SILT (ML), very hard, olive gray (5Y 5/2), dry	
20	20-21.5	X	11.4	25 32 38	ML		SILT (ML), with Clay, very hard, gray (5Y 5/1), moist	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		133.0	25 30 38	SM		Silty SAND (SM), very dense, olive (5Y 5/3), dry, medium-grained sand	
30	30-31.5	X	308.0	24 32 36 36	ML		Clayey SILT (ML), very hard, olive (5Y 4/3), dry	
35	35-36.5		69.8	22 25 30 30	ML		SILT (ML), with Clay, very hard, olive (5Y 4/3), moist	
40	40-41.5	X	51.4	35 37 37 44	ML		Clayey SILT (ML), very hard, olive (5Y 4/3), moist	
45	45-46.5		457.0	29 30 30 33	ML		SILT (ML), very hard, light olive brown (2.5Y 5/3), dry	
50	50-51.5	X	491.0	43 45 50 50	ML		SILT (ML), very hard, olive gray (5Y 5/2), moist, few gravel	

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NM = Not Measured
Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 01/12/06-01/12/06 **Drilling Company:** WDC Exploration **Driller's Name:** Miguel Alvarado **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Maher Zein **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B173 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	2.5	16 20 24			SILT (ML), very hard, dark olive gray (5Y 3/2), dry	
5	5-6.5	X	0.0	32 38 40			SILT (ML), very hard, dark yellowish brown (10YR 3/4), dry	
10	10-11.5	X	0.0	27 30 33			SILT (ML), with Clay, very hard, olive brown (2.5Y 4/3), dry	
15	15-16.5	X	0.0	19 32 41			SILT (ML), with Clay, very hard, olive brown (2.5Y 4/3), moist	
20	20-21.5	X	0.0	30 35 39			SILT (ML), very hard, olive gray (5Y 5/2), dry, some gravel	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		0.0	34 40 45	ML		Sandy SILT (ML), very hard, olive (5Y 5/4), dry	
30	30-31.5	X	5.2	30 30 45			SILT (ML), very hard, dark yellowish brown (10YR 4/4), dry	
35	35-36.5		28.2	29 34 39			SILT (ML), very hard, olive brown (2.5Y 4/3), moist	
40	40-41.5	X	0.5	36 43 48			SILT (ML), very hard, olive brown (2.5Y 4/3), dry	
45	45-46.5		3.3	32 36 43			(Same as above)	
50	50-51.5	X	0.0	32 35 49	SP		SAND (SP), very dense, pale olive (5Y 6/3), dry, medium-grained sand	

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NM = Not Measured
Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 01/12/06-01/12/06 **Drilling Company:** WDC Exploration **Driller's Name:** Miguel Alvarado **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Maher Zein **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B174 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	4.4	5 7 9			SILT (ML), hard, very dark grayish brown (10YR 3/2), dry	
5	5-6.5	X	1.5	20 22 25			SILT (ML), very hard, very dark grayish brown (10YR 3/2), dry	
10	10-11.5	X	0.0	28 30 31	ML		SILT (ML), very hard, brown (10YR 4/3), dry	
15	15-16.5	X	1.6	20 24 28			SILT (ML), very hard, brown (10YR 4/3), moist	
20	20-21.5	X	0.0	26 28 33			(Same as above)	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		0.0	21 25 25	SM		Silty SAND (SM), very dense, light olive brown (2.5Y 5/4), dry, medium-grained sand	
30	30-31.5	X	1.0	33 36 40			(Same as above)	
35	35-36.5		4.7	26 30 34			SILT (ML), very hard, dark yellowish brown (10YR 4/4), moist	
40	40-41.5	X	1.0	25 27 31	ML		SILT (ML), with Clay, very hard, olive (5Y 5/3), moist	
45	45-46.5		26.4	33 38 422			SILT (ML), very hard, olive gray (5Y 4/2), moist	
50	50-51.5	X	6.6	38 44 48			Sandy SILT (ML), very hard, dark greenish gray (GLEY 1 10Y 4/1), moist	

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NM = Not Measured
Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 02/07/06-02/07/06 **Drilling Company:** WDC Exploration **Driller's Name:** Miguel Alvarado **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Maher Zein **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B175 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description
	2-3.5	X	3.5	4 5 7	CL		CLAY (CL), firm, very olive gray (5Y 3/1), moist
5	5-6.5	X	3.1	6 8 10			CLAY (CL), hard, very dark grayish brown (2.5Y 3/2), moist
10	10-11.5	X	14.4	11 12 14	ML		Clayey SILT (ML), hard, light olive brown (2.5Y 5/3), dry
15	15-16.5	X	1.1	14 16 18			SILT (ML), with Sand, very hard, olive gray (5Y 4/2), moist
20	20-21.5	X	12.0	16 19 22			Clayey SILT (ML), very hard, dark greenish gray (GLEY 1 10Y 4/1), moist
					SP		SAND (SP), dense, greenish gray (GLEY 1 10Y 5/1), moist, coarse-grained sand
25	25-26.5		2.9	16 18 19	ML		
30	30-31.5	X	2.5	19 23 25			25.2 Clayey SILT (ML), very hard, very dark grayish brown (2.5Y 3/2), dry
35	35-36.5		12.6	17 19 23			SILT (ML), with Sand, very hard, olive (5Y 4/3), moist, trace gravel
40	40-41.5	X	0.8	23 25 28	SP		SAND (SP), very dense, olive (5Y 4/3), dry, fine-grained sand
45	45-46.5		10.5	21 24 26			(Same as above)
50	50-51.5	X	0.5	50 50 50	ML		SILT (ML), very hard, olive (5Y 4/3), dry

Well/Boring Construction

Borehole backfilled wth Neat Cement with 5% Bentonite

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Water not enountered during drilling.

Date Start/Finish: 02/07/06-02/07/06 **Drilling Company:** WDC Exploration **Driller's Name:** Jorge Gutierrez **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Veronique Lee **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B176 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	5.4	NA	ML		SILT (ML), black (2.5Y 2.5/1), moist, 10% fine-grained sand, slight hydrocarbon odor	
5	5-6.5	X	7.5	10 12			SILT (ML), very stiff, very dark greenish gray (GLEY 1 10Y 3/1), moist, 10% fine-grained sand	
10	10-11.5	X	2.3	5 7 12			SILT (ML), very stiff, dark greenish gray (GLEY 1 10Y 4/1), moist, 5% fine-grained sand	
15	15-16.5	X	5.8	10 12 16			SILT (ML), very stiff, dark greenish gray (GLEY 1 10Y 4/1), moist	
20	20-21.5	X	2.0	13 13 16			SILT (ML), very stiff, dark greenish gray (GLEY 1 10Y 4/1), moist, 20% fine-grained sand	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		4.6	10 13 16			Sandy SILT (ML), very stiff, dark greenish gray (GLEY 1 10Y 4/1), moist, 30% fine-grained sand	
30	30-31.5	X	0.0	101 10 13			SILT (ML), very stiff, dark grayish brown (2.5Y 4/2), dry, 5% fine-grained sand	
35	35-36.5		1.2	8 14 15			SILT (ML), very stiff, olive (5Y 4/3), moist, 10% fine-grained sand	
40	40-41.5	X	0.0	14 16 18	SM		Silty SAND (SM), dense, dark greenish gray (GLEY 1 10Y 4/1), moist, 15% silt	
45	45-46.5		2.8	8 9 11	ML		SILT (ML), very stiff, dark greenish gray (GLEY 1 10Y 4/1), moist	
50	50-51.5	X	138.0	13 19 21			SILT (ML), hard, dark greenish gray (GLEY 1 10Y 4/1), moist	

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NM = Not Measured
Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 02/02/06-02/02/06 **Drilling Company:** WDC Exploration **Driller's Name:** Eddie Herrera **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Maher Zein **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B177 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Stratigraphic Description
	2-3.5	X	400.0	7 9 12		SILT (ML), with Clay, hard, dark greenish gray (GLEY 1 10Y 4/1), dry, few gravel
5	5-6.5	X	77.0	7 9 13		SILT (ML), with Clay, hard, olive brown (2.5Y 4/3), moist, few gravel
10	10-11.5	X	19.9	5 10 13		SILT (ML), hard, dark greenish gray (GLEY 1 10Y 4/1), moist
15	15-16.5	X	31.4	12 17 23	ML	Clayey SILT (ML), very hard, olive brown (2.5Y 4/3), moist
20	20-21.5	X	4.2	19 22 29		SILT (ML), with Sand, very hard, olive gray (5Y 4/2), moist
25	25-26.5		16.6	21 25 29		SILT (ML), very hard, dark greenish gray (GLEY 1 10Y 4/1), moist
30	30-31.5	X	37.9	25 30 32		Clayey SILT (ML), very hard, olive brown (2.5Y 4/3), dry
35	35-36.5		12.5	25 25 29	SP	SAND (SP), very dense, olive (5Y 4/3), moist, coarse-grained sand
40	40-41.5	X	132.0	30 32 35	ML	Clayey SILT (ML), very hard, dark greenish gray (GLEY 1 10Y 4/1), moist
45	45-46.5		956.0	24 27 40	SP	SAND (SP), very dense, light olive brown (2.5Y 5/4), dry, medium-grained sand
50	50-51.5	X	1650.0	25 29 33	SM	Silty SAND (SM), very dense, olive (5Y 4/3), moist, medium-grained sand, trace gravel

Geologic Column

Well/Boring Construction

Borehole backfilled wth Neat Cement with 5% Bentonite

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NM = Not Measured
Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 02/02/06-02/02/06 **Drilling Company:** WDC Exploration **Driller's Name:** Eddie Herrera **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Maher Zein **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B178 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	313.0	9 12 13	ML		Clayey SILT (ML), hard, very dark grayish brown (10YR 3/2), moist, few gravel	
5	5-6.5	X	24.9	7 12 13	CL		CLAY (CL), hard, very dark gray (5Y 3/1), moist	
10	10-11.5	X	19.8	13 14 19			Silty CLAY (CL), very hard, olive brown (2.5Y 4/3), moist	
15	15-16.5	X	13.9	18 20 25	ML		SILT (ML), very hard, dark greenish gray (GLEY 1 10Y 4/1), moist, few gravel	
20	20-21.5	X	1021.0	23 27 40	CL		Silty CLAY (CL), very hard, greenish gray (GLEY 1 10Y 5/1), moist	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		298.0	23 27 30			Silty CLAY (CL), very hard, dark greenish gray (GLEY 1 10Y 4/1), moist	
30	30-31.5	X	32.0	25 28 30	ML		Sand SILT (ML), very hard, olive brown (2.5Y 4/3), moist	
35	35-36.5		79.0	25 35 37			Sandy SILT (ML), very hard, olive gray (5Y4/2), moist	
40	40-41.5	X	3.2	32 39 40	SP		SAND (SP), very dense, greenish gray (GLEY 1 10Y 5/1), dry	
45	45-48.5		125.0	29 32 35	ML		SILT (ML), very hard, olive (5Y 5/3), dry	
50	50-51.5	X	246.0	25 30 35	CL		CLAY (CL), very hard, olive (5Y 5/3), moist	

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NM = Not Measured
Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 01/26/06-01/26/06 **Drilling Company:** WDC Exploration **Driller's Name:** Rubin Lares **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Maher Zein **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B179 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	212.0	5 7 12			SILT (ML), hard, very dark grayish brown (2.5Y 3/2), dry, trace gravel	
5	5-6.5	X	1144.0	11 15 19			SILT (ML), very hard, brown (10YR 4/3), dry	
10	10-11.5	X	2132.0	20 25 20			SILT (ML), very hard, olive (5Y 5/4), dry	
15	15-16.5	X	434.0	20 28 32			SILT (ML), very hard, pale olive (5Y 6/3), dry	
20	20-21.5	X	136.0	29 35 38			SILT (ML), with Clay, very hard, olive (5Y 5/3), moist	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		332.0	39 43 48	ML		SILT (ML), with Clay, very hard, dark greenish gray (GLEY 1 10Y 4/1), moist	
30	30-31.5	X	30.7	40 45 50			Clayey SILT (ML), very hard, dark yellowish brown (10YR 4/4), dry	
35	35-36.5		30.1	44 48 52			SILT (ML), very hard, olive gray (5Y 4/2), very moist	
40	40-41.5	X	43.0	32 35 39			Sandy SILT (ML), very hard, olive brown (2.5Y 4/4), dry	
45	45-46.5		1348.0	46 50 50			SILT (ML), with Clay, very hard, greenish gray (GLEY 1 10Y 5/1), dry	
50	50-51.5	X	1555.0	50 55 60			SILT (ML), with Clay, very hard, dark greenish gray (GLEY 1 10Y 4/1), moist	

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NM = Not Measured
Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 01/26/06-01/26/06 **Drilling Company:** WDC Exploration **Driller's Name:** Rubin Lares **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-95 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Maher Zein **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B180 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	0.0	8 12			SILT (ML), hard, dark brown (10YR 3/3), moist	
5	5-6.5	X	0.0	13 13 13			SILT (ML), with Clay, very hard, dark brown (10YR 3/3), moist	
10	10-11.5	X	0.0	12 14 18			(Same as above)	
15	15-16.5	X	3.9	12 14 19			SILT (ML), with Clay, very hard, light olive brown (2.5Y 5/3), moist	
20	20-21.5	X	0.0	16 19 21			SILT (ML), very hard, olive brown (2.5Y 4/4), moist	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		1.0	20 23 25	ML		SILT (ML), very hard, light olive brown (2.5Y 5/3), moist	
30	30-31.5	X	0.0	20 25 28			Clayey SILT (ML), very hard, dark yellowish brown (10YR 3/4), dry	
35	35-36.5		0.8	17 20 28			Clayey SILT (ML), very hard, brown (10YR 4/3), moist	
40	40-41.5	X	1.4	40 45 50			Sandy SILT (ML), very hard, olive (5Y 4/3), dry SAND (SP), very hard, gray (2.5Y 6/1), dry, coarse-grained sand	
45	45-46.5		2.3	45 28 30			SILT (ML), very hard, light yellowish brown (2.5Y 6/3), moist	
50	50-51.5	X	2.0	33 35 40			Clayey SILT (ML), very hard, light olive brown (2.5Y 5/3), moist	

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Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 02/06/06-02/06/06 **Drilling Company:** WDC Exploration **Driller's Name:** Miguel Alvarado **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Megan Smoley **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B181 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	0.1	NA	CL		CLAY (CL), dark yellowish brown (10YR 3/4), dry, trace silt	
	3.5-5			NA				
5	5-6.5	X	0.0	3 5 8			CLAY (CL), firm, dark yellowish brown (10YR 4/4), dry, 15% silt	
	6.5-8			5 7 7				
	8-10			5 6 10 12	ML		Clayey SILT (ML), firm, dark yellowish brown (10YR 4/6), dry, 10% fine-grained sand	
10	10-11.5	X	0.2	5 8 15	CL		CLAY (CL), hard, brown (10YR 4/3), dry, trace silt	
	11.5-13			6 11 35			CLAY (CL), very hard, light olive brown (2.5Y 5/4), dry, trace silt	Borehole backfilled wth Neat Cement with 5% Bentonite
	13-15			25 40 50 50	ML		Clayey SILT (ML), very hard, light olive brown (2.5Y 5/3), dry, 15% fine-grained sand	
15	15-16.5	X	0.1	35 50 65	CL		CLAY (CL), very hard, grayish brown (2.5Y 5/2), moist	
	16.5-17.5			18 22 22	SM		Silty SAND (SM), very dense, light olive brown (2.5Y 5/3), moist, 15% silt	
	18-20			13 13 14 25	SP-SM		SAND with Silt (SP-SM), dense, light olive brown (2.5Y 5/4), dry, fine-grained sand with 25% medium-grained sand, subangular, 10% silt SAND with Silt (SP-SM), dense, light olive brown (2.5Y 5/3), dry, fine-grained sand, 10% silt	
20	20-21.5	X	0.2	18 22 35	CL		CLAY (CL), very hard, light olive brown (2.5Y 5/3), moist, 10% silt	
	21.5-23			10 18 25	SC		Clayey SAND (SC), dense, light olive brown (2.5Y 5/3), dry, fine- to medium-grained sand, 20% fines	
	23-25			16 23 14 19				
25	25-26.5		0.0	8 12			Clayey SAND (SC), dense, light olive brown (2.5Y 5/3), moist, fine-grained sand with 10% medium-grained sand, 20% fines	

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Water not enountered during drilling.

Date Start/Finish: 02/06/06-02/06/06 **Drilling Company:** WDC Exploration **Driller's Name:** Miguel Alvarado **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Megan Smoley **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B181 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
				25				
	26.5-28			10				
				13	CL		CLAY (CL), hard, light olive brown (2.5Y 5/3), dry, 10% fine-grained sand	
				14				
	28-30			11				
				11				
				14				
				18				
30	30-31.5	X	0.0	4				
				19				
				23				
	31.5-33			14	SC		Clayey SAND (SC), dense, light olive brown (2.5Y 5/3), moist, fine-grained sand with 15% medium-grained sand, 10-15% fines	
				14	CL		CLAY (CL), hard, grayish brown (2.5Y 5/2), moist, trace silt and fine gravel	
				16	SC		Clayey SAND (SC), very hard, dark yellowish brown (10YR 4/4), dry, fine- to medium-grained sand, 15% fines	
	33-35			7				
				9				
				15				
				17				
35	35-36.5		0.0	11				Borehole backfilled wth Neat Cement with 5% Bentonite
				21				
				27				
	36.5-38			14	CL		CLAY (CL), very hard, dark yellowish brown (10YR 4/4), dry, 15% fine- to medium-grained sand	
				16				
				17				
	38-40			10				
				11				
				15				
				22			Becomes light olive brown (2.5Y 5/4)	
40	40-41.5	X	0.0	18				
				20				
	41.5-43			27	SP-SM		SAND with Silt (SP-SM), dense, light olive brown (2.5Y 5/4), dry, fine-grained sand with trace medium-grained sand, 10-15% silt	
				12				
				16			SAND with Silt (SP-SM), dense, yellowish brown (10YR 5/6), dry, medium-grained sand with few coarse-grained sand, subangular, 10% silt	
				23				
	43-45			8				
				11	CL		CLAY (CL), hard, olive brown (2.5Y 4/4), moist, 20% fine- to medium-grained sand	
				11				
				17				
45	45-46.5		0.1	12				
				18				
				30	SM		Silty SAND (SM), dense, dark yellowish brown (10YR 4/6), dry, medium-grained sand, 15% silt	
	46.5-48			18	SP		SAND (SP), dense, olive (5Y 5/3), dry, medium-grained sand with trace coarse-grained sand subangular, trace gravel	
				21				
				24			Becomes olive gray (5Y 5/2)	
	48-50			19				
				20				
				21				
				25				
50	50-51.5	X	0.4	22			(Same as above)	
				32				
				35				

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Water not enountered during drilling.

Date Start/Finish: 01/24/06-01/25/06 **Drilling Company:** WDC Exploration **Driller's Name:** Miguel Alvarado/Rubin Lares **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-95 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Maher Zein **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B182 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	212.0	11 15 18	ML		SILT (ML), with Clay, very hard, dark olive gray (5Y 3/2), moist	
5	5-6.5	X	1144.0	7 10 14			SILT (ML), hard, very dark grayish brown (10YR 3/2), dry, trace gravel	
10	10-11.5	X	2132.0	12 14 19			SILT (ML), very hard, light yellowish brown (2.5Y 6/3), dry	
15	15-16.5	X	434.0	13 16 20			SILT (ML), very hard, olive (5Y 5/3), dry	
20	20-21.5	X	136.0	14 19 23			SILT (ML), with Clay, very hard, olive (5Y 5/3), dry	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		332.0	20 25 30			SILT (ML), with Clay, very hard, olive (5Y 5/3), moist	
30	30-31.5	X	30.7	37 42 45	SM		Silty SAND (SM), very dense, brown (10YR 4/3), moist, medium-grained sand	
35	35-36.5		30.1	38 43 49			(Same as above)	
40	40-41.5	X	43.0	40 45 45	SP-SM		SAND with Silt (SP-SM), very dense, brown (10YR 4/3), moist, medium-grained sand	
45	45-46.5		1348.0	30 33 40	SP		SAND (SP), very dense, olive (5Y 5/3), dry, coarse-grained sand	
50	50-51.5	X	1555.0	40 40 50			SAND (SP), very dense, greenish gray (GLEY 1 10Y 5/1), dry, coarse- to very coarse-grained sand, trace gravel	

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Water not enountered during drilling.

Date Start/Finish: 01/25/06-01/25/06 **Drilling Company:** WDC Exploration **Driller's Name:** Rubin Lares **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-95 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Maher Zein **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B183 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description
	2-3.5	X	2.0	4 7 10	SM		Silty SAND (SM), medium dense, dark olive gray (5Y 3/2), dry, medium-grained sand, trace gravel
5	5-6.5	X	82.2	10 12 14			SILT (ML), with Sand, hard, olive gray (5Y 4/2), moist
10	10-11.5	X	390.0	10 10 12			SILT (ML), very hard, very dark gray (5Y 3/1), wet with oil material
15	15-16.5	X	287.0	17 20 26	ML		SILT (ML), very hard, olive gray (5Y 5/2), dry, trace gravel
20	20-21.5	X	259.0	20 25 30			SILT (ML), very hard, light olive brown (2.5Y 5/3), dry
25	25-26.5		11.1	25 30 35			(Same as above)
30	30-31.5	X	1.0	30 32 38	SP-SM		SAND with Silt (SP-SM), very dense, light olive brown (2.5Y 5/4), dry, coarse-grained
35	35-36.5		1.8	35 36 40	SP		SAND (SP), very dense, light olive brown (2.5Y 5/4), dry, coarse- to very coarse-grained sand, trace gravel
40	40-41.5	X	1.6	37 42 46	ML		SILT (ML), very hard, light olive brown (2.5Y 5/3), moist
45	45-46.5		1.5	45 50 50	SP		SAND (SP), very dense, olive (5Y 5/4), dry, fine-grained sand
50	50-51.5	X	0.8	50 55 63	ML		SILT (ML), with Sand, very hard, olive (5Y 5/4), dry

Well/Boring Construction

Borehole backfilled wth Neat Cement with 5% Bentonite

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Water not enountered during drilling.

Date Start/Finish: 01/25/06-01/25/06 **Drilling Company:** WDC Exploration **Driller's Name:** Rubin Lares **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-95 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Maher Zein **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B184 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	0.0	5 10 10	ML		SILT (ML), hard, dark brown (10YR 3/3), moist, trace gravel	
5	5-6.5	X	0.1	9 12 14	ML		SILT (ML), hard, dark yellowish brown (10YR 3/6), dry	
10	10-11.5	X	0.2	10 13 18	ML		SILT (ML), very hard, dark yellowish brown (10YR 4/4), dry	
15	15-16.5	X	0.4	13 14 20	ML		SILT (ML), very hard, yellowish brown (10YR 5/4), dry	
20	20-21.5	X	0.4	19 22 26	ML		SILT (ML), very hard, grayish brown (2.5Y 5/2), dry, trace gravel	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		0.6	24 28 30	ML		SILT (ML), with Clay, very hard, grayish brown (2.5Y 5/2), moist	
30	30-31.5	X	0.2	30 34 38	ML		SILT (ML), with Sand, very hard, brown (10YR 4/3), dry	
35	35-36.5		0.4	35 40 44	ML		(Same as above)	
40	40-41.5	X	0.3	40 45 46	SM		Silty SAND (SM), very dense, dark yellowish brown (10YR 4/4), dry, medium-grained sand	
45	45-46.5		13.9	44 48 50	CL		CLAY (CL), with Sand, very hard, olive gray (5Y 5/2), moist	
50	50-51.5	X	11.6	48 52 58	CL		CLAY (CL), with Silt, very hard, olive brown (2.5Y 4/3), moist	

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Water not enountered during drilling.

Date Start/Finish: 01/20/06-01/20/06 **Drilling Company:** WDC Exploration **Driller's Name:** Rubin Lares **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-95 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Maher Zein **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B185 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	0.0	5 10 10			SILT (ML), hard, brown (10YR 4/3), dry, trace gravel	
5	5-6.5	X	0.4	8 12 15			Becomes dark yellowish brown (10YR 4/4)	
10	10-11.5	X	0.0	12 14 18			SILT (ML), very hard, dark yellowish brown (10YR 4/4), moist	
15	15-16.5	X	0.1	11 18 22			SILT (ML), very hard, light olive brown (2.5Y 5/3), dry, trace gravel	
20	20-21.5	X	0.5	15 20 23	ML		SILT with Clay (ML), very hard, light olive brown (2.5Y 5/3), moist	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		0.4	18 20 24			SILT (ML), very hard, olive (5Y 5/3), moist	
30	30-31.5	X	0.6	20 26 27			Clayey SILT (ML), dark yellowish brown (10YR 4/4), dry	
35	35-36.5		41.5	23 28 38			Becomes moist	
40	40-41.5	X	1.1	40 45 50	SW		SAND (SW), very dense, olive gray (5Y 5/2), dry	
45	45-46.5		6.0	45 50 55	ML		SILT with Clay (ML), very hard, light olive brown (2.5Y 5/4), moist	
50	50-51.5	X	3.6	40 43 43			Becomes olive (5Y 5/3)	

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Water not enountered during drilling.

Date Start/Finish: 01/27/06-01/27/06 **Drilling Company:** WDC Exploration **Driller's Name:** Rubin Lares **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-95 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Maher Zein **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B186 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	6.9	7 20 25			SILT (ML), very hard, olive brown (2.5Y 4/3), moist, some gravel	
5	5-6.5	X	5.4	7 11 15			SILT (ML), hard, very dark grayish brown (2.5Y 3/2), dry	
10	10-11.5	X	9.2	6 9 15	ML		Clayey SILT (ML), hard, dark greenish gray (GLEY 1 10Y 4/1), moist	
15	15-16.5	X	8.6	12 20 23			SILT (ML), with Clay, very hard, dark greenish gray (GLEY 1 10Y 4/1), moist	
20	20-21.5	X	9.3	12 17 21			SILT (ML), with Sand, very hard, dark greenish gray (GLEY 1 10Y 4/1), dry	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		4.2	19 24 25			SILT (ML), very hard, dark greenish gray (GLEY 1 10Y 4/1), moist	
30	30-31.5	X	5.7	26 29 27 30	CL		CLAY (CL), with Silt, very hard, dark olive brown (2.5Y 3/3), moist	
35	35-36.5		6.5	25 30 30 35	SC		Clayey SAND (SC), very dense, olive brown (2.5Y 4/3), moist, medium-grained sand	
40	40-41.5	X	3.7	25 25 32 37	CL		Silty CLAY (CL), very hard, olive gray (5Y 4/2), moist	
45	45-46.5		23.0	27 33 39	ML		SILT (ML), with Clay, very hard, light yellowish brown (2.5Y 6/3), moist	
50	50-51.5	X	7.7	37 42 45 45			SILT (ML), very hard, light yellowish brown (2.5Y 6/4), dry	

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Water not enountered during drilling.

Date Start/Finish: 01/27/06-01/27/06 **Drilling Company:** WDC Exploration **Driller's Name:** Rubin Lares **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-95 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Maher Zein **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B187 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description
	2-3.5	X	89.8	9 12 15	ML		SILT (ML), with Clay, hard, very dark grayish brown (10YR 3/2), dry
5	5-6.5	X	22.4	8 12 15	ML		SILT (ML), with Clay, hard, dark greenish gray (GLEY 1 10Y 4/1), dry
10	10-11.5	X	12.1	17 21 21	ML		SILT (ML), very hard, greenish gray (GLEY 1 10Y 5/1), dry
15	15-16.5	X	12.1	17 12 24	ML		SILT (ML), very hard, dark greenish gray (GLEY 1 10Y 4/1), moist
20	20-21.5	X	20.5	21 22 27	ML		SILT (ML), with Clay, very hard, dark greenish gray (GLEY 1 10Y 4/1), moist
25	25-26.5		50.9	23 27 30	ML		Same As Above
30	30-31.5	X	42.9	26 32 37	CL		Silty CLAY (CL), very hard, olive gray (5Y 4/2), dry
35	35-36.5		20.8	30 33 35	CL		(Same as above)
40	40-41.5	X	128.0	25 34 35	SP		SAND (SP), very dense, light olive gray (5Y 6/2), dry, coarse-grained sand
45	45-46.5		1511.0	36 38 40	ML		SILT (ML), with Clay, very hard, olive gray (5Y 4/2), dry
50	50-51.5	X	1702.0	38 40 44	ML		SILT (ML), very hard, olive (5Y 4/3), dry

Well/Boring Construction

Borehole backfilled wth Neat Cement with 5% Bentonite

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Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 02/07/06-02/07/06 **Drilling Company:** WDC Exploration **Driller's Name:** Miguel Alvarado **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Maher Zein **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B188 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	286.0	2 3 4	CL		CLAY (CL), soft, dark olive gray (5Y 5/3), moist	Borehole backfilled wth Neat Cement with 5% Bentonite
5	5-6.5	X	412.0	7 9 11			Becomes hard	
10	10-11.5	X	41.0	10 10 11	ML		SILT (ML), with Clay, hard, greenish gray (GLEY 1 10Y 6/1), dry	
15	15-16.5	X	1268.0	21 24 24			SILT (ML), very hard, dark greenish gray (GLEY 1 10Y 4/1), dry	
20	20-21.5	X	1715.0	17 22 22			SILT (ML), with Clay, very hard, dark greenish gray (GLEY 1 10Y 4/1), dry	
25	25-26.5		507.0	14 16 21			Sandy SILT (ML), very hard, olive gray (5Y 4/2), dry	
30	30-31.5	X	401.0	20 27 31			SILT (ML), with Clay, very hard, dark grayish brown (2.5Y 4/2), dry	
35	35-36.5		345.0	18 21 24	SP		SAND (SP), dense, olive (5Y 5/3), moist, coarse-grained sand	
					ML		SILT (ML), with Clay, very hard, olive (5Y 5/3), dry	
40	40-41.5	X	2169.0	27 31 36			(Same as above)	
45	45-46.5		2340.0	23 25 28	SP		SAND (SP), very dense, light yellowish brown (2.5Y 6/3), dry, medium-grained sand	
50	50-51.5	X	1449.0	25 30 35	ML		SILT (ML), very hard, olive (5Y 5/3), moist	

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Remarks: bgs = below ground surface; NA = Not Applicable/Available
NM = Not Measured
Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 02/07/06-02/07/06 **Drilling Company:** WDC Exploration **Driller's Name:** Miguel Alvarado **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Maher Zein **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B189 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	22.0	5 7 10	CL		CLAY (CL), hard, very dark grayish brown (2.5Y 3/2), dry	
5	5-6.5	X	26.8	10 10 17			CLAY (CL), hard, very dark gray (5Y 3/1), moist	
10	10-11.5	X	3.0	12 15 16	ML		SILT (ML), very hard, olive gray (5Y 4/2), dry	
15	15-16.5	X	1.5	13 16 19			Sandy SILT (ML), very hard, olive gray (5Y 5/2), dry, trace gravel	
20	20-21.5	X	14.8	10 18 26			Clayey SILT (ML), very hard, olive gray (5Y 4/2), moist	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		2.7	14 16 19	SP		SAND (SP), dense, olive gray (5Y 5/2), moist, coarse-grained sand	
30	30-31.5	X	27.3	24 30 33	CL		CLAY (CL), with Silt, very hard, dark yellowish brown (10YR 4/4), moist (Same as above)	
35	35-36.5		16.6	17 19 22	ML		SILT (ML), with Sand, very hard, light olive brown (2.5Y 5/4), moist	
40	40-41.5	X	2.5	19 20 23			SILT (ML), very hard, olive (5Y 4/3), moist	
45	45-46.5		14.0	19 23 30	SP		SAND (SP), dense, olive gray (5Y 5/2), dry, medium-grained sand	
50	50-51.5	X	262.0	33 35 50			Becomes very dense	

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Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 02/08/06-02/08/06 **Drilling Company:** WDC Exploration **Driller's Name:** Miguel Alvarado **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Maher Zein **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B190 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	3.4	3 4 7	ML		SILT (ML), with Clay, firm, dark brown (7.5YR 3/3), moist	Borehole backfilled wth Neat Cement with 5% Bentonite
5	5-6.5	X	48.6	7 14 22			SILT (ML), with Clay, very hard, brown (10YR 4/3), dry, trace gravel	
10	10-11.5	X	2.3	12 18 22			Clayey SILT (ML), very hard, olive gray (5Y 5/2), dry	
15	15-16.5	X	13.3	7 12 17	SP-SM		SAND with Silt (SP-SM), dense, olive (5Y 5/3), dry, fine-grained sand	
20	20-21.5	X	4.9	23 23 31			Becomes very dense	
25	25-26.5		25.7	16 18 17	CL		CLAY (CL), very hard, olive brown (2.5Y 4/3), dry	
30	30-31.5	X	63.7	8 10 14			CLAY (CL), with Silt, hard, olive brown (2.5Y 4/4), dry	
35	35-36.5		135	12 16 20	ML		SILT (ML), very hard, light olive brown (2.5Y 5/4), dry, trace gravel	
40	40-41.5	X	56.6	17 32 41	SP-SM		SAND with Silt (SP-SM), very dense, light olive brown (2.5Y 5/4), dry, fine-grained sand	
45	45-46.5		22.5	24 30 40	SP		SAND (SP), very dense, olive (5Y 5/4), dry, medium- to coarse-grained sand	
50	50-51.5	X	99.6	26 50 50			SAND (SP), very dense, olive (5Y 5/3), dry, medium-grained sand	

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Water not enountered during drilling.

Date Start/Finish: 02/01/06-02/01/06 **Drilling Company:** WDC Exploration **Driller's Name:** Eddie Herrera **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 LAR **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Maher Zein **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B191 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	7.6	11 17 20	ML		Clayey SILT (ML), very hard, dark brown (10YR 3/3), moist	
5	5-6.5	X	62.6	14 17 20			Clayey SILT (ML), very hard, very dark gray (5Y 3/1), moist	
10	10-11.5	X	29.5	12 15 18			SILT (ML), very hard, dark greenish gray (GLEY 1 10Y 4/1), moist, trace gravel	
15	15-16.5	X	3.1	19 21 25	SP-SM		SAND with Silt (SP-SM), dense, dark greenish gray (GLEY 1 10Y 4/1), dry, fine-grained sand	
20	20-21.5	X	4.4	21 21 25	SP		SAND (SP), dense, greenish gray (GLEY 1 10Y 5/1), dry, medium-grained sand	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		7.9	17 26 30	ML		Clayey SILT (ML), very hard, olive gray (5Y 5/2), moist	
30	30-31.5	X	15.0	21 31 35			SILT (ML), with Clay, very hard, olive brown (2.5Y 4/3), moist	
35	35-36.5		57.9	23 27 30			SILT (ML), with Clay, very hard, olive (5Y 4/3), moist	
40	40-41.5	X	11.8	27 30 39			SILT (ML), very hard, olive gray (5Y 4/2), moist	
45	45-46.5		5.5	22 22 27	SP		SAND (SP), dense, olive gray (5Y 5/2), dry, medium-grained sand	
50	50-51.5	X	6.9	27 29 35			SAND (SP), very dense, olive gray (5Y 5/2), dry, medium-grained sand	

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Water not enountered during drilling.

Date Start/Finish: 02/01/06-02/01/06 **Drilling Company:** WDC Exploration **Driller's Name:** Eddie Herrera **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 LAR **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Maher Zein **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B192 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.6	X	40.7	11 17 20	CL		Silty CLAY (CL), hard, very dark grayish brown (2.5Y 3/2), moist, trace gravel	
5	5-6.5	X	1.8	14 17 20			CLAY (CL), very hard, olive gray (5Y 4/2), moist	
10	10-11.5	X	17.9	12 15 19	ML		Clayey SILT (ML), very hard, olive gray (5Y 4/2), dry	
15	15-16.5	X	2.0	19 21 25			SILT (ML), very hard, olive (5Y 5/3), moist	
20	20-21.5	X	7.5	21 21 26			SILT (ML), with Clay, trace Gravel, very hard, dark greenish gray (GLEY 1 10Y 4/1), moist	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		11.6	17 25 30			(Same as above)	
30	30-31.5	X	24.3	21 31 35			SILT (ML), with Clay, very hard, light olive brown (2.5Y 5/3), moist	
35	35-36.5		76.3	23 27 30			SILT (ML), very hard, olive (5Y 5/3), moist	
40	40-41.5	X	20.8	27 30 39	SP		SAND (SP), very dense, olive (5Y 5/3), dry, fine-grained sand	
45	45-46.5		115.0	22 22 27			SAND (SP), very dense, olive (5Y 5/4), dry, medium-grained sand	
50	50-51.5	X	1359.0	27 29 35			SAND (SP), very dense, olive (5Y 5/3), dry, fine-grained sand	

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Water not enountered during drilling.

Date Start/Finish: 02/06/06-02/06/06 **Drilling Company:** WDC Exploration **Driller's Name:** Miguel Alvarado **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Megan Smoley **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B193 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	8.2	3 3 4	CL		CLAY (CL), soft, very dark gray (5Y 3/1), moist, hydrocarbon odor	
5	5-6.5	X	9.8	8 9 11	CL		Becomes hard	
10	10-11.5	X	2.8	13 16 18	CL		Silty CLAY (CL), very hard, gray (5Y 5/1), dry, 10% fine-grained sand	
15	15-16.5	X	1.8	17 19 23	SM		Silty SAND (SM), dense, olive gray (5Y 5/2), dry, fine-grained sand with trace medium-grained sand, micaceous, 20% silt	
20	20-21.5	X	2.9	20 24 27	CL		CLAY (CL), very hard, dark gray (5Y 4/1), moist, 10% silt and trace fine gravel	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		5.9	17 16 24	CL		(Same as above) Becomes dark brown (10YR 3/3)	
30	30-31.5	X	15.0	25 27 31	CL		CLAY (CL), very hard, dark grayish brown (2.5Y 4/2), moist, 20% fine-grained sand	
35	35-36.5		235.0	19 23 25	SP		SAND (SP), dense, greenish gray (GLEY 1 5GY 5/1), dry, medium-grained sand	
					SC		Clayey SAND (SC), dense, olive gray (5Y 4/2), dry, fine-grained sand	
40	40-41.5	X	408.0	30 35 39	SC		Clayey SAND (SC), very dense, olive (5Y 5/3), dry, fine-grained sand, 35% clay	
45	45-46.5		10.5	23 23 26	SM		Silty SAND (SM), dense olive brown (2.5Y 4/3), dry, fine-grained sand, micaceous, 25% silt	
					SC		Clayey SAND (SC), dense, olive gray (5Y 5/2), moist, fine-grained sand, 30% clay	
50	50-51.5	X	12.6	21 24 26	SC		Clayey SAND (SC), very dense, pale olive (5Y 6/3), dry, fine-grained sand, 30% clay	

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Water not enountered during drilling.

Date Start/Finish: 02/03/06-02/03/06 **Drilling Company:** WDC Exploration **Driller's Name:** Miguel Alvarado **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Maher Zein **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B194 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	3.2	4 5 9	ML		Clayey SILT (ML), firm, very dark greenish gray (GLEY 1 10Y 3/1), moist	
5	5-6.5	X	12.5	12 15 13 16	CL		CLAY (CL), hard, dark olive gray (5Y 3/2), moist	
10	10-11.5	X	254.0	15 17 18	ML		SILT (ML), with Clay, very hard, dark greenish gray (GLEY 1 10Y 4/1), moist	
15	15-16.5	X	319.0	17 19 21			SILT (ML), very hard, very dark greenish gray (GLEY 1 10Y 4/1), moist	
20	20-21.5	X	270.0	20 21 24			Sandy SILT (ML), very hard, olive gray (5Y 4/2), moist	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		196.0	18 20 28	CL		Silty CLAY (CL), very hard, olive gray (5Y 4/2), dry	
30	30-31.5	X	270.0	18 23 32			CLAY (CL), with Silt, very hard, olive gray (5Y 4/2), moist	
35	35-36.5		481.0	20 25 30	SP		SAND (SP), very dense, olive gray (5Y 4/3), dry, medium- to coarse-grained sand	
40	40-41.5	X	438.0	22 27 40	ML		SILT (ML), with Clay, very hard, olive (5Y 5/3), moist	
45	45-46.5		560.0	23 27 28			SILT (ML), very hard, olive (5Y 4/4), moist	
50	50-51.5	X	517.0	26 32 42	CL		Silty CLAY (CL), very hard, olive (5Y 4/3), moist	

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Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 02/03/06-02/03/06 **Drilling Company:** WDC Exploration **Driller's Name:** Miguel Alvarado **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Maher Zein **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B195 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	3.0	4 5 7	CL		CLAY (CL), firm, dark grayish brown (10YR 4/2), moist	
5	5-6.5	X	4.2	11 12 13			CLAY (CL), hard, dark yellowish brown (10YR 4/4), moist	
10	10-11.5	X	3.7	16 18 21	ML		Clayey SILT (ML), very hard, dark greenish gray (GLEY 1 10Y 4/1), moist	
15	15-16.5	X	4.0	19 22 23			SILT (ML), with Clay, very hard, dark greenish gray (GLEY 1 10Y 4/1), moist	
20	20-21.5	X	7.4	20 23 26			SILT (ML), with Sand, very hard, dark grayish brown (2.5Y 4/2), moist	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		12.1	14 18 19	CL		CLAY (CL), very hard, dark grayish brown (2.5Y 4/2), moist	
30	30-31.5	X	6.5	20 24 27	ML		Clayey SILT (ML), very hard, olive brown (2.5Y 4/3), moist, medium-grained sand	
35	35-36.5		8.0	20 24 27	SM		Silty SAND (SM), very dense, olive gray (5Y 4/2), moist, medium-grained sand	
40	40-41.5	X	9.9	21 30 33	ML		SILT (ML), very hard, olive (5Y 5/3), dry	
45	45-46.5		20.7	22 32 36			SILT (ML), with Clay, very hard, olive brown (2.5Y 4/4), dry	
50	50-51.5	X	10.0	28 32 35			Clayey SILT (ML), very hard, olive (5Y 5/3), moist	

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Water not enountered during drilling.

Date Start/Finish: 01/25/06-01/25/06 **Drilling Company:** WDC Exploration **Driller's Name:** Javier Rios **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Veronique Lee **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B196 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Stratigraphic Description
	2-3.5	X	0.0	13 16 21	ML	SILT (ML), hard, dark yellowish brown (10YR 3/6), moist, 10% fine-grained sand
5	5-6.5	X	0.0	13 15 16		Same as above
10	10-11.5	X	0.0	16 17 26		Becomes 15% fine-grained sand
15	15-16.5	X	0.0	35 50		Sandy SILT (ML), hard, olive brown (2.5Y 4/3), moist, 30% fine-grained sand
20	20-21.5	X	0.0	25 50		Becomes olive (5Y 4/4)
25	25-26.5		0.0	38 50	SM	Silty SAND (SM), very dense, yellowish brown (10YR 5/6), moist, fine-grained sand, 30% silt
					ML	SILT (ML), hard, olive brown (2.5Y 4/3), moist, 10% fine-grained sand
30	30-31.5	X	0.0	20 23 28		SILT (ML), hard, strong brown (7.5Y 4/6), dry, trace fine-grained sand
35	35-36.5		0.0	10 13 18		Becomes dark yellowish brown (10YR 4/6), 10% fine-grained sand Sandy SILT (ML), hard, olive gray (5Y 4/2), moist, 30% fine-grained sand
40	40-41.5	X	0.0	39 50	SP-SM	SAND with Silt (SP-SM), very dense, light olive brown (2.5Y 5/6), moist, 10% silt
45	45-46.5		0.0	13 17 33	ML	SILT (ML), hard, olive brown (2.5Y 4/4), moist SILT (ML), hard, brown (10YR 4/3), moist, 10% fine-grained sand
50	50-51.5	X	0.0	38 50	SM	Silty SAND (SM), very dense, light olive brown (2.5Y 5/4), moist, 20% silt

Geologic Column

Well/Boring Construction

Borehole backfilled wth Neat Cement with 5% Bentonite

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Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 02/01/06-02/01/06 **Drilling Company:** WDC Exploration **Driller's Name:** Eddie Herrera **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 LAR **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Maher Zein **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B197 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	0.9	5 7 9			SILT (ML), firm, dark brown (10YR 3/3), dry	
5	5-6.5	X	1.1	7 9 10			SILT (ML), hard, dark yellowish brown (10YR 3/4), dry	
10	10-11.5	X	1.3	12 14 19			SILT (ML), very hard, dark yellowish brown (10YR 4/4), moist	
15	15-16.5	X	0.0	14 18 19	ML		SILT (ML), very hard, olive (5Y 5/3), moist	
20	20-21.5	X	0.5	19 23 25			Clayey SILT (ML), very hard, olive brown (2.5Y 4/3), moist	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		3.0	21 25 27			SILT (ML), very hard, olive brown (2.5Y 4/3), moist	
30	30-31.5	X	0.4	27 32 35			Sandy SILT (ML), very hard, dark yellowish brown (10YR 4/4), moist	
35	35-36.5		0.8	25 29 36	CL		CLAY (CL), with Silt, very hard, dark yellowish brown (10YR 4/4), moist	
40	40-41.5	X	0.2	32 35 35	SP		SAND (SP), very dense, olive (5Y 5/3), moist, coarse-grained sand	
45	45-46.5		1.9	29 30 35	CL		CLAY (CL), very hard, light olive brown (2.5Y 5/3), moist	
50	50-51.5	X	0.7	30 35 40			Silty CLAY (CL), very hard, light olive brown (2.5Y 5/4), moist	

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NM = Not Measured
Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 01/26/06-01/26/06 **Drilling Company:** WDC Exploration **Driller's Name:** Javier Rios **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Megan Smoley **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B198 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	0.0	13 18 21	CL		CLAY (CL), very hard, dark yellowish brown (10YR 3/4), dry, with silt	
5	5-6.5	X	0.0	20 30 35			(Same as above)	
					ML		SILT (ML), very hard, light olive brown (2.5Y 5/4), dry, with clay	
10	10-11.5	X	0.0	14 19 24			(Same as above)	
15	15-16.5	X	0.0	24 50			Sandy SILT (ML), very hard, olive brown (2.5Y 4/3), dry, 10% clay	
20	20-21.5	X	0.0	50	SM		Silty SAND (SM), very dense, light olive brown (2.5Y 5/4), dry, fine-grained sand	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		0.0	19 21 26			(Same as above)	
30	30-31.5	X	0.0	33 50	ML		Sandy SILT (ML), very hard, light olive brown (2.5Y 5/3), dry, 10% clay	
35	35-36.5		0.0	17 19 26	CL		CLAY (CL), very hard, dark yellowish brown (10YR 4/4), dry, with silt, trace fine gravel	
40	40-41.5	X	0.0	16 18			Silty SAND (SM), dense, olive brown (2.5Y 4/4), dry, 15% clay	
45	45-46.5		0.0	22 29 50	SM		Silty SAND (SM), very dense, light yellowish brown (2.5Y 6/3), dry, fine- to medium-grained sand	
50	50-51.5	X	NM	27 50			(Same as above)	

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Remarks: bgs = below ground surface; NA = Not Applicable/Available
NM = Not Measured
Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 01/23/06-01/23/06 **Drilling Company:** WDC Exploration **Driller's Name:** Javier Rios **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Jennifer Wiley **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B199 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	0.3	7 15 17	ML		Sandy SILT (ML), very stiff, very dark grayish brown (10YR 3/2), moist, 35% fine-grained sand, noncemented, strong odor	
5	5-6.5	X	8.2	10 18 18	ML		Sandy SILT (ML), very stiff, black (GLEY 1 N 2.5/), moist, strong odor, areas of oily saturated soil (sticky)	
10	10-11.5	X	111.0	50	ML		Sandy SILT (ML), hard, very dark brown (10YR 2/2), moist with oil-saturated ares (sheen when wetted), 35% fine-grained sand, strong odor	
15	15-16.5	X	14.2	30 50	SM		Silty SAND (SM), very dense, brown (10YR 5/3), moist, fine- to medium-grained sand, 15% silt, noncemented, strong odor	
20	20-21.5	X	5.7	28 30 42	SM		(Same as above), contains trace cemented nodules	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		11.4	21 26 32	SM		Silty SAND (SM), dense, light olive brown (2.5Y 5/2), moist, fine-grained sand, 15% silt, noncemented, strong odor	
30	30-31.5	X	3.8	11 13 29	SM		Silty SAND (SM), dense, yellowish brown (10YR 5/4), moist, fine- to medium-grained sand, 30% silt, noncemented, strong odor	
35	35-36.5		3.9	20 50	SW		SAND (SW), very dense, light olive brown (2.5Y 5/3), moist, fine- to coarse-grained sand, noncemented, strong odor	
					SM		Silty SAND (SM), very dense, light olive brown (2.5Y 5/3), moist, fine-grained sand, noncemented, strong odor, 30% silt	
40	40-41.5	X	2.1	38 50	SM		Silty SAND (SM), very dense, light olive brown (2.5Y 5/3), moist, fine- to coarse-grained sand, trace clay, 20% silt	
45	45-46.5		2.0	22 50	SP		SAND (SP), very dense, light olive brown (2.5Y 5/3), moist, fine- to medium-grained sand, noncemented, strong odor	
50	50-51.5	X	11.3	29 50	SP		SAND (SP), very dense, olive brown (2.5Y 4/3), moist, fine- to medium-grained sand, noncemented, strong odor	

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NM = Not Measured
Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 01/24/06-01/24/06 **Drilling Company:** WDC Exploration **Driller's Name:** Javier Rios **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Veronique Lee **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B200 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	0.0	6 7 9	ML		Sandy SILT (ML), very stiff, dark yellowish brown (10YR 4/6), moist, 30% fine-grained sand, 10% clay	
5	5-6.5	X	0.0	16 20 27			SILT (ML), hard, dark yellowish brown (10YR 3/6), moist, 5% fine-grained sand	
10	10-11.5	X	0.0	10 14 17			Becomes light brown (2.5Y 5/4), increases to 10% fine-grained sand	
15	15-16.5	X	0.0	30 50			Becomes light olive brown (2.5Y 5/3), increases to 20% fine-grained sand	
20	20-21.5	X	0.0	28 50			Sandy SILT (ML), hard, dark grayish brown (2.5Y 4/2), moist, 30% fine-grained sand	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		0.0	36 50	SM		Silty SAND (SM), very dense, olive brown (2.5Y 4/4), moist, fine-grained sand, 40% silt	
30	30-31.5	X	0.0	25 50	ML		SILT (ML), hard, dark yellowish brown (10YR 4/4), dry, 5% fine-grained sand	
35	35-36.5		0.0	18 28 33	CL		CLAY (CL), hard, dark yellowish brown (10YR 4/6), dry, 20% silt, 5% fine-grained sand	
40	40-41.5	X	0.0	37 50	SP		SAND (SP), very dense, greenish gray (GLEY 1 10GY 6/1), moist, trace silt	
45	45-46.5		0.0	17 21 33	ML		Clayey SILT (ML), hard, olive (5Y 4/3), moist, 30% clay	
50	50-51.5	X	0.0	27 50			SILT (ML), hard, dark yellowish brown (10YR 4/4), moist, 10% fine-grained sand	

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Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 01/25/06-01/25/06 **Drilling Company:** WDC Exploration **Driller's Name:** Javier Rios **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51' bgs **Surface Elevation:** NM **Geologist:** Veronique Lee **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B201 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	0.0	15 20 21	ML		SILT (ML), hard, dark yellowish brown (10YR 4/4), moist, 10% fine-grained sand	
5	5-6.5	X	0.0	20 25 30			(Same as above)	
10	10-11.5	X	0.0	7 9 13			(Same as above)	
15	15-16.5	X	0.0	37 50			Becomes greenish gray (GLEY 1 10Y 5/1), cemented	
20	20-21.5	X	0.0	14 19 31			SILT (ML), hard, olive brown (2.5Y 4/4), moist, 15% fine-grained sand	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		0.0	13 18 29	SM		Silty SAND (SM), very dense, yellowish brown (10YR 5/6), moist, fine-grained sand, 30% silt Becomes olive (5Y 5/4), 20% silt	
					ML		SILT (ML), hard, olive brown (2.5Y 4/3), 10% fine-grained sand	
30	30-31.5	X	0.0	10 15 20			SILT (ML), hard, strong brown (7.5Y 4/6), dry, trace fine-grained sand	
35	35-36.5		0.0	12 18 30			Becomes dark yellowish brown (10YR 4/6), increases to 10% fine-grained sand	
					SW		SAND (SW), very dense, greenish gray (GLEY 1 10Y 5/1), moist, fine- to coarse-grained sand	
40	40-41.5	X	0.0	16 23 33	ML		SILT (ML), hard, dark greenish gray (GLEY 1 10Y 4/1), moist, 5% fine-grained sand	
45	45-46.5		0.0	18 19 31			SILT (ML), hard olive brown (2.5Y 4/4), moist Becomes brown (10YR 4/3), 10% fins-grained sand	
					SP			
50	50-51.5	X	0.0	19 23 25			SAND (SP), very dense, olive brown (2.5Y 4/4), moist, trace silt	

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Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 01/25/06-01/25/06 **Drilling Company:** WDC Exploration **Driller's Name:** Javier Rios **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Veronique Lee **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B202 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	0.0	13 17 21			SILT (ML), hard, very dark grayish brown (10YR 3/2), moist, 5% fine-grained sand	
5	5-6.5	X	0.0	14 22 26			(Same as above)	
10	10-11.5	X	0.0	9 14 15	ML		Becomes dark yellowish brown (10YR 4/4), increases to 10% fine-grained sand	
15	15-16.5	X	6.0	21 29 41			Becomes very dark greenish gray (GLEY 1 10Y 3/1), cemented	
20	20-21.5	X	0.0	15 18 36			SILT (ML), hard, olive brown (2.5Y 4/4), moist, 15% fine-grained sand	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		0.0	20 21 29	SM		Silty SAND (SM), very dense, very dark greenish gray (GLEY 1 10Y 3/1), moist, fine-grained sand, 20% silt	
					ML		SILT (ML), hard, dark yellowish brown (10YR 4/4), moist, 10% fine-grained sand	
30	30-31.5	X	0.0	14 18 26			SILT (ML), hard, dark yellowish brown (10YR 4/6), moist, 5% fine-grained sand	
35	35-36.5		0.0	19 21 23			Becomes dark yellowish brown (10YR 5/6) 20% fine-grained sand	
					SM		Silty SAND (SM), very dense, dark greenish gray (GLEY 1 10Y 4/1), moist, fine-grained sand, 20% silt	
40	40-41.5	X	0.0	17 22 25			SILT (ML), hard, dark greenish gray (GLEY 1 10Y 4/1), moist, 10% fine-grained sand	
45	45-46.5		0.1	15 20 25	ML		SILT (ML), hard, greenish gray (GLEY 1 5GY 6/1) with light olive brown (2.5Y 5/6) mottling throughout, moist, trace fine-grained sand Becomes greenish gray (GLEY 1 5GY 6/1), increases to 15% fine-grained sand	
50	50-51.5	X	3.2	16 21 23			SILT (ML), hard, dark greenish gray (GLEY 1 10Y 4/1), moist, 10% fine-grained sand Becomes olive brown (2.5Y 4/4), decreases to 5% fine-grained sand	

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NM = Not Measured
Total Depth = 51.5 feet bgs
Water not encountered during drilling.

Date Start/Finish: 02/07/06-02/07/06 **Drilling Company:** WDC Exploration **Driller's Name:** Jorge Gutierrez **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Veronique Lee **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B203 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description
	2-3.5	X	0.0	NA	ML		SILT (ML), black (5Y 2.5/1), moist, 5% fine-grained sand, black sludge mixed in with the silt
5	5-6.5	X	2.5	5 7 9	FILL		Drillers observed sludge from 4 feet to 8 feet. Creamy texture sludge with visible oil pockets observed in sampler from 5 feet to 6.5 feet.
10	10-11.5	X	2.5	8 11 13	ML		SILT (ML), very stiff, dark greenish gray (GLEY 1 10Y 4/1), moist, 10% clay, 5% fine-grained sand
15	15-16.5	X	6.3	7 14 17			SILT (ML), hard, dark greenish gray (GLEY 1 10Y 4/1), moist
20	20-21.5	X	0.0	15 17 19			SILT (ML), hard, dark greenish gray (GLEY 1 10Y 4/1), moist, 10% clay, 20% fine-grained sand
25	25-26.5		4.8	8 12 15			SILT (ML), very stiff, olive (5Y 4/4), moist, 20% fine-grained sand
30	30-31.5	X	0.0	16 19 22			SILT (ML), hard, olive brown (2.5Y 4/3), dry, 5% fine-grained sand
35	35-36.5		8.9	11 17 20	SP		SAND (SP), dense, olive (5Y 4/3), dry, 5% silt, concrete traces observed, possibly slough from surface
40	40-41.5	X	40.1	19 27 32	ML		SILT (ML), hard, olive (5Y 5/4), moist
45	45-46.5		4.6	18 20 23			SILT (ML), hard, olive (5Y 4/4), moist, 5% fine-grained sand, odor
50	50-51.5	X	563.0	24 31 37			SILT (ML), hard, olive (5Y 4/4), moist, strong odor

Well/Boring Construction

Borehole backfilled wth Neat Cement with 5% Bentonite

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Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 02/06/06-02/06/06 **Drilling Company:** WDC Exploration **Driller's Name:** Eddie Herrera **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Maher Zein **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B204 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	2.1	9 12 15	ML		Clayey SILT (ML), hard, very dark grayish brown (10YR 3/2), moist	
5	5-6.5	X	240.0	12 15 18	CL		CLAY (CL), very hard, black (10YR 2/1), wet	
10	10-11.5	X	19.9	7 17 22	ML		Clayey SILT (ML), hard, very dark grayish brown (10YR 4/2), dry	
15	15-16.5	X	0.3	19 22 24			Sandy SILT (ML), very hard, olive gray (5Y 4/2), dry	
20	20-21.5	X	12.2	15 19 22	CL		CLAY (CL), very hard, dark grayish brown (2.5Y 4/2), moist	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		22.1	20 20 23			CLAY (CL), very hard, brown (7.5YR 4/4), dry	
30	30-31.5	X	75.5	24 27 33	ML		SILT (ML), very hard, dark yellowish brown (10YR 4/4), dry	
35	35-36.5		1283.0	27 33 38	SP		SAND (SP), very dense, light yellowish brown (2.5Y 6/3), dry, coarse-grained sand	
40	40-41.5	X	870.0	30 38 38	CL		Silty CLAY (CL), very hard, light olive brown (2.5Y 5/4), moist	
45	45-46.5		155.0	35 40 44	ML		SILT (ML), with Clay, very hard, light olive brown (2.5Y 5/3), moist	
50	50-51.5	X	2240.0	37 42 47	SM		Silty SAND (SM), very dense, brown (10YR 4/3), dry, medium-grained sand	

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Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 02/07/06-02/07/06 **Drilling Company:** WDC Exploration **Driller's Name:** Jorge Gutierrez **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Veronique Lee **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B205 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	0.0	NA			SILT (ML), dark brown (10YR 3/3), dry, 10% clay, 5% fine-grained sand	
5	5-6.5	X	0.0	3 4 7			SILT (ML), medium stiff, dark brown (10YR 3/3), dry, 10% clay, 5% fine-grained sand	
10	10-11.5	X	0.1	7 9 15			SILT (ML), very stiff, dark greenish gray (GLEY 1 10Y 4/1), moist, trace fine-grained sand	
15	15-16.5	X	0.0	10 16 18	ML		SILT (ML), hard, dark greenish gray (GLEY 1 10Y 4/1), moist, 15% fine-grained sand	
20	20-21.5	X	0.0	14 17 22			SILT (ML), hard, dark olive gray (5Y 3/2), moist, 20% fine-grained sand	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		0.1	15 16 17			SILT (ML), hard, dark yellowish brown (10YR 3/4), dry, 5% fine-grained sand	
30	30-31.5	X	0.0	10 12 19			SILT (ML), hard, olive brown (2.5Y 4/3), dry, 5% silt	
35	35-36.5		95.4	9 12 12	SP		SAND (SP), very stiff, greenish gray (GLEY 1 10Y 6/1), moist, 5% silt	
40	40-41.5	X	210.0	18 23 25	ML		SILT (ML), hard, olive gray (5Y 4/2), moist, 15% clay, 5% fine-grained sand, odor	
45	45-46.5		102.5	17 25 27	SM		Silty SAND (SM), very dense, light olive brown (2.5Y 5/4), moist, 15% silt, odor	
50	50-51.5	X	209.0	22 25 32	ML		SILT (ML), hard, light olive brown (2.5Y 5/3), moist, odor	

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NM = Not Measured
Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 02/08/06-02/08/06 **Drilling Company:** WDC Exploration **Driller's Name:** Jorge Gutierrez **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Megan Smoley **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B206 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	0.0	NA	ML		SILT (ML), dark brown (10YR 3/3), dry	
5	5-6.5	X	0.0	5 5 7	CL		CLAY (CL), firm, dark brown (10YR 3/3), dry, 10%-15% silt	
10	10-11.5	X	0.0	5 6 6 7	CL		CLAY (CL), firm, dark yellowish brown (10YR 4/6), dry, 10% silt	
15	15-16.5	X	0.0	10 15 20	CL		CLAY (CL), very hard, olive brown (2.5Y 4/4), dry, 20% fine-grained sand	
20	20-21.5	X	0.0	12 15 19	SM		Silty SAND (SM), dense, dark yellowish brown (10YR 3/6), dry, fine- to medium-grained sand, 15%-20% silt	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		0.4	6 6 8	SC		Clayey SAND (SC), medium dense, light olive brown (2.5Y 5/3), moist, fine- to medium-grained sand, 25% fines, subangular clasts	
30	30-31.5	X	0.1	14 14 16	CL		CLAY (CL), very hard, dark yellowish brown (10YR 4/4), dry, 15% fine-grained sand	
35	35-36.5		0.5	15 18 20	SP		SAND (SP), dense, light olive brown (2.5Y 5/3), moist, medium-grained subangular sand	
					SW		SAND (SW), dense, light olive brown (2.5Y 5/3), dry, medium-grained sand with 15% coarse-grained subangular sand	
40	40-41.5	X	30.2	9 11 13	CL		CLAY (CL), hard, light olive brown (2.5Y 5/4), moist	
45	45-46.5		214	25 30 33	SM		Silty SAND (SM), very dense, light yellowish brown (2.5Y 6/3), dry, fine-grained sand with trace medium-grained sand	
					CL		CLAY (CL), very hard, light olive brown (2.5Y 5/3), moist, 15%-20% silt	
50	50-51.5	X	42.5	23 25 28	SC		Clayey SAND (SC), dense, light olive brown (2.5Y 5/3), dry, fine-grained sand, 25% fines	

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NM = Not Measured
Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 02/08/06-02/08/06 **Drilling Company:** WDC Exploration **Driller's Name:** Jorge Gutierrez **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Megan Smoley **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B207 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	0.0	NA	ML		SILT (ML), dark yellowish brown (10YR 3/4), dry	
5	5-6.5	X	0.0	5 9 7	CL		CLAY (CL), dark yellowish brown (10YR 4/4), dry, 5-10% silt	
10	10-11.5	X	0.0	14 17 21	ML		SILT (ML), very hard, light olive brown (2.5Y 5/3), dry, 15% clay, 5% fine gravel	
					CL		CLAY (CL) very hard, light yellowish brown (2.5Y 6/3), dry, 15% silt	
15	15-16.5	X	0.0	15 19 20	SP		SAND (SP), dense, light olive brown (2.5Y 5/3), dry, medium-grained sand with 15% coarse-grained sand, subangular	
					SW		SAND (SW), dense, light brownish gray (2.5Y 6/2), dry, medium-grained sand with 15% coarse-grained sand, subangular, trace fine gravel	
20	20-21.5	X	0.0	10 12 14	SP		SAND (SP), medium dense, light brownish gray (2.5Y 6/2), dry, fine- to medium-grained sand	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		0.0	7 9 11			SAND (SP), medium dense, light olive brown (2.5Y 5/3), dry, fine- to medium-grained sand	
					CL		CLAY (CL), hard, dark yellowish brown (10YR 4/4), dry	
30	30-31.5	X	0.0	9 11 22			CLAY (CL), very hard, light olive brown (2.5Y 5/4), dry, 5-10% silt	
35	35-36.5		0.0	10 10 15	SC		Clayey SAND (SC), medium dense, olive (5Y 5/3), moist, fine-grained sand, 30-35% fines	
40	40-41.5	X	0.0	16 18 23			Clayey SAND (SC) dense, dark greenish gray (GLEY 1 5GY 4/1), moist, 15-20% fines	
45	45-46.5		0.0	10 10 10	SP		SAND (SP), medium dense, dark greenish gray (GLEY 1 5GY 4/1), dry, fine- to medium-grained SAND (SP), medium dense, light brownish gray (2.5Y 6/2), dry, medium-grained sand with trace coarse-grained sand	
					SM		Silty SAND (SM), medium dense, dark greenish gray (GLEY 1 5GY 4/1), dry, fine-grained sand, 15% silt	
50	50-51.5	X	2.1	20 25 28	SP		SAND (SP), very dense, light olive brown (2.5Y 5/3), dry, fine- to medium-grained sand	

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NM = Not Measured
Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 01/31/06-01/31/06 **Drilling Company:** WDC Exploration **Driller's Name:** Miguel Alvarado **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Maher Zein **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B208 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	213.0	9 11 12	ML		Clayey SILT (ML), hard, dark brown (7.5YR 3/4), dry	
5	5-6.5	X	24.6	10 10 13			Clayey SILT (ML), hard, very dark grayish brown (10YR 3/2), moist	
10	10-11.5	X	0.0	13 17 21			SILT (ML), very hard, olive brown (2.5Y 4/4), dry	
15	15-16.5	X	0.0	20 20 25	SP		SAND (SP), dense, light olive brown (2.5Y 5/3), medium-grained sand	
20	20-21.5	X	0.0	23 27 30			SAND (SP), very dense, olive gray (5Y 5/2), coarse-grained sand	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		2.0	45 45 50	ML		Clayey SILT (ML), very hard, dark yellowish brown (10YR 4/4), dry	
30	30-31.5	X	0.0	37 40 44			(Same as above)	
35	35-36.5		0.0	40 43 47			SILT (ML), very hard, dark greenish gray (GLEY 1 10Y 4/1), moist	
40	40-41.5	X	0.0	45 48 50	CL		CLAY (CL), very hard, olive (5Y 5/3), moist	
45	45-46.5		4.2	45 50 55			(Same as above)	
50	50-51.5	X	0.0	50 53 57	ML		SILT (ML), very hard, dark greenish gray (GLEY 1 10Y 4/1), moist	

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Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 01/31/06-01/31/06 **Drilling Company:** WDC Exploration **Driller's Name:** Miguel Alvarado **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Maher Zein **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B209 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	0.0	5 10 15	ML		SILT (ML), with Clay, hard, dark brown (10YR 3/3), dry	
5	5-6.5	X	0.0	9 12 17	CL		CLAY (CL), with Silt, hard, very dark grayish brown (10YR 3/2), moist	
10	10-11.5	X	0.0	11 13 18	ML		SILT (ML), very hard, brown (10YR 4/3), moist	
15	15-16.5	X	61.1	11 17 19	SP		SAND (SP), dense, olive gray (5Y 5/2), dry, fine-grained sand	
20	20-21.5	X	92.2	19 20 23	SP		SAND (SP), dense, olive gray (5Y 5/2), dry, medium-grained sand	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		298.0	20 22 25	SP		SAND (SP), dense, olive gray (5Y 4/2), dry, coarse-grained sand, trace gravel	
30	30-31.5	X	19.1	20 30 35	SP		SAND (SP), very dense, olive (5Y 5/4), dry, coarse to very coarse-grained sand, some gravel	
35	35-36.5		1047.0	27 32 37	ML		SILT (ML), with Clay and Sand, very hard, olive gray (5Y 4/2), moist	
40	40-41.5	X	152.0	34 43 47	ML		Clayey SILT (ML), very hard, olive (5Y 5/3), moist	
45	45-46.5		1400.0	37 49 52	ML		SILT (ML), very hard, light olive brown (2.5Y 5/4), dry	
50	50-51.5	X	1008.0	46 50 55	ML		SILT (ML), very hard, olive (5Y 4/3), moist	

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Water not enountered during drilling.

Date Start/Finish: 01/31/06-01/31/06 **Drilling Company:** WDC Exploration **Driller's Name:** Miguel Alvarado **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Maher Zein **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B210 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	59.2	4 14 16	ML		SILT (ML), with Clay, hard, very dark grayish brown (2.5Y 3/2), moist, trace gravel	
5	5-6.5	X	9.0	8 12 17	CL		CLAY (CL), with Silt, hard, dark yellowish brown (10Y 3/4), dry	
10	10-11.5	X	212.0	15 22 23			Clayey SILT (ML), very hard, dark yellowish brown (10Y 3/4), moist	
15	15-16.5	X	33.8	19 20 23	ML		SILT (ML), very hard, light olive brown (2.5Y 5/4), moist	
20	20-21.5	X	13.6	23 24 27			SILT (ML), with Clay, very hard, olive brown (2.5Y 4/3), moist	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		1081.0	25 29 37	SW		SAND (SW), very dense, light olive brown (2.5Y 5/4), dry, some gravel	
30	30-31.5	X	43.8	28 34 37			SAND (SW), very dense, olive (5Y 5/3), moist, few gravel	
35	35-36.5		571.3	35 38 40	SP		SAND (SP), olive gray (5Y 4/2), moist, coarse-grained sand, some gravel	
40	40-41.5	X	2084.0	43 47 48			SILT (ML), very hard, light yellowish brown (2.5Y 6/4), moist	
45	45-46.5		1204.0	48 50 50	ML		SILT (ML), with Clay, very hard, light olive brown, (2.5Y 5/4), moist	
50	50-51.5	X	2103.0	50 55 55			SILT (ML), very hard, olive brown (2.5Y 4/3), moist, trace gravel	

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Date Start/Finish: 02/06/06-02/06/06 **Drilling Company:** WDC Exploration **Driller's Name:** Eddie Herrera **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Maher Zein **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B211 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	34.7	7 9 12	CL		Silty CLAY (CL), hard, dark brown (10YR 3/3), dry, trace gravel	
5	5-6.5	X	11.0	12 15 24			CLAY (CL), very hard, dark olive gray (5Y 3/2), moist	
10	10-11.5	X	9.4	16 18 23			(Same as above)	
15	15-16.5	X	9.1	14 18 20	SM		Silty SAND (SM), dense, olive gray (5Y 4/2), dry, medium-grained sand	
20	20-21.5	X	51.4	18 22 25	ML		Sandy SILT (ML), very hard, olive gray (5Y 4/2), dry	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		5.0	19 28 30			SILT (ML), with Clay, very hard, dark grayish brown (2.5Y 4/2), moist	
30	30-31.5	X	3.2	23 27 39			Clayey SILT (ML), very hard, olive brown (2.5Y 4/3), moist	
35	35-36.5		14.8	27 39 42	SP		SAND (SP), very dense, olive (5Y 5/3), dry, medium-grained sand	
40	40-41.5	X	11.2	30 33 34	ML		SILT (ML), very hard, pale olive (5Y 6/3), dry	
45	45-46.5		41.4	30 35 40			Clayey SILT (ML), very hard, olive (5Y 4/), moist	
50	50-51.5	X	651.0	21 27 32			SILT (ML), with Clay, very hard, olive (5Y 4/4), moist	

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Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 01/24/06-01/24/06 **Drilling Company:** WDC Exploration **Driller's Name:** Javier Rios **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Veronique Lee **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B212 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	0.0	7 8 9			SILT (ML), very stiff, dark brown (10YR 3/3), moist, 5% fine-grained sand	
5	5-6.5	X	0.0	20 31 36			Becomes dark yellowish brown (10YR 3/6)	
10	10-11.5	X	0.0	19 17 30			Becomes yellowish brown (10YR 5/4)	
15	15-16.5	X	0.0	26 50			Becomes olive brown (2.5Y 4/3)	
20	20-21.5	X	0.0	29 50			SILT (ML), hard, brown (10YR 4/3), moist, 15% fine-grained sand	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		0.0	17 19 30	ML		SILT (ML), hard, dark yellowish brown (10YR 4/4), moist, 5% fine-grained sand	
30	30-31.5	X	0.0	15 20 31			(Same as above)	
35	35-36.5		0.0	17 21 29			Sandy SILT (ML), hard, dark greenish gray (GLEY 1 10Y 4/1), moist, 30% fine-grained sand	
40	40-41.5	X	0.0	24 19 40			SILT (ML), hard, olive (5Y 4/2), moist, 10% fine-grained sand	
45	45-46.5		0.0	19 26 31			Becomes olive (5Y 4/2), 20% fine-grained sand	
50	50-51.5	X	0.0	20 30 33			Becomes olive (5Y 4/4), decreases to trace fine-grained sand	

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Water not enountered during drilling.

Date Start/Finish: 02/06/06-02/06/06 **Drilling Company:** WDC Exploration **Driller's Name:** Eddie Herrera **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 LAR **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Maher Zein **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B213 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	1.4	12 12 15	ML		Clayey SILT (ML), hard, dark yellowish brown (10YR 3/4), moist	
5	5-6.5	X	1.0	12 17 21			SILT (ML), with Clay, very hard, dark yellowish brown (10YR 3/4), moist	
10	10-11.5	X	1.3	19 18 25 30			(Same as above)	
15	15-16.5	X	0.9	27 27 26 28			SILT (ML), with Clay, very hard, brown (10YR 4/3), dry	
20	20-21.5	X	2.0	17 26 26 29			SILT (ML), with Clay, very hard, light olive brown (2.5Y 5/3), moist	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		0.8	25 27 27 30	CL		CLAY (CL), very hard, brown (10YR 5/3), moist	
30	30-31.5	X	0.9	25 33 33 38			CLAY (CL), very hard, strong brown (7.5YR 4/6), dry	
35	35-36.5		1.7	25 32 32 37			Silty CLAY (CL), very hard, dark yellowish brown (10YR 4/4), moist	
40	40-41.5	X	12.0	24 27 27 35	SP		SAND (SP), very dense, gray (5Y 5/1), moist, medium-grained sand	
45	45-46.5		1.2	25 27 37 40	ML		Clayey SILT (ML), very hard, olive gray (5Y 5/2), moist	
50	50-51.5	X	1.0	39 38 40 47	CL		Silty CLAY (CL), very hard, olive brown (2.5Y 4/4), moist	

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Water not enountered during drilling.

Date Start/Finish: 01/23/06-01/24/06 **Drilling Company:** WDC Exploration **Driller's Name:** Javier Rios **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Jennifer Wiley/Veronique Lee **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B214 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	5.5	6 7 8	ML		Sandy SILT (ML), stiff, black (5Y 2.5/2), moist, 35% fine-grained sand, noncemented, strong odor	
5	5-6.5	X	2.2	12 18 21			Sandy SILT (ML), very hard, dark olive gray (5Y 3/2), moist, 35% fine-grained sand, noncemented, strong odor	
10	10-11.5	X	0.6	10 17 22			(Same as above)	
15	15-16.5	X	0.0	18 20 21	SM		Silty SAND (SM), dense, olive (5Y 4/3), moist, fine-grained sand, 15% silt, noncemented, strong odor	
20	20-21.5	X	0.5	30 30 38	ML		SILT (ML), very hard, pale olive (5Y 6/3), moist, 15% fine-grained sand, few cemented nodules, strong odor	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		0.2	12 15 19 26	SC		Clayey SAND (SC), dense, olive (5Y 4/3), fine- to medium-grained sand, 35% clay, noncemented, strong odor	
30	30-31.5	X	0.1	11 23 29			Decreases to 15% clay	
35	35-36.5		0.4	30 50	SW		SAND (SW), very dense, olive (5Y 5/3), fine- to coarse-grained sand, trace silt, trace fine gravel, noncemented, strong odor	
40	40-41.5	X	0.0	16 23 33	ML		SILT (ML), very hard, olive (5Y 4/4), moist, 15% fine-grained sand	
45	45-46.5		0.0	21 50	SP		SAND (SP), very dense, light olive brown (2.5Y 5/4), moist, fine- to medium-grained sand, trace coarse-grained sand, 5% silt	
					ML		SILT (ML), hard, olive gray (5Y 4/2), moist, 5% fine-grained sand	
50	50-51.5	X	0.0	35 50	SM		Silty SAND (SM), very dense, dark greenish gray (GLEY 1 10Y 4/1), moist, 30% silt	

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Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 02/03/06-02/03/06 **Drilling Company:** WDC Exploration **Driller's Name:** Miguel Alvarado **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Maher Zein **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B215 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	0.8	11 15 16			SILT (ML), very hard, dark brown (10YR 3/3), dry	
5	5-6.5	X	1.3	12 11 16			SILT (ML), hard, very dark brown (10YR 2/2), moist, trace gravel	
10	10-11.5	X	0.8	15 17 19			SILT (ML), very hard, dark yellowish brown (10YR 4/4), dry	
15	15-16.5	X	0.6	13 19 23	ML		SILT (ML), very hard, pale olive (5Y 6/3), dry, trace gravel	
20	20-21.5	X	0.7	20 23 25			SILT (ML), with Clay, very hard, olive brown (2.5Y 4/3), moist	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		0.0	18 20 22			SILT (ML), very hard, olive brown (2.5Y 4/3), moist	
30	30-31.5	X	1.3	21 25 27			SILT (ML), with Clay, very hard, olive brown (2.5Y 4/3), moist	
35	35-36.5		1.8	20 23 24	CL		CLAY (CL), very hard, olive (5Y 5/3), moist, trace gravel	
40	40-41.5	X	1.4	25 27 31	SP		SAND (SP), very dense, olive gray (5Y 5/2), dry, coarse-grained sand, trace gravel	
45	45-46.5		2.0	21 24 26	ML		Clayey SILT (ML), very hard, light olive brown (2.5Y 5/4), moist	
50	50-51.5	X	1.0	29 31 36			SILT (ML), with Clay, very hard, light olive brown (2.5Y 4/3), moist	

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Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 02/02/06-02/02/06 **Drilling Company:** WDC Exploration **Driller's Name:** Miguel Alvarado **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Megan Smoley **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B216 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
					ML		SILT (ML), hard, dark yellowish brown (10YR 3/4), dry, 10% clay	
	2-3.5	X	0.0	7, 14, 14				
	3.5-5			9, 9, 11				
5	5-6.5	X	0.0	7, 16, 25			SILT (ML), very hard, dark yellowish brown (10YR 3/4), dry, 20% clay	
	6.5-8			8, 8, 9	SM		Silty SAND (SM), medium dense, yellowish brown (10YR 5/4), dry, fine-grained sand, 30% fines	
	8-10			8, 10, 15, 17				
10	10-11.5	X	0.0	5, 5, 13	CL		CLAY (CL), very hard, yellowish brown (10YR 5/4), dry, 15% silt, 10% fine-grained sand	
	11.5-13			7, 9, 9	SP-SM		SAND with Silt (SP-SM), medium dense, dark yellowish brown (10YR 4/6), dry, fine-grained sand with 20% medium-grained sand, 10% silt	Borehole backfilled wth Neat Cement with 5% Bentonite
	13-15			9, 19, 25, 25	CL		CLAY (CL), hard, light olive brown (2.5Y 5/3), dry, 25% silt	
15	15-16.5	X	0.1	10, 12, 16	ML		SILT (ML), very dense, light olive brown (2.5Y 5/3), dry, 20% fine-grained sand	
	16.5-18			10, 14, 15	SC		Clayey SAND (SC), medium dense, olive brown (2.5Y 4/4), dry, fine-grained sand, 25% fines	
	18-20			10, 10, 15	SM		Silty SAND (SM), medium dense, light olive brown (2.5Y 5/3), dry, fine-grained sand, micaceous, 10% clay	
20	20-21.5	X	0.0	21, 50, 50	ML		SILT (ML), hard, light yellowish brown (2.5Y 6/3), dry, 20% fine-grained sand	
	21.5-23			17, 21, 22			Sandy SILT (ML), very hard, dark yellowish brown (10YR 4/4), dry, 30-40% fine-grained sand	
	23-25			14, 19, 23, 25	SM		Silty SAND (SM), dense, olive brown (2.5Y 4/4), dry, fine-grained sand with 5% medium-grained sand, 15% silt	
25	25-26.5		0.0	20, 22	CL		CLAY (CL), very hard, light olive brown (2.5Y 5/3), dry, 15% silt	

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Remarks: bgs = below ground surface; NA = Not Applicable/Available
NM = Not Measured
Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 02/02/06-02/02/06 **Drilling Company:** WDC Exploration **Driller's Name:** Miguel Alvarado **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Megan Smoley **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B216 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
				25				
	26.5-28			11	SC		Clayey SAND (SC), dense, olive brown (2.5Y 4/3), dry, fine-grained sand, 30% fines	
				14				
				16				
	28-30			9				
				9	CL		CLAY (CL), hard, strong brown (7.5YR, 4/6), dry	
				10				
				13				
30	30-31.5	X	0.0	8				
				10				
				25				
	31.5-33			9				
				9				
				13				
	33-35			10				
				11				
				12				
				15				
35	35-36.5		0.0	7				Borehole backfilled wth Neat Cement with 5% Bentonite
				14			Becomes brown (10YR 4/3)	
				20				
	36.5-38			14	SP		SAND (SP), dense, dark greenish gray (GLEY 1 5GY 4/1), dry, fine- to medium-grained sand, 5-10% fines	
				16				
				17				
	38-40			13				
				22				
				23			SAND (SP), dense, olive gray (5Y 5/2), dry, medium-grained sand with 5-10% coarse-grained sand	
				23				
40	40-41.5	X	0.0	30				
				38				
				50			SAND (SP), very dense, olive gray (5Y 5/2), dry, medium-grained sand with 5-10% fine-grained sand	
	41.5-43			11				
				21				
				26			SAND (SP), dense, gray (5Y 5/1), dry, fine-grained sand with 15% medium-grained sand, subangular, few silt	
	43-45							
				17			SAND (SP), dense, olive gray (5Y 5/2), dry, medium-grained sand with trace coarse-grained sand, subangular	
				18			SAND (SP), dense, gray (5Y 5/1), dry, fine- to medium-grained, few fines	
				19				
45	45-46.5		0.0	19	CL		CLAY (CL), very hard, light olive brown (2.5Y 5/3), dry	
				10				
				17				
	46.5-48			27				
				10				
				15				
	48-50			17			CLAY (CL), hard, olive gray (5Y 5/2), dry, 30% silt	
				10	SP		SAND (SP), dense, olive (5Y 5/3), dry, fine-grained sand	
				15				
				17				
50	50-51.5	X	0.0	25	CL		CLAY (CL), very hard, light olive brown (2.5Y 5/4), dry	
				19				
				20				

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Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 01/24/06-01/24/06 **Drilling Company:** WDC Exploration **Driller's Name:** Javier Rios **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Veronique Lee **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B217 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	0.0	17 18 24	ML		SILT (ML), hard, very dark gray (10YR 3/1), moist, 15% fine-grained sand	
5	5-6.5	X	0.0	19 21 36			Becomes dark yellowish brown (10YR 3/4), decreases to 5% fine-grained sand	
10	10-11.5	X	0.0	29 33 41			Becomes yellowish brown (10YR 5/4), increases to 10% fine-grained sand	
15	15-16.5	X	0.0	39 50			Becomes light brownish gray (2.5Y 6/2), 25% fine-grained sand	
20	20-21.5	X	0.0	50			Becomes light gray (2.5Y 7/2), trace fine-grained sand	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		0.0	29 50			Sandy SILT (ML), hard, light brownish gray (2.5Y 6/6), moist, 30% fine-grained sand	
30	30-31.5	X	0.0	17 37 41			SILT (ML), hard, brown (10YR 4/3), dry, 10% fine-grained sand	
35	35-36.5		0.0	19 23 41			(Same as above)	
40	40-41.5	X	0.0	21 32 34	SP		SAND (SP), very dense, light greenish gray (GLEY 1 5GY 7/1), moist, fine- to medium-grained sand, trace coarse-grained sand, trace silt	
45	45-46.5		0.0	15 27 28	ML		SILT (ML), hard, olive (5Y 4/3) with olive yellow (2.5Y 6/8) mottling, moist, 10% clay	
50	50-51.5	X	0.0	50			SILT (ML), hard, olive (5Y 4/3), moist	

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Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 02/08/06-02/08/06 **Drilling Company:** WDC Exploration **Driller's Name:** Miguel Alvarado **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Maher Zein **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B218 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	1.2	3 4 7	ML		SILT (ML), firm, brown (10YR 4/3), dry, few gravel	
5	5-6.5	X	2.0	5 7 10	CL		CLAY (CL), with Silt, hard, very dark grayish brown (2.5Y 3/2), dry	
10	10-11.5	X	1.0	10 10 11			CLAY (CL), with Silt, hard, brown (10YR 4/3), dry	
15	15-16.5	X	0.5	13 14 16	ML		SILT (ML), with Sand, hard, light olive brown (2.5Y 5/4), dry	
20	20-21.5	X	2.9	15 20 23			Sandy SILT (ML), very hard, olive brown (2.5Y 4/3), moist	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		0.0	18 22 25			SILT (ML), with Sand, very hard, olive (5Y 4/3), moist	
30	30-31.5	X	0.0	23 27 30			Clayey SILT (ML), very hard, very dark grayish brown (2.5Y 3/2), dry	
35	35-36.5		0.6	19 23 27	SP		SAND (SP), dense, olive (5Y 4/3), moist, medium-grained sand	
40	40-41.5	X	1.0	23 28 33			SILT (ML), very hard, dark greenish gray (GLEY 1 10Y 5/1), moist	
45	45-46.5		2.1	9 16 26	ML		Clayey SILT (ML), very hard, olive (5Y 4/3), moist	
50	50-51.5	X	1.4	14 22 27			SILT (ML), very hard, olive (5Y 5/3), dry	

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Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 01/26/06-01/26/06 **Drilling Company:** WDC Exploration **Driller's Name:** Javier Rios **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Megan Smoley **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B219 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Stratigraphic Description
	2-3.5	X	0.0	11 14 15	CL	Silty CLAY (CL), hard, dark brown (10YR 3/3), dry
5	5-6.5	X	0.1	19 21 26	CL	Silty CLAY (CL), very hard, dark brown (10YR 3/3), dry
10	10-11.5	X	0.0	13 15 19	CL	Silty CLAY (CL), very hard, dark grayish brown (2.5Y 4/2), moist
15	15-16.5	X	0.0	15 20 28	SM	Silty SAND (SM), dense, olive gray (5Y 4/2), dry, 10% clay
20	20-21.5	X	0.0	16 19 27	ML	Clayey SILT (ML), very hard, dark greenish gray (GLEY 1 5GY 4/1), dry, 30% clay
25	25-26.5		0.0	14 23 28	ML	SILT (ML), very hard, dark greenish gray (GLEY 1 5GY 4/1), dry, 10% clay, 15% fine-grained sand
30	30-31.5	X	0.0	50	SP	SAND (SP), very dense, greenish gray (GLEY 1 5GY 5/1), dry, fine-grained sand, 15% medium-grained sand
35	35-36.5		0.0	35 50	SW	SAND (SW), very dense, greenish gray (GLEY 1 5GY 5/1), dry, medium-grained sand with 10% coarse-grained sand, trace fine gravel, subangular clasts
					ML	SILT (ML), very hard, dark greenish gray (GLEY 1 5GY 4/1), dry, 20% clay, fine- to medium-grained sand
40	40-41.5	X	0.0	38 50	ML	(Same as above)
45	45-46.5		0.0	27 31 41	ML	SILT (ML), very hard, olive (5Y 5/3), dry, 15% clay
50	50-51.5	X	0.0	25 50	CL	CLAY (CL), very hard, olive (5Y 5/3), moist, 20% silt

Well/Boring Construction

Borehole backfilled wth Neat Cement with 5% Bentonite

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Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 01/26/06-01/27/06 **Drilling Company:** WDC Exploration **Driller's Name:** Javier Rios **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Megan Smoley **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B220 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	0.2	15 16 18	CL		CLAY (CL), very hard, dark olive brown (2.5Y 3/3), dry, 15% silt	
5	5-6.5	X	0.2	14 19 21			CLAY (CL), very hard, dark brown (10YR 3/3), dry, trace silt	
10	10-11.5	X	0.0	9 20 26	ML		Clayey SILT (ML), very hard, dark yellowish brown (10YR 4/4), dry, 30% clay	
15	15-16.5	X	0.0	20 21 23	SM		Silty SAND (SM), dense, olive brown (2.5Y 4/4), dry, fine-grained sand with 15% medium-grained sand, 30% silt	
20	20-21.5	X	0.0	25 50	SM		Silty SAND (SM), very dense, olive (5Y 5/3), dry, fine-grained sand with 15% medium-grained sand, 20% silt	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		0.0	30 50	SW		SAND (SW), very dense, olive gray (5Y 6/2), dry, medium-grained sand with 15% coarse-grained sand, trace fines, subangular	
30	30-31.5	X	0.0	50 54			(Same as above)	
35	35-36.5		0.0	38 50	SP		SAND (SP), very dense, olive (5Y 5/3), dry, medium-grained sand with few fine- and coarse-grained sand, subangular	
					SW-SM		SAND with Silt (SW-SM), very dense, olive (5Y 4/3), medium-grained sand with 10% coarse-grained sand, 10% silt, 15% fine to coarse subangular gravel	
40	40-41.5	X	0.0	50	CL		CLAY (CL), very hard, dark greenish gray (GLEY 1 5GY 4/1), dry, 15% silt	
45	45-46.5		0.0	21 31 35	SM		Silty SAND (SM), very hard, olive (5Y 4/4), dry, trace clay	
50	50-51.5	X	0.0	17 21 27			(Same as above)	

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NM = Not Measured
Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 01/27/06-01/27/06 **Drilling Company:** WDC Exploration **Driller's Name:** Javier Rios **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Megan Smoley **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B221 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	0.0	7 8 16	CL		Silty CLAY (CL), hard, brown (10YR 4/3), dry, 35% silt	
5	5-6.5	X	0.0	9 11 17			Becomes dark yellowish brown (10YR 3/4)	
10	10-11.5	X	0.0	10 15 17	SM		Silty SAND (SM), dense, dark yellowish brown (10YR 4/4), fine-grained sand, 30-40% fines	
15	15-16.5	X	0.0	20 31 36			(Same as above)	
20	20-21.5	X	0.0	25 50			Silty SAND (SM), very dense, dark yellowish brown (10YR 4/4), dry, 20% silt	Borehole backfilled wth Neat Cement with 6% Bentonite
25	25-26.5		0.0	22 50	SW		SAND (SW), very dense, brown (10YR 5/3), dry, medium-grained sand with 10% coarse-grained sand, subangular, 10% fines, 5% fine gravel	
30	30-31.5	X	0.0	25 50			(Same as above)	
35	35-36.5		0.0	33 50			SAND (SW), very dense, light olive brown (2.5Y 5/3), dry, medium-grained sand with 15% coarse-grained sand, subangular, 5% fine gravel	
					CL		CLAY (CL), very hard, light olive brown (2.5Y 5/3), dry, 15% silt	
40	40-41.5	X	0.0	27 50	SW		(Same as above)	
45	45-46.5		0.0	35 50	SM		Silty SAND (SM), very dense, light olive brown (2.5Y 5/4), dry, fine-grained sand, micaceous, 25% silt Silty SAND (SM), very dense, olive gray (5Y 5/2), dry, fine-grained sand, micaceous, 35% silt	
50	50-51.5	X	0.0	37 50			Becomes dark greenish gray (GLEY 1 5GY 4/1)	

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Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 02/03/06-02/03/06 **Drilling Company:** WDC Exploration **Driller's Name:** Eddie Herrera **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 LAR **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Megan Smoley **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B222 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	NM	12 13 15	CL		CLAY (CL), hard, dark grayish brown (10YR 4/2), dry, 10%-15% silt	
5	5-6.5	X	0.5	21 25 30			Becomes very hard	
10	10-11.5	X	1.2	23 27 30	ML		SILT (ML), very hard, light olive brown (2.5Y 5/4), dry, 15% clay, 5%-10% fine-grained sand	
15	15-16.5	X	0.2	23 28 38	SM		Silty SAND (SM), very dense, light olive brown (2.5Y 5/4), dry, fine-grained sand with trace medium-grained sand, 20% silt	
20	20-21.5	X	0.4	24 29 36			SAND (SP), very dense, olive brown (2.5Y 4/3), dry, medium-grained subangular sand	Borehole backfilled wth Neat Cement with 6% Bentonite
25	25-26.5		0.3	22 35 40	SP		(Same as above)	
30	30-31.5	X	0.0	27 32 38			SAND (SP), very dense, grayish brown (2.5Y 5/2), dry, medium-grained sand with 10% fine-grained sand, trace coarse-grained subangular sand	
35	35-36.5		0.0	26 30 35	SW		SAND (SW), very dense, light olive brown (2.5Y 5/3), dry, medium-grained sand, 15%-20% coarse-grained subangular sand	
40	40-41.5	X	0.7	30 38 38	ML		Clayey SILT (ML), very hard, olive (5Y 5/4), dry, 30% clay	
45	45-46.5		1.1	32 37 40	SM		Silty SAND (SM), very dense, olive (2.5Y 5/3), dry, fine-grained sand	
50	60-61.5	X	0.8	35 37 42			Silty SAND (SM), very dense, dark greenish gray (GLEY 1 5GY 4/1), dry, fine-grained sand with 5% medium-grained sand, 15% silt	

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Remarks: bgs = below ground surface; NA = Not Applicable/Available
NM = Not Measured
Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Date Start/Finish: 02/03/06-02/03/06 **Drilling Company:** WDC Exploration **Driller's Name:** Eddie Herrera **Drilling Method:** Hollow Stem Auger **Bit Size:** 8-inch **Auger Size:** 8-inch **Rig Type:** CME-75 LAR **Sampling Method:** 2"ID Split Spoon	**Northing:** NM **Easting:** NM **Casing Elevation:** NA **Borehole Depth:** 51.5' bgs **Surface Elevation:** NM **Geologist:** Megan Smoley **Checked By:** Jennifer Wiley, P. G.	**Well/Boring ID:** B223 **Client:** Isola & Associates, LLP **Location:** Former Cenco Refinery **Address:** 12345 Lakeland Rd. **City/State:** Santa Fe Springs, CA

Depth	Interval Observed	Analytical Sample	PID Headspace (ppm)	Blow Count	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
	2-3.5	X	0.3	14 16 18	ML		SILT (ML), very hard, dark brown (10YR 3/3), dry, 15% clay	
							Silty CLAY (CL), very hard, dark brown (10YR 3/3), dry	
5	5-6.5	X	0.0	15 19 20	CL		(Same as above)	
10	10-11.5	X	0.0	20 20 25	ML		Clayey SILT (ML), very hard, olive brown (2.5Y 4/4), dry, 10% fine-grained sand	
15	15-16.5	X	0.0	22 27 29			SILT (ML), very hard, olive brown (2.5Y 4/4), dry, 20% fine-grained sand	
20	20-21.5	X	0.0	25 29 32	SW		SAND (SW), very dense, olive (5Y 5/3), dry, fine- to medium-grained sand with 10% coarse-grained sand, 5%-10% fine-gravel	Borehole backfilled wth Neat Cement with 5% Bentonite
25	25-26.5		0.0	29 34 40	SP		SAND (SP), very dense, olive (5Y 5/3), dry, fine- to, medium-grained sand, 5% fines	
30	30-31.5	X	0.0	34 36 42	SP-SM		SAND with Silt (SP-SM), very dense, olive (5Y 4/4), dry, fine- to coarse-grained sand with 5% coarse-grained subangular sand, 10% silt	
35	35-36.5		0.0	30 33 39	SP		SAND (SP), very dense, olive (5Y 5/3), dry, medium-grained sand with 5% fine-grained sand, subangular	
40	40-41.5	X	0.1	30 35 40	CL		CLAY (CL), very hard, olive (5Y 5/3), moist	
45	45-46.5		0.0	25 28 30	SM		Silty SAND (SM), very dense, greenish gray (GLEY 1 5GY 5/1), dry, fine-grained sand, 20% silt	
					CL		CLAY (CL), very hard, olive gray (5Y 5/2), moist	
50	50-51.5	X	0.0	35 39 45			Sandy CLAY (CL), very hard, dark greenish gray (GLEY 1 5GY 4/1), moist, 15% fine-grained sand	

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Remarks: bgs = below ground surface; NA = Not Applicable/Available
NM = Not Measured
Total Depth = 51.5 feet bgs
Water not enountered during drilling.

Appendix D

Cross-Section of Regional Hydrogeology

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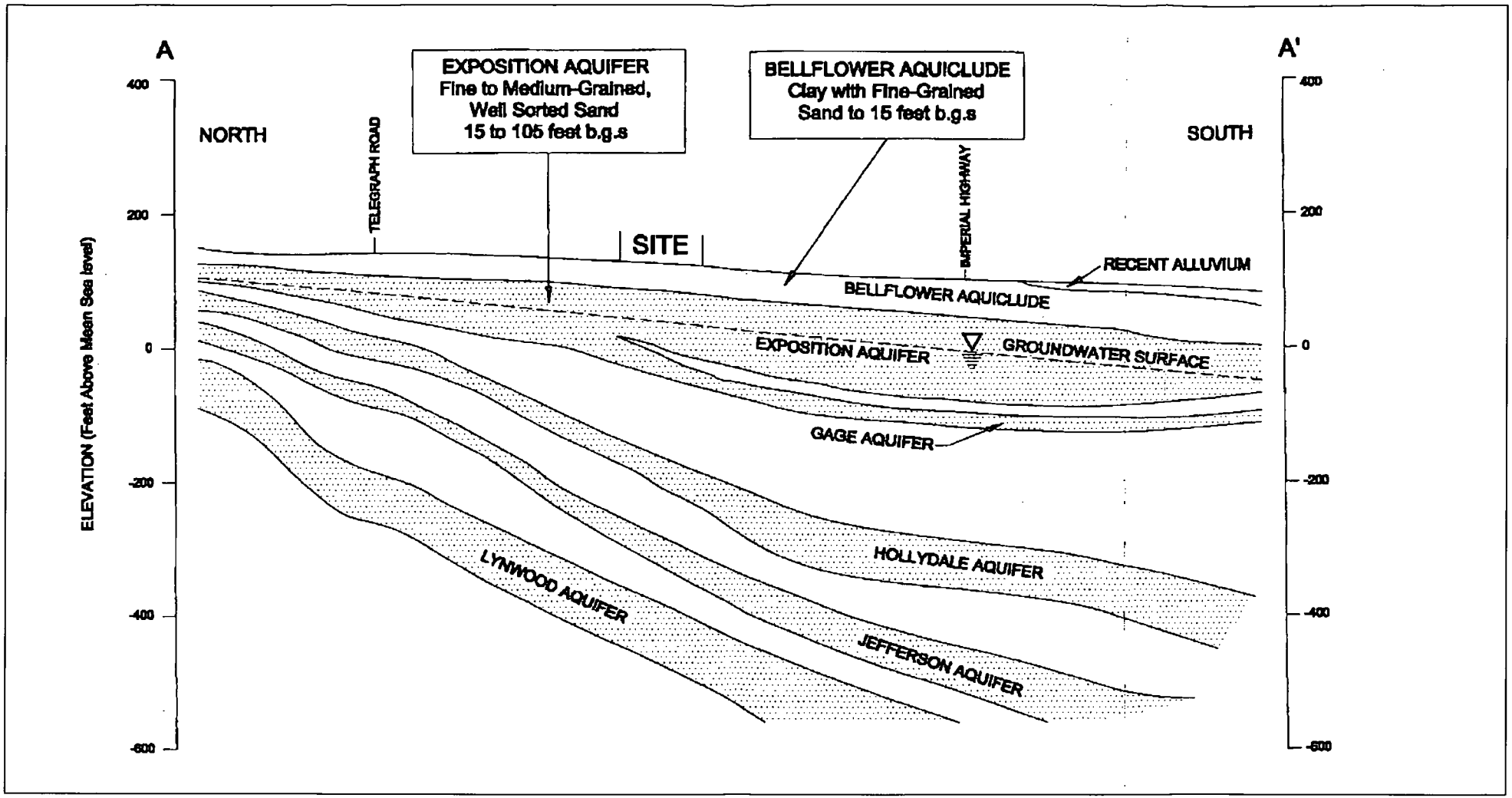

NOTE:

1. SOURCE: VERSAR INC, GEOLOGIC CROSS SECTION FOR THE CENCO REFINERY SITE VICINITY, FIGURE 4. ADAPTED FROM SECTION N-N' OF D.W.R BULLETIN 104.

ISOLA AND ASSOCIATES LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CALIFORNIA

CROSS-SECTION OF REGIONAL HYDROGEOLOGY

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FIGURE
D-1

8/7/09 SYR-85 EAB
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Appendix E

Historical Analytical Results

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TABLE E-1
SUMMARY OF HISTORICAL SOIL SAMPLING DATA

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample Site Count	Soil Boring ID	Sample Depth	Sampled By Date	TRPH (a) ASTM M2887 (b) Method 418.1 (c) as oil & grease	TPH-g	TPH by M8015 (d) diesel (e) other fuel (f) simulated distillation	Benzene	Toluene	Ethyl Benzene	Total Xylenes	MTBE	MC	RCE	2-Methyl Butane	Pentane	Cyclo Pentane	Methyl Cyclo Pentane	2,3-Dimethyl Butane	Hexane	Butane	2,2,4-Trimethyl Cyclo Hexane	2-Methyl Heptane	2,2,3,4-Methyl Pentane	Methyl Cyclo Hexane	Octane	2,4-Dichloro phenol	2,4,6-Trichloro Phenol	2-Nitro phenol	Cyanide	TOX	HVOCs	1,1,1-TCA	Lead
Operational Area 1: Bloomfield Property																																		
1	106	10	Trihydro, 1996	ND<10 (a)	ND<1	--	ND<0.005	ND<0.005	ND<0.005	0.014	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND<0.001	ND<0.001	4.1
2		60		ND<10 (a)	ND<1	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND<0.001	ND<0.001	4.9
3		80		ND<10 (a)	4.2	--	0.018	0.019	0.011	0.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND<0.001	ND<0.001	ND<2.5
4	107	10	Trihydro, 1996	ND<10 (a)	ND<1	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND<0.001	2.8
5		30		ND<10 (a)	ND<1	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND<0.001	ND<2.5
6		70		ND<10 (a)	ND<1	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND<0.001	ND<2.5
7	203	8.5	IT, 1985	ND<20 (c)	--	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	ND<0.001	ND<0.001	ND<0.001	ND<0.2	ND<15	ND (z)	ND<0.005	--
8		13.5		TR<20 (c)	--	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	ND<0.001	ND<0.001	ND<0.001	ND<0.2	ND<15	ND (z)	ND<0.005	--
9		88.5		TR<20 (c)	--	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	ND<0.001	ND<0.001	ND<0.001	1.5	ND<15	ND (z)	ND<0.005	--
10	SB-20	5		--	--	ND<2 (s)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
11		10		--	--	ND<2 (s)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
12	NCH-B1	2	Trihydro, 1997	--	--	ND<10 (s)	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	ND<0.01	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	23
13		20		--	--	ND<10 (s)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
14	NCH-B2	2	Trihydro, 1997	--	--	640 (s)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
15		14-16		--	--	ND<10 (s)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
16	NCH-B3	2	Trihydro, 1997	--	--	150 (s)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
17		11		--	--	ND<10 (s)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
18	NCH-B4	2	Trihydro, 1997	--	--	ND<10 (s)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
19		15		--	--	ND<10 (s)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Operational Area 2: East Tank Farm Area																																		
20	103	3.5	IT, 1985	77 (c)	--	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	0.1	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	ND<0.001	ND<0.001	ND<0.001	ND<0.2	26	0.1 (z)	ND<0.005	8.9
21		13		21 (c)	--	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	ND<0.001	ND<0.001	ND<0.001	ND<0.2	ND<20	ND<0.005	ND<0.005	2.4
22		85		18 (c)	--	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	0.11	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	ND<0.001	ND<0.001	ND<0.001	ND<0.2	ND<20	0.11 (z)	ND<0.005	4.1
23	202	9.5	IT, 1985	ND<20 (c)	--	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	ND<0.001	ND<0.001	ND<0.001	ND<0.2	ND<14	ND (z)	ND<0.005	10
24		49.5		ND<20 (c)	--	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	ND<0.001	ND<0.001	ND<0.001	ND<0.2	ND<14	ND (z)	ND<0.005	5
25	204	4.5	IT, 1985	ND<20 (c)	--	--	ND<0.025	0.32	0.32	4.4	--	ND<0.025	ND<0.025	--	--	--	--	--	--	--	--	--	--	--	--	ND<0.002	ND<0.002	ND<0.002	ND<0.2	ND<14	ND (z)	ND<0.025	11
26		68.5		TR<20 (c)	--	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	ND<0.001	ND<0.001	ND<0.001	ND<0.2	22	ND (z)	ND<0.005	5
27	303	14	IT, 1985	ND<20 (c)	--	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	ND<0.001	ND<0.001	ND<0.001	ND<0.2	17	ND (z)	ND<0.005	4
28		29		ND<20 (c)	--	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	ND<0.001	ND<0.001	ND<0.001	ND<0.2	ND<14	ND (z)	ND<0.005	6
29	304	8.5	IT, 1985	51 (c)	--	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	ND<0.001	ND<0.001	ND<0.001	ND<0.2	ND<20	ND (z)	ND<0.005	4
30		38.5		86 (c)	--	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	ND<0.001	ND<0.001	ND<0.001	ND<0.2	ND<20	ND (z)	ND<0.005	7
31	305	8.5	IT, 1985	28 (c)	--	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	ND<0.001	ND<0.001	ND<0.001	ND<0.2	ND<20	ND (z)	ND<0.005	4
32		38.5		42 (c)	--	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	0.027	0.004	ND<0.002	ND<0.2	ND<20	ND (z)	ND<0.005	2
33	308	8.5	IT, 1985	6 (c)	--	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	ND<0.001	ND<0.001	ND<0.001	ND<0.2	ND<15	ND (z)	ND<0.005	9
34		38.5		1 (c)	--	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	ND<0.001	ND<0.001	ND<0.001	ND<0.2	ND<15	ND (z)	ND<0.005	5
35	309	8.5	IT, 1985	ND<10 (c)	--	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	0.15	0.23	--	--	--	--	--	--	--	--	--	--	--	--	ND<0.001	ND<0.001	ND<0.001	ND<0.2	17	0.38 (z)	ND<0.005	5
36		38.5		20 (c)	--	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	ND<0.001	ND<0.001	ND<0.001	ND<0.2	ND<15	ND (z)	ND<0.005	3
37	SB-1	40	IT, 1985	2440 (a)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
38	SB-2	15	IT, 1985	118 (a)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
39	SB-3	5	IT, 1985	4 (a)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
40	SB-4	5	IT, 1985	12 (a)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
41	SB-5	10	IT, 1985	ND<2 (a)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
42		15		26500 (a)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
43	SB-6	5	IT, 1985	3 (a)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
44	SB-7	25	IT, 1985	3100 (a)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
45		35		ND<2 (a)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
46	SB-8	10	IT, 1985	4140 (a)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
47		15		ND<2 (a)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
48	SB-9	5	IT, 1985	4100 (a)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
49		10		ND<2 (a)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
50	DB2	0.5	Versar, 1999	--	1.1	--	ND<0.005	ND<0.005	ND<0.005	ND<0.01	1.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
51		5.5		--	4.2	--	0.053	ND<0.005	0.012	0.016	4	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
52		10.5		--	8.4	--	0.018	0.027	ND<0.005	0.046	13.3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
53		20.5		--	5050	--	11.3	179	48.7	288	181	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
54		40.5		--	1390	--	3	22	5.5	33.1	515	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
55		60.5		--	1300	--	1	22	7	41	78	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
56		80.5		--	9800	--	26	229	60	357	276	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
57	DB3	0.5	Versar, 1999	--	1	--	ND<0.005	ND<0.005	ND<0.005	ND<0.01	ND<0.25	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
58		5.5		--	ND<0.5	--	ND<0.005	ND<0.005	ND<0.005	ND<0.01	ND<0.25	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
59		10		--	ND<0.5	--	ND<0.005	ND<0.005	ND<0.005	ND<0.01	ND<0.25	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
60		20		--	ND<0.5	--	ND<0.005	ND<0.005	ND<0.005	ND<0.01	ND<0.25	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
61		30.5		--	ND<0.5	--	ND<0.005	ND<0.005	ND<0.005	ND<0.01	ND<0.25	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
62		40.5		--	ND<0.5	--	ND<0.005	ND<0.005	ND<0.005	ND<0.01	ND<0.25	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
63		60.5		--	ND<0.5	--	ND<0.005	ND<0.005	ND<0.005	ND<0.01	ND<0.25	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
64		80.5		--	ND<0.5	--	0.074	ND<0.005	ND<0.005	ND<0.01	ND<0.25	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Operational Area 3: Processing Area																																		
66	102	8.5	IT, 1985	32000 (c)	--	--	0.39	1.4	0.39	TR 0.049	--	ND<0.005	ND<0.005	0.1	0.1	0.3	0.4	0.06	0.04	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.01	ND<0.01	ND<0.01	ND<0.2	ND<20	ND (z)	ND<0.005	6.9
67		13.5		8100 (c)	--	--	0.25	0.1	0.22	TR 0.026	--	0.13	ND<0.005	0.3	0.2	0.2	0.3	0.6	0.05	0.06	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	0.2	ND<0.1	ND<0.1	ND<0.2	ND<20	0.13 (z)	ND<0.005	8.3
68		18.5		--	--	--	0.23	0.51	0.29	1.2	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	0.38	ND<0.005	--	--	--	--	--	ND (z)	ND<0.005	--
69		28.5		--	--	--	ND<0.063	TR 0.43	1.5	4.1	--	ND<0.063	ND<0.063	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	0.9	ND<0.005	ND<0.005	--	--	--	--	--	ND (z)	ND<0.005	--
70		43.5		--	--	--	ND<0.005	ND<0.005	ND<0.005	TR 0.012	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	--	--	--	--	ND (z)	ND<0.005	--
71		48.5		1500 (c)	--	--	0.078	3.2	1.1	2.3	--	0.21	ND<0.005	ND<0.005	ND<0.005	0.1	0.1	ND<0.005	ND<0.005	ND<0.005	2	ND<0.005	ND<0.005	ND<0.005	ND<0.005	0.118	ND<0.01	0.012	ND<0.2	ND<15	0.21 (z)	ND<0.005	4
72		58.5		--	--	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	0.04	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	--	--	--	--	ND (z)	ND<0.005	--
73		73.5		--	--	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	0.23	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	--	--	--	--	0.23 (z)	ND<0.005	--
74		83.5		--	--	--	ND<0.005	ND<0.005	ND<0.005	TR 0.023	--	0.1	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	--	--	--	--	0.1 (z)	ND<0.005	2
75		88.5		--	--	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	--	--	--	--	ND (z)	ND<0.005	--
76	104	2.5	IT, 1985	49 (c)	--	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	ND<0.001	ND<0.001	ND<0.001	ND<0.2	ND<1	ND (z)	ND<0.005	12

TABLE E-1
SUMMARY OF HISTORICAL SOIL SAMPLING DATA

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample Site Count	Soil Boring ID	Sample Depth	Sampled by Date	TRPH (a)ASTM M2887 (b) Method 418.1 (c) as oil & grease	TPH(g)	TPH by M8015 (d) diesel (j) jet fuel (s) simulated distillation	Benzene	Toluene	Ethyl Benzene	Total Xylenes	MTBE	MC	RCE	2-Methyl Butane	Pentane	Cyclo Hexane	Methyl Cyclo Pentane	2,3-Dimethyl Butane	n-Hexane	Butane	1,1,3-Trimethyl Cyclo Hexane	2-Methyl Heptane	2,2,3,3-Methyl Pentane	Methyl Cyclo Hexane	Octane	2,4-Dichloro Phenol	2,4,6-Trichloro Phenol	2-Nitro Phenol	Cyanide	TOX	HVOCs	111-TCA	Lead
77		12.5		59 (c)	--	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	ND<0.001	ND<0.001	ND<0.001	ND<0.2	ND<1	ND (z)	ND<0.005	3
78		85		--	--	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.2	ND<1	ND (z)	ND<0.005	4
76	301	8.5	IT, 1985	14 (c)	--	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.001	ND<0.001	ND<0.001	2	ND<15	ND (z)	ND<0.005	8
77		28.5		36 (c)	--	--	ND<0.13	ND<0.13	ND<0.13	TR <1	--	ND<0.13	ND<0.13	ND<0.005	ND<0.005	ND<0.005	0.35	ND<0.005	ND<0.005	ND<0.005	1.9	2.5	ND<0.005	ND<0.005	ND<0.005	ND<0.001	ND<0.001	ND<0.001	0.7	ND<15	ND (z)	ND<0.005	10
78		38.5		12 (c)	--	--	ND<0.025	ND<0.025	TR <0.17	TR <0.19	--	ND<0.025	ND<0.025	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	0.5	0.6	ND<0.005	ND<0.005	0.3	ND<0.001	ND<0.001	ND<0.001	ND<0.2	ND<15	ND (z)	ND<0.005	10
79	302	8.5	IT, 1985	5060 (c)	--	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	0.104	TR<0.01	TR<0.01	ND<0.2	22	ND (z)	ND<0.005	10
80		38.5		ND<1 (c)	--	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	ND<0.001	ND<0.001	ND<0.001	ND<0.2	ND<15	ND (z)	ND<0.005	8
81	401	18.5	IT, 1985	40 (c)	--	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	0.14	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	ND<0.001	ND<0.001	ND<0.001	0.9	ND<15	0.14 (z)	ND<0.005	3
82		38.5		TR<10 (c)	--	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	ND<0.001	ND<0.001	ND<0.001	ND<0.2	ND<15	ND (z)	ND<0.005	10
83	402	8.5	IT, 1985	940 (c)	--	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	ND<0.001	ND<0.001	ND<0.001	1.1	ND<29	ND (z)	ND<0.005	5
84		33.5		ND<10 (c)	--	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	ND<0.001	ND<0.001	ND<0.001	4	ND<15	ND (z)	ND<0.005	6
85	LBS-10	5	Trihydro, 1996	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	--	--
86		20		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	--	--
87	LBS-11	5	Trihydro, 1996	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	--	--
88		21		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	--	--
89	LBS-5	5	Trihydro, 1996	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	--	--
90		15		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	--	--
91	DB1	0.5	Versar, 1999	--	ND<0.5	--	ND<0.005	ND<0.005	ND<0.005	ND<0.01	ND<0.025	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
92		5.5		--	ND<0.5	--	ND<0.005	ND<0.005	ND<0.005	ND<0.01	0.029	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
93		10		--	ND<0.5	--	ND<0.005	ND<0.005	ND<0.005	ND<0.01	ND<0.025	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
94		20.5		--	110	--	0.5	0.8	1	3.8	ND<0.6	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
95		30.5		--	ND<0.5	--	ND<0.005	ND<0.005	ND<0.005	ND<0.01	ND<0.025	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
96		40.5		--	550	--	1	5.6	5.5	30.6	ND<2.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
97		60.5		--	7200	--	58	120	75	392	ND<12	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
98		80.5		--	1200	--	6	6.3	8.7	31.5	3.4	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Operational Area 4: West Tank Farm Area																																		
99	101	9	IT, 1985	60 (c)	--	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.001	ND<0.001	ND<0.001	ND<0.2	5.8	ND (z)	ND<0.005	8
100		13.5		71 (c)	--	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.001	ND<0.001	ND<0.001	2	57	ND (z)	ND<0.005	8
101		78.5		82 (c)	--	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.001	ND<0.001	ND<0.001	ND<0.2	27	ND (z)	ND<0.005	3
102	105	10	IT, 1985	ND<10 (a)	ND<1	--	ND<0.005	0.0055	ND<0.005	0.034	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND<0.001	4.9
103		60		ND<10 (a)	ND<1	--	ND<0.005	ND<0.005	ND<0.005	0.017	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND<0.001	ND<2.5
104		70		ND<10 (a)	ND<1	--	ND<0.005	ND<0.005	ND<0.005	0.022	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND<0.001	ND<2.5
105	201	8.5	IT, 1985	11000 (c)	--	--	ND<0.005	0.26	TR0.011	0.087	--	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	0.178	ND<0.001	TR<0.1	0.9	17	ND (z)	ND<0.005	5
106		83.5		ND<20 (c)	--	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	ND<0.001	ND<0.001	ND<0.001	ND<0.2	ND<15	ND (z)	ND<0.005	8.7
107	205	8.5	IT, 1985	20 (c)	--	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	ND<0.001	ND<0.001	ND<0.001	ND<0.2	ND<17	ND (z)	ND<0.005	9
108		14		36 (c)	--	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	ND<0.001	ND<0.001	ND<0.001	ND<0.2	ND<17	ND (z)	ND<0.005	9
109		68.5		35 (c)	--	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	ND<0.001	ND<0.001	ND<0.001	ND<0.2	ND<17	ND (z)	ND<0.005	5
110	306	8.5	IT, 1985	20 (c)	--	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	ND<0.001	ND<0.001	ND<0.001	ND<0.2	ND<20	ND (z)	ND<0.005	5
111		38.5		5.3 (c)	--	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	ND<0.001	ND<0.001	ND<0.001	ND<0.2	ND<20	ND (z)	ND<0.005	2
112	SB-10	5	IT, 1985	ND<2 (c)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
113	SB-11	5	IT, 1985	ND<2 (c)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
114	SB-12	5	IT, 1985	ND<2 (c)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
115	SB-13	5	IT, 1985	198 (c)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
116	SB-14	5	IT, 1985	29 (c)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
117	SB-15	5	IT, 1985	4 (c)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
118	SB-16	5	IT, 1985	4 (c)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
119	SB-17	10	IT, 1985	ND<2 (c)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
120	SB-18	5	IT, 1985	ND<2 (c)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
121	SB-19	5	IT, 1985	ND<2 (c)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Operational Area 5: Lakeland Property																																		
122	206	8.5	IT, 1985	TR<20 (c)	--	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND<0.001	ND<0.001	ND<0.001	ND<0.2	19	ND (z)	ND<0.005	9
123		13.5		TR<20 (c)	--	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND<0.001	ND<0.001	ND<0.001	ND<0.2	ND<14	ND (z)	ND<0.005	9
124		68.5		TR<20 (c)	--	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND<0.001	ND<0.001	ND<0.001	ND<0.2	23	ND (z)	ND<0.005	8
125	307	8.5	IT, 1985	20 (c)	--	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND<0.001	ND<0.001	ND<0.001	ND<0.2	ND<17	ND (z)	ND<0.005	11
126		38.5		26 (c)	--	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND<0.001	ND<0.001	ND<0.001	1.4	ND<17	ND (z)	ND<0.005	10
106	PTR1	14.5	Trihydro, 1997	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	--	--
107		29.5		--	--	ND<10 (s)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
108		54.5		--	--	--	0.087	0.12	0.013	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.347 (y)	--	--
109		59.5		--	--	ND<10 (s)	0.05	0.025	0.01	0.045	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
110		69.5		--	--	ND<10 (s)	ND<0.005	0.011	ND<0.005	0.016	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
111		74.5		--	--	ND<10 (s)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
112	PTR2	14.5	Trihydro, 1997	--	--	--	--	4	10	60	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	293.1 (y)	--	--
113		24.5		--	--	5300 (s)	2.6	1.6	7	22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
114		34.5		--	--	--	14	130	49	340	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	754.2 (y)	--	--
115		44.5		--	--	27000 (s)	13	100	32	210	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	498 (y)	--	--
116		59.5		--	--	--	130	900	270	1800	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	4399 (y)	--	--
117		64.5		--	--	ND<10 (s)	ND<0.005	0.014	ND<0.005	0.009	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
118		69.5		--	--	80 (s)	1.3	4.6	4.4	14	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
119	PTR3	29.5	Trihydro, 1997	--	--	14500 (s)	200	900	75	2000	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
120		39.5		--	--	--	46	180	84	400	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1064 (y)	--	--
121		49.5		--	--	910 (s)	28	50	40	120	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
122		59.5		--	--	--	1.7	7.3	2.7	19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	52.91 (y)	--	--
123		64.5		--	--	680 (s)	1.2	15	13	40	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
124	PTR4	34.5	Trihydro, 1997	--	--	300 (s)	22	25	19	58	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
125		44.5		--	--	870 (s)	25	55	41	120	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
126		54.5		--	--	340 (s)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
127		59.5		--	--	--	9.4	49	14	90	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	219.7 (y)	--	--
128		64.5		--	--	850 (s)	0.46	6.1	3.5	27	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	75.49 (y)	--	--
129	PTR5	1.5	Trihydro, 1997	--	--	--	ND<0.005	ND<0.005	ND<0.005	4.4	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	14 (y)	--	--

TABLE E-1
SUMMARY OF HISTORICAL SOIL SAMPLING DATA

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample Site Count	Soil Boring ID	Sample Depth	Sampled by Date	TRPH (a) ASTM M2887 (b) Method 418.1 (c) as oil & grease	TPH (d)	TPH by M8015 (d) diesel (j) jet fuel (s) simulated distillation	Benzene	Toluene	Ethyl benzene	Total Xylenes	MTBE	MC	RCE	2-Methyl Butane	Pentane	Cyclo Hexane	Methyl Cyclo Pentane	2,3-Dimethyl Butane	Hexane	Butane	1,1,3-Trimethyl Cyclo Hexane	2-Methyl Heptane	2,2,4-Methyl Pentane	Methyl Cyclo Hexane	Octane	2,4-Dichloro Phenol	2,4,6-Trichloro Phenol	2-Nitro Phenol	Cyanide	TOXE	HVOCs	1,1,1-TCA	Lead
130		39.5		--	--	ND<10 (s)	0.057	0.0094	0.021	0.039	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.1709 (y)	--	--
131		54.5		--	--	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	--	--
132		59.5		--	--	--	0.03	0.02	0.005	0.017	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
133	PTR6	54.5	Trihydro, 1997	--	--	ND<10 (s)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
134		59.5		--	--	--	0.5	0.66	0.88	0.57	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.009 (y)	--	--
135		64.5		--	--	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	--	--
136	PTR7	19.5	Trihydro, 1997	--	--	ND<10 (s)	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.28 (y)	--	--
137		54.5		--	--	ND<10 (s)	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.05 (y)	--	--
138		64.5		--	--	--	0.026	0.02	ND<0.005	0.014	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
139	SB-501	1	IT, 1986	34 (c)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
140		4		161 (c)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
141		9		ND<2 (c)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
142	SB-502	1	IT, 1986	28 (c)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
143		8		ND<2 (c)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
144		9		ND<2 (c)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
145	SB-503	1	IT, 1986	4 (c)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
146		9		6 (c)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Operational Area 6: Former AST Area at Walker Property																																		
147	1	25-40	D&M, 1985	--	--	--	--	--	--	--	--	--	ND<0.05	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
140	2	25-30	D&M, 1985	--	--	--	--	--	--	--	--	--	ND<0.05	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
141	JB-1	20	HLA, 1993	--	--	4400 (j)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
142		102		--	--	5900 (j)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
143		107		--	--	10000 (j)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
144	JB-2	30	HLA, 1993	--	--	ND<5 (j)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
145		70		--	--	ND<5 (j)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
146		105		--	--	ND<5 (j)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
147	JB-3	20	HLA, 1993	--	--	4199 (d)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
148		40		--	--	ND<5 (d, j)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
149		90		--	--	ND<5 (d)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
150		100		--	--	ND<5 (d)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
151	JB-4	70	HLA, 1993	--	--	ND<5 (d)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
152		90		--	--	ND<5 (d)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
153	JB-5	30	HLA, 1993	--	--	5499 (d)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
154		40		--	--	ND<5 (d, j)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
155		90		--	--	ND<5 (d)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
156		101		--	--	ND<5 (d)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
157	JB-6	30	HLA, 1993	--	--	ND<5 (j)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
158		70		--	--	ND<5 (j)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
159		100		--	--	ND<5 (j)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
160	JB-7	40	HLA, 1993	--	--	ND<5 (j)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
161		90		--	--	ND<59 (j)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
162		102		--	--	3200 (j)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
163	JB-8	20	HLA, 1993	--	--	7500 (d)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
164		70		--	--	4000 (d)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
165		90		--	--	ND<5 (j)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
166		100		--	--	ND<5 (d)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
167	JB-9	10	HLA, 1993	--	--	869 (j)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
168		50		--	--	ND<5 (j)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
169		70		--	--	14 (j)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
170		100		--	--	1300 (j)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
171		105		--	--	2500 (j)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
172	W-3	20	HLA, 1993	11000 (a)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
173		100		12000 (a)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
174		110		ND<5 (a)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
175	W-3A	5	Avalon, 1998	150 (a)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
176		10		3200 (a)	140	--	ND<0.1	ND<0.1	ND<0.1	ND<0.3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
177		20		ND<5 (a)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
178		30		5.5 (a)	ND<1	--	ND<0.005	ND<0.005	ND<0.005	ND<0.015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
179		40		ND<5 (a)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
180		55		22 (a)	990	--	ND<0.67	ND<0.67	ND<0.67	ND<2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
181		70		5700 (a)	3900	--	ND<5	ND<5	ND<5	ND<5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
182		75		3400 (a)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
183		80		2400 (a)	1300	--	ND<1.7	ND<1.7	ND<1.7	ND<6	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
184		85		1600 (a)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
185		90		1500 (a)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
186		95		460 (a)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
187		100		270 (a)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
188		105		88 (a)	11	--	ND<0.01	ND<0.01	ND<0.01	ND<0.03	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
189		110		1500 (a)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Off-Site Soil Borings: Walker Property																																		
190	4	1.5-8.5	D&M, 1985	--	--	--	--	--	--	--	--	--	ND<0.05	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
191	FB-1		TRC, 1990	--	--	53	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
192				--	--	ND<5 (d)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
191	FB-2	40	TRC, 1990	--	--	ND<5 (d)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
192	FB-3	20	TRC, 1990	--	--	ND<5 (d)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
193	FB-4	20	TRC, 1990	--	--	ND<5 (d)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
194	FB-5	20	TRC, 1990	--	--	ND<5 (d)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
195	FB-3	10	HLA, 1993	33 (a)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
196	FB-6	12	HLA, 1993	2900 (a)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Off-Site Soil Borings: Metropolitan State Hospital																																		

TABLE E-1
SUMMARY OF HISTORICAL SOIL SAMPLING DATA

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample Site Count	Soil Boring ID	Sample Depth	Sampled by Date	TRPH (a) ASTM M2887 (g) Method 418.1 (c) as oil & grease	TPH (g)	TRPH by M8015 (d) diesel (f) fuel (s) simulated distillation	Benzene	Toluene	Ethyl benzene	Total Xylenes	MTBE	MC	PCE	2-Methyl-1-Butene	Pentane	Cyclo-hexane	Methyl Cyclo-pentane	2,2-Dimethyl Butane	Hexane	1-Butene	2,4,4-Trimethyl Cyclo-pentane	2-Methyl-pentane	2,2,3,4-Methyl-pentane	Methyl Cyclo-hexane	Octane	2,4-Dichloro-phenol	2,4,5-Trichloro-phenol	2-Nitro-phenol	Cyanide	TOX	HVOCs	1,1,1-TCA	Lead
197	603	10	Trihydro, 1995	ND<10 (a)	ND<1	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND<0.001	0.00099	6.7
198		20			ND<1	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND<0.001	ND<0.001	5.5
199		70		ND<10 (a)	ND<1	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND<0.001	0.001	6.2
200	604	10	Trihydro, 1995	ND<10 (a)	ND<1	--	ND<0.005	ND<0.005	ND<0.005	0.0065	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND<0.001	ND<0.001	6.8
201		60		ND<10 (a)	ND<1	--	ND<0.005	ND<0.005	ND<0.005	0.014	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND<0.001	ND<0.001	2.9
202		80		ND<10 (a)	ND<1	--	ND<0.005	ND<0.005	ND<0.005	0.013	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND<0.001	ND<0.001	ND<2.5
203	605	10	Trihydro, 1995	ND<10 (a)	ND<1	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND<0.001	ND<0.001	6.7
204		60		ND<10 (a)	ND<1	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND<0.001	ND<0.001	5.4
205		70		ND<10 (a)	ND<1	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND<0.001	ND<0.001	3.6
206	606	10	Trihydro, 1995	ND<10 (a)	ND<1	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND<0.001	ND<0.001	2.5
207		50		ND<10 (a)	ND<1	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND<0.001	ND<0.001	4.3
208		80		ND<10 (a)	ND<1	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND<0.001	ND<0.001	5.5
209	607	10	Trihydro, 1995	ND<10 (a)	ND<1	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND<0.001	ND<0.001	2.8
210		70		ND<10 (a)	ND<1	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND<0.001	ND<0.001	2.8
211		80		ND<10 (a)	ND<1	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND<0.001	ND<0.001	2.7

NOTES:
Table reproduced from *Revised Master Work Plan* by Versar, Inc., dated January, 2000.
All concentrations reported in milligrams per kilogram (mg/kg)
-- - Not analyzed or data not available
TR - Trace (compound was present, but its concentration was too low to be accurately quantified)
ND<0.005 - Not detected above the laboratory reporting limit shown
(a) - Simulated extraction (differentiation of hydrocarbon ranges simulated by progressive distillation)
(j) - Extractable hydrocarbons quantified as jet fuel in range from C7 to C30
(y) - Total HVOCs by EPA Method 8260
(z) - Total HVOCs by EPA Method 8240, not including BTEX
Abbreviations:

B = Benzene
T = Toluene
E = Ethylbenzene
X = Total xylene isomers
TPH = Total petroleum hydrocarbons
TRPH = Total recoverable petroleum hydrocarbons
TPH-g = Total petroleum hydrocarbons as gasoline

MTBE = Methyl tertiary butyl ether
MC = Methylene chloride
PCE = Perchloroethylene
MEK = Methyl ethyl ketone or 2-butanone
1,1,1-TCA = 1,1,1-Trichloroethane
HVOCs = Halogenated volatile organic compounds
TOX = Total halide-containing organic compounds

TABLE E-2
ANALYTICAL RESULTS FOR LEAD IN SOIL IN TANK 10006 AND TANK 20092 AREAS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Sample ID	Sample Date	Depth (feet bgs)	Sample Location	Total Lead Concentration [a,b] (mg/kg)	Soluble Lead Concentration [c,d] (mg/L)
Tank 20092 Area					
POC-6-128A [e]	1/28/1998	0 - 0-5	In berm to the west of S2 and northwest of Tank 20092	NA	5.3[f]
POC-6-128B [e]	1/28/1998	0 - 0-5	In berm to the west of S2 and northwest of Tank 20092	140	3.2
Asphalt-4-045	10/1/1998	0 - 0-5	South of Tank 20092	80	0.86
Asphalt-5-092	10/1/1998	0 - 0-5	East of S2	180	6.1[f]
Tank 10006 Area					
POC-7-128A [e]	1/28/1998	0 - 0-5	Adjacent to east side of Tank 10006	NA	27[f]
POC-7-128B [e]	1/28/1998	0 - 0-5	Adjacent to east side of Tank 10006	360	12[f]
Asphalt-1-006	10/1/1998	7	Adjacent to east side of Tank 10006	72	5.7[f]
Other Sample Locations					
Asphalt-2-046	10/1/1998	0 - 0-5	Southeast of Tank 10046	72	2.52
Asphalt-3-091	10/1/1998	0 - 0-5	Southwest of Tank 20091	54	0.72

NOTES:

Table reproduced from *Revised Master Work Plan* by Versar, In., dated January, 2000.

bgs - below ground surface

mg/kg - milligrams per kilogram

mg/L - milligrams per Liter

NA - Not Analyzed

[a] Total Threshold Limit Concentration (TTLC) for lead is 1,000 mg/kg

[b] Total lead concentrations were measured using EPA Method 6010

[c] Soluble Threshold Limit Concentration (STLC) for lead is 5 mg/L

[d] Soluble lead concentrations were measured using the California Waste Extraction Test (WET)

[e] Sample collected and analyzed by the California Department of Toxic Substances Control (DTSC)

[f] Soluble lead concentration is greater than STLC

TABLE E-3
HISTORICAL GROUNDWATER ANALYTICAL RESULTS
SUMMARY OF TPH-g, VOCs, AND OXYGENATES DATA

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Well ID	Date	TPH-g	TPH-d	TRPH	MTBE	TBA	Benzene	Toluene	Ethyl benzene	Total Xylenes	o-Xylene	m/p-Xylene	BDCM	BCM	Chloroform	Chloroethane	c-1,2 DCE	1,2-DCP	CFC11	Dichloro difluoro methane	1,1-DCA	1,2-DCA	1,1-DCE	1,2-DCP	IsoPB
Operational Area 1: Bloomfield Property																									
MW-106	12/20/1995	0.79	--	ND<10	--	--	0.012	0.0035	0.01	0.01	--	--	--	--	--	--	0.033	--	--	--	--	--	--	--	--
	7/31/1996	0.6	--	--	0.0036	--	0.014	0.0022	0.009	ND<0.005	--	--	ND<0.0003	--	ND<0.0003	--	0.026	ND<0.0003	--	ND<0.0003	ND<0.0003	ND<0.0003	0.00054	ND<0.0003	--
	12/17/1996	0.36	--	--	ND<0.002	--	0.0031	ND<0.002	ND<0.002	ND<0.004	--	--	ND<0.002	ND<0.002	ND<0.002	--	0.063	ND<0.002	--	ND<0.002	ND<0.002	ND<0.002	ND<0.002	ND<0.002	0.0027
	1/20/1998	0.8	--	--	ND<0.005	--	0.024	ND<0.005	0.0081	ND<0.005	--	--	ND<0.005	ND<0.005	ND<0.005	--	0.046	ND<0.005	--	ND<0.01	ND<0.005	ND<0.005	ND<0.005	ND<0.005	0.0073
	8/20/1998	1	--	--	ND<0.005	--	0.027	ND<0.005	0.084	ND<0.005	--	--	ND<0.005	ND<0.005	ND<0.005	--	0.43	ND<0.005	--	ND<0.01	ND<0.005	ND<0.005	ND<0.005	ND<0.005	0.0096
	1/27/1999	1.1	--	--	ND<0.005	--	21	ND<0.005	0.0085	ND<0.005	--	--	ND<0.005	ND<0.005	ND<0.005	--	0.047	ND<0.005	--	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	0.009
	7/19/1999	0.89	--	--	ND<0.001	--	0.018	ND<0.001	0.0077	ND<0.001	--	--	ND<0.001	ND<0.001	ND<0.001	--	0.039	ND<0.001	--	ND<0.001	0.0017	ND<0.0005	0.0012	ND<0.001	0.007
	1/14/2000	1	--	--	ND<0.001	--	0.0041	ND<0.001	ND<0.001	ND<0.001	--	--	ND<0.001	ND<0.001	ND<0.001	--	0.02	ND<0.001	--	ND<0.001	0.0022	ND<0.0005	ND<0.001	ND<0.001	ND<0.001
	7/31/2000	ND<0.5	--	--	ND<0.001	--	0.0053	ND<0.001	ND<0.001	ND<0.001	--	--	ND<0.001	ND<0.001	ND<0.001	ND<0.001	0.026	ND<0.001	--	ND<0.001	0.0027	ND<0.0005	ND<0.001	ND<0.001	0.001
	2/6/2001	0.53	--	--	ND<0.001	--	0.0023	ND<0.001	0.0013	ND<0.001	--	--	ND<0.001	ND<0.001	ND<0.001	ND<0.001	0.035	ND<0.001	--	ND<0.001	0.002	ND<0.0005	0.0012	ND<0.001	ND<0.001
	7/24/2001	0.47	--	--	ND<0.001	--	0.0017	ND<0.001	ND<0.001	ND<0.001	--	--	0.0014	ND<0.001	ND<0.001	--	0.033	ND<0.001	--	ND<0.001	0.0018	ND<0.0005	0.001	ND<0.001	0.0018
	5/7/2002	0.43	--	--	ND<0.001	38	0.0024	ND<0.001	ND<0.001	ND<0.001	--	--	ND<0.001	ND<0.001	ND<0.001	ND<1	0.022	ND<0.001	--	ND<0.001	0.0016	ND<0.0005	ND<0.001	ND<0.001	ND<0.001
	9/24/2002	0.12	--	--	ND<0.001	28	0.0035	ND<0.001	ND<0.001	ND<0.002	--	--	ND<0.001	ND<0.001	ND<0.001	ND<1	0.024	ND<0.001	--	ND<0.001	0.0021	ND<0.0005	0.0011	ND<0.001	ND<0.001
	7/1/2004	0.26	--	--	ND<0.005	ND<0.1	0.0023J	0.00077	0.0011	ND<0.001	--	--	ND<0.005	--	ND<0.005	ND<0.005	0.015	ND<0.005	ND<0.005	--	0.002J	ND<0.005	0.002J	ND<0.005	ND<0.005
MW-107	12/21/1995	ND<0.5	--	ND<10	--	--	0.016	0.00099	0.00077	0.0029	--	--	--	--	--	--	0.028	--	--	--	--	--	--	--	--
	7/31/1996	0.6	--	--	0.11	--	0.031	0.0044	0.0066	ND<0.005	--	--	ND<0.0003	--	ND<0.0003	--	0.031	ND<0.0003	--	ND<0.0003	ND<0.0003	ND<0.0003	0.00045	ND<0.0003	--
	12/17/1996	0.38	--	--	ND<0.002	--	0.022	ND<0.005	ND<0.005	ND<0.01	--	--	ND<0.005	ND<0.005	ND<0.005	--	0.08	ND<0.005	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005
	1/20/1998	0.83	--	--	ND<0.005	--	0.042	ND<0.005	ND<0.005	ND<0.005	--	--	ND<0.005	ND<0.005	ND<0.005	--	0.12	ND<0.005	--	ND<0.01	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005
	8/20/1998	0.83	--	--	ND<0.005	--	0.028	ND<0.005	ND<0.005	ND<0.005	--	--	ND<0.005	ND<0.005	ND<0.005	--	0.098	ND<0.005	--	ND<0.01	ND<0.005	ND<0.005	ND<0.005	ND<0.005	0.0062
	1/27/1999	1.1	--	--	ND<0.005	--	0.036	ND<0.005	ND<0.005	ND<0.005	--	--	ND<0.005	ND<0.005	ND<0.005	--	0.1	ND<0.005	--	ND<0.01	ND<0.005	ND<0.005	ND<0.005	ND<0.005	0.0069
	7/19/1999	0.82	--	--	ND<0.005	--	0.038	ND<0.005	ND<0.005	ND<0.005	--	--	ND<0.005	ND<0.005	ND<0.005	--	0.12	ND<0.005	--	ND<0.005	ND<0.005	ND<0.0025	ND<0.005	ND<0.005	ND<0.005
	1/12/2000	1.7	--	--	ND<0.001	--	0.087	ND<0.001	0.0078	ND<0.001	--	--	ND<0.001	ND<0.001	ND<0.001	--	0.12	ND<0.001	--	ND<0.001	0.0016	ND<0.0005	0.0011	ND<0.001	0.011
	7/31/2000	1.7	--	--	ND<0.005	--	0.25	ND<0.005	0.02	ND<0.005	--	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	0.043	ND<0.005	--	ND<0.005	0.0083	ND<0.0025	ND<0.005	ND<0.005	0.048
	2/6/2001	2.1	--	--	ND<0.001	--	0.18	ND<0.001	0.004	ND<0.001	--	--	ND<0.001	ND<0.001	ND<0.001	ND<0.001	0.045	ND<0.001	--	ND<0.001	0.02	ND<0.0005	ND<0.001	ND<0.001	0.054
	7/26/2001	2	--	--	ND<0.002	--	0.22	ND<0.001	0.038	ND<0.001	--	--	ND<0.001	ND<0.001	ND<0.001	--	0.033	ND<0.001	--	ND<0.001	0.033	ND<0.0005	ND<0.001	ND<0.001	0.051
	5/9/2002	2.1	--	--	ND<0.002	26	0.31	ND<0.002	0.003	ND<0.002	--	--	ND<0.002	ND<0.002	ND<0.002	ND<2	0.0088	ND<0.002	--	ND<0.002	0.021	ND<0.001	ND<0.002	ND<0.002	0.045
	9/25/2002	2.2	--	--	ND<0.002	20	0.77	ND<0.002	0.0057	ND<0.004	ND<0.0005	ND<0.0005	ND<0.002	ND<0.002	ND<0.002	ND<2	0.0058	ND<0.002	--	ND<0.002	0.03	ND<0.001	ND<0.002	ND<0.002	0.063
	7/1/2004	--	--	--	--	--	--	--	--	--	--	--	ND<0.005	--	ND<0.005	0.013	ND<0.005	ND<0.005	ND<0.005	--	0.014	ND<0.005	ND<0.005	ND<0.005	0.13
MW-203	6/1/1988	--	--	--	--	--	0.046	ND<0.005	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	9/1/1988	--	--	--	--	--	0.076	ND<0.005	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/1/1988	--	--	--	--	--	0.064	ND<0.005	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	3/1/1989	--	--	--	--	--	0.11	ND<0.005	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	6/1/1989	--	--	--	--	--	0.11	ND<0.005	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	9/1/1989	--	--	--	--	--	0.08	ND<0.005	0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/1/1989	--	--	--	--	--	0.1	ND<0.005	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	3/1/1990	--	--	--	--	--	0.09	ND<0.005	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	6/1/1990	--	--	--	--	--	0.088	0.002	0.007	0.002	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	9/1/1990	--	--	--	--	--	0.13	ND<0.005	0.009	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/1/1990	--	--	--	--	--	0.094	ND<0.005	0.007	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	3/1/1991	--	--	--	--	--	0.1	ND<0.005	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	6/1/1991	--	--	--	--	--	0.1	ND<0.005	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	9/1/1991	--	--	--	--	--	0.14	ND<0.005	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/1/1991	--	--	--	--	--	0.13	ND<0.005	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	3/1/1992	--	--	--	--	--	0.12	ND<0.005	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	6/1/1992	--	--	--	--	--	0.085	ND<0.005	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	9/1/1992	--	--	--	--	--	0.046	ND<0.005	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/1/1992	--	--	--	--	--	0.064	ND<0.005	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	3/1/1993	--	--	--	--	--	0.069	ND<0.005	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	5/1/1993	--	--	--	--	--	0.086	ND<0.005	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	5/25/1993	--	--	--	--	--	0.086	ND<0.005	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	9/1/1993	--	--	--	--	--	0.04	ND<0.005	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/1/1994	--	--	--	--	--	0.039	ND<0.005	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	3/1/1995	--	--	--	--	--	0.027	ND<0.005	ND<0.005	ND<0.015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	9/1/1995	--	--	--	--	--	0.028	ND<0.002	ND<0.002	ND<0.002	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/13/1995	0.64	--	ND<5	--	--	0.037	0.001	0.012	0.0019	--	--	--	--	--	--	0.04	--	--	--	0.00061	--	--	--	--
	7/31/1996	0.5	--	--	ND<0.02	--	0.043	0.002	0.0018	ND<0.005	--	--	ND<0.0003	--	ND<0.0003	--	0.022	ND<0.0003	--	ND<0.0003	0.00034	ND<0.0003	ND<0.0003	ND<0.0003	--
	12/17/1996	0.16	--	--	ND<0.002	--	0.03	ND<0.001	ND<0.001	ND<0.002	--	--	ND<0.001	ND<0.001	ND<0.001	--	ND<0.001	ND<0.001	--	ND<0.001	ND<0.001	ND<0.001	ND<0.001	ND<0.001	0.0012
	1/20/1998	0.25	--	--	ND<0.005	--	0.024	ND<0.005	ND<0.005	ND<0.005	--	--	ND<0.005	ND<0.005	ND<0.005	--	0.028	ND<0.005	--	ND<0.01	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005
	8/20/1998	0.29	--	--	ND<0.005	--	0.017	ND<0.005	ND<0.005	ND<0.005	--	--	ND<0.005	ND<0.005	ND<0.005	--	0.035	ND<0.005	--	ND<0.01	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005
	1/27/1999	0.33	--	--	ND<0.005	--	0.012	ND<0.005	ND<0.005	ND<0.005	--	--	ND<0.005	ND<0.005	ND<0.005	--	0.035	ND<0.005	--	ND<0.01	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005
	7/19/1999	ND<0.5	--	--	ND<0.001	--	0.016	ND<0.001	ND<0.001	ND<0.001	--	--	ND<0.001	ND<0.001	ND<0.001	--	0.024	ND<0.001	--	ND<0.001	ND<0.001	ND<0.0005	ND<0.001	ND<0.001	ND<0.001
	1/12/2000	ND<0.5	--	--	0.001	--	0.0078	ND<0.001	ND<0.001	ND<0.001	--	--	ND<0.001	ND<0.001	ND<0.001	--	0.014	ND<0.001	--	ND<0.001	ND<0.001	0.00053	ND<0.001	ND<0.001	ND<0.001
	7/31/2000	ND<0.5	--	--	ND<0.005	--	0.097	ND<0.001	ND<0.001	ND<0.001	--	--	ND<0.001	ND<0.001	ND<0.001	ND<0.001	0.016	ND<0.001	--	ND<0.001	ND<0.001	ND<0.0005	ND<0.001	ND<0.001	ND<0.001
	2/6/2001	ND<0.5	--	--	ND<0.001	--	0.013	ND<0.001	ND<0.001	ND<0.001	--	--	ND<0.001	ND<0.001	ND<0.001	ND<0.001	0.025	ND<0.001	--	ND<0.001	ND<0.001	ND<0.0005	ND<0.001	ND<0.001	ND<0.001
	7/24/2001	0.18	--	--	ND<0.001	--	0.014	ND<0.001	ND<0.001	ND<0.001	--	--	ND<0.001	ND<0.001	ND<0.001	--	0.024	ND<0.001	--	ND<0.001	ND<0.001	ND<0.0005	ND<0.001	ND<0.001	ND<0.001
	5/8/2002	0.15	--	--	ND<0.001	30	0.0087	ND<0.001	ND<0.001	ND<0.001	--	--	ND<0.001	ND<0.001	ND<0.001	ND<1	0.021	ND<0.001	--	ND<0.001	ND<0.001	ND<0.0005	ND<0.001	ND<0.001	ND<0.001
	9/25/2002	0.16	--	--	ND<0.001	25	0.011	ND<0.001	ND<0.001	ND<0.02	--	--	ND<0.001	ND<0.001	ND<0.001	ND<1	0.027	ND<0.001	--	ND<0.001	ND<0.001	ND<0.0005	ND<0.001	ND<0.001	ND<0.001

TABLE E-3
HISTORICAL GROUNDWATER ANALYTICAL RESULTS
SUMMARY OF TPH-g, VOCs, AND OXYGENATES DATA

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Well ID	Date	TPH-g	TPH-d	TRPH	MTBE	TBA	Benzene	Toluene	Ethyl Benzene	Total Xylenes	o-Xylene	m,p-Xylene	BDCM	BCM	Chloroform	Chloroethane	c-1,2-DCE	1,2-DCB	CFC-11	Dichloro difluoro methane	1,1-DCA	1,2-DCA	1,1-DCE	1,2-DCP	IsoPB
	7/1/2004	0.27	--	--	ND<0.005	ND<0.1	0.0092	0.0005J	0.00075	ND<0.001	ND<0.0005	ND<0.0005	ND<0.005	--	ND<0.005	--	0.024	ND<0.005	ND<0.005	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005
Operational Area 2: East Tank Farm Area																									
MW-103	8/1/1985	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	6/1/1988	--	--	--	--	--	0.97	0.074	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	9/1/1988	--	--	--	--	--	0.3	ND<0.005	ND<0.005	0.008	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/1/1988	--	--	--	--	--	0.37	ND<0.005	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	3/1/1989	--	--	--	--	--	0.94	ND<0.005	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	6/1/1989	--	--	--	--	--	0.7	ND<0.005	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	9/1/1989	--	--	--	--	--	1	0.03	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	3/1/1992	--	--	--	--	--	0.21	ND<0.005	0.005	0.023	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	6/1/1992	--	--	--	--	--	0.88	ND<0.005	ND<0.005	0.055	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	9/1/1992	--	--	--	--	--	0.2	ND<0.005	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/1/1992	--	--	--	--	--	0.35	ND<0.005	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	3/1/1993	--	--	--	--	--	ND<0.005	0.008	0.019	0.01	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	5/1/1993	--	--	--	--	--	4.8	ND<0.25	ND<0.25	ND<0.25	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	5/25/1993	--	--	--	--	--	4.8	ND<0.25	ND<0.25	ND<0.25	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	9/1/1993	--	--	--	--	--	1.3	0.088	0.062	0.23	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	11/1/1993	--	--	--	--	--	1.4	ND<0.25	ND<0.25	ND<0.25	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/1/1994	--	--	--	--	--	0.24	ND<0.01	ND<0.01	0.011	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	3/1/1995	--	--	--	--	--	0.16	ND<0.005	ND<0.005	ND<0.015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	9/1/1995	--	--	--	--	--	0.9	ND<0.05	ND<0.05	ND<0.05	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/13/1995	4.1	--	ND<0.5	--	--	0.41	0.0041	0.0026	0.077	--	--	--	--	--	--	ND<0.0005	--	--	--	0.0022	0.0021	ND<0.0005	ND<0.0005	--
	7/31/1996	2.7	--	--	ND<0.01	--	0.34	0.005	ND<0.0005	0.012	--	--	ND<0.0003	--	ND<0.0003	--	0.0007	0.0012	--	0.011	0.017	0.0017	ND<0.0003	ND<0.0003	--
	12/17/1996	2.4	--	--	ND<0.01	--	0.2	ND<0.005	ND<0.005	ND<0.01	--	--	ND<0.005	ND<0.005	ND<0.005	--	ND<0.005	ND<0.005	--	ND<0.01	0.027	ND<0.005	ND<0.005	ND<0.005	0.006
	1/21/1998	1.3	--	--	ND<0.005	--	0.23	ND<0.005	ND<0.005	ND<0.005	--	--	ND<0.005	ND<0.005	ND<0.005	--	ND<0.005	ND<0.005	--	ND<0.01	ND<0.005	ND<0.005	ND<0.005	ND<0.005	0.011
	8/19/1998	1.6	--	--	ND<0.005	--	0.22	ND<0.005	ND<0.005	ND<0.005	--	--	ND<0.005	ND<0.005	ND<0.005	--	ND<0.005	ND<0.005	--	ND<0.01	ND<0.005	ND<0.005	ND<0.005	ND<0.005	0.011
	1/27/1999	1.9	--	--	ND<0.005	--	0.11	ND<0.005	ND<0.005	ND<0.005	--	--	ND<0.005	ND<0.005	ND<0.005	--	ND<0.005	ND<0.005	--	ND<0.01	ND<0.005	ND<0.005	ND<0.005	ND<0.005	0.0071
	7/19/1999	1.8	--	--	ND<0.001	--	0.061	0.0011	ND<0.001	ND<0.001	--	--	ND<0.001	ND<0.001	ND<0.001	--	0.0012	ND<0.001	--	ND<0.001	ND<0.001	ND<0.0005	ND<0.001	ND<0.001	0.0088
	1/12/2000	1.5	--	--	0.0012	--	0.081	ND<0.001	ND<0.001	ND<0.001	--	--	ND<0.001	ND<0.001	ND<0.001	--	0.003	ND<0.001	--	ND<0.001	ND<0.001	0.004	ND<0.001	ND<0.001	0.0063
	8/4/2000	0.52	--	--	ND<0.001	--	ND<0.0005	ND<0.001	ND<0.001	ND<0.001	--	--	ND<0.001	ND<0.001	ND<0.001	ND<0.001	0.0029	ND<0.001	--	ND<0.001	ND<0.001	0.0015	ND<0.001	ND<0.001	0.0035
	2/9/2001	0.65	--	--	ND<0.001	--	0.00087	ND<0.001	ND<0.001	ND<0.001	--	--	ND<0.001	ND<0.001	ND<0.001	ND<0.001	0.0024	ND<0.001	--	ND<0.001	ND<0.001	ND<0.0005	ND<0.001	ND<0.001	0.0047
	7/25/2001	1.3	--	--	0.0025	--	0.041	ND<0.001	ND<0.001	0.0027	--	--	ND<0.001	ND<0.001	ND<0.001	--	0.0025	ND<0.001	--	ND<0.001	ND<0.001	ND<0.0005	ND<0.001	ND<0.001	0.0041
	5/8/2002	0.2	--	--	ND<0.001	53	ND<0.0005	ND<0.001	ND<0.001	ND<0.001	--	--	ND<0.001	ND<0.001	ND<0.001	ND<1	0.0013	ND<0.001	--	ND<0.001	ND<0.001	ND<0.0005	ND<0.001	ND<0.001	ND<0.001
	9/25/2002	0.69	--	--	0.0014	40	0.04	ND<0.001	ND<0.001	0.0013	--	--	ND<0.001	ND<0.001	ND<0.001	ND<1	0.0016	ND<0.001	--	ND<0.001	ND<0.001	ND<0.0005	ND<0.001	ND<0.001	0.0067
MW-202	8/1/1985	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	11/1/1993	--	--	--	--	--	7.7	ND<0.5	2.6	6.3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	3/1/1995	--	--	--	--	--	0.4	0.007	0.029	0.042	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	9/1/1995	--	--	--	--	--	0.5	0.01	0.048	0.042	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/1/1995	6.5	--	--	--	--	0.33	0.021	0.051	0.074	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	7/31/1996	4.8	--	--	0.062	--	0.64	0.015	ND<0.0005	0.032	--	--	ND<0.0003	--	ND<0.0003	--	0.002	ND<0.0003	--	0.0057	0.00054	0.00058	ND<0.0003	0.0004	--
	12/17/1996	7.4	--	--	ND<0.02	--	0.89	ND<0.05	ND<0.05	ND<0.1	--	--	ND<0.05	ND<0.05	ND<0.05	--	ND<0.05	ND<0.05	--	ND<0.05	ND<0.05	ND<0.05	ND<0.05	ND<0.05	0.055
	1/21/1998	1.6	--	--	ND<0.005	--	0.45	ND<0.005	0.019	0.021	--	--	ND<0.005	ND<0.005	ND<0.005	--	ND<0.005	ND<0.005	--	ND<0.01	ND<0.005	ND<0.005	ND<0.005	ND<0.005	0.057
	8/18/1998	3.1	--	--	ND<0.005	--	0.28	ND<0.005	ND<0.005	ND<0.005	--	--	ND<0.005	ND<0.005	ND<0.005	--	ND<0.005	ND<0.005	--	ND<0.01	ND<0.005	ND<0.005	ND<0.005	ND<0.005	0.049
	1/27/1999	2.3	--	--	ND<0.005	--	0.076	ND<0.005	ND<0.005	ND<0.005	--	--	ND<0.005	ND<0.005	ND<0.005	--	ND<0.005	ND<0.005	--	ND<0.01	ND<0.005	ND<0.005	ND<0.005	ND<0.005	0.067
	7/19/1999	2.3	--	--	ND<0.002	--	0.036	0.0021	0.0037	0.0024	--	--	ND<0.002	ND<0.002	ND<0.002	--	0.0033	ND<0.002	--	ND<0.002	ND<0.002	ND<0.001	ND<0.002	ND<0.002	0.062
	1/11/2000	2.4	--	--	0.0012	--	0.049	ND<0.001	0.0024	0.0023	--	--	ND<0.001	ND<0.001	ND<0.001	--	0.0019	ND<0.001	--	ND<0.001	0.0022	ND<0.0005	ND<0.001	ND<0.001	0.046
	8/2/2000	1.4	--	--	ND<0.001	--	0.041	ND<0.001	ND<0.001	0.0018	--	--	ND<0.001	ND<0.001	ND<0.001	ND<0.001	0.0046	ND<0.001	--	ND<0.001	0.011	ND<0.0005	ND<0.001	ND<0.001	0.035
	2/7/2000	1.1	--	--	ND<0.001	--	0.025	ND<0.001	ND<0.001	ND<0.001	--	--	ND<0.001	ND<0.001	ND<0.001	ND<0.001	0.0023	ND<0.001	--	ND<0.001	0.0073	ND<0.0005	ND<0.001	ND<0.001	0.0099
	7/24/2001	1.1	--	--	ND<0.001	--	0.038	ND<0.001	ND<0.001	0.0018	--	--	ND<0.001	ND<0.001	ND<0.001	--	ND<0.001	ND<0.001	--	ND<0.001	0.0018	ND<0.0005	ND<0.001	ND<0.001	0.0061
	5/8/2002	1.4	--	--	0.016	66	0.33	0.0029	0.0021	0.0038	--	--	ND<0.001	ND<0.001	ND<0.001	ND<1	ND<0.001	ND<0.001	--	ND<0.001	0.0012	ND<0.0005	ND<0.001	ND<0.001	0.012
	9/26/2002	1	--	--	0.012	59	0.17	0.0078	0.014	0.0526	--	--	ND<0.005	ND<0.005	ND<0.005	ND<5	ND<0.005	ND<0.005	--	ND<0.005	ND<0.005	ND<0.0025	ND<0.005	ND<0.005	0.034
MW-204	6/1/1988	--	--	--	--	--	0.019	ND<0.005	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	9/1/1988	--	--	--	--	--	0.006	ND<0.005	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/1/1988	--	--	--	--	--	0.033	ND<0.005	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	3/1/1989	--	--	--	--	--	0.039	ND<0.005	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	6/1/1989	--	--	--	--	--	0.076	ND<0.005	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	9/1/1989	--	--	--	--	--	0.064	ND<0.005	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/1/1989	--	--	--	--	--	0.16	ND<0.005	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	3/1/1990	--	--	--	--	--	0.009	ND<0.005	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	6/1/1990	--	--	--	--	--	0.002	ND<0.005	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	9/1/1990	--	--	--	--	--	0.025	ND<0.005	ND<0.005	0.006	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/1/1990	--	--	--	--	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	3/1/1991	--	--	--	--	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	6/1/1991	--	--	--	--	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	9/1/1991	--	--	--	--	--	0.027	ND<0.005	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/1/1991	--	--	--	--	--	0.047	ND<0.005	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	3/1/1992	--	--	--	--	--	0.09	ND<0.005	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	6/1/1992	--	--	--	--	--	0.11	0.071	ND<0.005	0.02	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

TABLE E-3
HISTORICAL GROUNDWATER ANALYTICAL RESULTS
SUMMARY OF TPH-g, VOCs, AND OXYGENATES DATA

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Well ID	Date	TPH(g)	TPH(d)	TRPH	MTBE	TBA	Benzene	Toluene	Ethyl benzene	Total Xylenes	o-Xylene	m,p-Xylene	BDCM	BCM	Chloroform	Chloroethane	1,1,2-DCE	1,2-DCBz	CFC-11	Dichloro, difluoro, methane	1,1-DCA	1,2-DCA	1,1-DCE	1,2-DCP	IsoPB
	9/1/1992	--	--	--	--	--	0.09	0.02	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/1/1992	--	--	--	--	--	2.7	3.7	ND<0.005	1.06	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	4/1/1993	--	--	--	--	--	0.13	0.028	0.021	0.193	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	5/1/1993	--	--	--	--	--	0.78	ND<0.05	ND<0.05	ND<0.05	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	5/25/1993	--	--	--	--	--	0.78	ND<0.05	ND<0.05	ND<0.05	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/1/1994	--	--	--	--	--	5.5	0.63	0.19	0.99	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	3/1/1995	--	--	--	--	--	5	0.077	0.12	0.49	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	9/1/1995	--	--	--	--	--	6.9	4.7	0.65	3.7	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/13/1995	12000	--	ND<5	--	--	0.88	0.67	0.24	0.86	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	8/1/1996	14	--	--	0.032	--	1.4	1.3	0.52	1.7	--	--	ND<0.001	--	ND<0.001	--	0.0029	ND<0.001	--	ND<0.001	0.0033	0.0072	ND<0.001	ND<0.001	--
	12/17/1996	2.1	--	--	ND<0.2	--	0.75	0.058	ND<0.05	ND<0.1	--	--	ND<0.05	ND<0.05	ND<0.05	--	ND<0.05	ND<0.05	--	ND<0.05	ND<0.05	ND<0.05	ND<0.05	ND<0.05	ND<0.05
	1/21/1998	6	--	--	0.0051	--	2.3	0.079	0.21	0.5	--	--	ND<0.005	ND<0.005	ND<0.005	--	ND<0.005	ND<0.005	--	ND<0.01	ND<0.005	ND<0.005	ND<0.005	ND<0.005	0.012
	8/21/1998	11	--	--	ND<0.05	--	5.1	0.51	0.52	1.73	--	--	ND<0.05	ND<0.05	ND<0.05	--	ND<0.05	ND<0.05	--	ND<0.1	ND<0.05	0.15	ND<0.05	ND<0.05	ND<0.05
	1/28/1999	10	--	--	ND<0.05	--	3.3	0.11	0.47	1.84	--	--	ND<0.05	ND<0.05	ND<0.05	--	ND<0.05	ND<0.05	--	ND<0.1	ND<0.05	ND<0.05	ND<0.05	ND<0.05	ND<0.05
	1/28/1999DUP	10	--	--	0.0052	--	3.1	0.12	0.53	2.08	--	--	ND<0.005	ND<0.005	ND<0.005	--	ND<0.005	ND<0.005	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	0.018
	7/19/1999	1.9	--	--	0.027	--	0.56	ND<0.01	0.11	0.23	--	--	ND<0.01	ND<0.01	ND<0.01	--	ND<0.01	ND<0.01	--	ND<0.01	ND<0.01	ND<0.005	ND<0.01	ND<0.01	ND<0.01
	1/11/2000	2.1	--	--	ND<0.01	--	0.27	ND<0.01	ND<0.01	0.014	--	--	ND<0.01	ND<0.01	ND<0.01	--	ND<0.01	ND<0.01	--	ND<0.01	ND<0.01	ND<0.005	ND<0.01	ND<0.01	ND<0.01
	8/3/2000	1.3	--	--	ND<0.005	--	0.4	ND<0.005	0.012	0.01	--	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	ND<0.005	ND<0.005	ND<0.0025	ND<0.005	ND<0.005	0.0082
	2/8/2001	1.2	--	--	ND<0.001	--	0.055	0.0014	ND<0.001	0.0015	--	--	ND<0.001	ND<0.001	ND<0.001	ND<0.001	ND<0.001	ND<0.001	--	ND<0.001	ND<0.001	ND<0.0005	ND<0.001	ND<0.001	0.0014
	7/24/2001	1.2	--	--	0.0016	--	0.2	ND<0.001	0.012	0.0048	--	--	ND<0.001	ND<0.001	ND<0.001	--	0.0015	ND<0.001	--	ND<0.001	0.0047	ND<0.0005	ND<0.001	ND<0.001	0.0013
	5/9/2002	1.4	--	--	ND<0.002	170	0.25	0.037	0.12	0.289	--	--	ND<0.002	ND<0.002	ND<0.002	ND<2	0.0027	ND<0.002	--	ND<0.002	0.0035	ND<0.001	ND<0.002	ND<0.002	0.0057
	9/26/2002	0.56	--	--	ND<0.002	200	0.067	0.0025	0.019	0.0555	--	--	ND<0.002	ND<0.002	ND<0.002	ND<2	0.0036	ND<0.002	--	ND<0.002	ND<0.002	ND<0.001	ND<0.002	ND<0.002	0.005
	6/30/2004	0.26	--	--	ND<0.005	0.15	0.03	ND<0.005	0.0076	0.0065	ND<0.0005	0.006	ND<0.005	--	ND<0.005	--	0.004J	ND<0.005	ND<0.005	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	0.002J
W-7	8/4/2000	ND<0.5	--	--	ND<0.001	--	ND<0.0005	ND<0.001	ND<0.001	ND<0.001	--	--	ND<0.001	ND<0.001	ND<0.001	ND<0.0005	ND<0.0005	ND<0.0001	--	ND<0.0001	0.0012	ND<0.001	ND<0.001	ND<0.001	ND<0.001
	2/8/2001	ND<0.5	--	--	ND<0.001	--	ND<0.0005	ND<0.001	ND<0.001	ND<0.001	--	--	ND<0.001	ND<0.001	ND<0.001	ND<0.001	ND<0.001	ND<0.001	--	ND<0.001	ND<0.001	ND<0.0005	ND<0.001	ND<0.001	ND<0.001
	7/26/2001	ND<0.1	--	--	ND<0.001	--	ND<0.0005	ND<0.001	ND<0.001	ND<0.001	--	--	ND<0.001	ND<0.001	ND<0.001	--	ND<0.001	ND<0.001	--	ND<0.001	ND<0.001	ND<0.0005	ND<0.001	ND<0.001	ND<0.001
	5/7/2002	ND<0.1	--	--	ND<0.001	ND<10	ND<0.0005	ND<0.001	ND<0.001	ND<0.001	--	--	ND<0.001	ND<0.001	ND<0.001	ND<1	ND<0.001	ND<0.001	--	ND<0.001	ND<0.001	ND<0.0005	ND<0.001	ND<0.001	ND<0.001
	9/24/2002	ND<0.1	--	--	ND<0.001	ND<10	ND<0.0005	ND<0.001	ND<0.001	ND<0.001	--	--	ND<0.001	ND<0.001	ND<0.001	ND<1	ND<0.001	ND<0.001	--	ND<0.001	ND<0.001	ND<0.0005	ND<0.001	ND<0.001	ND<0.001
Operational Area 3: Processing Area																									
MW-104	6/1/1988	--	--	--	--	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Abandoned	9/1/1988	--	--	--	--	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/1/1988	--	--	--	--	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	3/1/1989	--	--	--	--	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	6/1/1989	--	--	--	--	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	9/1/1989	--	--	--	--	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/1/1989	--	--	--	--	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	3/1/1990	--	--	--	--	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	6/1/1990	--	--	--	--	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	9/1/1990	--	--	--	--	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/1/1990	--	--	--	--	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	3/1/1991	--	--	--	--	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	6/1/1991	--	--	--	--	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	9/1/1991	--	--	--	--	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/1/1991	--	--	--	--	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	3/1/1992	--	--	--	--	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	6/1/1992	--	--	--	--	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	9/1/1992	--	--	--	--	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/1/1992	--	--	--	--	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	3/1/1993	--	--	--	--	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	5/1/1993	--	--	--	--	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	5/25/1993	--	--	--	--	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	9/1/1993	--	--	--	--	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	11/1/1993	--	--	--	--	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	3/1/1994	--	--	--	--	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	6/1/1994	--	--	--	--	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/1/1994	--	--	--	--	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	3/1/1995	--	--	--	--	--	ND<0.005	ND<0.005	ND<0.005	ND<0.015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	9/1/1995	--	--	--	--	--	0.003	ND<0.002	ND<0.002	ND<0.002	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/13/1995	ND<0.5	--	--	--	--	0.003	0.0006	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	0.0027	--	--	--	--
	7/31/1996	ND<0.1	--	--	ND<0.01	--	0.0022	0.0018	ND<0.001	0.0027	--	--	ND<0.0003	--	ND<0.0003	--	0.0015	ND<0.0003	--	ND<0.0003	0.00058	0.00051	ND<0.0003	ND<0.0003	--
	12/16/1996	0.31	--	--	ND<0.002	--	0.0042	ND<0.001	ND<0.001	ND<0.002	--	--	ND<0.001	ND<0.001	ND<0.001	--	0.0027	ND<0.001	--	ND<0.001	ND<0.001	ND<0.001	ND<0.001	ND<0.001	0.01
	1/20/1998	ND<0.1	--	--	ND<0.005	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	--	ND<0.005	ND<0.005	ND<0.005	--	ND<0.005	ND<0.005	--	ND<0.01	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005
	8/18/1998	ND<0.1	--	--	--	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	--	ND<0.005	ND<0.005	ND<0.005	--	ND<0.005	ND<0.005	--	ND<0.01	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005
	1/27/1999	ND<0.1	--	--	ND<0.005	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	--	ND<0.005	ND<0.005	ND<0.005	--	ND<0.005	ND<0.005	--	ND<0.01	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005
MW-104A	7/19/1999	ND<0.5	--	--	ND<0.001	--	ND<0.0005	ND<0.001	ND<0.001	ND<0.001	--	--	ND<0.001	ND<0.001	ND<0.001	--	0.0056	ND<0.001	--	ND<0.001	ND<0.001	0.0012	ND<0.001	ND<0.001	ND<0.001
	1/13/2000	ND<0.5	--	--	ND<0.001	--	ND<0.0005	ND<0.001	ND<0.001	ND<0.001	--	--	ND<0.001	ND<0.001	ND<0.001	--	0.0067	ND<0.001	--	ND<0.001	ND<0.001	ND<0.0005	ND<0.001	ND<0.001	ND<0.001
	8/2/2000	ND<0.5	--	--	ND<0.001	--	ND<0.0005	ND<0.001	ND<0.001	ND<0.001	--	--	ND<0.001	ND<0.001	ND<0.001	ND<0.001	0.0054	ND<0.001	--	ND<0.001	ND<0.001	ND<0.0005	ND<0.001	ND<0.001	ND<0.001
	2/7/2001	ND<0.5	--	--	ND<0.001	--	ND<0.0005	ND<0.001	ND<0.001	ND<0.001	--	--	ND<0.001	ND<0.001	ND<0.001	ND<0.001	0.0042	ND<0.001	--	ND<0.001	ND<0.001	ND<0.0005	ND<0.001	ND<0.001	ND<0.001

TABLE E-3
HISTORICAL GROUNDWATER ANALYTICAL RESULTS
SUMMARY OF TPH-g, VOCs, AND OXYGENATES DATA

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Well ID	Date	TPH-gl	TPH-d	TRPH	MTBE	TBA	Benzene	Toluene	Ethyl benzene	Total Xylenes	o-Xylene	m,p-Xylene	BDCM	BCM	Chloroform	Chloroethane	c-1,2-DCE	1,2-DCBz	CFC11	Dichloro difluoro methane	1,1-DCA	1,2-DCA	1,1-DCE	1,2-DCP	IsoPB
	7/25/2001	ND<0.1	--	--	ND<0.001	--	ND<0.0005	ND<0.001	ND<0.001	ND<0.001	--	--	ND<0.001	ND<0.001	ND<0.001	--	0.0039	ND<0.001	--	ND<0.001	ND<0.001	ND<0.0005	ND<0.001	ND<0.001	ND<0.001
	5/7/2002	0.1	--	--	ND<0.001	31	ND<0.0005	ND<0.001	ND<0.001	ND<0.001	--	--	ND<0.001	ND<0.001	ND<0.001	ND<1	0.0043	ND<0.001	--	ND<0.001	ND<0.001	ND<0.0005	ND<0.001	ND<0.001	ND<0.001
	9/24/2002	ND<0.1	--	--	ND<0.001	20	ND<0.0005	ND<0.001	ND<0.001	ND<0.002	--	--	ND<0.001	ND<0.001	ND<0.001	ND<1	0.0054	ND<0.001	--	ND<0.001	ND<0.001	ND<0.0005	ND<0.001	ND<0.001	ND<0.001
	6/30/2004	ND<0.2	--	--	ND<0.005	0.03J	ND<0.005	ND<0.005	ND<0.005	ND<0.001	--	--	ND<0.005	--	ND<0.005	ND<0.005	0.0081	ND<0.005	ND<0.005	--	ND<0.005	ND<0.005	0.001J	ND<0.005	ND<0.005
MW-504	12/1/1993	--	--	--	--	--	11	1.3	1.8	9.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	6/1/1994	--	--	--	--	--	8.6	2.1	ND<0.5	8.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/1/1994	--	--	--	--	--	5.8	0.7	0.84	7.6	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	3/1/1995	--	--	--	--	--	5.2	1.1	1.2	12	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	9/1/1995	--	--	--	--	--	8	1.3	2.2	11	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/13/1995	99	--	36.9	--	--	2.7	0.73	0.8	2.6	--	--	--	--	--	--	0.014	--	--	--	0.013	--	--	--	--
	8/1/1996	80	--	--	0.37	--	3.4	1.4	0.96	3.7	--	--	ND<0.001	--	ND<0.001	--	0.02	ND<0.001	--	ND<0.001	0.004	0.02	ND<0.001	ND<0.001	--
	12/18/1996	33	--	--	ND<0.05	--	6	2.8	1	3.3	--	--	ND<0.25	ND<0.25	ND<0.25	--	ND<0.25	ND<0.25	--	ND<0.25	ND<0.25	ND<0.25	ND<0.25	ND<0.25	ND<0.25
	1/21/1998	30	--	--	ND<0.25	--	4.6	0.94	0.75	2.08	--	--	ND<0.25	ND<0.25	ND<0.25	--	ND<0.25	ND<0.25	--	ND<0.5	ND<0.25	ND<0.25	ND<0.25	ND<0.25	ND<0.25
	8/20/1998	NS	NS	NS	NS	--	NS	NS	NS	NS	--	--	NS	NS	NS	--	NS	NS	--	NS	NS	NS	NS	NS	NS
	1/28/1999	NS	NS	NS	NS	--	NS	NS	NS	NS	--	--	NS	NS	NS	--	NS	NS	--	NS	NS	NS	NS	NS	NS
	7/19/1999	NS	NS	NS	NS	--	NS	NS	NS	NS	--	--	NS	NS	NS	--	NS	NS	--	NS	NS	NS	NS	NS	NS
	1/10/2000	NS	NS	NS	NS	--	NS	NS	NS	NS	--	--	NS	NS	NS	--	NS	NS	--	NS	NS	NS	NS	NS	NS
	7/31/2000	NS	NS	NS	NS	--	NS	NS	NS	NS	--	--	NS	NS	NS	--	NS	NS	--	NS	NS	NS	NS	NS	NS
	2/6/2001	NS	NS	NS	NS	--	NS	NS	NS	NS	--	--	NS	NS	NS	--	NS	NS	--	NS	NS	NS	NS	NS	NS
	7/24/2001	NS	NS	NS	NS	--	NS	NS	NS	NS	--	--	NS	NS	NS	--	NS	NS	--	NS	NS	NS	NS	NS	NS
	5/6/2002	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--	NS	NS	NS	NS	NS	NS	--	NS	NS	NS	NS	NS	NS
	9/23/2002	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--	NS	NS	NS	NS	NS	NS	--	NS	NS	NS	NS	NS	NS
Operational Area 4: West Tank Farm Area																									
MW-101	8/1/1985	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	6/1/1988	--	--	--	--	--	0.62	ND<0.005	ND<0.005	0.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	9/1/1988	--	--	--	--	--	0.31	0.01	0.034	0.013	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/1/1988	--	--	--	--	--	0.49	0.028	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	6/1/1992	--	--	--	--	--	0.44	ND<0.005	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	9/1/1992	--	--	--	--	--	0.34	ND<0.005	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/1/1992	--	--	--	--	--	0.29	ND<0.005	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	3/1/1993	--	--	--	--	--	0.2	ND<0.005	ND<0.005	ND<0.025	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/1/1994	--	--	--	--	--	0.062	ND<0.005	0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	3/1/1995	--	--	--	--	--	0.11	ND<0.005	0.11	<0.15	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	9/1/1995	--	--	--	--	--	0.18	ND<0.004	0.18	ND<0.004	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/13/1995	2.4	--	ND<5	--	--	0.09	0.0059	0.0064	0.0029	--	--	--	--	--	--	0.045	--	--	--	0.0093	0.0018	0.067	ND<0.0005	--
	7/31/1996	2.3	--	--	ND<0.01	--	0.13	0.014	0.13	0.014	--	--	ND<0.0003	--	ND<0.0003	--	0.35	ND<0.0003	--	ND<0.0003	0.0086	0.0016	0.052	ND<0.0003	--
	12/17/1996	0.92	--	--	ND<0.002	--	ND<0.025	ND<0.05	ND<0.025	ND<0.05	--	--	ND<0.025	ND<0.025	ND<0.025	--	0.09	ND<0.025	--	ND<0.025	ND<0.025	ND<0.025	0.14	ND<0.025	ND<0.025
	1/19/1998	1.4	--	--	ND<0.005	--	0.065	ND<0.005	ND<0.005	ND<0.005	--	--	ND<0.005	ND<0.005	ND<0.005	--	0.062	ND<0.005	--	ND<0.01	0.017	ND<0.005	ND<50	ND<0.005	ND<0.005
	8/18/1998	3.2	--	--	--	--	0.14	ND<0.005	0.015	0.0067	--	--	ND<0.005	ND<0.005	ND<0.005	--	0.052	ND<0.005	--	ND<0.01	ND<0.005	ND<0.005	0.092	ND<0.005	0.0064
	1/26/1999	3.2	--	--	ND<0.005	--	0.0684	ND<0.005	0.00708	ND<0.005	--	--	ND<0.005	ND<0.005	ND<0.005	--	0.0719	ND<0.005	--	ND<0.01	0.0139	ND<0.005	0.0979	ND<0.005	ND<0.005
	7/19/1999	1.3	--	--	ND<0.002	--	0.022	ND<0.002	0.0024	ND<0.002	--	--	ND<0.002	ND<0.002	ND<0.002	--	0.057	ND<0.002	--	ND<0.002	0.018	ND<0.001	0.15	ND<0.002	ND<0.002
	1/10/2000	0.69	--	--	ND<0.001	--	0.0092	ND<0.001	ND<0.001	ND<0.001	--	--	ND<0.001	ND<0.001	ND<0.001	--	0.025	ND<0.001	--	ND<0.001	0.012	0.0026	0.13	ND<0.001	ND<0.001
	8/3/2000	ND<0.5	--	--	ND<0.002	--	0.024	ND<0.002	ND<0.002	ND<0.002	--	--	ND<0.002	ND<0.002	ND<0.002	ND<0.002	0.033	ND<0.002	--	ND<0.002	0.015	0.0036	0.092	ND<0.002	ND<0.002
	2/9/2001	0.6	--	--	ND<0.005	--	0.026	ND<0.005	ND<0.005	ND<0.005	--	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	0.021	ND<0.005	--	ND<0.005	0.0075	ND<0.0025	0.032	ND<0.005	ND<0.005
	7/26/2001	0.69	--	--	ND<0.001	--	0.025	ND<0.001	0.0025	ND<0.001	--	--	ND<0.001	ND<0.001	ND<0.001	--	0.028	ND<0.001	--	ND<0.001	0.0082	ND<0.005	0.03	ND<0.001	0.0011
	5/8/2002	0.58	--	--	ND<0.001	ND<10	0.017	ND<0.001	0.0013	ND<0.001	--	--	ND<0.001	ND<0.001	ND<0.001	ND<1	0.016	ND<0.001	--	ND<0.001	0.0029	ND<0.0005	0.016	ND<0.001	ND<0.001
	9/25/2002	0.57	--	--	ND<0.001	27	0.031	ND<0.001	0.0012	0.0011	--	--	ND<0.001	ND<0.001	ND<0.001	ND<1	0.014	ND<0.001	--	ND<0.001	0.003	ND<0.0005	0.018	ND<0.001	0.0012
MW-105	12/21/1995	ND<0.5	--	ND<10	--	--	0.011	0.0017	0.00081	0.0037	--	--	--	--	--	--	0.0094	--	--	--	0.0045	0.0033	0.013	--	--
	7/31/1996	0.65	--	--	ND<0.01	--	0.091	0.0018	0.002	0.0018	--	--	ND<0.003	--	ND<0.0003	--	0.0084	ND<0.0003	--	ND<0.0003	0.012	0.0014	0.02	ND<0.0003	--
	12/16/1996	0.24	--	--	ND<0.002	--	0.014	ND<0.005	ND<0.005	ND<0.01	--	--	ND<0.005	ND<0.005	ND<0.005	--	0.01	ND<0.005	--	ND<0.005	ND<0.005	ND<0.005	0.05	ND<0.005	ND<0.005
	1/20/1998	0.51	--	--	ND<0.005	--	0.021	ND<0.005	ND<0.005	ND<0.005	--	--	ND<0.005	ND<0.005	ND<0.005	--	0.025	ND<0.005	--	ND<0.01	0.022	ND<0.005	0.14	ND<0.005	ND<0.005
	8/18/1998	0.68	--	--	--	--	0.0536	ND<0.005	ND<0.005	ND<0.005	--	--	ND<0.005	ND<0.005	ND<0.005	--	0.0253	ND<0.005	--	ND<0.01	0.0154	ND<0.005	0.108	ND<0.005	ND<0.005
	1/25/1999	0.53	--	--	ND<0.005	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	--	ND<0.005	ND<0.005	ND<0.005	--	0.022	ND<0.005	--	ND<0.01	0.014	ND<0.005	0.117	ND<0.005	ND<0.005
	7/19/1999	0.61	--	--	ND<0.001	--	0.0048	ND<0.001	ND<0.001	ND<0.001	--	--	ND<0.001	ND<0.001	ND<0.001	--	0.029	ND<0.001	--	ND<0.001	0.016	0.0034	0.13	ND<0.001	ND<0.001
	1/10/2000	0.9	--	--	ND<0.005	--	0.061	ND<0.005	ND<0.005	ND<0.005	--	--	ND<0.005	ND<0.005	ND<0.005	--	0.04	ND<0.005	--	ND<0.005	0.02	0.004	0.1	ND<0.005	ND<0.005
	7/31/2000	0.58	--	--	ND<0.005	--	0.052	ND<0.005	ND<0.005	ND<0.005	--	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	0.052	ND<0.005	--	ND<0.005	0.014	0.0095	0.062	ND<0.005	ND<0.005
	2/6/2001	0.61	--	--	ND<0.005	--	ND<0.0025	ND<0.005	ND<0.005	ND<0.005	--	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	0.033	ND<0.005	--	ND<0.005	0.012	ND<0.0025	0.032	ND<0.005	ND<0.005
	7/24/2001	0.21	--	--	ND<0.001	--	0.001	ND<0.001	ND<0.001	ND<0.001	--	--	ND<0.001	ND<0.001	ND<0.001	--	0.018	ND<0.001	--	ND<0.001	0.009	0.0015	0.017	ND<0.001	ND<0.001
	5/7/2002	0.53	--	--	ND<0.001	27	0.0011	ND<0.001	ND<0.001	ND<0.001	--	--	ND<0.001	ND<0.001	ND<0.001	ND<1	0.014	ND<0.001	--	ND<0.001	0.0044	ND<0.0005	0.01	ND<0.001	ND<0.001
	9/24/2002	ND<0.1	--	--	ND<0.001	ND<10	0.0014	ND<0.001	ND<0.001	ND<0.002	--	--	ND<0.001	ND<0.001	ND<0.001	ND<1	0.025	ND<0.001	--	ND<0.001	0.0049	0.0014	0.01	ND<0.001	ND<0.001
	6/30/2004	0.27	--	--	ND<0.005	ND<0.1	ND<0.005	ND<0.005	ND<0.005	ND<0.001	--	--	ND<0.005	--	ND<0.005	--	0.015	ND<0.005	ND<0.005	--	.001J	ND<0.005	0.018	ND<0.005	ND<0.005
MW-201	8/1/1985	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	6/1/1988	--	--	--	--	--	1	0.15	ND<0.005	0.25	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	9/1/1988	--	--	--	--	--	0.52	0.21	0.11	0.4	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/1/1988	--	--	--	--	--	0.42	0.065	0.019	0.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	3/1/1989	--	--	--	--	--	0.21	0.027	0.024	0.047	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	6/1/1989	--	--	--	--	--	0.35	ND<0.005	ND<0.005	0.05	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	9/1/1989	--	--	--	--	--	0.83	0.1	0.032	0.21	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

TABLE E-3
HISTORICAL GROUNDWATER ANALYTICAL RESULTS
SUMMARY OF TPH-g, VOCs, AND OXYGENATES DATA

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Well ID	Date	TPH(g)	TPH(d)	TRPH	MTBE	TBA	Benzene	Toluene	Ethyl Benzene	Total Xylenes	o-Xylene	m,p-Xylene	BDCM	BCM	Chloroform	Chloroethane	c-1,2-DCE	1,2-DCB	CFC-11	Dichloro difluoro methane	1,1-DCA	1,2-DCA	1,1-DCE	1,2-DCP	IsoPB
	12/1/1989	--	--	--	--	--	0.51	0.076	0.024	0.17	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	3/1/1990	--	--	--	--	--	0.35	0.038	0.029	0.085	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	6/1/1990	--	--	--	--	--	0.82	0.049	0.084	0.083	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	9/1/1990	--	--	--	--	--	0.34	0.015	0.02	0.073	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/1/1990	--	--	--	--	--	0.24	0.012	0.007	0.055	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	3/1/1991	--	--	--	--	--	0.5	ND<0.005	ND<0.005	0.24	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	6/1/1991	--	--	--	--	--	0.53	ND<0.005	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	9/1/1991	--	--	--	--	--	0.37	ND<0.005	ND<0.005	0.13	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/1/1991	--	--	--	--	--	0.34	0.01	0.009	0.08	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	6/1/1992	--	--	--	--	--	0.025	ND<0.005	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	9/1/1992	--	--	--	--	--	0.35	ND<0.005	ND<0.005	0.13	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/1/1992	--	--	--	--	--	1.15	ND<0.005	ND<0.005	0.56	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	3/1/1993	--	--	--	--	--	0.56	0.077	ND<0.05	0.41	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/1/1994	--	--	--	--	--	1.3	0.066	0.5	0.56	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	3/1/1995	--	--	--	--	--	0.29	ND<0.005	ND<0.005	ND<0.015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	9/1/1995	--	--	--	--	--	1.1	0.028	0.13	0.14	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/13/1995	9	--	ND<5	--	--	0.44	0.042	0.12	0.094	--	--	--	--	--	--	0.044	--	--	--	0.0094	0.0044	0.087	0.00081	--
	7/31/1996	ND<0.1	--	--	ND<0.01	--	0.48	0.02	0.032	0.025	--	--	ND<0.0003	--	ND<0.0003	--	0.034	ND<0.0003	--	ND<0.0003	0.0094	0.0027	0.098	ND<0.0003	--
	12/17/1996	3.7	--	--	ND<0.01	--	0.11	0.012	0.096	0.121	--	--	ND<0.01	ND<0.01	ND<0.01	--	0.089	ND<0.01	--	ND<0.01	ND<0.01	ND<0.01	0.17	ND<0.01	0.021
	1/21/1998	2.6	--	--	ND<0.005	--	0.22	0.014	0.087	0.017	--	--	ND<0.005	ND<0.005	ND<0.005	--	0.064	ND<0.005	--	ND<0.01	0.01	ND<0.005	0.1	ND<0.005	0.019
	1/21/1998DUP	2.1	--	--	ND<0.005	--	0.25	0.012	0.069	0.016	--	--	ND<0.005	ND<0.005	ND<0.005	--	0.071	ND<0.005	--	ND<0.01	0.0099	ND<0.005	0.074	ND<0.005	0.018
	8/18/1998	2.6	--	--	--	--	0.44	0.0086	0.02	0.013	--	--	ND<0.005	ND<0.005	ND<0.005	--	0.063	ND<0.005	--	ND<0.01	0.0063	ND<0.005	0.046	ND<0.005	0.0051
	7/19/1999	2.8	--	--	ND<0.005	--	0.16	0.029	0.069	0.0546	--	--	ND<0.005	ND<0.005	ND<0.005	--	0.063	ND<0.005	--	ND<0.005	0.0093	ND<0.0025	0.061	ND<0.005	0.021
	1/12/2000	5.1	--	--	ND<0.006	--	0.52	0.014	0.053	0.016	--	--	ND<0.005	ND<0.005	ND<0.005	--	0.043	ND<0.005	--	ND<0.005	ND<0.005	ND<0.0025	0.019	ND<0.005	0.016
	8/4/2000	2.9	--	--	ND<0.007	--	0.57	0.015	0.061	0.021	--	--	ND<0.005	ND<0.005	ND<0.005	ND<0.0005	0.076	ND<0.005	--	ND<0.005	ND<0.005	ND<0.0025	0.019	ND<0.005	0.012
	2/9/2001	2.2	--	--	ND<0.008	--	0.31	0.012	0.13	0.014	--	--	ND<0.01	ND<0.01	ND<0.01	ND<0.01	0.1	ND<0.01	--	ND<0.01	ND<0.01	ND<0.005	0.022	ND<0.01	0.026
	7/26/2001	3.2	--	--	ND<0.01	--	0.18	0.0096	0.056	0.0247	--	--	ND<0.01	ND<0.01	ND<0.01	--	0.057	ND<0.01	--	ND<0.01	0.023	ND<0.005	0.013	ND<0.01	0.014
	5/9/2002	1.8	--	--	0.0051	ND<20	0.12	0.0066	0.045	0.02	--	--	ND<0.002	ND<0.002	ND<0.002	ND<2	0.033	ND<0.002	--	ND<0.002	ND<0.002	ND<0.001	0.0064	ND<0.002	0.0088
	9/26/2002	0.89	--	--	ND<0.001	ND<10	0.011	0.011	0.068	0.0343	--	--	ND<0.001	ND<0.001	ND<0.001	ND<1	0.027	ND<0.001	--	ND<0.001	ND<0.001	ND<0.0005	0.0072	ND<0.001	0.01
	6/30/2004	1.7	--	--	ND<0.005	ND<0.1	0.12	0.012	0.21E	0.071	0.013	0.058	ND<0.005	--	ND<0.005	ND<0.005	0.021	ND<0.005	ND<0.005	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	0.027
MW-205	6/1/1988	--	--	--	--	--	0.013	ND<0.005	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	9/1/1988	--	--	--	--	--	0.027	ND<0.005	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/1/1988	--	--	--	--	--	0.12	ND<0.005	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	3/1/1989	--	--	--	--	--	0.04	ND<0.005	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	6/1/1989	--	--	--	--	--	0.12	ND<0.005	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	9/1/1989	--	--	--	--	--	0.081	ND<0.005	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/1/1989	--	--	--	--	--	0.17	ND<0.005	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	3/1/1990	--	--	--	--	--	0.14	ND<0.005	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	6/1/1990	--	--	--	--	--	0.056	ND<0.005	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	9/1/1990	--	--	--	--	--	0.045	ND<0.005	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/1/1990	--	--	--	--	--	0.047	ND<0.005	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	3/1/1991	--	--	--	--	--	0.04	ND<0.005	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	6/1/1991	--	--	--	--	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	9/1/1991	--	--	--	--	--	0.043	ND<0.005	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/1/1991	--	--	--	--	--	0.085	ND<0.005	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	3/1/1992	--	--	--	--	--	0.035	ND<0.005	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	6/1/1992	--	--	--	--	--	0.006	ND<0.005	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	9/1/1992	--	--	--	--	--	0.005	ND<0.005	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/1/1992	--	--	--	--	--	0.01	ND<0.005	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	3/1/1993	--	--	--	--	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	5/1/1993	--	--	--	--	--	0.022	ND<0.005	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	5/25/1993	--	--	--	--	--	0.022	ND<0.005	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	11/1/1993	--	--	--	--	--	0.032	ND<0.005	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/1/1994	--	--	--	--	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	3/1/1995	--	--	--	--	--	ND<0.005	ND<0.005	ND<0.005	ND<0.015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	9/1/1995	--	--	--	--	--	0.0053	ND<0.002	ND<0.002	ND<0.002	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/13/1995	2.1	--	ND<5	--	--	0.11	0.0013	0.018	0.037	--	--	--	--	--	--	0.051	--	--	--	0.0073	0.002	0.022	--	--
	7/31/1996	ND<0.1	--	--	ND<0.01	--	0.0051	ND<0.002	ND<0.002	ND<0.002	--	--	ND<0.0003	--	ND<0.0003	--	0.03	ND<0.0003	--	ND<0.0003	0.0028	ND<0.0003	0.014	ND<0.0003	--
	12/16/1996	0.27	--	--	0.002	--	ND<0.002	ND<0.002	ND<0.002	ND<0.004	--	--	ND<0.002	ND<0.002	ND<0.002	--	0.035	ND<0.002	--	ND<0.002	ND<0.002	ND<0.002	0.0071	ND<0.002	ND<0.002
	1/20/1998	0.19	--	--	ND<0.005	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	--	ND<0.005	ND<0.005	ND<0.005	--	0.027	ND<0.005	--	ND<0.01	ND<0.005	ND<0.005	0.0087	ND<0.005	ND<0.005
	8/21/1998	0.017	--	--	ND<0.005	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	--	ND<0.005	ND<0.005	ND<0.005	--	0.032	ND<0.005	--	ND<0.01	ND<0.005	ND<0.005	0.01	ND<0.005	ND<0.005
	1/26/1999	0.22	--	--	ND<0.005	--	0.00687	ND<0.005	ND<0.005	ND<0.005	--	--	ND<0.005	ND<0.005	ND<0.005	--	0.0261	ND<0.005	--	ND<0.01	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005
	7/19/1999	ND<0.5	--	--	ND<0.001	--	0.01	ND<0.001	ND<0.001	ND<0.001	--	--	ND<0.001	ND<0.001	ND<0.001	--	0.023	ND<0.001	--	ND<0.001	ND<0.001	ND<0.0005	0.0026	ND<0.001	ND<0.001
	1/11/2000	0.79	--	--	ND<0.001	--	0.026	0.0013	0.002	0.0043	--	--	ND<0.001	ND<0.001	ND<0.001	--	0.013	ND<0.001	--	ND<0.001	ND<0.001	ND<0.0005	ND<0.001	ND<0.001	0.0023
	8/2/2000	ND<0.5	--	--	--	--	0.011	ND<0.001	ND<0.001	ND<0.001	--	--	ND<0.001	ND<0.001	ND<0.001	ND<0.001	0.006	ND<0.001	--	ND<0.001	ND<0.001	ND<0.0005	ND<0.001	ND<0.001	ND<0.001
	2/7/2001	0.54	--	--	ND<0.001	--	0.037	ND<0.001	0.012	0.0024	--	--	ND<0.001	ND<0.001	ND<0.001	ND<0.001	0.0052	ND<0.001	--	ND<0.001	ND<0.001	ND<0.0005	ND<0.001	ND<0.001	0.0016
	7/26/2001	0.38	--	--	ND<0.001	--	0.021	ND<0.001	0.0011	ND<0.001	--	--	ND<0.001	ND<0.001	ND<0.001	--	0.017	ND<0.001	--	ND<0.001	ND<0.001	ND<0.0005	0.0015	ND<0.001	ND<0.001
	5/8/2002	0.26	--	--	ND<0.001	ND<10	0.0097	ND<0.001	ND<0.001	ND<0.001	--	--	ND<0.001	ND<0.001	ND<0.001	ND<1	0.022	ND<0.001	--	ND<0.001	ND<0.001	ND<0.0005	0.0011	ND<0.001	ND<0.001

TABLE E-3
HISTORICAL GROUNDWATER ANALYTICAL RESULTS
SUMMARY OF TPH-g, VOCs, AND OXYGENATES DATA

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Well ID	Date	TPH-g	TPH-d	TRPH	MTBE	TBA	Benzene	Toluene	Ethyl benzene	Total Xylenes	o-Xylene	m/p-Xylene	BDCM	BCM	Chloroform	Chloroethane	c-1,2-DCE	1,2-DCB	CFC-11	Dichloro difluoro methane	1,1-DCA	1,2-DCA	1,1-DCE	1,2-DCP	IsoPB
	9/25/2002	0.3	--	--	ND<0.001	4	0.024	ND<0.001	ND<0.001	ND<0.001	--	--	ND<0.001	ND<0.001	ND<0.001	ND<1	0.01	ND<0.001	--	ND<0.001	ND<0.001	ND<0.0005	ND<0.001	ND<0.001	ND<0.001
	6/30/2004	ND<0.2	--	--	ND<0.005	ND<0.1	0.003J	ND<0.005	ND<0.005	ND<0.001	ND<0.0005	ND<0.0005	ND<0.005	--	ND<0.005	--	0.0065	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005
W-8	8/4/2000	ND<0.5	--	--	ND<0.001	--	0.0028	<0.0046	ND<0.001	ND<0.0029	--	--	ND<0.001	ND<0.001	ND<0.001	--	ND<0.001	ND<0.001	--	ND<0.001	ND<0.001	ND<0.0005	ND<0.001	ND<0.001	ND<0.001
	2/6/2001	NS	NS	NS	NS	--	NS	NS	NS	NS	--	--	NS	NS	NS	--	NS	NS	--	NS	NS	NS	NS	NS	NS
	7/26/2001	0.18	--	--	ND<0.001	--	0.00067	ND<0.001	ND<0.001	ND<0.001	--	--	ND<0.001	ND<0.001	ND<0.001	--	ND<0.001	ND<0.001	--	ND<0.001	ND<0.001	ND<0.005	ND<0.001	ND<0.001	ND<0.001
	5/7/2002	0.18	--	--	ND<0.001	ND<10	0.00051	ND<0.001	ND<0.001	ND<0.001	--	--	ND<0.001	ND<0.001	ND<0.001	ND<1	ND<0.001	ND<0.001	--	ND<0.001	ND<0.001	ND<0.005	ND<0.001	ND<0.001	ND<0.001
	9/24/2002	ND<0.1	--	--	ND<0.001	ND<10	0.00064	ND<0.001	ND<0.001	ND<0.002	--	--	ND<0.001	ND<0.001	ND<0.001	ND<1	ND<0.001	ND<0.001	--	ND<0.001	ND<0.001	ND<0.005	ND<0.001	ND<0.001	ND<0.001
	7/1/2004	0.39	--	--	ND<0.005	ND<0.1	0.0019J	0.0018	0.00072	0.00142	ND<0.0005	0.00092	ND<0.005	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005
Operational Area 5: Lakeland Property																									
MW-206	6/1/1988	--	--	--	--	--	5.8	2.4	2.1	4.9	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Abandoned	9/1/1988	--	--	--	--	--	4.2	1	2	6.6	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/1/1988	--	--	--	--	--	4.3	0.92	2.1	5.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	3/1/1989	--	--	--	--	--	2.7	3.2	2.4	12	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	6/1/1989	--	--	--	--	--	3.1	1.2	2.3	8.6	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	9/1/1989	--	--	--	--	--	4.5	0.62	2.4	6.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/1/1989	--	--	--	--	--	3.2	1	2	6.6	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	3/1/1990	--	--	--	--	--	3.7	1.7	2.6	9.4	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	6/1/1990	--	--	--	--	--	3.7	0.96	2	6.3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	9/1/1990	--	--	--	--	--	5.1	2.1	2.3	6.8	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/1/1990	--	--	--	--	--	7.1	2.1	2.4	8.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	3/1/1991	--	--	--	--	--	4.9	2.6	2.2	9.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	6/1/1991	--	--	--	--	--	5.22	1.08	2.4	6.88	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	9/1/1991	--	--	--	--	--	4.5	2.1	2	5.4	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/1/1991	--	--	--	--	--	3.4	0.72	2.5	4.74	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	3/1/1992	--	--	--	--	--	2	0.47	2.5	4.87	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	6/1/1992	--	--	--	--	--	3.2	0.42	2.1	2.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	9/1/1992	--	--	--	--	--	9.9	1.4	3.2	7.3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/1/1992	--	--	--	--	--	13	2	6	13	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/1/1994	--	--	--	--	--	8.4	4.9	1.8	9.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	3/1/1995	--	--	--	--	--	9	0.72	2	5.8	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	9/1/1995	--	--	--	--	--	6.2	0.8	1.6	3.6	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/13/1995	12	--	ND<5	--	--	0.11	0.016	0.032	0.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	7/31/1996	33	--	--	0.51	--	0.57	0.11	0.42	0.49	--	--	ND<0.0003	--	ND<0.0003	--	0.02	ND<0.0003	--	ND<0.0003	0.0088	0.0058	0.022	ND<0.0003	--
	12/18/1996	8.2	--	--	ND<0.02	--	2.2	ND<0.1	1.2	0.34	--	--	ND<0.1	ND<0.1	ND<0.1	--	ND<0.1	ND<0.1	--	ND<0.1	ND<0.1	ND<0.1	ND<0.1	ND<0.1	ND<0.1
	1/21/1998	13	--	--	ND<0.005	--	1.5	0.29	1.6	0.78	--	--	ND<0.005	ND<0.005	ND<0.005	--	0.13	ND<0.005	--	ND<0.01	ND<0.005	ND<0.005	0.082	ND<0.005	0.085
	8/20/1998	NS	NS	NS	NS	--	NS	NS	NS	NS	--	--	NS	NS	NS	--	NS	NS	--	NS	NS	NS	NS	NS	NS
MW-501	3/1/1995	--	--	--	--	--	4.2	0.23	1	2.7	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Destroyed	9/1/1995	--	--	--	--	--	2.4	0.27	ND<0.2	ND<0.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/13/1995	69	--	19.9	--	--	1.6	0.1	0.88	2.2	--	--	--	--	--	--	0.0085	--	--	--	0.0016	0.0032	0.001	0.0013	--
	7/31/1996	18	--	--	0.18	--	1.7	0.073	0.22	1.1	--	--	ND<0.0003	--	ND<0.0003	--	0.0072	ND<0.0003	--	ND<0.0003	0.00081	0.0013	ND<0.0003	0.001	--
	12/18/1996	6.8	--	--	ND<0.01	--	1.2	ND<0.05	0.51	0.65	--	--	ND<0.05	ND<0.05	ND<0.05	--	ND<0.05	ND<0.05	--	ND<0.05	ND<0.05	ND<0.05	ND<0.05	ND<0.05	0.092
	1/21/1998	0.95	--	--	ND<0.005	--	0.26	ND<0.005	0.011	0.023	--	--	ND<0.005	ND<0.005	ND<0.005	--	ND<0.005	ND<0.005	--	ND<0.01	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005
	8/20/1998	NS	NS	NS	NS	--	NS	NS	NS	NS	--	--	NS	NS	NS	--	NS	NS	--	NS	NS	NS	NS	NS	NS
	1/26/1999	NS	NS	NS	NS	--	NS	NS	NS	NS	--	--	NS	NS	NS	--	NS	NS	--	NS	NS	NS	NS	NS	NS
MW-501-A	7/19/1999	7.5	--	--	ND<0.025	--	1.3	ND<0.025	ND<0.025	0.025	--	--	ND<0.025	ND<0.025	ND<0.025	--	ND<0.025	ND<0.025	--	ND<0.025	ND<0.025	<0.013	<0.013	<0.013	0.041
	1/13/2000	9.2	--	--	ND<0.01	--	1.6	0.018	ND<0.01	0.023	--	--	ND<0.01	ND<0.01	ND<0.01	--	ND<0.01	ND<0.01	--	ND<0.01	ND<0.01	ND<0.005	ND<0.01	ND<0.01	0.034
	8/2/2000	7.1	--	--	--	--	0.98	0.011	0.012	0.014	--	--	ND<0.01	ND<0.01	ND<0.01	ND<0.01	ND<0.01	ND<0.01	--	ND<0.01	ND<0.01	ND<0.005	ND<0.01	ND<0.01	0.085
	2/7/2001	6.6	--	--	ND<0.01	--	0.68	ND<0.01	0.01	ND<0.01	--	--	ND<0.01	ND<0.01	ND<0.01	ND<0.01	ND<0.01	ND<0.01	--	ND<0.01	ND<0.01	ND<0.005	ND<0.01	ND<0.01	0.09
	7/25/2001	5.7	--	--	0.085	--	0.14	ND<0.01	ND<0.01	ND<0.01	--	--	ND<0.01	ND<0.01	ND<0.01	--	ND<0.01	ND<0.01	--	ND<0.01	0.013	ND<0.005	ND<0.01	0.011	0.098
	5/8/2002	7	--	--	0.13	ND<20	0.69	0.0043	0.0068	0.0059	--	--	ND<0.002	ND<0.002	ND<0.002	ND<2	ND<0.002	ND<0.002	--	ND<0.002	0.0042	ND<0.001	ND<0.002	0.007	0.1
	9/26/2002	6.5	--	--	0.57	ND<100	0.52	ND<0.01	ND<0.01	ND<0.02	--	--	ND<0.01	ND<0.01	ND<0.01	ND<10	ND<0.01	ND<0.01	--	ND<0.01	ND<0.01	ND<0.005	ND<0.01	ND<0.01	0.18
MW-502	6/1/1988	--	--	--	--	--	0.95	0.079	0.062	0.016	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	9/1/1988	--	--	--	--	--	1.3	0.18	2.8	12	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/1/1988	--	--	--	--	--	6.5	0.86	1.5	5.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	3/1/1989	--	--	--	--	--	5.3	1.2	1.9	7.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	9/1/1994	--	--	--	--	--	9.8	0.86	1.9	3.3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/1/1994	--	--	--	--	--	8.4	1.6	1.6	6	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	3/1/1995	--	--	--	--	--	18	0.48	2.1	7.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	9/1/1995	--	--	--	--	--	15	0.69	3.3	8.8	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/13/1995	220	--	41.1	--	--	6.9	0.95	3.3	8.5	--	--	--	--	--	--	0.0069	--	--	--	0.00089	0.0061	--	--	0.0011
	7/13/1996	110	--	--	1	--	13	0.4	1.8	6.8	--	--	ND<0.0003	--	ND<0.0003	--	0.0068	ND<0.0003	--	ND<0.0003	ND<0.0003	0.012	0.00076	ND<0.0003	--
	12/18/1996	30	--	--	ND<0.01	--	11	ND<0.5	2.1	0.57	--	--	ND<0.5	ND<0.5	ND<0.5	--	ND<0.5	ND<0.5	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	1/22/1998	24	--	--	70	--	7.8	0.13	1.3	0.921	--	--	ND<0.025	ND<0.025	ND<0.025	--	ND<0.025	ND<0.025	--	ND<0.025	ND<0.025	ND<0.025	ND<0.025	ND<0.025	0.09
	8/19/1998	86	--	--	290	--	12	0.1	1.4	0.953	--	--	ND<0.005	ND<0.005	ND<0.005	--	0.01	ND<0.005	--	ND<0.01	ND<0.005	ND<0.005	ND<0.005	ND<0.005	0.067
	1/26/1999	120	--	--	119	--	8.8	0.0804	1.03	0.554	--	--	ND<0.005	ND<0.005	ND<0.005	--	0.0104	ND<0.005	--	ND<0.01	ND<0.005	ND<0.005	ND<0.005	ND<0.005	0.0767
	7/19/1999	48	--	--	92	--	11	ND<5	ND<5	ND<5	--	--	ND<5	ND<5	ND<5	--	ND<5	ND<5	--	ND<5	ND<5	ND<2.5	ND<5	ND<5	ND<5
	1/13/2000	25	--	--	8.7	--	8.1	ND<1	ND<1	ND<1	--	--	ND<1	ND<1	ND<1	--	ND<1	ND<1	--	ND<1	ND<1	ND<0.5	ND<1	ND<1	ND<1
	8/2/2000	23	--	--	4.5	--	6.3	0.1	0.25	0.2	--	--	ND<0.1	ND<0.1	ND<0.1	ND<0.1	ND<0.1	ND<0.1	--	ND<0.1	ND<0.1	ND<0.05	ND<0.1	ND<0.1	ND<1

TABLE E-3
HISTORICAL GROUNDWATER ANALYTICAL RESULTS
SUMMARY OF TPH-g, VOCs, AND OXYGENATES DATA

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Well ID	Date	TPH-g	TPH-d	TRPH	MTBE	TBA	Benzene	Toluene	Ethyl benzene	Total Xylenes	o-Xylene	m/p-Xylene	BDCM	BCM	Chloroform	Chloromethane	c-1,2-DCE	1,2-DCB	CFC11	Dichloro-difluoro-methane	1,1-DCA	1,2-DCA	1,1-DCE	1,2-DCP	IsoPB
	2/7/2001	18	--	--	6.5	--	5	0.082	0.23	ND<0.05	--	--	ND<0.05	ND<0.05	ND<0.05	ND<0.05	ND<0.05	ND<0.05	--	ND<0.05	ND<0.05	ND<0.05	ND<0.05	ND<0.05	0.062
	7/25/2001	24	--	--	18	--	6.5	0.17	0.4	0.513	--	--	ND<0.05	ND<0.05	ND<0.05	--	ND<0.05	ND<0.05	--	ND<0.05	ND<0.05	ND<0.05	ND<0.05	ND<0.05	0.062
	5/9/2002	25	--	--	14	<2000	4.3	ND<0.2	0.39	0.23	--	--	ND<0.2	ND<0.2	ND<0.2	ND<200	ND<0.2	ND<0.2	--	ND<0.2	ND<0.2	ND<0.1	ND<0.2	ND<0.2	ND<0.2
	9/26/2002	11	--	--	9.4	ND<1000	4	ND<0.1	0.54	0.23	--	--	ND<0.1	ND<0.1	ND<0.1	ND<100	ND<0.1	ND<0.1	--	ND<0.1	ND<0.1	ND<0.05	ND<0.1	ND<0.1	ND<0.1
MW-503	6/1/1988	--	--	--	--	--	0.6	0.14	0.34	0.6	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Abandoned	9/1/1988	--	--	--	--	--	0.8	0.28	0.3	0.91	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/1/1988	--	--	--	--	--	1.5	0.57	0.38	0.96	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	3/1/1989	--	--	--	--	--	0.4	0.19	0.36	0.75	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	6/1/1989	--	--	--	--	--	0.6	0.34	0.63	1.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	9/1/1989	--	--	--	--	--	0.99	0.55	0.2	0.85	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/1/1989	--	--	--	--	--	0.27	0.18	0.18	0.56	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	3/1/1990	--	--	--	--	--	0.31	0.14	0.14	0.28	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	6/1/1990	--	--	--	--	--	0.034	0.024	0.11	0.19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	9/1/1990	--	--	--	--	--	0.17	0.11	0.14	0.27	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/1/1990	--	--	--	--	--	2.1	1.3	0.1	2.3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	3/1/1991	--	--	--	--	--	0.9	0.65	0.25	2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	6/1/1991	--	--	--	--	--	1.04	0.7	0.33	1.23	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/1/1992	--	--	--	--	--	3.3	0.75	0.34	1.58	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	3/1/1993	--	--	--	--	--	2.9	0.4	ND<0.25	1.88	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/1/1994	--	--	--	--	--	0.24	0.022	0.066	0.079	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	3/1/1995	--	--	--	--	--	0.39	0.055	0.1	0.19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	9/1/1995	--	--	--	--	--	0.53	0.093	0.13	0.18	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/13/1995	8.2	--	ND<5	--	--	0.34	0.079	0.19	0.2	--	--	--	--	--	--	0.038	--	--	--	0.015	0.0065	0.12	0.00072	--
	7/31/1996	5.1	--	--	ND<0.01	--	0.15	0.049	0.025	0.084	--	--	ND<0.0003	--	ND<0.0003	--	0.036	ND<0.0003	--	ND<0.0003	0.015	0.0031	0.15	ND<0.0003	--
	12/18/1996	4.6	--	--	ND<0.02	--	0.21	0.019	0.14	0.056	--	--	ND<0.01	ND<0.01	ND<0.01	--	0.04	ND<0.01	--	ND<0.01	ND<0.01	ND<0.01	0.32	ND<0.01	0.044
	1/21/1998	3.1	--	--	ND<0.005	--	0.21	0.031	0.28	0.063	--	--	ND<0.005	ND<0.005	ND<0.005	--	0.067	ND<0.005	--	ND<0.01	0.0096	ND<0.005	0.21	ND<0.005	0.053
	8/19/1998	0.96	--	--	--	--	0.072	0.0079	0.053	0.0076	--	--	ND<0.005	ND<0.005	ND<0.005	--	0.041	ND<0.005	--	ND<0.01	ND<0.005	ND<0.005	0.037	ND<0.005	0.011
MW-503B	2/9/1999	10	--	--	--	--	0.97	ND<0.05	0.42	ND<0.05	--	--	ND<0.05	ND<0.05	ND<0.05	--	0.11	ND<0.05	--	ND<0.1	ND<0.05	ND<0.05	0.061	ND<0.05	0.05
	7/19/1999	7.8	--	--	ND<0.02	--	0.63	ND<0.02	0.54	ND<0.02	--	--	ND<0.02	ND<0.02	ND<0.02	--	0.18	ND<0.02	--	ND<0.02	ND<0.02	ND<0.01	0.082	ND<0.02	0.073
	1/14/2000	14	--	--	ND<0.02	--	1	0.032	0.87	0.14	--	--	ND<0.02	ND<0.02	ND<0.02	--	0.21	ND<0.02	--	ND<0.02	ND<0.02	ND<0.01	0.09	ND<0.02	0.083
	8/4/2000	5.6	--	--	ND<0.01	--	0.61	0.019	0.5	0.035	--	--	ND<0.01	ND<0.01	ND<0.01	ND<0.01	0.14	ND<0.01	--	ND<0.01	ND<0.01	ND<0.005	0.036	ND<0.01	0.068
	2/6/2001	5.8	--	--	ND<0.02	--	0.25	ND<0.02	0.32	0.041	--	--	ND<0.02	ND<0.02	ND<0.02	ND<0.02	0.084	ND<0.02	--	ND<0.02	ND<0.02	ND<0.01	0.025	ND<0.02	0.089
	7/25/2001	5.7	--	--	ND<0.05	--	0.28	ND<0.05	0.23	ND<0.05	--	--	ND<0.05	ND<0.05	ND<0.05	--	ND<0.05	ND<0.05	--	ND<0.05	ND<0.05	ND<0.025	ND<0.05	ND<0.05	0.062
	5/9/2002	4.5	--	--	ND<0.002	ND<20	0.081	0.0035	0.077	0.0345	--	--	ND<0.002	ND<0.002	0.0027	ND<2	0.023	ND<0.002	--	ND<0.002	ND<0.002	ND<0.001	0.005	ND<0.002	0.086
	9/26/2002	3.3	--	--	ND<0.001	ND<10	0.036	0.0096	0.14	0.056	--	--	ND<0.001	ND<0.001	0.0017	ND<1	0.018	ND<0.001	--	ND<0.001	ND<0.001	ND<0.0005	0.0011	ND<0.001	0.095
	7/1/2004	5.9	--	--	ND<0.005	ND<0.1	0.16	0.037	0.089	0.0425	ND<0.0005	0.042	ND<0.005	--	ND<0.005	ND<0.005	0.003J	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	0.016
Operational Area 6: Former AST Area at Walker Property																									
W-3	11/1/1989	--	ND<1	--	--	--	0.019	0.0026	0.0076	0.013	--	--	ND<0.0005	ND<0.0005	ND<0.0005	--	--	--	--	--	0.0025(A)	ND<0.0005	ND<0.0005	ND<0.0005	--
Abandoned	1/1/1990	--	--	--	--	--	ND<0.0005	ND<0.0005	ND<0.0005	0.0033	--	--	ND<0.001	ND<0.001	ND<0.0005	--	--	ND<0.002	--	ND<0.002	0.001	ND<0.0005	ND<0.0005	ND<0.0005	--
	3/1/1990	--	--	--	--	--	0.0053	0.0045	ND<0.0005	ND<0.002	--	--	ND<0.001	ND<0.001	ND<0.0005	--	--	ND<0.002	--	ND<0.002	0.0005	ND<0.0005	ND<0.0005	ND<0.0005	--
	4/1/1990	--	--	--	--	--	0.0034	0.0045	ND<0.001	ND<0.001	--	--	ND<0.001	ND<0.001	ND<0.0005	--	ND<0.005	ND<0.002	--	ND<0.002	ND<0.0005	ND<0.0005	ND<0.0005	ND<0.0005	--
	12/18/1996	1.3	--	--	ND<0.01	--	0.59	ND<0.025	ND<0.025	ND<0.05	--	--	ND<0.025	ND<0.025	ND<0.025	--	ND<0.025	ND<0.025	--	ND<0.025	ND<0.025	ND<0.025	ND<0.025	ND<0.025	ND<0.025
	1/13/1998	2.2	--	--	ND<0.005	--	0.28	ND<0.005	ND<0.005	ND<0.005	--	--	ND<0.005	ND<0.005	ND<0.005	--	ND<0.005	ND<0.005	--	ND<0.01	0.006	ND<0.005	ND<0.005	ND<0.005	0.027
	8/20/1998	NS	NS	NS	NS	--	NS	NS	NS	NS	--	--	NS	NS	NS	--	NS	NS	--	NS	NS	NS	NS	NS	NS
W-3A	1/13/1998	4300	--	--	ND<200	--	150	ND<6	35	ND<12	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	8/20/1998	1.1	--	--	0.44	--	0.22	ND<0.025	0.033	ND<0.025	--	--	ND<0.025	ND<0.025	ND<0.025	--	ND<0.025	ND<0.025	--	ND<0.05	ND<0.025	ND<0.025	ND<0.025	ND<0.025	ND<0.025
	1/28/1999	0.69	--	--	0.34	--	0.16	ND<0.05	ND<0.05	ND<0.05	--	--	ND<0.05	ND<0.05	ND<0.05	--	ND<0.05	ND<0.05	--	ND<0.1	ND<0.05	ND<0.05	ND<0.05	ND<0.05	ND<0.05
	7/19/1999	5.4	--	--	0.38	--	0.12	ND<0.02	ND<0.02	ND<0.02	--	--	ND<0.02	ND<0.02	ND<0.02	--	ND<0.02	ND<0.02	--	ND<0.02	ND<0.02	ND<0.01	ND<0.02	ND<0.02	0.021
	1/13/2000	14	--	--	0.21	--	0.14	ND<0.01	ND<0.01	ND<0.01	--	--	ND<0.01	ND<0.01	ND<0.01	--	ND<0.01	ND<0.01	--	ND<0.01	ND<0.01	ND<0.005	ND<0.01	ND<0.01	ND<0.01
	8/4/2000	3.4	--	--	0.22	--	0.17	ND<0.02	0.0084	ND<0.02	--	--	ND<0.02	ND<0.02	ND<0.02	0.0024	ND<0.02	ND<0.02	--	ND<0.02	ND<0.02	ND<0.001	ND<0.02	ND<0.02	0.014
	2/8/2001	2.7	--	--	0.012	--	0.034	ND<0.001	0.0029	0.0031	--	--	ND<0.001	ND<0.001	ND<0.001	0.0024	ND<0.001	ND<0.001	--	ND<0.001	ND<0.001	ND<0.0005	ND<0.001	ND<0.001	0.011
	7/26/2001	3.4	--	--	0.0062	--	0.042	ND<0.001	0.0017	ND<0.01	--	--	ND<0.001	ND<0.001	ND<0.001	--	ND<0.001	ND<0.001	--	ND<0.001	ND<0.001	ND<0.0005	ND<0.001	ND<0.001	0.021
	5/6/2002	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--	NS	NS	NS	NS	NS	NS	--	NS	NS	NS	NS	NS	NS
	9/25/2002	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--	NS	NS	NS	NS	NS	NS	--	NS	NS	NS	NS	NS	NS
Off-Site Wells: Walker Property																									
W-1	11/1/1989	--	ND<1	3.6	--	--	0.39	0.0039	0.0021	0.0064	--	--	ND<0.0005	ND<0.0006	ND<0.0005(A)	--	--	--	--	--	0.0035(A)	ND<0.0005(A)	<0.0006(A)	ND<0.0005(A)	--
	3/1/1990	--	--	--	--	--	0.14	ND<0.005	ND<0.005	ND<0.02	--	--	ND<0.01	ND<0.01	ND<0.005	--	--	ND<0.02	--	ND<0.02	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--
	4/1/1990	--	--	--	--	--	0.2	0.012	0.012	0.0027	--	--	ND<0.005	ND<0.005	ND<0.005	--	ND<0.025	ND<0.02	--	ND<0.02	0.0016	ND<0.005	ND<0.005	ND<0.005	--
	12/18/1996	0.8	--	--	ND<0.01	--	0.078	ND<0.005	ND<0.005	ND<0.01	--	--	ND<0.005	ND<0.005	ND<0.005	--	ND<0.005	ND<0.005	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	0.027
	1/14/1998	1.1	--	--	ND<0.005	--	0.062	ND<0.005	ND<0.005	ND<0.005	--	--	ND<0.005	ND<0.005	ND<0.005	--	ND<0.005	ND<0.005	--	ND<0.01	ND<0.005	ND<0.005	ND<0.005	ND<0.005	0.019
	8/20/1998	1.2	--	--	0.014	--	0.079	ND<0.005	ND<0.005	ND<0.005	--	--	ND<0.005	ND<0.005	ND<0.005	--	0.0086	ND<0.005	--	ND<0.01	0.0084	ND<0.005	ND<0.005	ND<0.005	0.027
	1/29/1999	1.4	--	--	ND<0.005	--	0.057	ND<0.005	ND<0.005	ND<0.005	--	--	ND<0.005	ND<0.005	ND<0.005	--	ND<0.005	ND<0.005	--	ND<0.01	ND<0.005	ND<0.005	ND<0.005	ND<0.005	0.024
	7/19/1999	1.5	--	--	ND<0.002	--	0.048	ND<0.002	ND<0.002	ND<0.002	--	--	ND<0.002	ND<0.002	ND<0.002	--	ND<0.002	ND<0.002	--	ND<0.002	ND<0.002	ND<0.001	ND<0.002	ND<0.002	0.019
	1/1300	1.7	--	--	0.0027	--	0.046	ND<0.001	ND<0.001	ND<0.001	--	--	ND<0.001	ND<0.001	ND<0.001	--	0.0012	ND<0.001	--	ND<0.001	0.0015	ND<0.0005	ND<0.001	ND<0.001	0.021
	8/3/2000	0.88	--	--	0.01	--	0.029	ND<0.001	ND<0.001	ND<0.001	--	--	ND<0.001	ND<0.001	ND<0.001	ND<0.001	0.0016	ND<0.001	--	ND<0.001	0.0016	ND<0.0005	ND<0.001	ND<0.001	0.018
	2/8/2001	ND<0.5	--	--	0.068	--	0.021	ND<0.001	ND<0.001	ND<0.001	--	--	ND<0.001	ND<0.001	ND<0.001	ND<0.001	0.0023	ND<0.001	--	ND<0.001	ND<0.001	ND<0.0005	ND<0.001	ND<0.001	0.0056
	7/26/2001	0.62	--	--	0.062	--	0.018	ND<0.001	ND<0.001	ND<0.001	--	--	ND<0.001	ND<0.001	ND<0.001	--	0.0028	ND<0.001	--	ND<0.001	0.0018	ND<0.0005	ND<0.001	ND<0.001	0.01
	5/8/2002	0.28	--	--	0.0059	44	0.0077	ND<0.001	ND<0.001	ND<0.001	--	--	ND<0.001	ND<0.001	ND<0.001	ND<1	0.0031	ND<0.001	--	ND<0.001	ND<0.001	ND<0.0005	ND<0.001	ND<0.001	0.0033

TABLE E-3
HISTORICAL GROUNDWATER ANALYTICAL RESULTS
SUMMARY OF TPH-g, VOCs, AND OXYGENATES DATA

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Well ID	Date	TPH-g	TPH-d	TRPH	MTBE	TBA	Benzene	Toluene	Ethylbenzene	Total Xylenes	o-Xylene	m,p-Xylene	BDCM	BCM	Chloroform	Chloroethane	c-1,2-DCE	1,2-DCB	CFC-11	Dichlorodifluoromethane	1,1-DCA	1,2-DCA	1,1-DCE	1,2-DCP	IsoPB
	9/25/2002	0.21	--	--	0.0019	30	0.012	ND<0.001	ND<0.001	ND<0.002	--	--	ND<0.001	ND<0.001	ND<0.001	ND<1	0.0065	ND<0.001	--	ND<0.001	ND<0.001	ND<0.0005	ND<0.001	ND<0.001	0.0051
	7/1/2004	0.46	--	--	0.003J	ND<0.1	0.014	0.0028	0.0015	ND<0.001	ND<0.0005	ND<0.0005	ND<0.005	--	ND<0.005	ND<0.005	0.0093	ND<0.005	ND<0.005	--	0.001J	ND<0.005	ND<0.005	ND<0.005	ND<0.005
W-2	11/1/1989	--	ND<1	--	--	--	0.078	0.0065	0.0065	0.005	--	--	ND<0.0005	ND<0.0005	ND<0.0005(A)	--	--	--	--	--	0.0043(A)	ND<0.0005(A)	ND<0.0005(A)	ND<0.0005(A)	--
Abandoned	3/1/1990	--	--	--	--	--	0.062	ND<0.0005	ND<0.0005	ND<0.002	--	--	ND<0.001	ND<0.001	ND<0.0005	--	--	ND<0.002	--	ND<0.002	ND<0.0005	ND<0.0005	ND<0.0005	ND<0.0005	--
	4/1/1990	--	--	--	--	--	0.083	0.026	0.004	0.0015	--	--	ND<0.005	ND<0.005	ND<0.0025	--	0.013	ND<0.001	--	ND<0.01	0.003	ND<0.0025	ND<0.0025	ND<0.0025	--
	12/18/1996	0.56	--	--	ND<0.002	--	0.056	ND<0.002	ND<0.002	ND<0.004	--	--	ND<0.002	ND<0.002	ND<0.002	--	0.013	ND<0.002	--	ND<0.002	ND<0.002	ND<0.002	ND<0.002	ND<0.002	0.018
	1/14/1998	0.7	--	--	ND<0.005	--	0.085	ND<0.005	ND<0.005	ND<0.005	--	--	ND<0.005	ND<0.005	ND<0.005	--	0.017	ND<0.005	--	ND<0.01	ND<0.005	ND<0.005	ND<0.005	ND<0.005	0.015
	8/20/1998	NS	NS	NS	NS	--	NS	NS	NS	NS	--	--	NS	NS	NS	--	NS	NS	--	NS	NS	NS	NS	NS	NS
W-4	3/1/1990	--	--	--	--	--	0.12	ND<0.0005	0.019	ND<0.0005	--	--	ND<0.0005	ND<0.0005	ND<0.0005	--	0.0032	ND<0.0005	--	ND<0.0005	0.0083	ND<0.0005	ND<0.0005	ND<0.0005	--
	4/1/1990	--	--	--	--	--	0.028	0.0014	0.0048	0.0022	--	--	ND<0.001	ND<0.001	ND<0.001	--	0.00081	ND<0.001	--	ND<0.0005	0.0022	ND<0.001	ND<0.001	ND<0.001	--
	12/18/1996	0.42	--	--	ND<0.01	--	0.08	ND<0.005	ND<0.005	ND<0.01	--	--	ND<0.005	ND<0.005	ND<0.005	--	ND<0.005	ND<0.005	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	0.019
	1/14/1998	0.92	--	--	ND<0.005	--	0.12	ND<0.005	ND<0.005	ND<0.005	--	--	ND<0.005	ND<0.005	ND<0.005	--	ND<0.005	ND<0.005	--	ND<0.01	ND<0.005	ND<0.005	ND<0.005	ND<0.005	0.028
	8/20/1998	0.5	--	--	0.018	--	0.057	ND<0.005	ND<0.005	ND<0.005	--	--	ND<0.005	ND<0.005	ND<0.005	--	ND<0.005	ND<0.005	--	ND<0.01	ND<0.005	ND<0.005	ND<0.005	ND<0.005	0.026
	1/29/1999	0.46	--	--	0.02	--	0.055	ND<0.005	ND<0.005	ND<0.005	--	--	ND<0.005	ND<0.005	ND<0.005	--	ND<0.005	ND<0.005	--	ND<0.01	ND<0.005	ND<0.005	ND<0.005	ND<0.005	0.018
	7/19/1999	0.71	--	--	ND<0.002	--	0.072	ND<0.002	ND<0.002	ND<0.002	--	--	ND<0.002	ND<0.002	ND<0.002	--	ND<0.002	ND<0.002	--	ND<0.002	ND<0.002	ND<0.001	ND<0.002	ND<0.002	0.014
	1/13/2000	0.66	--	--	ND<0.001	--	0.049	ND<0.001	ND<0.001	ND<0.001	--	--	ND<0.001	ND<0.001	ND<0.001	--	0.0013	ND<0.001	--	ND<0.001	ND<0.001	ND<0.0005	ND<0.001	ND<0.001	0.0028
	8/3/2000	ND<0.5	--	--	--	--	0.047	ND<0.001	ND<0.001	ND<0.001	--	--	ND<0.001	ND<0.001	ND<0.001	0.0016	ND<0.001	ND<0.001	--	ND<0.001	ND<0.001	ND<0.0005	ND<0.001	ND<0.001	0.0088
	2/8/2001	ND<0.5	--	--	ND<0.001	--	0.042	ND<0.001	ND<0.001	ND<0.001	--	--	ND<0.001	ND<0.001	ND<0.001	0.0016	ND<0.001	ND<0.001	--	ND<0.001	0.0011	0.00067	ND<0.001	ND<0.001	0.0075
	7/26/2001	0.32	--	--	ND<0.001	--	0.042	ND<0.001	ND<0.001	ND<0.001	--	--	ND<0.001	ND<0.001	ND<0.001	--	ND<0.001	ND<0.001	--	ND<0.001	0.001	ND<0.0005	ND<0.001	ND<0.001	0.0083
	5/8/2002	0.25	--	--	ND<0.001	60	0.033	ND<0.001	ND<0.001	ND<0.001	--	--	ND<0.001	ND<0.001	ND<0.001	ND<1	ND<0.001	ND<0.001	--	ND<0.001	0.0013	ND<0.0005	ND<0.001	ND<0.001	0.0045
	9/25/2002	0.29	--	--	ND<0.001	45	0.062	ND<0.001	ND<0.001	ND<0.002	--	--	ND<0.001	ND<0.001	ND<0.001	2.6	ND<0.001	ND<0.001	--	ND<0.001	0.002	ND<0.0005	ND<0.001	ND<0.001	0.008
	7/1/2004	0.35	--	--	ND<0.005	ND<0.1	0.03	0.0026	0.0019	0.00116	ND<0.0005	0.00066	ND<0.005	--	ND<0.005	ND<0.005	0.003J	ND<0.005	ND<0.005	--	0.002J	ND<0.005	ND<0.005	ND<0.005	0.004
EW-1	11/1/1989	9.8	--	--	--	--	0.73	0.016	1.4(A)	1(A)	--	--	ND<0.005	ND<0.005	ND<0.005	--	--	--	--	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--
	3/1/1990	--	--	--	--	--	1.8	0.3	1.8	0.62	--	--	ND<0.05	ND<0.05	ND<0.025	--	--	ND<0.1	--	ND<0.1	ND<0.025	ND<0.025	ND<0.025	ND<0.025	--
	4/1/1990	--	--	--	--	--	1.3	0.29	1.6	2	--	--	ND<0.02	ND<0.02	ND<0.02	--	0.11	ND<0.002	--	ND<0.02	ND<0.01	ND<0.01	ND<0.01	ND<0.01	--
	8/21/1998	5	--	--	ND<0.05	--	0.23	ND<0.05	0.63	0.17	--	--	ND<0.05	ND<0.05	ND<0.05	--	ND<0.05	ND<0.05	--	ND<0.1	ND<0.05	ND<0.05	ND<0.05	ND<0.05	0.2
	1/28/1999	7.9	--	--	ND<0.05	--	0.11	ND<0.05	0.54	0.17	--	--	ND<0.05	ND<0.05	ND<0.05	--	ND<0.05	ND<0.05	--	ND<0.1	ND<0.05	ND<0.05	ND<0.05	ND<0.05	0.17
	7/19/1999	8	--	--	ND<0.025	--	0.11	ND<0.025	1	0.34	--	--	ND<0.025	ND<0.025	ND<0.025	--	ND<0.025	ND<0.025	--	ND<0.025	ND<0.025	<0.013	ND<0.025	ND<0.025	0.2
	1/13/2000	NS	NS	NS	NS	--	NS	NS	NS	NS	--	--	NS	NS	NS	--	NS	NS	--	NS	NS	NS	NS	NS	NS
	7/31/2000	NS	NS	NS	NS	--	NS	NS	NS	NS	--	--	NS	NS	NS	--	NS	NS	--	NS	NS	NS	NS	NS	NS
	2/6/2001	NS	NS	NS	NS	--	NS	NS	NS	NS	--	--	NS	NS	NS	--	NS	NS	--	NS	NS	NS	NS	NS	NS
	7/26/2001	NS	NS	NS	NS	--	NS	NS	NS	NS	--	--	NS	NS	NS	--	NS	NS	--	NS	NS	NS	NS	NS	NS
	5/6/2002	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--	NS	NS	NS	NS	NS	NS	--	NS	NS	NS	NS	NS	NS
	9/25/2002	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--	NS	NS	NS	NS	NS	NS	--	NS	NS	NS	NS	NS	NS
Off-Site Wells: Metropolitan State Hospital																									
MW-600	8/1/1990	380	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Abandoned	2/20/1991	0.0502	--	--	--	--	18	9.2	1.3	9.9	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/13/1995	3500	--	912	--	--	23	40	18	101	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	8/1/1996	210	--	--	ND<0.01	--	14	15	3.5	20	--	--	ND<0.001	--	ND<0.001	--	0.0038	ND<0.001	--	ND<0.001	0.00036	0.0055	ND<0.001	ND<0.001	--
	12/19/1996	87	--	--	ND<0.01	--	14	15	1.8	9.1	--	--	ND<0.5	ND<0.5	ND<0.5	--	ND<0.5	ND<0.5	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	1/22/1998	NS	NS	NS	NS	--	NS	NS	NS	NS	--	--	NS	NS	NS	--	NS	NS	--	NS	NS	NS	NS	NS	NS
	8/20/1998	NS	NS	NS	NS	--	NS	NS	NS	NS	--	--	NS	NS	NS	--	NS	NS	--	NS	NS	NS	NS	NS	NS
	1/28/1999	NS	NS	NS	NS	--	NS	NS	NS	NS	--	--	NS	NS	NS	--	NS	NS	--	NS	NS	NS	NS	NS	NS
MW-600A	7/19/1999	NS	NS	NS	NS	--	NS	NS	NS	NS	--	--	NS	NS	NS	--	NS	NS	--	NS	NS	NS	NS	NS	NS
	1/10/2000	NS	NS	NS	NS	--	NS	NS	NS	NS	--	--	NS	NS	NS	--	NS	NS	--	NS	NS	NS	NS	NS	NS
	7/31/2000	NS	NS	NS	NS	--	NS	NS	NS	NS	--	--	NS	NS	NS	--	NS	NS	--	NS	NS	NS	NS	NS	NS
	2/6/2001	NS	NS	NS	NS	--	NS	NS	NS	NS	--	--	NS	NS	NS	--	NS	NS	--	NS	NS	NS	NS	NS	NS
	7/24/2001	NS	NS	NS	NS	--	NS	NS	NS	NS	--	--	NS	NS	NS	--	NS	NS	--	NS	NS	NS	NS	NS	NS
	5/6/2002	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--	NS	NS	NS	NS	NS	NS	--	NS	NS	NS	NS	NS	NS
	9/23/2002	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--	NS	NS	NS	NS	NS	NS	--	NS	NS	NS	NS	NS	NS
MW-601	8/1/1990	360	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Abandoned	2/20/1991	0.024	--	--	--	--	12	4.9	1.9	11.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/13/1995	3500	--	1110	--	--	18	17	130	100	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	8/1/1996	250	--	--	ND<0.01	--	12	1.4	4.6	16	--	--	ND<0.001	--	ND<0.001	--	0.0044	ND<0.001	--	ND<0.001	0.0014	0.0029	ND<0.001	0.00085	--
	12/19/1996	70	--	--	ND<0.01	--	10	ND<0.5	1.6	4	--	--	ND<0.5	ND<0.5	ND<0.5	--	ND<0.5	ND<0.5	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	1/22/1998	NS	NS	NS	NS	--	NS	NS	NS	NS	--	--	NS	NS	NS	--	NS	NS	--	NS	NS	NS	NS	NS	NS
	8/20/1998	NS	NS	NS	NS	--	NS	NS	NS	NS	--	--	NS	NS	NS	--	NS	NS	--	NS	NS	NS	NS	NS	NS
	1/28/1999	NS	NS	NS	NS	--	NS	NS	NS	NS	--	--	NS	NS	NS	--	NS	NS	--	NS	NS	NS	NS	NS	NS
MW-601A	7/19/1999	42	--	--	11	--	18	ND<5	ND<5	ND<5	--	--	ND<5	ND<5	ND<5	--	ND<5	ND<5	--	ND<5	ND<5	ND<2.5	ND<5	ND<5	ND<5
	1/13/2000	48	--	--	22	--	22	ND<1	ND<1	ND<1	--	--	ND<1	ND<1	ND<1	--	ND<1	ND<1	--	ND<1	ND<0.5	ND<1	ND<1	ND<1	ND<1
	8/3/2000	34	--	--	5.6	--	21	ND<0.2	ND<0.2	ND<0.2	--	--	ND<0.2	ND<0.2	ND<0.2	ND<0.2	ND<0.2	ND<0.2	--	ND<0.2	ND<0.2	ND<0.1	ND<0.2	ND<0.2	ND<0.2
	2/7/2001	35	--	--	1.2	--	16	0.063	0.097	ND<0.05	--	--	ND<0.05	ND<0.05	ND<0.05	ND<0.05	ND<0.05	ND<0.05	--	ND<0.05	ND<0.05	ND<0.025	ND<0.05	ND<0.05	0.057
	7/24/2001	31	--	--	2.8	--	15	ND<0.1	0.11	ND<0.1	--	--	ND<0.1	ND<0.1	ND<0.1	--	ND<0.1	ND<0.1	--	ND<0.1	ND<0.1	ND<0.05	ND<0.1	ND<0.1	ND<0.1
	5/9/2002	24	--	--	2.5	ND<1000	11	ND<0.1	ND<0.1	ND<0.1	--	--	ND<0.1	ND<0.1	ND<0.1	ND<100	ND<0.1	ND<0.1	--	ND<0.1	ND<0.1	ND<0.05	ND<0.1	ND<0.1	ND<0.1
	9/26/2002	11	--	--	4	ND<1000	8	ND<0.1	ND<0.1	ND<0.2	--	--	ND<0.1	ND<0.1	ND<0.1	ND<100	ND<0.1	ND<0.1	--	ND<0.1	ND<0.1	ND<0.05	ND<0.1	ND<0.1	ND<0.1
	5/9/2002DUP	28	--	--	3.5	NS	12	ND<0.1	ND<0.1	ND<0.1	--	--	ND<0.1	ND<0.1	ND<0.1	ND<100	ND<0.1	ND<0.1	--	ND<0.1	ND<0.1	ND<0.05	ND<0.1	ND<0.1	ND<0.1
	9/26/2002DUP	10	--	--	10	NS	4.4	ND<0.1	0.59	0.27	--	--	ND<0.1	ND<0.1	ND<0.1	ND<100	ND<0.1	ND<0.1	--	ND<0.1	ND<0.1	ND<0.05	ND<0.1	ND<0.1	ND<0.1
MW-603	12/1/1995	ND<0.5	--	ND<10	--	--	0.00098	0.0014	0.00062	0.0033	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

TABLE E-3
HISTORICAL GROUNDWATER ANALYTICAL RESULTS
SUMMARY OF TPH-g, VOCs, AND OXYGENATES DATA

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Well ID	Date	TPH-g	TPH-d	TRPH	MTBE	TBA	Benzene	Toluene	Ethyl benzene	Total Xylenes	o-Xylene	m,p-Xylene	BDCM	BCM	Chloroform	Chloroethane	c-1,2 DCE	1,2-DCB	CFC-11	Dichloro difluoro methane	1,1-DCA	1,2-DCA	1,1-DCE	1,2-DCP	IsoPB
	7/30/1996	ND<0.1	--	--	0.002	--	0.0006	ND<0.0005	0.0014	ND<0.0005	--	--	0.0026	--	ND<0.0003	--	0.0064	ND<0.0003	--	ND<0.0003	0.0039	0.0095	0.03	ND<0.0003	--
	12/16/1996	ND<0.1	--	--	ND<0.002	--	ND<0.005	ND<0.005	ND<0.005	ND<0.01	--	--	ND<0.005	ND<0.005	ND<0.005	--	ND<0.005	ND<0.005	--	ND<0.005	ND<0.005	ND<0.005	0.034	ND<0.005	ND<0.005
	1/22/1998	ND<0.1	--	--	ND<0.005	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	--	ND<0.005	ND<0.005	ND<0.005	--	0.009	ND<0.005	--	ND<0.01	0.005	ND<0.005	0.063	ND<0.005	ND<0.005
	8/19/1998	ND<0.1	--	--	--	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	--	ND<0.005	ND<0.005	ND<0.005	--	ND<0.005	ND<0.005	--	ND<0.01	ND<0.005	0.029	0.014	ND<0.005	ND<0.005
	1/27/1999	ND<0.1	--	--	ND<0.005	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	--	ND<0.005	ND<0.005	ND<0.005	--	0.0053	ND<0.005	--	ND<0.01	ND<0.005	0.039	0.019	ND<0.005	ND<0.005
	7/19/1999	ND<0.5	--	--	ND<0.001	--	ND<0.0005	ND<0.001	ND<0.001	ND<0.001	--	--	ND<0.001	ND<0.001	ND<0.001	--	0.0074	0.0021	--	ND<0.001	0.003	0.04	0.031	ND<0.001	ND<0.001
	1/11/2000	ND<0.5	--	--	ND<0.001	--	ND<0.0005	ND<0.001	ND<0.001	ND<0.001	--	--	ND<0.001	ND<0.001	ND<0.001	--	0.0064	ND<0.001	--	ND<0.001	0.0036	0.016	0.039	ND<0.001	ND<0.001
	7/31/2000	ND<0.5	--	--	ND<0.001	--	ND<0.0005	ND<0.001	ND<0.001	ND<0.001	--	--	ND<0.001	ND<0.001	ND<0.001	ND<0.001	0.0093	ND<0.001	--	ND<0.001	0.0067	0.0072	0.088	ND<0.001	ND<0.001
	2/7/2001	ND<0.5	--	--	ND<0.001	--	ND<0.0005	ND<0.001	ND<0.001	ND<0.001	--	--	ND<0.001	ND<0.001	ND<0.001	ND<0.001	0.011	ND<0.001	--	ND<0.001	0.0085	0.0027	0.12	ND<0.001	ND<0.001
	7/24/2001	0.19	--	--	ND<0.001	--	ND<0.0005	ND<0.001	ND<0.001	ND<0.001	--	--	ND<0.001	ND<0.001	ND<0.001	--	0.015	ND<0.001	--	ND<0.001	0.01	0.0029	0.15	ND<0.001	ND<0.001
	5/7/2002	0.21	--	--	ND<0.002	ND<20	ND<0.001	ND<0.002	ND<0.002	ND<0.004	--	--	ND<0.002	ND<0.002	ND<0.002	ND<2	0.0096	ND<0.002	--	ND<0.002	0.007	ND<0.001	0.12	ND<0.002	ND<0.002
	9/24/2002	ND<0.1	--	--	ND<0.002	ND<20	ND<0.001	ND<0.002	ND<0.002	ND<0.002	--	--	ND<0.002	ND<0.002	ND<0.002	ND<2	0.014	ND<0.002	--	ND<0.002	0.011	0.0032	0.21	ND<0.002	ND<0.002
	7/1/2004	ND<0.2	--	--	ND<0.005	ND<0.1	ND<0.005	0.0003J	ND<0.0005	ND<0.001	ND<0.0005	ND<0.0005	ND<0.005	--	ND<0.005	ND<0.005	0.012	ND<0.005	ND<0.005	--	0.0057	0.003J	0.08	ND<0.005	ND<0.005
MW-604	12/20/1995	1.9	--	ND<10	--	--	0.16	0.0033	0.0078	0.021	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	7/30/1996	0.9	--	--	0.0124	--	0.073	0.0078	ND<0.0005	0.009	--	--	ND<0.0003	--	ND<0.0003	--	0.00098	ND<0.0003	--	ND<0.0003	0.0017	0.0011	ND<0.0003	ND<0.0003	--
	12/17/1996	0.71	--	--	ND<0.002	--	0.047	ND<0.002	ND<0.002	ND<0.004	--	--	ND<0.002	ND<0.002	ND<0.002	--	ND<0.002	ND<0.002	--	ND<0.002	ND<0.002	ND<0.002	ND<0.002	ND<0.002	0.0057
	1/22/1998	0.41	--	--	ND<0.005	--	0.007	ND<0.005	ND<0.005	ND<0.005	--	--	ND<0.005	ND<0.005	ND<0.005	--	ND<0.005	ND<0.005	--	ND<0.01	ND<0.005	ND<0.005	ND<0.005	ND<0.005	0.007
	8/19/1998	0.37	--	--	--	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	--	ND<0.005	ND<0.005	ND<0.005	--	ND<0.005	ND<0.005	--	ND<0.01	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005
	1/27/1999	0.23	--	--	ND<0.005	--	0.025	ND<0.005	ND<0.005	ND<0.005	--	--	ND<0.005	ND<0.005	ND<0.005	--	ND<0.005	ND<0.005	--	ND<0.01	ND<0.005	ND<0.005	ND<0.005	ND<0.005	0.0064
	7/19/1999	0.5	--	--	ND<0.001	--	0.014	ND<0.001	ND<0.001	0.0013	--	--	ND<0.001	ND<0.001	ND<0.001	--	0.0042	ND<0.001	--	ND<0.001	ND<0.001	ND<0.0005	ND<0.001	ND<0.001	0.0049
	1/11/2000	0.75	--	--	ND<0.001	--	0.021	ND<0.001	ND<0.001	ND<0.001	--	--	ND<0.001	ND<0.001	ND<0.001	--	0.0039	ND<0.001	--	ND<0.001	ND<0.001	0.00099	ND<0.001	ND<0.001	0.023
	8/3/2000	0.56	--	--	0.03	--	0.1	ND<0.001	ND<0.001	ND<0.001	--	--	ND<0.001	ND<0.001	ND<0.001	ND<0.001	0.0087	ND<0.001	--	ND<0.001	ND<0.001	ND<0.0005	ND<0.001	ND<0.001	0.019
	2/7/2001	1.1	--	--	0.031	--	0.11	ND<0.005	ND<0.005	ND<0.005	--	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	ND<0.005	ND<0.005	ND<0.0025	ND<0.005	ND<0.005	0.043
	7/24/2001	1.1	--	--	0.034	--	0.067	ND<0.001	ND<0.001	0.005	--	--	ND<0.001	ND<0.001	ND<0.001	--	ND<0.005	ND<0.001	--	ND<0.001	ND<0.001	ND<0.005	ND<0.001	ND<0.001	0.048
	5/8/2002	1.1	--	--	0.048	51	0.057	ND<0.001	ND<0.001	0.0033	--	--	ND<0.001	ND<0.001	ND<0.001	--	ND<0.001	ND<0.001	--	ND<0.001	ND<0.001	ND<0.005	ND<0.001	ND<0.001	0.047
	9/25/2002	0.96	--	--	0.072	46	0.034	ND<0.001	ND<0.001	0.0047	--	--	ND<0.001	ND<0.001	ND<0.001	--	ND<0.001	ND<0.001	--	ND<0.001	ND<0.001	ND<0.005	ND<0.001	ND<0.001	0.049
	5/8/2002DUP	1.4	--	--	0.046	NS	0.055	ND<0.001	ND<0.001	0.0032	--	--	ND<0.001	ND<0.001	ND<0.001	1.6	ND<0.001	ND<0.001	--	ND<0.001	ND<0.001	ND<0.005	ND<0.001	ND<0.001	0.045
	9/25/2002DUP	0.97	--	--	0.084	NS	0.036	ND<0.001	ND<0.001	0.0058	--	--	ND<0.001	ND<0.001	ND<0.001	ND<1	ND<0.001	ND<0.001	--	ND<0.001	ND<0.001	ND<0.005	ND<0.001	ND<0.001	0.049
MW-605	12/20/1995	ND<1	--	--	--	--	0.01	ND<0.0005	ND<0.0005	0.0049	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	7/31/1996	ND<0.1	--	--	ND<0.02	--	ND<0.0005	ND<0.0005	ND<0.0005	ND<0.0005	--	--	ND<0.0003	--	ND<0.0003	--	ND<0.0003	ND<0.0003	--	ND<0.0003	0.0012	ND<0.0003	0.0043	ND<0.0003	--
	12/16/1996	ND<0.1	--	--	ND<0.002	--	ND<0.001	ND<0.001	ND<0.001	ND<0.002	--	--	ND<0.001	ND<0.001	ND<0.001	--	ND<0.001	ND<0.001	--	ND<0.001	ND<0.001	ND<0.001	ND<0.001	ND<0.001	ND<0.001
	1/22/1998	ND<0.1	--	--	ND<0.005	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	--	ND<0.005	ND<0.005	ND<0.005	--	ND<0.005	ND<0.005	--	ND<0.01	ND<0.005	ND<0.005	0.006	ND<0.005	ND<0.005
	8/19/1998	ND<0.1	--	--	--	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	--	ND<0.005	ND<0.005	ND<0.005	--	ND<0.005	ND<0.005	--	ND<0.01	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005
	1/28/1999	ND<0.1	--	--	ND<0.005	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	--	ND<0.005	ND<0.005	ND<0.005	--	ND<0.005	ND<0.005	--	ND<0.01	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005
	7/19/1999	ND<0.5	--	--	ND<0.001	--	ND<0.0005	ND<0.001	ND<0.001	ND<0.001	--	--	ND<0.001	ND<0.001	ND<0.001	--	ND<0.001	ND<0.001	--	ND<0.001	ND<0.001	ND<0.0005	ND<0.001	ND<0.001	ND<0.001
	1/11/2000	ND<0.6	--	--	ND<0.001	--	ND<0.0005	ND<0.001	ND<0.001	ND<0.001	--	--	ND<0.001	ND<0.001	ND<0.001	--	ND<0.001	ND<0.001	--	ND<0.001	0.001	ND<0.0005	0.0035	ND<0.001	ND<0.001
	8/2/2000	ND<0.7	--	--	ND<0.001	--	ND<0.0005	ND<0.001	ND<0.001	ND<0.001	--	--	ND<0.001	ND<0.001	ND<0.001	ND<0.001	ND<0.001	ND<0.001	--	ND<0.001	0.0016	ND<0.0005	0.0046	ND<0.001	ND<0.001
	2/7/2001	ND<0.8	--	--	ND<0.001	--	ND<0.0005	ND<0.001	ND<0.001	ND<0.001	--	--	ND<0.001	ND<0.001	ND<0.001	ND<0.001	ND<0.001	ND<0.001	--	ND<0.001	ND<0.001	ND<0.0005	0.002	ND<0.001	ND<0.001
	7/24/2001	ND<0.1	--	--	ND<0.001	--	ND<0.0005	ND<0.001	ND<0.001	ND<0.001	--	--	ND<0.001	ND<0.001	ND<0.001	--	ND<0.001	ND<0.001	--	ND<0.001	ND<0.001	ND<0.0005	0.0017	ND<0.001	ND<0.001
	5/7/2002	ND<0.2	--	--	ND<0.001	ND<10	ND<0.0005	ND<0.001	ND<0.001	ND<0.001	--	--	ND<0.001	ND<0.001	ND<0.001	ND<1	ND<0.001	ND<0.001	--	ND<0.001	ND<0.001	ND<0.0005	0.0018	ND<0.001	ND<0.001
	9/24/2002	ND<0.3	--	--	ND<0.001	ND<10	ND<0.0005	ND<0.001	ND<0.001	ND<0.002	--	--	ND<0.001	ND<0.001	ND<0.001	ND<1	ND<0.001	ND<0.001	--	ND<0.001	ND<0.001	ND<0.0005	0.002	ND<0.001	ND<0.001
	6/30/2004	ND<0.2	--	--	ND<0.005	ND<0.1	ND<0.0005	ND<0.0005	ND<0.0005	ND<0.001	ND<0.0005	ND<0.0005	ND<0.005	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005
MW-606	12/19/1995	ND<0.5	--	--	--	--	ND<0.0005	ND<0.0005	ND<0.0005	ND<0.0005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	7/31/1996	ND<0.1	--	--	ND<0.02	--	ND<0.0005	ND<0.0005	ND<0.0005	ND<0.0005	--	--	0.00036	--	0.00054	--	ND<0.0003	ND<0.0003	--	ND<0.0003	ND<0.0003	0.00096	ND<0.0003	ND<0.0003	--
	12/16/1996	ND<0.1	--	--	ND<0.002	--	ND<0.001	ND<0.001	ND<0.001	ND<0.002	--	--	ND<0.001	ND<0.001	ND<0.001	--	ND<0.001	ND<0.001	--	ND<0.001	ND<0.001	ND<0.001	ND<0.001	ND<0.001	ND<0.001
	1/22/1998	ND<0.1	--	--	ND<0.005	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	--	ND<0.005	ND<0.005	ND<0.005	--	ND<0.005	ND<0.005	--	ND<0.01	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005
	8/19/1998	0.17	--	--	--	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	--	ND<0.005	ND<0.005	ND<0.005	--	ND<0.005	ND<0.005	--	ND<0.01	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005
	1/28/1999	ND<0.1	--	--	ND<0.005	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	--	--	ND<0.005	ND<0.005	ND<0.005	--	ND<0.005	ND<0.005	--	ND<0.01	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005
	7/19/1999	ND<0.5	--	--	ND<0.001	--	ND<0.0005	ND<0.001	ND<0.001	ND<0.001	--	--	ND<0.001	ND<0.001	ND<0.001	--	ND<0.001	ND<0.001	--	ND<0.001	ND<0.001	ND<0.0005	ND<0.001	ND<0.001	ND<0.001
	1/11/2000	ND<0.5	--	--	0.0012	--	ND<0.0005	ND<0.001	ND<0.001	ND<0.001	--	--	ND<0.001	ND<0.001	0.001	ND<0.001	ND<0.001	ND<0.001	--	ND<0.001	ND<0.001	ND<0.0005	ND<0.001	ND<0.001	ND<0.001
	8/2/2000	ND<0.5	--	--	--	--	ND<0.0005	ND<0.001	ND<0.001	ND<0.001	--	--	ND<0.001	ND<0.001	0.0014	ND<0.001	ND<0.001	ND<0.001	--	ND<0.001	ND<0.001	ND<0.0005	ND<0.001	ND<0.001	ND<0.001
	2/7/2001	ND<0.5	--	--	ND<0.001	--	ND<0.0005	ND<0.001	ND<0.001	ND<0.001	--	--	ND<0.001	ND<0.001	0.0014	--	ND<0.001	ND<0.001	--	ND<0.001	ND<0.001	ND<0.0005	ND<0.001	ND<0.001	ND<0.001
	7/24/2001	ND<0.1	--	--	--	--	ND<0.0005	ND<0.001	ND<0.001	ND<0.001	--	--	ND<0.001	ND<0.001	ND<0.001	--	ND<0.001	ND<0.001	--	ND<0.001	ND<0.001	ND<0.0005	ND<0.001	ND<0.001	ND<0.001
	5/7/2002	ND<0.1	ND<0.1	ND<0.1	ND<0.1	ND<10	ND<0.0005	ND<0.001	ND<0.001	ND<0.001	--	--	ND<0.001	ND<0.001	0.0013	ND<1	ND<0.001	ND<0.001	--	ND<0.001	ND<0.001	ND<0.0005	ND<0.001	ND<0.001	ND<0.001
	9/24/2002	ND<0.1	ND<0.1	ND<0.1	ND<0.1	ND<10	ND<0.0005	ND<0.001	ND<0.001	ND<0.002	--	--	ND<0.001	ND<0.001	0.0021	ND<1	ND<0.001	ND<0.001	--	ND<0.001	ND<0.001	ND<0.0005	ND<0.001	ND<0.001	ND<0.001
	6/30/2004	ND<0.2	--	--	0.003J	ND<0.1	ND<0.0005	ND<0.0005	ND<0.0005	ND<0.001	ND<0.0005	ND<0.0005	ND<0.005	--	0.002J	ND<0.005	ND<0.005	ND<0.005	0.003J	--	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005
MW-607	12/19/1995	1.2	--	31	--	--	0.033	0.035	0.0017	0.0094	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	7/31/1996	0.9	--	--	0.012	--	0.019	0.005	0.0028	0.008	--	--	ND<0.0003	--	ND<0.0003	--	ND<0.0003	ND<0.0003	--	ND<0.0003	0.00068	ND<0.0003	ND<0.0003	ND<0.0003	--
	12/17/1996	1	--	--	ND<0.002	--	0.021	ND<0.001	ND<0.001	ND<0.002	--	--	ND<0.001	ND<0.001	ND<0.001	--	ND<0.001	ND<0.001	--	ND<0.001	ND<0.001	ND<0.001	ND<0.001	ND<0.001	0.018
	1/22/1998	1.2	--	--	0.4	--	0.22	ND<0.025	ND<0.025	ND<0.025	--	--	ND<0.025	ND<0.025	ND<0.025	--	ND<0.025	ND<0.025	--	ND<0.05	ND<0.025	0.22	ND<0.025	ND<0.025	ND<0.025
	8/19/1998	0.26	--	--	0.012	--	0.017	ND<0.005	ND<0.005	ND<0.005	--	--	ND<0.005	ND<0.005	ND<0.005	--	ND<0.005	ND<0.005	--	ND<0.01	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005
	1/27/1999	1.76	--	--	0.0062	--	0.22	ND<0.005	ND<0.005	ND<0.005	--	--	ND<0.005	ND<0.005	ND<0.005	--	ND<0.005	ND<0.005	--	ND<0.01	ND<0.005	ND<0.005	ND<0.005	ND<0.005	0.015
	7/19/1999	1.2	--	--	ND<0.005	--	0.26	ND<0.005	ND<0.005	ND<0.005	--	--	ND<0.005	ND<0.005	ND<0.005	--	ND<0.005	ND<0.005	--	ND<0.005	ND<0.005	ND<0.0025	ND<0.005	ND<0.005	0.013
	1/11/2000	1.2	--	--	0.0045	--	0.17	ND<0.002	ND<0.002	ND<0.002	--	--	ND<0.002	ND<0.002	ND<0.002	--	ND<0.002	ND<0.002	--	ND<0.002	ND<0.002	ND<0.001	ND<0.002	ND<0.002	0.0086
	7/31/2000	0.54	--	--	0.0062	--	0.11	ND<0.002	ND<0.002	ND<0.002	--	--	ND<0.002	ND<0.002	ND<0.002	ND<0.002	ND<0.002	ND<0.002	--	ND<0.002	ND<0.002	ND<0.001	ND<0.002	ND<0.002	0.0073
	2/7/2001	0.05	--	--	ND<0.001	--	0.012	ND<0.001	ND<0.001	ND<0.001	--	--	ND<0.001	ND<0.001	ND<0.001	ND<0.001	0.0011	ND<0.001	--	ND<0.001	ND<0.001	ND<0.0005	ND<0.001	ND<0.001	0.0035
	7/24/2001	0.59	--	--	ND<0.001	--	0.013	ND<0.001	ND<0.001	ND<0.001	--	--	ND<0.001	ND<0.001	ND<0.001	--	0.0014	ND<0.001	--	ND<0.001	ND<0.001	ND<0.0005	ND<0.001	ND<0.001	0.0053
	5/7/2002	0.49	--	--	ND<0.001	91	0.004	ND<0.001	ND<0.001	ND<0.001	--	--	ND<0.001	ND<0.001	ND<0.001	ND<1	0.0015	ND<0.001	--	ND<0.001	ND<0.001	ND<0.0005	ND<0.001	ND<0.001	0.0036

Appendix F

Summary of Previous Soil Sample Results

BBL®

an ARCADIS company

	Depth (ft)	TRPH (c)	B	T	E	X
	8.5	20	< 0.005	< 0.005	< 0.005	308.005
	38.5	5.3	< 0.005	< 0.005	< 0.005	< 0.005

	Depth (ft)	TRPH (c)
SB-10	5	< 2

	Depth (ft)	TRPH (a)	TPH-g	B	T	E	X
MW-105	10	< 10	< 1	< 0.005	0.0055	< 0.005	0.034
	60	< 10	< 1	< 0.005	< 0.005	< 0.005	0.017
	70	< 10	< 1	< 0.005	< 0.005	< 0.005	0.022

	Depth (ft)	TRPH (c)
SB-11	5	< 2

	Depth (ft)	TRPH (c)
SB-19	5	< 2

	Depth (ft)	TRPH (c)	B	T	E	X
205	8.5	20	< 0.005	< 0.005	< 0.005	< 0.005
	14	38	< 0.005	< 0.005	< 0.005	< 0.005
	68.5	35	< 0.005	< 0.005	< 0.005	< 0.005

	Depth (ft)	TRPH (c)
SB-12	5	< 2

	Depth (ft)	TRPH (c)
SB-15	5	4

	Depth (ft)	TRPH (c)	B	T	E	X
101	8	60	< 0.005	< 0.005	< 0.005	< 0.005
	13.5	71	< 0.005	< 0.005	< 0.005	< 0.005
	78.5	82	< 0.005	< 0.005	< 0.005	< 0.005

	Depth (ft)	TRPH (c)
SB-13	5	194

	Depth (ft)	TRPH (c)	B	T	E	X
301	8.5	14	< 0.005	< 0.005	< 0.005	< 0.005
	26.5	38	< 0.13	< 0.13	< 0.13	TR < 1
	36.5	12	< 0.025	< 0.025	TR < 0.17	TR < 0.18

	Depth (ft)	TRPH (c)
SB-18	5	< 2

	Depth (ft)	TRPH (c)
SB-16	5	4

	Depth (ft)	TRPH (c)	B	T	E	X
201	8.5	11000	< 0.005	0.28	TR 0.011	0.087
	63.5	< 20	< 0.005	< 0.005	< 0.005	< 0.005

	Depth (ft)	TRPH (c)
SB-14	5	29

	Depth (ft)	TRPH (c)
SB-17	10	< 2

	Depth (ft)	TRPH (c)	B	T	E	X
302	8.5	5060	< 0.005	< 0.005	< 0.005	< 0.005
	38.5	< 1	< 0.005	< 0.005	< 0.005	< 0.005

	Depth (ft)	TRPH (a)
SB-7	25	3100
	35	< 2

	Depth (ft)	TRPH (a)
SB-8	10	4140
	15	< 2

	Depth (ft)	TRPH (a)
SB-9	5	4100
	10	< 2

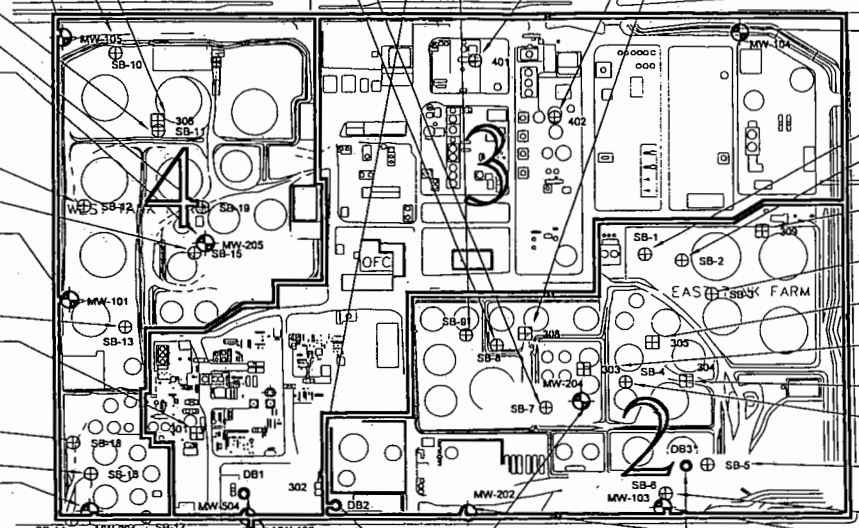
	Depth (ft)	TRPH (c)	B	T	E	X
401	18.5	40	< 0.005	< 0.005	< 0.005	< 0.005
	38.5	TR < 19	< 0.005	< 0.005	< 0.005	< 0.005

	Depth (ft)	TRPH (c)	B	T	E	X
402	8.5	940	< 0.005	< 0.005	< 0.005	< 0.005
	33.5	< 10	< 0.005	< 0.005	< 0.005	< 0.005

	Depth (ft)	TRPH (c)	B	T	E	X
306	8.5	6	< 0.005	< 0.005	< 0.005	< 0.005
	38.5	1	< 0.005	< 0.005	< 0.005	< 0.005

LEGEND

SB-20	SOIL BORING LOCATION
MW-107	MONITORING WELL LOCATION
302	VAPOR MONITORING POINT/ SOIL BORING LOCATION
DB1	SOIL BORING LOCATION, 3/19/99



	Depth (ft)	TRPH (c)	B	T	E	X
104	2.5	49	< 0.005	< 0.005	< 0.005	< 0.005
	12.5	59	< 0.005	< 0.005	< 0.005	< 0.005
	65	-	< 0.005	< 0.005	< 0.005	< 0.005

	Depth (ft)	TRPH (a)
SB-1	40	2440

	Depth (ft)	TRPH (a)
SB-2	15	118

	Depth (ft)	TPH (c)	B	T	E	X
309	8.5	< 10	< 0.005	< 0.005	< 0.005	< 0.005
	38.5	20	< 0.005	< 0.005	< 0.005	< 0.005

	Depth (ft)	TRPH (a)
SB-3	5	4

	Depth (ft)	TRPH (c)	B	T	E	X
305	8.5	28	< 0.005	< 0.005	< 0.005	< 0.005
	38.5	42	< 0.005	< 0.005	< 0.005	< 0.005

	Depth (ft)	TRPH (c)	B	T	E	X
303	14	< 20	< 0.005	< 0.005	< 0.005	< 0.005
	29	< 20	< 0.005	< 0.005	< 0.005	< 0.005

	Depth (ft)	TRPH (c)	B	T	E	X
304	8.5	51	< 0.005	< 0.005	< 0.005	< 0.005
	38.5	86	< 0.005	< 0.005	< 0.005	< 0.005

	Depth (ft)	TRPH (a)
SB-4	5	12

	Depth (ft)	TRPH (a)
SB-5	10	< 2
	15	25500

	Depth (ft)	TRPH (a)
SB-6	5	3

0 150 300 600 feet

GRAPHIC SCALE

	Depth (ft)	TRPH (c)	B	T	E	X
103	3.5	77	< 0.005	< 0.005	< 0.005	< 0.005
	13	21	< 0.005	< 0.005	< 0.005	< 0.005
	85	18	< 0.005	< 0.005	< 0.005	< 0.005

	Depth (ft)	TRPH (c)	B	T	E	X
202	9.5	< 20	< 0.005	< 0.005	< 0.005	< 0.005
	49.5	< 20	< 0.005	< 0.005	< 0.005	< 0.005

	Depth (ft)	TPH-g	B	T	E	X	MTBE
DB3*	0.5-1.0	1.0	< 0.005	< 0.005	< 0.005	< 0.010	<0.025
	80.5-81.0	< 0.5	0.074	< 0.005	< 0.005	< 0.010	<0.025

	Depth (ft)	TRPH (c)	B	T	E	X
204	4.5	< 20	< 0.025	0.32	0.32	4.4
	68.5	TR < 20	< 0.005	< 0.005	< 0.005	< 0.005

	Depth (ft)	TPH-g	B	T	E	X	MTBE
102	8.5	32000	0.39	1.4	0.39	TR 0.049	
	13.5	8100	0.25	0.1	0.22	TR 0.028	
	18.5	-	0.23	0.51	0.29	1.2	
	28.5	-	< 0.063	TR 0.43	1.5	4.1	
	43.5	-	< 0.005	< 0.005	< 0.005	TR 0.012	
	48.5	1500	0.078	3.2	1.1	2.3	
	58.5	-	< 0.005	< 0.005	< 0.005	< 0.005	
	73.5	-	< 0.005	< 0.005	< 0.005	< 0.005	
	83.5	-	< 0.005	< 0.005	< 0.005	TR 0.023	
	88.5	-	< 0.005	< 0.005	< 0.005	< 0.005	

	Depth (ft)	TPH-g	B	T	E	X	MTBE
DB1	0.5-1.0	< 0.5	< 0.005	< 0.005	0.32	< 0.010	<0.025
	5.5-6.0	< 0.5	< 0.005	< 0.005	< 0.005	< 0.010	0.029
	10.0-10.5	< 0.5	< 0.005	< 0.005	< 0.005	< 0.010	<0.025
	20.5-21.0	110	0.5	0.8	1.0	3.8	< 0.6
	30.5-31.0	< 0.5	< 0.005	< 0.005	< 0.005	< 0.010	<0.025
	40.5-41.0	550	1.0	5.8	5.5	30.6	< 2.5
	60.5-61.0	7,200	58	120	75	392	< 12
	80.5-81.0	1,200	6.0	6.3	8.7	31.5	3.4

	Depth (ft)	TPH-g	B	T	E	X	MTBE
DB2	0.5-1.0	1.1	< 0.005	< 0.005	< 0.005	< 0.010	1150
	5.5-6.0	4.2	0.053	< 0.005	0.012	0.016	4.0
	10.5-11.0	8.4	0.018	0.027	< 0.005	0.048	13.3
	20.5-21.0	5,050	11.3	179	48.7	288	181
	40.5-41.0	1,390	3.0	22.0	5.5	33.1	515
	60.5-61.0	1,300	1	22	7	41	78
	80.5-81.0	9,800	26	229	60	357	278

NOTES:

TRPH	TOTAL RECOVERABLE PETROLEUM HYDROCARBONS (a) ASTM M2887 (b) AS OIL & GREASE	B	BENZENE
		T	TOLUENE
		E	ETHYL BENZENE
		X	TOTAL XYLENES
TPH-g	TPH-GASOLINE	MTBE	METHYL-tert-BUTYL ETHER
*	DB3 AT 5.5 FEET TO 61 FEET bgs WERE BELOW LABORATORY REPORTING LIMITS		CONCENTRATIONS LISTED IN MILLIGRAM PER KILOGRAM (MG/KG)

NOTE:

1. TAKEN FROM 2000 VERSAR REVISED MASTER WORKPLAN, FIGURE 8.

ISOLA AND ASSOCIATES LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CALIFORNIA

SUMMARY OF PREVIOUS SOIL SAMPLE RESULTS

BBL an ARCADIS company

FIGURE F-1

8/7/08 SYR-85 EAB
54203.004
O:\IsolaandAssociates\SantaFeSpringsFormerCencoRefinery\AddCENCOSiteInvestigationReport\mxd\SoilData.mxd

Appendix G

Historical Groundwater Elevations

BBL®
an ARCADIS company

TABLE G-1
SUMMARY OF HISTORICAL GROUNDWATER LEVEL MEASUREMENTS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Well ID	Date	Total Depth (feet)	Depth to Water (feet)	Depth to Hydrocarbons (feet)	Hydrocarbon Thickness (feet)	Groundwater Elevation (feet-msl)	Top of Casing Elevation (feet-msl)
MW-101	6/1/1988	--	88.66	ND	0	46.32	134.98
	9/1/1988	--	89.29	ND	0	45.69	134.98
	12/1/1988	--	90.10	ND	0	44.88	134.98
	3/1/1989	--	90.28	ND	0	44.70	134.98
	12/1/1989	--	90.29	ND	0	44.69	134.98
	3/1/1991	--	91.09	ND	0	43.89	134.98
	6/1/1991	--	90.24	ND	0	44.74	134.98
	12/1/1991	--	90.40	ND	0	44.83	135.23
	3/1/1992	--	89.87	ND	0	45.36	135.23
	6/1/1992	--	88.47	ND	0	46.76	135.23
	9/1/1992	--	88.60	ND	0	46.63	135.23
	12/1/1992	--	88.69	ND	0	46.54	135.23
	3/1/1993	--	87.35	ND	0	47.88	135.23
	9/1/1993	--	82.34	82.33	0.01	52.90	135.23
	11/1/1993	--	80.83	80.82	0.01	54.41	135.23
	3/1/1994	--	78.10	78.08	0.02	57.15	135.23
	6/1/1994	--	76.38	76.37	0.01	58.86	135.23
	9/1/1994	--	76.64	76.63	0.01	58.60	135.23
	12/1/1994	--	77.57	ND	0	57.66	135.23
	3/1/1995	--	77.46	ND	0	57.77	135.23
	9/1/1995	--	74.75	ND	0	60.48	135.23
	12/1/1995	--	75.15	ND	0	60.08	135.23
	7/1/1996	--	74.55	ND	0	60.68	135.23
	12/1/1996	--	75.61	ND	0	59.62	135.23
	1/1/1998	--	74.72	ND	0	60.51	135.23
	8/1/1998	--	73.45	ND	0	61.78	135.23
	1/1/1999	--	74.03	ND	0	61.20	135.23
	7/1/1999	--	75.53	ND	0	59.70	135.23
	1/1/2000	--	79.40	ND	0	55.83	135.23
	7/1/2000	--	81.20	ND	0	54.03	135.23
	2/1/2001	--	82.09	ND	0	53.14	135.23
	7/1/2001	--	81.60	ND	0	53.63	135.23
	5/1/2002	--	83.10	ND	0	52.13	135.23
	9/1/2002	--	85.49	ND	0	49.74	135.23
	6/28/2004	94.40	Dry	ND	0	Dry	135.23

TABLE G-1
SUMMARY OF HISTORICAL GROUNDWATER LEVEL MEASUREMENTS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Well ID	Date	Total Depth (feet)	Depth to Water (feet)	Depth to Hydrocarbons (feet)	Hydrocarbon Thickness (feet)	Groundwater Elevation (feet msl)	Top of Casing Elevation (feet msl)
MW-101	10/4/2005	92.70	Dry	ND	0	Dry	135.23
	2/13/2006	90.20	Dry	ND	0	Dry	135.23
MW-103	6/1/1988	--	93.36	ND	0	43.59	136.95
	9/1/1988	--	93.82	ND	0	43.13	136.95
	12/1/1988	--	94.76	ND	0	42.19	136.95
	3/1/1989	--	95.68	ND	0	41.27	136.95
	6/1/1989	--	95.92	ND	0	41.03	136.95
	9/1/1989	--	96.20	ND	0	40.75	136.95
	12/1/1989	--	96.90	ND	0	40.05	136.95
	3/1/1991	--	96.51	ND	0	40.44	136.95
	6/1/1991	--	96.08	ND	0	40.87	136.95
	9/1/1991	--	95.92	ND	0	41.03	136.95
	12/1/1991	--	95.91	ND	0	41.04	136.95
	3/1/1992	--	95.06	ND	0	41.89	136.95
	6/1/1992	--	93.90	ND	0	43.05	136.95
	9/1/1992	--	93.73	ND	0	43.22	136.95
	12/1/1992	--	93.99	ND	0	42.96	136.95
	3/1/1993	--	93.15	ND	0	43.80	136.95
	5/1/1993	--	90.90	ND	0	46.05	136.95
	9/1/1993	--	88.67	ND	0	48.28	136.95
	11/1/1993	--	87.24	ND	0	49.71	136.95
	3/1/1994	--	84.86	84.85	0.01	52.10	136.95
	6/1/1994	--	83.15	83.14	0.01	53.81	136.95
	9/1/1994	--	82.70	82.69	0.01	54.26	136.95
	12/1/1994	--	83.17	ND	0	53.78	136.95
	3/1/1995	--	82.65	ND	0	54.30	136.95
	9/1/1995	--	81.03	ND	0	55.92	136.95
	12/1/1995	--	81.21	ND	0	55.74	136.95
	7/1/1996	--	80.41	ND	0	56.54	136.95
	12/1/1996	--	81.24	ND	0	55.71	136.95
	1/1/1998	--	80.55	ND	0	56.40	136.95
	8/1/1998	--	79.51	ND	0	57.44	136.95
	1/1/1999	--	79.88	ND	0	57.07	136.95
	7/1/1999	--	80.74	ND	0	56.21	136.95
	1/1/2000	--	83.70	ND	0	53.25	136.95

TABLE G-1
SUMMARY OF HISTORICAL GROUNDWATER LEVEL MEASUREMENTS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Well ID	Date	Total Depth (feet)	Depth to Water (feet)	Depth to Hydrocarbons (feet)	Hydrocarbon Thickness (feet)	Groundwater Elevation (feet-msl)	Top of Casing Elevation (feet-msl)
MW-103	7/1/2000	--	85.80	ND	0	51.15	136.95
	2/1/2001	--	87.01	ND	0	49.94	136.95
	7/1/2001	--	86.55	ND	0	50.40	136.95
	5/1/2002	--	87.88	ND	0	49.07	136.95
	9/1/2002	--	89.31	ND	0	47.64	136.95
	6/28/2004	99.00	94.34	94.32	0.02	40.91	135.23
	10/4/2005	94.55	Dry	ND	0	Dry	136.95
	2/13/2006	94.38	Dry	ND	0	Dry	136.95
MW-104 Abandoned	6/1/1988	--	87.95	ND	0	53.11	141.06
	9/1/1988	--	88.25	ND	0	52.81	141.06
	12/1/1988	--	88.67	ND	0	52.39	141.06
	3/1/1989	--	89.15	ND	0	51.91	141.06
	6/1/1989	--	89.57	ND	0	51.49	141.06
	9/1/1989	--	89.90	ND	0	51.16	141.06
	12/1/1989	--	90.17	ND	0	50.89	141.06
	3/1/1990	--	90.62	ND	0	50.44	141.06
	6/1/1990	--	90.82	ND	0	50.24	141.06
	9/1/1990	--	90.96	ND	0	50.10	141.06
	12/1/1990	--	91.13	ND	0	49.93	141.06
	3/1/1991	--	91.12	ND	0	49.94	141.06
	6/1/1991	--	91.02	ND	0	50.04	141.06
	9/1/1991	--	90.76	ND	0	50.30	141.06
	12/1/1991	--	90.63	ND	0	50.43	141.06
	3/1/1992	--	90.45	ND	0	50.61	141.06
	6/1/1992	--	89.90	ND	0	51.16	141.06
	9/1/1992	--	89.33	ND	0	51.73	141.06
	12/1/1992	--	89.10	ND	0	51.96	141.06
	3/1/1993	--	88.71	ND	0	52.35	141.06
	5/1/1993	--	87.55	ND	0	53.51	141.06
	9/1/1993	--	86.15	ND	0	54.91	141.06
	11/1/1993	--	84.05	ND	0	57.01	141.06
	3/1/1994	--	82.33	ND	0	58.73	141.06
	6/1/1994	--	80.55	ND	0	60.51	141.06
	9/1/1994	--	79.37	79.36	0.01	61.70	141.06
	12/1/1994	--	79.50	ND	0	61.56	141.06

TABLE G-1
SUMMARY OF HISTORICAL GROUNDWATER LEVEL MEASUREMENTS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Well ID	Date	Total Depth (feet)	Depth to Water (feet)	Depth to Hydrocarbons (feet)	Hydrocarbon Thickness (feet)	Groundwater Elevation (feet-msl)	Top of Casing Elevation (feet-msl)
MW-104 Abandoned	3/1/1995	--	79.32	ND	0	61.74	141.06
	9/1/1995	--	77.26	ND	0	63.80	141.06
	12/1/1995	--	77.21	ND	0	63.85	141.06
	7/1/1996	--	76.75	ND	0	64.31	141.06
	12/1/1996	--	77.38	ND	0	63.68	141.06
	1/1/1998	--	75.58	ND	0	65.48	141.06
	8/1/1998	--	75.58	ND	0	65.48	141.06
	1/1/1999	--	75.91	ND	0	65.15	141.06
MW-104A	7/1/1999	--	76.32	ND	0	64.84	141.16
	1/1/2000	--	78.86	ND	0	62.30	141.16
	7/1/2000	--	81.50	ND	0	59.66	141.16
	2/1/2001	--	82.89	ND	0	58.27	141.16
	7/1/2001	--	82.38	ND	0	58.78	141.16
	5/1/2002	--	83.64	ND	0	57.52	141.16
	9/1/2002	--	84.33	ND	0	56.83	141.16
	6/28/2004	100.00	88.16	ND	0	53.00	141.16
	10/4/2005	97.60	89.85	ND	0	51.31	141.16
	2/13/2006	98.05	89.66	ND	0	51.50	141.16
MW-105	7/1/1996	--	73.85	ND	0	64.78	138.63
	12/1/1996	--	75.12	ND	0	63.51	138.63
	1/1/1998	--	74.12	ND	0	64.51	138.63
	8/1/1998	--	72.66	ND	0	65.97	138.63
	1/1/1999	--	73.15	ND	0	65.48	138.63
	7/1/1999	--	74.95	ND	0	63.68	138.63
	1/1/2000	--	78.91	ND	0	59.72	138.63
	7/1/2000	--	80.72	ND	0	57.91	138.63
	2/1/2001	--	81.68	ND	0	56.95	138.63
	7/1/2001	--	80.95	ND	0	57.68	138.63
	5/1/2002	--	82.59	ND	0	56.04	138.63
	9/1/2002	--	84.92	ND	0	53.71	138.63
	6/28/2004	100.00	90.69	ND	0	47.94	138.63

TABLE G-1
SUMMARY OF HISTORICAL GROUNDWATER LEVEL MEASUREMENTS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Well ID	Date	Total Depth (feet)	Depth to Water (feet)	Depth to Hydrocarbons (feet)	Hydrocarbon Thickness (feet)	Groundwater Elevation (feet-msl)	Top of Casing Elevation (feet-msl)
MW-105	10/4/2005	100.15	91.03	ND	0	47.60	138.63
	2/13/2006	100.10	89.95	ND	0	48.68	138.63
MW-106	7/1/1996	--	81.86	ND	0	66.55	148.41
	12/1/1996	--	82.05	ND	0	66.36	148.41
	1/1/1998	--	81.29	ND	0	67.12	148.41
	8/1/1998	--	80.47	ND	0	67.94	148.41
	1/1/1999	--	80.48	ND	0	67.93	148.41
	7/1/1999	--	80.92	ND	0	67.49	148.41
	1/1/2000	--	82.65	ND	0	65.76	148.41
	7/1/2000	--	85.18	ND	0	63.23	148.41
	2/1/2001	--	86.68	ND	0	61.73	148.41
	7/1/2001	--	86.89	ND	0	61.52	148.41
	5/1/2002	--	88.19	ND	0	60.22	148.41
	9/1/2002	--	88.86	ND	0	59.55	148.41
	6/28/2004	106.00	93.21	ND	0	55.20	148.41
	10/4/2005	Well re-installed following Feb. 2006 sampling event					148.41
	2/13/2006						148.41
MW-107	7/1/1996	--	89.92	ND	0	59.01	148.93
	12/1/1996	--	89.85	ND	0	59.08	148.93
	1/1/1998	--	88.99	ND	0	59.94	148.93
	8/1/1998	--	88.05	ND	0	60.88	148.93
	1/1/1999	--	88.14	ND	0	60.79	148.93
	7/1/1999	--	88.45	ND	0	60.48	148.93
	1/1/2000	--	90.00	ND	0	58.93	148.93
	7/1/2000	--	91.90	ND	0	57.03	148.93
	2/1/2001	--	93.51	ND	0	55.42	148.93
	7/1/2001	--	93.92	ND	0	55.01	148.93
	5/1/2002	--	95.2	ND	0	53.73	148.93
	9/1/2002	--	95.92	ND	0	53.01	148.93
	6/28/2004	108.00	99.23	ND	0	49.70	148.93
	10/4/2005	Well re-installed following Feb. 2006 sampling event					148.93
	2/13/2006						148.93
MW-201	6/1/1988	--	90.05	ND	0	42.86	132.91
	9/1/1988	--	90.77	ND	0	42.14	132.91
	12/1/1988	--	92.24	ND	0	40.67	132.91

TABLE G-1
SUMMARY OF HISTORICAL GROUNDWATER LEVEL MEASUREMENTS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Well ID	Date	Total Depth (feet)	Depth to Water (feet)	Depth to Hydrocarbons (feet)	Hydrocarbon Thickness (feet)	Groundwater Elevation (feet-msl)	Top of Casing Elevation (feet-msl)
MW-201	3/1/1989	--	92.84	ND	0	40.07	132.91
	6/1/1989	--	93.00	ND	0	39.91	132.91
	9/1/1989	--	93.60	ND	0	39.31	132.91
	12/1/1989	--	94.51	ND	0	38.40	132.91
	3/1/1990	--	94.91	ND	0	38.00	132.91
	6/1/1990	--	94.48	ND	0	38.43	132.91
	9/1/1990	--	94.85	ND	0	38.06	132.91
	12/1/1990	--	95.43	ND	0	37.48	132.91
	3/1/1991	--	93.88	ND	0	39.03	132.91
	6/1/1991	--	93.05	ND	0	39.86	132.91
	9/1/1991	--	93.57	ND	0	39.34	132.91
	12/1/1991	--	92.90	ND	0	40.01	132.91
	3/1/1992	--	91.30	ND	0	41.61	132.91
	6/1/1992	--	90.10	ND	0	42.81	132.91
	9/1/1992	--	90.40	ND	0	42.51	132.91
	12/1/1992	--	90.29	ND	0	42.62	132.91
	3/1/1993	--	88.84	ND	0	44.07	132.91
	5/1/1993	--	86.33	ND	0	46.58	132.91
	9/1/1993	--	84.47	84.45	0.02	48.46	132.91
	12/1/1993	--	82.75	82.74	0.01	50.17	132.91
	3/1/1994	--	79.76	79.75	0.01	53.16	132.91
	6/1/1994	--	78.06	78.05	0.01	54.86	132.91
	9/1/1994	--	78.46	78.45	0.01	54.46	132.91
	12/1/1994	--	79.10	ND	0	53.81	132.91
	3/1/1995	--	77.87	ND	0	55.04	132.91
	9/1/1995	--	76.53	ND	0	56.38	132.91
	12/1/1995	--	76.79	ND	0	56.12	132.91
	7/1/1996	--	76.00	ND	0	56.91	132.91
	12/1/1996	--	76.93	ND	0	55.98	132.91
	1/1/1998	--	76.02	ND	0	56.89	132.91
	8/1/1998	--	75.01	ND	0	57.90	132.91
	1/1/1999	--	75.36	ND	0	57.55	132.91
	7/1/1999	--	76.88	ND	0	56.03	132.91
	1/1/2000	--	79.50	ND	0	53.41	132.91
	7/1/2000	--	82.44	ND	0	50.47	132.91

TABLE G-1
SUMMARY OF HISTORICAL GROUNDWATER LEVEL MEASUREMENTS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Well ID	Date	Total Depth (feet)	Depth to Water (feet)	Depth to Hydrocarbons (feet)	Hydrocarbon Thickness (feet)	Groundwater Elevation (feet-msl)	Top of Casing Elevation (feet-msl)
MW-201	2/1/2001	--	83.32	ND	0	49.59	132.91
	7/1/2001	--	83.00	ND	0	49.91	132.91
	5/1/2002	--	84.45	ND	0	48.46	132.91
	9/1/2002	--	86.96	ND	0	45.95	132.91
	6/28/2004	103.00	92.13	ND	0	40.78	132.91
	10/4/2005	101.52	93.07	ND	0	39.84	132.91
	2/13/2006	93.69	91.80	ND	0	41.11	132.91
MW-202	6/1/1988	--	Dry	ND	0	NA	137.89
	9/1/1988	--	Dry	ND	0	NA	137.89
	12/1/1988	--	Dry	ND	0	NA	137.89
	3/1/1989	--	Dry	ND	0	NA	137.89
	6/1/1989	--	Dry	ND	0	NA	137.89
	9/1/1989	--	Dry	ND	0	NA	137.89
	12/1/1989	--	Dry	ND	0	NA	137.89
	3/1/1990	--	Dry	ND	0	NA	137.89
	9/1/1990	--	Dry	ND	0	NA	137.89
	12/1/1990	--	Dry	ND	0	NA	137.89
	3/1/1991	--	Dry	ND	0	NA	137.89
	6/1/1991	--	Dry	ND	0	NA	137.89
	9/1/1991	--	Dry	ND	0	NA	137.89
	12/1/1991	--	Dry	ND	0	NA	137.89
	3/1/1992	--	Dry	ND	0	NA	137.89
	6/1/1992	--	Dry	ND	0	NA	137.89
	9/1/1992	--	Dry	ND	0	NA	137.89
	12/1/1992	--	Dry	ND	0	NA	137.89
	3/1/1993	--	Dry	ND	0	NA	137.89
	5/1/1993	--	Dry	ND	0	NA	137.89
	9/1/1993	--	89.36	89.35	0.01	48.54	137.89
	11/1/1993	--	87.85	ND	0	50.04	137.89
	3/1/1994	--	85.36	85.35	0.01	52.54	137.89
	6/1/1994	--	83.53	83.52	0.01	54.37	137.89
	9/1/1994	--	83.32	83.31	0.01	54.58	137.89
	12/1/1994	--	83.88	83.87	0.01	54.02	137.89
	3/1/1995	--	83.10	ND	0	54.79	137.89
	9/1/1995	--	81.44	ND	0	56.45	137.89

TABLE G-1
SUMMARY OF HISTORICAL GROUNDWATER LEVEL MEASUREMENTS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Well ID	Date	Total Depth (feet)	Depth to Water (feet)	Depth to Hydrocarbons (feet)	Hydrocarbon Thickness (feet)	Groundwater Elevation (feet-msl)	Top of Casing Elevation (feet-msl)
MW-202	12/1/1995	--	81.71	ND	0	56.18	137.89
	7/1/1996	--	80.90	ND	0	56.99	137.89
	12/1/1996	--	81.78	ND	0	56.11	137.89
	1/1/1998	--	81.00	ND	0	56.89	137.89
	8/1/1998	--	79.93	ND	0	57.96	137.89
	1/1/1999	--	83.35	ND	0	54.54	137.89
	7/1/1999	--	81.37	ND	0	56.52	137.89
	1/1/2000	--	84.70	ND	0	53.19	137.89
	7/1/2000	--	86.78	ND	0	51.11	137.89
	2/1/2001	--	87.86	ND	0	50.03	137.89
	7/1/2001	--	87.49	ND	0	50.40	137.89
	5/1/2002	--	88.88	ND	0	49.01	137.89
	9/1/2002	--	90.59	ND	0	47.30	137.89
	6/28/2004	105.00	Dry	ND	0	Dry	137.89
	10/4/2005	92.59	Dry	ND	0	Dry	137.89
	2/13/2006	92.64	Dry	ND	0	Dry	137.89
MW-203	6/1/1988	--	95.98	ND	0	47.91	143.89
	9/1/1988	--	96.30	ND	0	47.59	143.89
	12/1/1988	--	96.76	ND	0	47.13	143.89
	3/1/1989	--	97.15	ND	0	46.74	143.89
	6/1/1989	--	97.50	ND	0	46.39	143.89
	9/1/1989	--	97.85	ND	0	46.04	143.89
	12/1/1989	--	98.19	ND	0	45.70	143.89
	3/1/1990	--	98.72	ND	0	45.17	143.89
	9/1/1990	--	99.09	ND	0	44.80	143.89
	12/1/1990	--	99.55	ND	0	44.34	143.89
	3/1/1991	--	99.23	ND	0	44.66	143.89
	6/1/1991	--	99.19	ND	0	44.70	143.89
	9/1/1991	--	98.93	ND	0	44.96	143.89
	12/1/1991	--	98.84	ND	0	45.05	143.89
	3/1/1992	--	98.39	ND	0	45.50	143.89
	6/1/1992	--	97.76	ND	0	46.13	143.89
	9/1/1992	--	97.47	ND	0	46.42	143.89
	12/1/1992	--	97.50	ND	0	46.39	143.89
	3/1/1993	--	97.13	ND	0	46.76	143.89

TABLE G-1
SUMMARY OF HISTORICAL GROUNDWATER LEVEL MEASUREMENTS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Well ID	Date	Total Depth (feet)	Depth to Water (feet)	Depth to Hydrocarbons (feet)	Hydrocarbon Thickness (feet)	Groundwater Elevation (feet-msl)	Top of Casing Elevation (feet-msl)
MW-203	5/1/1993	--	96.14	ND	0	47.75	143.89
	9/1/1993	--	95.81	ND	0	48.08	143.89
	11/1/1993	--	93.84	93.83	0.01	50.06	143.89
	3/1/1994	--	92.27	92.25	0.02	51.64	143.89
	6/1/1994	--	90.68	90.67	0.01	53.22	143.89
	9/1/1994	--	89.61	89.60	0.01	54.29	143.89
	12/1/1994	--	89.41	ND	0	54.48	143.89
	3/1/1995	--	89.03	ND	0	54.86	143.89
	9/1/1995	--	87.47	ND	0	56.42	143.89
	12/1/1995	--	87.38	ND	0	56.51	143.89
	7/1/1996	--	86.53	ND	0	57.36	143.89
	12/1/1996	--	87.03	ND	0	56.86	143.89
	1/1/1998	--	86.39	ND	0	57.50	143.89
	8/1/1998	--	85.38	ND	0	58.51	143.89
	1/1/1999	--	85.72	ND	0	58.17	143.89
	7/1/1999	--	86.30	ND	0	57.59	143.89
	1/1/2000	--	88.54	ND	0	55.35	143.89
	7/1/2000	--	90.60	ND	0	53.29	143.89
	2/1/2001	--	91.81	ND	0	52.08	143.89
	7/1/2001	--	91.76	ND	0	52.13	143.89
	5/1/2002	--	92.96	ND	0	50.93	143.89
	9/1/2002	--	93.62	ND	0	50.27	143.89
	6/28/2004	107.00	96.93	ND	0	46.96	143.89
	10/4/2005	Well re-installed following Feb. 2006 sampling event					143.89
	2/13/2006						143.89
MW-204*	6/1/1988	--	94.95	ND	0	45.19	140.14
	9/1/1988	--	95.43	ND	0	44.71	140.14
	12/1/1988	--	96.57	ND	0	43.57	140.14
	3/1/1989	--	97.53	ND	0	42.61	140.14
	6/1/1989	--	97.68	ND	0	42.46	140.14
	9/1/1989	--	98.00	ND	0	42.14	140.14
	12/1/1989	--	98.70	ND	0	41.44	140.14
	3/1/1990	--	99.19	ND	0	40.95	140.14
	6/1/1990	--	98.95	ND	0	41.19	140.14
	9/1/1990	--	99.08	ND	0	41.06	140.14

TABLE G-1
SUMMARY OF HISTORICAL GROUNDWATER LEVEL MEASUREMENTS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Well ID	Date	Total Depth (feet)	Depth to Water (feet)	Depth to Hydrocarbons (feet)	Hydrocarbon Thickness (feet)	Groundwater Elevation (feet-msl)	Top of Casing Elevation (feet-msl)
MW-204*	12/1/1990	--	99.50	ND	0	40.64	140.14
	3/1/1991	--	98.61	ND	0	41.53	140.14
	6/1/1991	--	97.85	ND	0	42.29	140.14
	9/1/1991	--	97.59	ND	0	42.55	140.14
	12/1/1991	--	97.50	ND	0	42.64	140.14
	3/1/1992	--	96.45	ND	0	43.69	140.14
	6/1/1992	--	95.07	ND	0	45.07	140.14
	9/1/1992	--	94.91	ND	0	45.23	140.14
	12/1/1992	--	95.08	ND	0	45.06	140.14
	3/1/1993	--	94.03	ND	0	46.11	140.14
	5/1/1993	--	91.83	ND	0	48.31	140.14
	9/1/1993	--	89.56	89.55	0.01	50.59	140.14
	11/1/1993	--	88.10	88.09	0.01	52.05	140.14
	3/1/1994	--	85.90	85.89	0.01	54.25	140.14
	6/1/1994	--	84.09	ND	0	56.05	140.14
	9/1/1994	--	83.71	83.70	0.01	56.44	140.14
	12/1/1994	--	84.31	ND	0	55.83	140.14
	3/1/1995	--	83.76	ND	0	56.38	140.14
	9/1/1995	--	81.98	ND	0	58.16	140.14
	12/1/1995	--	82.23	ND	0	57.91	140.14
	7/1/1996	--	81.50	ND	0	58.64	140.14
	12/1/1996	--	82.42	ND	0	57.72	140.14
	1/1/1998	--	81.69	ND	0	58.45	140.14
	8/1/1998	--	80.57	ND	0	59.57	140.14
	1/1/1999	--	80.95	ND	0	59.19	140.14
	7/1/1999	--	81.93	ND	0	58.21	140.14
	1/1/2000	--	84.80	ND	0	55.34	140.14
	7/1/2000	--	87.17	ND	0	52.97	140.14
	2/1/2001	--	88.29	ND	0	51.85	140.14
	7/1/2001	--	87.93	ND	0	52.21	140.14
	5/1/2002	--	89.28	ND	0	50.86	140.14
	9/1/2002	--	90.80	ND	0	49.34	140.14
	6/28/2004	99.50	96.39	ND	0	43.75	140.14
	10/4/2005	99.68	97.86	ND	0	42.28	140.14
	2/13/2006	96.72	95.24	ND	0	NA	NM

TABLE G-1
SUMMARY OF HISTORICAL GROUNDWATER LEVEL MEASUREMENTS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Well ID	Date	Total Depth (feet)	Depth to Water (feet)	Depth to Hydrocarbons (feet)	Hydrocarbon Thickness (feet)	Groundwater Elevation (feet-msl)	Top of Casing Elevation (feet-msl)
MW-205	6/1/1988	--	90.15	ND	0	48.02	138.17
	9/1/1988	--	90.67	ND	0	47.50	138.17
	12/1/1988	--	91.92	ND	0	46.25	138.17
	3/1/1989	--	92.88	ND	0	45.29	138.17
	6/1/1989	--	92.80	ND	0	45.37	138.17
	9/1/1989	--	93.20	ND	0	44.97	138.17
	12/1/1989	--	94.05	ND	0	44.12	138.17
	3/1/1990	--	94.20	ND	0	43.97	138.17
	6/1/1990	--	94.12	ND	0	44.05	138.17
	9/1/1990	--	93.85	ND	0	44.32	138.17
	12/1/1990	--	94.80	ND	0	43.37	138.17
	3/1/1991	--	93.49	ND	0	44.68	138.17
	6/1/1991	--	92.64	ND	0	45.53	138.17
	9/1/1991	--	92.45	ND	0	45.72	138.17
	12/1/1991	--	92.65	ND	0	45.39	138.04
	3/1/1992	--	90.92	ND	0	47.12	138.04
	6/1/1992	--	89.59	ND	0	48.45	138.04
	9/1/1992	--	89.61	ND	0	48.43	138.04
	12/1/1992	--	89.65	ND	0	48.39	138.04
	3/1/1993	--	88.60	ND	0	49.44	138.04
	5/1/1993	--	85.92	ND	0	52.12	138.04
	9/1/1993	--	83.56	83.55	0.01	54.49	138.04
	11/1/1993	--	82.00	ND	0	56.04	138.04
	3/1/1994	--	79.55	79.54	0.01	58.50	138.04
	6/1/1994	--	77.75	77.74	0.01	60.30	138.04
	9/1/1994	--	77.80	77.79	0.01	60.25	138.04
	12/1/1994	--	78.76	ND	0	59.28	138.04
	3/1/1995	--	77.80	ND	0	60.24	138.04
	9/1/1995	--	75.91	ND	0	62.13	138.04
	12/1/1995	--	76.28	ND	0	61.76	138.04
	7/1/1996	--	75.74	ND	0	62.30	138.04
	12/1/1996	--	76.09	ND	0	61.95	138.04
	1/1/1998	--	75.26	ND	0	62.78	138.04
	8/1/1998	--	73.96	ND	0	64.08	138.04
	1/1/1999	--	74.59	ND	0	63.45	138.04

TABLE G-1
SUMMARY OF HISTORICAL GROUNDWATER LEVEL MEASUREMENTS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Well ID	Date	Total Depth (feet)	Depth to Water (feet)	Depth to Hydrocarbons (feet)	Hydrocarbon Thickness (feet)	Groundwater Elevation (feet-msl)	Top of Casing Elevation (feet-msl)
MW-205	7/1/1999	--	75.95	ND	0	62.09	138.04
	1/1/2000	--	79.45	ND	0	58.59	138.04
	7/1/2000	--	81.60	ND	0	56.44	138.04
	2/1/2001	--	82.57	ND	0	55.47	138.04
	7/1/2001	--	82.01	ND	0	56.03	138.04
	5/1/2002	--	83.52	ND	0	54.52	138.04
	9/1/2002	--	85.68	ND	0	52.36	138.04
	6/28/2004	103.00	91.31	ND	0	46.73	138.04
	10/4/2005	98.25	92.00	ND	0	46.04	138.04
	2/13/2006	98.32	90.92	ND	0	47.12	138.04
MW-206 Abandoned	6/1/1988	--	92.37	ND	0	37.56	129.93
	9/1/1988	--	93.37	ND	0	36.56	129.93
	12/1/1988	--	94.93	ND	0	35.00	129.93
	3/1/1989	--	95.20	ND	0	34.73	129.93
	6/1/1989	--	95.55	ND	0	34.38	129.93
	9/1/1989	--	96.88	ND	0	33.05	129.93
	12/1/1989	--	94.75	ND	0	35.18	129.93
	3/1/1990	--	97.75	ND	0	32.18	129.93
	6/1/1990	--	97.48	ND	0	32.45	129.93
	9/1/1990	--	98.02	ND	0	31.91	129.93
	12/1/1990	--	98.64	ND	0	31.29	129.93
	3/1/1991	--	96.92	ND	0	33.01	129.93
	6/1/1991	--	96.11	ND	0	33.82	129.93
	9/1/1991	--	96.41	ND	0	33.52	129.93
	12/1/1991	--	96.12	ND	0	33.81	129.93
	3/1/1992	--	94.32	ND	0	35.61	129.93
	6/1/1992	--	93.45	ND	0	36.48	129.93
	9/1/1992	--	93.97	ND	0	35.96	129.93
	12/1/1992	--	93.50	ND	0	36.43	129.93
	3/1/1993	--	91.91	ND	0	38.02	129.93
	5/1/1993	--	89.60	ND	0	40.33	129.93
	9/1/1993	--	87.91	87.90	0.01	42.03	129.93
	12/1/1993	--	86.43	86.41	0.02	43.52	129.93
	3/1/1994	--	82.89	82.88	0.01	47.05	129.93
	6/1/1994	--	81.30	81.29	0.01	48.64	129.93

TABLE G-1
SUMMARY OF HISTORICAL GROUNDWATER LEVEL MEASUREMENTS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Well ID	Date	Total Depth (feet)	Depth to Water (feet)	Depth to Hydrocarbons (feet)	Hydrocarbon Thickness (feet)	Groundwater Elevation (feet-msl)	Top of Casing Elevation (feet-msl)
MW-206 Abandoned	9/1/1994	--	81.81	81.80	0.01	48.13	129.93
	12/1/1994	--	82.00	ND	0	47.93	129.93
	3/1/1995	--	80.33	ND	0	49.60	129.93
	9/1/1995	--	79.68	ND	0	50.25	129.93
	12/1/1995	--	79.65	ND	0	50.28	129.93
	7/1/1996	--	78.57	ND	0	51.36	129.93
	12/1/1996	--	79.40	ND	0	50.53	129.93
	1/1/1998	--	78.40	ND	0	51.53	129.93
	8/1/1998	--	--	--	--	--	Well Damaged
	1/1/1999	--	--	--	--	--	Well Destroyed
MW-501 Abandoned	6/1/1988	--	92.46	91.16	1.3	37.28	128.70
	9/1/1988	--	94.39	93.03	1.36	35.40	128.70
	12/1/1988	--	94.41	93.71	0.7	34.85	128.70
	3/1/1989	--	94.81	94.06	0.75	34.49	128.70
	6/1/1989	--	94.62	93.81	0.81	34.73	128.70
	9/1/1989	--	96.17	95.21	0.96	33.30	128.70
	12/1/1989	--	97.15	96.32	0.83	32.21	128.70
	3/1/1990	--	97.62	96.80	0.82	31.74	128.70
	6/1/1990	--	96.02	95.27	0.75	33.28	128.70
	9/1/1990	--	97.80	96.85	0.95	31.66	128.70
	12/1/1990	--	98.82	97.64	1.18	30.82	128.70
	3/1/1991	--	96.83	96.25	0.58	32.33	128.70
	6/1/1991	--	95.94	95.44	0.5	33.16	128.70
	9/1/1991	--	96.12	95.62	0.5	32.98	128.70
	12/1/1991	--	95.91	95.44	0.47	33.17	128.70
	3/1/1992	--	94.14	93.93	0.21	34.73	128.70
	6/1/1992	--	92.98	92.97	0.01	35.73	128.70
	9/1/1992	--	93.42	93.25	0.17	35.42	128.70
	12/1/1992	--	92.99	92.85	0.14	35.82	128.70
	3/1/1993	--	91.60	ND	0	37.10	128.70
	5/1/1993	--	89.45	ND	0	39.25	128.70
	9/1/1993	--	87.77	87.76	0.01	40.94	128.70
	12/1/1993	--	86.25	86.24	0.01	42.46	128.70
	3/1/1994	--	83.19	83.18	0.01	45.52	128.70
	6/1/1994	--	81.35	81.34	0.01	47.36	128.70

TABLE G-1
SUMMARY OF HISTORICAL GROUNDWATER LEVEL MEASUREMENTS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Well ID	Date	Total Depth (feet)	Depth to Water (feet)	Depth to Hydrocarbons (feet)	Hydrocarbon Thickness (feet)	Groundwater Elevation (feet-msl)	Top of Casing Elevation (feet-msl)
MW-501 Abandoned	9/1/1994	--	81.27	81.26	0.01	47.44	128.70
	12/1/1994	--	81.50	81.49	0.01	47.21	128.70
	3/1/1995	--	80.23	ND	0	48.47	128.70
	9/1/1995	--	76.04	ND	0	52.66	128.70
	12/1/1995	--	79.09	ND	0	49.61	128.70
	7/1/1996	--	77.84	ND	0	50.86	128.70
	12/1/1996	--	78.67	ND	0	50.03	128.70
	1/1/1998	--	--	--	--	--	128.70
	8/1/1998	--	--	--	--	--	Well Damaged
	1/1/1999	--	--	--	--	--	Well Damaged
MW-501A	7/1/1999	--	77.70	ND	0	--	Not Surveyed
	1/1/2000	--	81.83	ND	0	--	Not Surveyed
	7/1/2000	--	83.24	ND	0	--	Not Surveyed
	2/1/2001	--	84.48	ND	0	--	Not Surveyed
	7/1/2001	--	84.33	ND	0	--	Not Surveyed
	5/1/2002	--	85.76	ND	0	--	Not Surveyed
	9/1/2002	--	87.96	ND	0	--	Not Surveyed
	6/28/2004	95.00	Well was not located for sampling				
	10/4/2005	92.58	Dry	ND	0	Dry	NM
	2/13/2006	92.60	Dry	ND	0	Dry	NM
MW-502	6/1/1988	--	94.00	ND	0	37.19	131.19
	9/1/1988	--	94.95	ND	0	36.24	131.19
	12/1/1988	--	96.35	ND	0	34.84	131.19
	3/1/1989	--	96.75	ND	0	34.44	131.19
	6/1/1989	--	97.27	94.14	3.13	36.42	131.19
	9/1/1989	--	99.08	96.25	2.83	34.37	131.19
	12/1/1989	--	100.40	98.65	1.75	32.19	131.19
	3/1/1990	--	100.96	99.23	1.73	31.61	131.19
	6/1/1990	--	99.16	97.77	1.39	33.14	131.19
	6/1/1991	--	97.95	97.21	0.74	33.46	130.82
	9/1/1991	--	98.20	97.46	0.74	33.21	130.82
	12/1/1991	--	97.97	97.19	0.78	33.47	130.82
	3/1/1992	--	96.00	95.57	0.43	35.16	130.82
	6/1/1992	--	94.95	94.65	0.3	36.11	130.82
	9/1/1992	--	95.51	95.11	0.4	35.63	130.82

TABLE G-1
SUMMARY OF HISTORICAL GROUNDWATER LEVEL MEASUREMENTS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Well ID	Date	Total Depth (feet)	Depth to Water (feet)	Depth to Hydrocarbons (feet)	Hydrocarbon Thickness (feet)	Groundwater Elevation (feet-msl)	Top of Casing Elevation (feet-msl)
MW-502	12/1/1992	--	95.14	94.87	0.27	35.90	130.82
	3/1/1993	--	93.30	ND	0	37.52	130.82
	5/1/1993	--	91.13	ND	0	39.69	130.82
	9/1/1993	--	89.45	89.44	0.01	41.38	130.82
	12/1/1993	--	87.94	87.93	0.01	42.89	130.82
	3/1/1994	--	84.70	84.69	0.01	46.13	130.82
	6/1/1994	--	82.99	82.98	0.01	47.84	130.82
	9/1/1994	--	83.03	ND	0	47.79	130.82
	12/1/1994	--	83.40	ND	0	47.42	130.82
	3/1/1995	--	81.96	ND	0	48.86	130.82
	9/1/1995	--	81.05	ND	0	49.77	130.82
	12/1/1995	--	81.02	ND	0	49.80	130.82
	7/1/1996	--	79.83	ND	0	50.99	130.82
	12/1/1996	--	80.68	ND	0	50.14	130.82
	1/1/1998	--	79.78	ND	0	51.04	130.82
	8/1/1998	--	78.98	ND	0	51.84	130.82
	1/1/1999	--	76.73	ND	0	51.57	128.30
	7/1/1999	--	76.90	ND	0	51.40	128.30
	1/1/2000	--	81.56	ND	0	46.74	128.30
	7/1/2000	--	83.48	ND	0	44.82	128.30
	2/1/2001	--	84.42	ND	0	43.88	128.30
	7/1/2001	--	84.32	ND	0	43.98	128.30
	5/1/2002	--	85.70	ND	0	42.60	128.30
	9/1/2002	--	88.22	ND	0	40.08	128.30
	6/29/2004	104.00	93.31	93.26	0.05	35.03	128.30
	10/4/2005	100.49	94.90	ND	0	33.40	128.30
	2/13/2006	100.56	93.40	ND	0	34.90	128.30
MW-503 Abandoned	6/1/1988	--	92.55	ND	0	38.88	131.43
	9/1/1988	--	93.26	ND	0	38.17	131.43
	12/1/1988	--	94.74	ND	0	36.69	131.43
	3/1/1989	--	95.18	ND	0	36.25	131.43
	6/1/1989	--	95.50	ND	0	35.93	131.43
	9/1/1989	--	96.30	ND	0	35.13	131.43
	12/1/1989	--	97.16	ND	0	34.27	131.43
	3/1/1990	--	97.54	ND	0	33.89	131.43

TABLE G-1
SUMMARY OF HISTORICAL GROUNDWATER LEVEL MEASUREMENTS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Well ID	Date	Total Depth (feet)	Depth to Water (feet)	Depth to Hydrocarbons (feet)	Hydrocarbon Thickness (feet)	Groundwater Elevation (feet-msl)	Top of Casing Elevation (feet-msl)
MW-503 Abandoned	6/1/1990	--	97.30	ND	0	34.13	131.43
	9/1/1990	--	97.70	ND	0	33.73	131.43
	12/1/1990	--	98.27	ND	0	33.16	131.43
	3/1/1991	--	96.64	ND	0	34.79	131.43
	6/1/1991	--	95.79	ND	0	35.64	131.43
	9/1/1991	--	96.05	ND	0	35.38	131.43
	12/1/1991	--	95.80	ND	0	35.63	131.43
	3/1/1992	--	93.98	ND	0	37.45	131.43
	6/1/1992	--	93.01	ND	0	38.42	131.43
	9/1/1992	--	93.52	ND	0	37.91	131.43
	12/1/1992	--	93.11	ND	0	38.32	131.43
	3/1/1993	--	91.67	ND	0	39.76	131.43
	5/1/1993	--	88.78	ND	0	42.65	131.43
	9/1/1993	--	87.47	87.45	0.02	43.98	131.43
	12/1/1993	--	86.02	86.00	0.02	45.43	131.43
	3/1/1994	--	82.54	82.53	0.01	48.90	131.43
	6/1/1994	--	80.95	80.94	0.01	50.49	131.43
	9/1/1994	--	81.41	81.40	0.01	50.03	131.43
	12/1/1994	--	81.75	ND	0	49.68	131.43
	3/1/1995	--	80.10	ND	0	51.33	131.43
	9/1/1995	--	79.34	ND	0	52.09	131.43
	12/1/1995	--	79.37	ND	0	52.06	131.43
	7/1/1996	--	78.35	ND	0	53.08	131.43
	12/1/1996	--	79.31	ND	0	52.12	131.43
	1/1/1998	--	78.24	ND	0	53.19	131.43
	8/1/1998	--	77.45	ND	0	53.98	131.43
	1/1/1999	--	--	--	--	--	Well Destroyed
MW-503B	2/1/1999	--	77.05	ND	0	52.91	129.96
	7/1/1999	--	78.64	ND	0	51.32	129.96
	1/1/2000	--	82.58	ND	0	47.38	129.96
	7/1/2000	--	84.17	ND	0	45.79	129.96
	2/1/2001	--	85.06	ND	0	44.90	129.96
	7/1/2001	--	84.98	ND	0	44.98	129.96
	5/1/2002	--	86.32	ND	0	43.64	129.96
	9/1/2002	--	89.14	ND	0	40.82	129.96

TABLE G-1
SUMMARY OF HISTORICAL GROUNDWATER LEVEL MEASUREMENTS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Well ID	Date	Total Depth (feet)	Depth to Water (feet)	Depth to Hydrocarbons (feet)	Hydrocarbon Thickness (feet)	Groundwater Elevation (feet-msl)	Top of Casing Elevation (feet-msl)
MW-503B	6/28/2004	109.00	93.97	ND	0	35.99	129.96
	10/4/2005	108.60	95.34	ND	0	34.62	129.96
	2/13/2006	108.79	93.79	ND	0	36.17	129.96
MW-504**	6/1/1988	--	92.56	90.73	1.83	42.73	133.83
	9/1/1988	--	93.98	92.41	1.57	41.11	133.83
	12/1/1988	--	94.70	92.83	1.87	40.63	133.83
	3/1/1989	--	96.25	93.50	2.75	39.78	133.83
	6/1/1989	--	94.36	92.16	2.2	41.23	133.83
	9/1/1989	--	99.21	97.15	2.06	36.27	133.83
	12/1/1989	--	96.80	95.45	1.35	38.11	133.83
	3/1/1990	--	97.10	95.72	1.38	37.83	133.83
	6/1/1990	--	95.75	95.13	0.62	38.58	133.83
	12/1/1990	--	97.47	96.31	1.16	37.97	134.51
	6/1/1991	--	95.20	ND	0	39.31	134.51
	9/1/1991	--	95.19	ND	0	39.32	134.51
	12/1/1991	--	95.08	ND	0	39.43	134.51
	3/1/1992	--	95.55	ND	0	38.96	134.51
	6/1/1992	--	92.28	ND	0	42.23	134.51
	9/1/1992	--	92.47	ND	0	42.04	134.51
	12/1/1992	--	92.32	ND	0	42.19	134.51
	3/1/1993	--	91.09	ND	0	43.42	134.51
	5/1/1993	--	88.78	ND	0	45.73	134.51
	9/1/1993	--	86.64	86.63	0.01	47.88	134.51
	11/1/1993	--	85.10	ND	0	49.41	134.51
	3/1/1994	--	82.26	82.25	0.01	52.26	134.51
	6/1/1994	--	80.43	ND	0	54.08	134.51
	9/1/1994	--	80.59	80.58	0.01	53.93	134.51
	12/1/1994	--	81.14	ND	0	53.37	134.51
	3/1/1995	--	80.06	ND	0	54.45	134.51
	9/1/1995	--	78.55	ND	0	55.96	134.51
	12/1/1995	--	78.76	ND	0	55.75	134.51
	7/1/1996	--	77.92	ND	0	56.59	134.51
	12/1/1996	--	79.15	78.85	0.3	55.60	134.51
	1/1/1998	--	78.00	77.98	0.02	56.53	134.51
	8/1/1998	--	77.00	76.98	0.02	57.53	134.51

TABLE G-1
SUMMARY OF HISTORICAL GROUNDWATER LEVEL MEASUREMENTS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Well ID	Date	Total Depth (feet)	Depth to Water (feet)	Depth to Hydrocarbons (feet)	Hydrocarbon Thickness (feet)	Groundwater Elevation (feet-msl)	Top of Casing Elevation (feet-msl)
MW-504**	1/1/1999	--	77.56	77.46	0.1	57.03	134.51
	7/1/1999	--	79.12	78.63	0.49	55.78	134.51
	1/1/2000	--	82.88	82.20	0.68	52.17	134.51
	7/1/2000	--	84.90	83.96	0.94	50.36	134.51
	2/1/2001	--	--	86.24	--	--	134.51
	7/1/2001	--	86.47	84.58	1.89	49.55	134.51
	5/1/2002	--	87.20	86.10	1.1	48.19	134.51
	9/1/2002	--	89.38	88.35	1.03	45.95	134.51
	6/29/2004	118.00	94.56	93.65	0.91	40.68	134.51
	10/4/2005	95.85	95.12	NM	NM	NM	134.51
	2/13/2006	95.95	93.80	ND	Sheen	40.71	134.51
MW-600 Abandoned	9/1/1990	--	91.48	90.31	1.17	29.51	120.05
	12/1/1990	--	92.43	90.79	1.64	28.93	120.05
	3/1/1991	--	89.88	89.00	0.88	30.87	120.05
	6/1/1991	--	89.35	88.45	0.9	31.42	120.05
	9/1/1991	--	89.64	88.76	0.88	31.11	120.05
	12/1/1991	--	88.91	88.58	0.33	31.40	120.05
	3/1/1992	--	87.09	86.89	0.2	33.12	120.05
	6/1/1992	--	86.26	86.12	0.14	33.90	120.05
	9/1/1992	--	86.90	86.69	0.21	33.32	120.05
	12/1/1992	--	86.02	86.00	0.02	34.05	120.05
	3/1/1993	--	84.63	ND	0	35.42	120.05
	5/1/1993	--	82.52	ND	0	37.53	120.05
	9/1/1993	--	80.99	80.98	0.01	39.07	120.05
	12/1/1993	--	79.49	79.48	0.01	40.57	120.05
	3/1/1994	--	76.01	76.00	0.01	44.05	120.05
	6/1/1994	--	74.40	74.39	0.01	45.66	120.05
	9/1/1994	--	74.73	74.72	0.01	45.33	120.05
	12/1/1994	--	74.90	74.84	0.06	45.20	120.05
	3/1/1995	--	73.65	73.03	0.62	46.90	120.05
	9/1/1995	--	73.69	73.30	0.39	46.67	120.05
	12/1/1995	--	72.02	ND	0	48.03	120.05
	7/1/1996	--	73.55	70.59	2.96	48.87	120.05
	12/1/1996	--	73.90	71.35	2.55	48.19	120.05
	1/1/1998	--	75.05	69.67	5.38	49.30	120.05

TABLE G-1
SUMMARY OF HISTORICAL GROUNDWATER LEVEL MEASUREMENTS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Well ID	Date	Total Depth (feet)	Depth to Water (feet)	Depth to Hydrocarbons (feet)	Hydrocarbon Thickness (feet)	Groundwater Elevation (feet-msl)	Top of Casing Elevation (feet-msl)
MW-600	8/1/1998	--	74.50	72.70	1.8	46.99	120.05
Abandoned	1/1/1999	--	73.72	69.60	4.12	49.63	120.05
MW-600A	7/1/1999	--	77.55	77.32	0.23	42.97	120.34
	1/1/2000	--	77.80	76.77	1.03	43.36	120.34
	7/1/2000	--	78.99	78.59	0.4	42.07	120.34
	2/1/2001	--	79.87	79.39	0.48	41.33	120.34
	7/1/2001	--	80.38	79.82	0.56	40.97	120.34
	5/1/2002	--	83.20	80.56	2.64	39.25	120.34
	9/1/2002	--	84.58	83.62	0.96	36.53	120.34
	6/29/2004	100.00	91.02	87.97	3.05	31.76	120.34
	10/4/2005	NM	92.62	89.46	3.16	30.25	120.34
	2/14/2006	NM	91.15	87.92	3.23	31.77	120.34
MW-601	9/1/1990	--	96.64	95.89	0.75	28.99	125.03
Abandoned	12/1/1990	--	97.01	96.52	0.49	28.41	125.03
	3/1/1991	--	94.84	ND	0	30.19	125.03
	6/1/1991	--	94.27	ND	0	30.76	125.03
	9/1/1991	--	94.54	ND	0	30.49	125.03
	12/1/1991	--	94.30	ND	0	30.73	125.03
	3/1/1992	--	92.66	ND	0	32.37	125.03
	6/1/1992	--	91.81	ND	0	33.22	125.03
	9/1/1992	--	92.80	92.28	0.52	32.65	125.03
	12/1/1992	--	91.78	ND	0	33.25	125.03
	3/1/1993	--	90.38	ND	0	34.65	125.03
	5/1/1993	--	88.35	ND	0	36.68	125.03
	9/1/1993	--	86.76	86.75	0.01	38.28	125.03
	12/1/1993	--	85.36	85.35	0.01	39.68	125.03
	3/1/1994	--	82.01	82.00	0.01	43.03	125.03
	6/1/1994	--	80.30	80.25	0.05	44.77	125.03
	9/1/1994	--	80.50	80.40	0.1	44.61	125.03
	12/1/1994	--	80.65	80.52	0.13	44.48	125.03
	3/1/1995	--	79.08	78.98	0.1	46.03	125.03
	9/1/1995	--	78.36	78.11	0.25	46.87	125.03
	12/1/1995	--	78.07	ND	0	46.96	125.03
	7/1/1996	--	77.03	76.75	0.28	48.22	125.03
	12/1/1996	--	77.57	ND	0	47.46	125.03

TABLE G-1
SUMMARY OF HISTORICAL GROUNDWATER LEVEL MEASUREMENTS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Well ID	Date	Total Depth (feet)	Depth to Water (feet)	Depth to Hydrocarbons (feet)	Hydrocarbon Thickness (feet)	Groundwater Elevation (feet-msl)	Top of Casing Elevation (feet-msl)
MW-601 Abandoned	1/1/1998	--	76.79	76.40	0.39	48.55	125.03
	8/1/1998	--	76.29	76.05	0.24	48.93	125.03
	1/1/1999	--	76.62	75.95	0.67	48.95	125.03
MW-601 A	7/1/1999	--	77.39	77.36	0.03	49.16	126.53
	1/1/2000	--	81.03	ND	0	45.50	126.53
	7/1/2000	--	82.72	82.70	0.02	43.83	126.53
	2/1/2001	--	83.73	83.71	0.02	42.82	126.53
	7/1/2001	--	84.07	ND	0	42.46	126.53
	5/1/2002	--	85.42	ND	0	41.11	126.53
	9/1/2002	--	87.91	ND	0	38.62	126.53
	6/29/2004	100.00	Dry	ND	0	Dry	126.53
MW-603	7/1/1996	--	72.01	ND	0	46.53	118.54
	12/1/1996	--	72.39	ND	0	46.15	118.54
	1/1/1998	--	71.33	ND	0	47.21	118.54
	8/1/1998	--	71.12	ND	0	47.42	118.54
	1/1/1999	--	77.71	ND	0	40.83	118.54
	7/1/1999	--	72.97	ND	0	45.57	118.54
	1/1/2000	--	76.87	ND	0	41.67	118.54
	7/1/2000	--	78.00	ND	0	40.54	118.54
	2/1/2001	--	78.48	ND	0	40.06	118.54
	7/1/2001	--	79.14	ND	0	39.40	118.54
	5/1/2002	--	80.21	ND	0	38.33	118.54
	9/1/2002	--	83.86	ND	0	34.68	118.54
	6/29/2004	100.00	88.20	ND	0	30.34	118.54
	10/4/2005	97.28	89.53	ND	0	29.01	118.54
	2/13/2006	96.90	88.49	ND	0	30.05	118.54
MW-604	7/1/1996	--	88.79	ND	0	49.37	138.16
	12/1/1996	--	89.57	ND	0	48.59	138.16
	1/1/1998	--	88.61	ND	0	49.55	138.16
	8/1/1998	--	87.55	ND	0	50.61	138.16
	1/1/1999	--	87.88	ND	0	50.28	138.16
	7/1/1999	--	88.53	ND	0	49.63	138.16
	1/1/2000	--	92.10	ND	0	46.06	138.16
	7/1/2000	--	94.21	ND	0	43.95	138.16
	2/1/2001	--	95.65	ND	0	42.51	138.16

TABLE G-1
SUMMARY OF HISTORICAL GROUNDWATER LEVEL MEASUREMENTS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Well ID	Date	Total Depth (feet)	Depth to Water (feet)	Depth to Hydrocarbons (feet)	Hydrocarbon Thickness (feet)	Groundwater Elevation (feet-msl)	Top of Casing Elevation (feet-msl)
MW-604	7/1/2001	--	95.42	ND	0	42.74	138.16
	5/1/2002	--	96.79	ND	0	41.37	138.16
	9/1/2002	--	98.22	ND	0	39.94	138.16
	6/28/2004	103.00	102.32	ND	0	35.84	138.16
	10/4/2005	103.14	102.78	ND	0	35.38	138.16
	2/13/2006	103.25	Dry	ND	0	Dry	138.16
MW-605	7/1/1996	--	74.03	ND	0	40.51	114.54
	12/1/1996	--	74.06	ND	0	40.48	114.54
	1/1/1998	--	73.19	ND	0	41.35	114.54
	8/1/1998	--	73.18	ND	0	41.36	114.54
	1/1/1999	--	72.52	ND	0	42.02	114.54
	7/1/1999	--	74.62	ND	0	39.92	114.54
	1/1/2000	--	78.58	ND	0	35.96	114.54
	7/1/2000	--	79.54	ND	0	35.00	114.54
	2/1/2001	--	79.99	ND	0	34.55	114.54
	7/1/2001	--	80.83	ND	0	33.71	114.54
	5/1/2002	--	81.84	ND	0	32.70	114.54
	9/1/2002	--	85.70	ND	0	28.84	114.54
	6/28/2004	95.00	89.55	ND	0	24.99	114.54
	10/4/2005	94.03	91.22	ND	0	23.32	114.54
	2/13/2006	94.00	88.91	ND	0	25.63	114.54
MW-606	7/1/1996	--	77.19	ND	0	36.70	113.89
	12/1/1996	--	77.50	ND	0	36.39	113.89
	1/1/1998	--	75.92	ND	0	37.97	113.89
	8/1/1998	--	75.93	ND	0	37.96	113.89
	1/1/1999	--	75.26	ND	0	38.63	113.89
	7/1/1999	--	77.19	ND	0	36.70	113.89
	1/1/2000	--	80.87	ND	0	33.02	113.89
	7/1/2000	--	82.12	ND	0	31.77	113.89
	2/1/2001	--	82.70	ND	0	31.19	113.89
	7/1/2001	--	83.55	ND	0	30.34	113.89
	5/1/2002	--	84.69	ND	0	29.20	113.89
	9/1/2002	--	88.55	ND	0	25.34	113.89
	6/28/2004	100.00	92.01	ND	0	21.88	113.89
	10/4/2005	99.16	94.21	ND	0	19.68	113.89

TABLE G-1
SUMMARY OF HISTORICAL GROUNDWATER LEVEL MEASUREMENTS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Well ID	Date	Total Depth (feet)	Depth to Water (feet)	Depth to Hydrocarbons (feet)	Hydrocarbon Thickness (feet)	Groundwater Elevation (feet-msl)	Top of Casing Elevation (feet-msl)
MW-606	2/13/2006	99.30	91.98	ND	0	21.91	113.89
MW-607	7/1/1996	--	86.88	ND	0	39.15	126.03
	12/1/1996	--	87.56	ND	0	38.47	126.03
	1/1/1998	--	86.50	ND	0	39.53	126.03
	8/1/1998	--	85.64	ND	0	40.39	126.03
	1/1/1999	--	85.88	ND	0	40.15	126.03
	7/1/1999	--	86.52	ND	0	39.51	126.03
	1/1/2000	--	90.40	ND	0	35.63	126.03
	7/1/2000	--	92.02	ND	0	34.01	126.03
	2/1/2001	--	93.53	ND	0	32.50	126.03
	7/1/2001	--	93.58	ND	0	32.45	126.03
	5/1/2002	--	95.30	ND	0	30.73	126.03
	9/1/2002	--	98.05	ND	0	27.98	126.03
	6/28/2004	107.00	102.29	ND	0	23.74	126.03
	10/4/2005	106.80	104.78	ND	0	21.25	126.03
	2/13/2006	106.61	103.34	ND	0	22.69	126.03
W-1	12/1/1996	--	90.10	ND	0	52.79	142.89
	1/1/1998	--	89.28	ND	0	53.61	142.89
	8/1/1998	--	88.19	ND	0	54.70	142.89
	1/1/1999	--	88.62	ND	0	54.27	142.89
	7/1/1999	--	89.25	ND	0	53.64	142.89
	1/1/2000	--	91.80	ND	0	51.09	142.89
	7/1/2000	--	94.00	ND	0	48.89	142.89
	2/1/2001	--	95.33	ND	0	47.56	142.89
	7/1/2001	--	95.32	ND	0	47.57	142.89
	5/1/2002	--	96.70	ND	0	46.19	142.89
	9/1/2002	--	97.77	ND	0	45.12	142.89
	6/28/2004	129.00	100.66	ND	0	42.23	142.89
	10/4/2005	129.63	102.95	ND	0	39.94	142.89
	2/13/2006	129.61	102.60	ND	0	40.29	142.89
W-2 Abandoned	12/1/1996	--	88.72	ND	0	50.59	139.31
	1/1/1998	--	87.95	ND	0	51.36	139.31
	8/1/1998	--	86.95	ND	0	52.36	139.31
W-3 Abandoned	12/1/1996	--	90.98	ND	0	45.13	136.11
	1/1/1998	--	89.95	ND	0	46.16	136.11

TABLE G-1
SUMMARY OF HISTORICAL GROUNDWATER LEVEL MEASUREMENTS

ISOLA AND ASSOCIATES, LLP
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SANTA FE SPRINGS, CA

Well ID	Date	Total Depth (feet)	Depth to Water (feet)	Depth to Hydrocarbons (feet)	Hydrocarbon Thickness (feet)	Groundwater Elevation (feet-msl)	Top of Casing Elevation (feet-msl)
W-3A**	8/1/1998	--	91.14	ND	0	32.86	124.00
	1/1/1999	--	91.55	ND	0	32.45	124.00
	7/1/1999	--	92.21	ND	0	31.79	124.00
	1/1/2000	--	95.65	ND	0	28.35	124.00
	7/1/2000	--	97.10	97.14	0.04	26.93	124.00
	2/1/2001	--	98.26	ND	0	25.74	124.00
	7/1/2001	--	98.20	ND	0	25.80	124.00
	5/1/2002	--	100.39	99.28	1.11	24.50	124.00
	9/1/2002	--	102.59	100.80	1.79	22.84	124.00
	6/29/2004	115.00	102.71	101.30	1.41	22.42	124.00
	10/4/2005	104.55	104.55	103.55	1.00	20.25	124.00
	2/13/2006	104.60	102.78	NA	Sheen	21.22	124.00
W-4	12/1/1996	--	92.88	ND	0	49.50	142.38
	1/1/1998	--	92.01	ND	0	50.37	142.38
	8/1/1998	--	90.90	ND	0	51.48	142.38
	1/1/1999	--	91.31	ND	0	51.07	142.38
	7/1/1999	--	91.90	ND	0	50.48	142.38
	1/1/2000	--	94.66	ND	0	47.72	142.38
	7/1/2000	--	96.88	ND	0	45.50	142.38
	2/1/2001	--	98.20	ND	0	44.18	142.38
	7/1/2001	--	98.04	ND	0	44.34	142.38
	5/1/2002	--	99.43	ND	0	42.95	142.38
	9/1/2002	--	100.60	ND	0	41.78	142.38
	6/28/2004	132.00	102.13	ND	0	40.25	142.38
	10/4/2005	129.07	104.36	ND	0	38.02	142.38
	2/13/2006	129.54	103.91	ND	0	38.47	142.38
EW-1	8/1/1998	--	85.99	ND	0	26.41	112.40
	1/1/1999	--	86.22	ND	0	26.18	112.40
	7/1/1999	--	86.51	ND	0	25.89	112.40
	1/1/2000	--	88.29	88.21	0.08	24.17	112.40
	7/1/2001	--	93.92	91.31	2.61	20.57	112.40
	5/1/2002	--	94.39	92.78	1.61	19.30	112.40
	9/1/2002	--	95.49	93.38	2.11	18.60	112.40
	6/29/2004	113.50	98.33	96.15	2.18	15.81	112.40
	10/4/2005	NM	100.12	98.40	1.72	13.66	112.40

TABLE G-1
SUMMARY OF HISTORICAL GROUNDWATER LEVEL MEASUREMENTS

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Well ID	Date	Total Depth (feet)	Depth to Water (feet)	Depth to Hydrocarbons (feet)	Hydrocarbon Thickness (feet)	Groundwater Elevation (feet-msl)	Top of Casing Elevation (feet-msl)
EW-1	2/13/2006	NM	99.55	98.89	0.66	13.38	112.40
W-7***	10/4/2005	NM	87.97	ND	0	NA	NM
	2/13/2006	NM	85.63	ND	0	NA	NM
W-8***	10/4/2005	NM	69.18	ND	0	NA	NM
	2/13/2006	NM	69.11	ND	0	NA	NM

NOTES:
Table reproduced from *Revised Master Work Plan* by Versar, Inc., dated January, 2000, with additional data added.
Groundwater elevation = (top of casing elevation - depth to water) + (0.8 x hydrocarbon thickness) for Haley & Aldrich, Inc. and BBL, Inc. sampling events
Groundwater elevation correction for the presence of free product was performed assuming a specific gravity of 0.8 for the petroleum product
NA- Not applicable
NM- Not measured
-- Data not listed in former reports
ND - Not detected
* - Damage to casing of monitoring well MW-204 was discovered in October 2005; casing above ground was cut in order to collect groundwater sample; top of casing has not yet been resurveyed
** - Sheen developed during sampling of monitoring wells MW-504 and W-3A
*** - Former production wells W-7 and W-8 were never surveyed and are not used in calculating groundwater gradients (screened in a deeper aquifer)
msl- Mean sea level

Appendix H

Standard Operating Procedures

BBL®
an ARCADIS company

Approval Signatures

Prepared by: _____ Date: 06/22/06

Reviewed by: _____ Date: 6/22/06
(Technical Expert)

Reviewed by: _____ Date: 6/22/06
(Editorial Reviewer)

Reviewed by: _____ Date: 6/22/06
(Quality Assurance Reviewer)

Approved by: _____ Date: 6/22/06
(Project Manager)

Standard Operating Procedure: Soil Vapor Sampling

I. Scope and Application

The objective of this Standard Operating Procedure (SOP) is to describe the procedures to collect soil vapor samples for the analysis of volatile organic compounds (VOCs) using United States Environmental Protection Agency (USEPA) Method 8260B and/or methane using a handheld monitoring instrument. Vapor samples are collected from semi-permanent soil vapor probes in pre-cleaned, airtight glass syringes then analyzed for VOCs by an onsite mobile laboratory equipped with a gas chromatograph/mass spectrometer (GC/MS) and/or for methane using a Land Tech Gas Analyzer. All soil vapor sampling and analysis will be in accordance to the California Regional Water Quality Control Board- Los Angeles Region (LARWQCB) *Interim Guidance for Active Soil Gas Investigation* guidelines (LARWQCB, 1997) and the Department of Toxic Substances Control (DTSC) and LARWQCB *Active Soil Gas Survey Investigations Advisory* (DTSC & LARWQCB, 2003).

The following sections list the necessary equipment and provide detailed instructions for installing soil vapor probes and collecting soil vapor samples for VOC and methane analysis from the subsurface. Please note that state-, project-, or client-specific requirements may necessitate deviation from this SOP. Deviations should be documented, reviewed, and approved by qualified individuals prior to implementation.

II. Personnel Qualifications

Blasland, Bouck & Lee, Inc., an ARCADIS company (BBL), field personnel must have current health and safety training, including 40-hour Occupational Safety and Health Administration (OSHA) Hazardous Waste Operations and Emergency Response (HAZWOPER) training, site supervisor training, site-specific training, first aid, and Cardio-Pulmonary Resuscitation (CPR), as needed. In addition, BBL field personnel must be experienced in soil vapor sample collection activities and possess the required skills necessary to successfully complete the desired field work.

III. Equipment List

The equipment required to install a semi-permanent soil vapor probe is listed below:

- Appropriate personal protective equipment (PPE) , as specified in the site *Health and Safety Plan (HASP)* (BBL, 2006);
- Equipment decontamination supplies, as specified in the Field Sampling Equipment Decontamination SOP and Heavy Equipment Decontamination SOP;

Soil Vapor Probe Installation:

- Hand auger;
- Direct-push rig equipped with interconnecting 4-foot (or other appropriate) lengths of 1.5-inch minimum diameter, hollow probe, steel drive rods;
- Electric concrete coring drill;

- Photoionization detector (PID) to monitor the breathing zone during probe installation and sampling and any other monitoring instruments required in the HASP;
- ¼-inch tubing (Nylaflow™, Teflon®, polyethylene, or similar);
- Tubing cutter;
- Tubing slot cutter;
- Stainless steel screws or gas-tight valve,
- Teflon® tape;
- Clean No. 3 sand (or similar);
- Dry, granular bentonite;
- Water for bentonite hydration
- Colored tape and permanent marker for identification of the vapor probes; and
- Traffic cones for probes located in a road or high traffic area.

Soil Vapor Sample Collection:

- Pre-cleaned, airtight glass syringes;
- Flow controllers with in-line particulate filters and vacuum gauges. Flow controllers are pre-calibrated to specified sample duration (e.g., 30 minutes, 8-hour, 24-hour) or flow rate (e.g., 200 milliliters per minute [mL/min]). Confirm with the laboratory that the flow controller comes with in-line particulate filter and pressure gauge;
- ¼-inch tubing (Nylaflow™, Teflon®, polyethylene, or similar);
- Twist-to-lock fittings;
- Stainless steel "T" fitting (if collecting duplicate [i.e., split] samples);
- Portable vacuum pump capable of producing very low flow rates (e.g., 100 to 200 mL/min);
- Rotameter or an electric flow sensor if vacuum pump does not have a flow gauge;
- Tracer gas source (e.g., helium);
- Leak-check compound (e.g. isopropyl alcohol);
- PID to monitor the breathing zone air during probe installation and sampling;
- Chain-of-custody form (COC);
- Sampling summary form;
- Mobile laboratory equipped with GC/MS; and
- Land Tech Gas Analyzer.

Soil Vapor Probe Abandonment:

- Screw driver;

- Stainless steel screws;
- Tubing cutter,
- Hydrated bentonite;
- Asphalt mix for surface patching; and
- Concrete mix for surface patching.

IV. Cautions

Care must be taken to properly seal the boring around the soil vapor probe at the surface to prevent the introduction of atmospheric air into the soil vapor probe during purging and sampling.

Care should be taken to reduce the amount of disruption (e.g., creation of dust or noise, sample location in bad place) during concrete coring prior to vapor probe installation.

Hand auger location for installation instead of using direct push rig if located within 5 feet of any suspected utilities.

V. Health and Safety Considerations

Field sampling must be carefully conducted to minimize the potential for bodily injury and the release of hazardous substances. For vapor probe installation in concrete, drilling with an electric coring drill should be done only by personnel with prior experience using such equipment.

VI. Procedure

Soil Vapor Probe Installation:

1. Perforate the bottom portion of the ¼-inch soil vapor sampling tube and attach the tubing to the steel drive rod;
2. Advance the vapor probe to desired depth using the direct push rig. Once the desired depth is reached, the drive rods will be withdrawn leaving only the sampling tube and the steel probe point in the ground ;
3. Pour clean sand around the perforated section of the tubing to a thickness of one foot;
4. Add and hydrate one foot of dry, granular bentonite on top of the sand pack;
5. The remaining annulus will be filled with hydrated bentonite grout up to ground surface;
6. Cut the probe tubing ensuring that enough (~ 1 foot) remains above ground level to collect vapor samples from. Use a screw to seal the end of the tubing to prevent release of vapor to the atmosphere;
7. Flag the protruding probe with colored tape (pink for the 5-foot probes and orange for the 10-foot probes). Also, mark each probe on the tubing with the corresponding probe number and depth.
8. If the vapor probes are located in a road or high-traffic area, put a traffic cone over the tubing to avoid damage prior to sample collection.

Soil Vapor Sample Collection:

1. Wait a minimum of 30 minutes after probe installation before any purging, leak test, or sampling. Soil vapor sampling will not be done directly after a rain event. A minimum waiting time of 72 hours (3 days) is necessary. If water is detected in the probe during sampling, the analytical results will be lower than the actual VOC concentrations due to solubility and migration of these compounds from the vapor to the aqueous phase. Therefore, the samples will not be analyzed if water is present in the probe tubing.

2. Calculate the "dead space volume" of the tubing which is the sum of the tubing internal volume and the annular volume around the probe tip (Equations 1 through 3). The sample container volume is not taken into consideration since a syringe is utilized for sample collection. The time needed to purge this volume is then determined from the calculated volume and the purging flow rate (Equation 4).

$$V(total) = V(t) + V(a) \quad (1)$$

Where:
V(total) = total volume of sampling setup (i.e. dead space volume)
V(t) = volume in tubing
V(a) = volume of annular space around probe tip

And :

$$V(t) = \Pi r^2 h \quad (2)$$

Where:
h = height or length of tubing
r = inside radius of tubing (0.095 inches for ¼-inch tubing)

And:

$$V(a) = n\Pi r^2 h \quad (3)$$

Where:
n = sand pack porosity (assume 30%)
h = thickness of sand pack (1 foot)
r = radius of the sand pack (0.75 inches)

And:

$$t = V(total)/v \quad (4)$$

Where:
t = time needed to purge one volume
v = purge flow rate

3. For the initial soil vapor sampling location in each area, for each depth, calculate 1, 3, and 7 purge volumes from each depth (5 and 10 feet). Purge one volume then sample. Purge an additional 2 volumes (for 3 volumes total) then sample. Purge an additional 4 volumes (for 7 volumes total) then sample. Once the sample is analyzed and VOCs concentrations are determined, the purge volume associated with the highest concentration of VOCs will be selected and used for the remaining probes (at that depth) for the area.

4. The samples must be analyzed immediately, within 5 minutes of sampling. Duplicate samples must be collected a minimum of once per day per laboratory and at least at a 10% frequency. Collect duplicate sample immediately after the collection of the primary sample.

Soil Vapor Probe Abandonment:

After the conclusion of soil vapor sampling, the probes will be abandoned. The sample tubing will be cut below the ground surface and capped with a screw. The remaining void will be filled with fluid bentonite slurry until slightly below grade. The remaining depression will be filled with concrete or asphalt patch material finished flush to grade.

VII. Waste Management

Decontamination water will transported to the onsite treatment facility to be disposed off at the end of every work day. Used PPE is non-hazardous and will be double-bagged and placed in a municipal refuse dumpster.

VIII. Data Recording and Management

Measurements will be recorded in the field notebook at the time of measurement with notations of project name, sample date, sample start and finish time, and sample location. Field sampling logs and COC records will be transmitted to the Project Manager.

IX. Quality Assurance

Soil vapor sample analysis will be performed using USEPA 8260B methodology. This method uses a GC/MS with a capillary column to provide optimum detection limits. The GC/MS system requires a 1-liter gas sample to provide a 0.5 parts per billion by volume (ppbv) detection limit. Also, duplicate samples will be taken at a 10% frequency to test the accuracy of sampling and analyses procedures. When a hand-held instrument is used to analyze methane samples, at least 10% of all positive methane samples will be confirmed by another hand-held instrument (different unit or brand) or by a GC method. Finally prior to the sampling of every set of probes, a leak test will be performed by placing a rag soaked with isopropyl alcohol on the surface bentonite seal around the sampling tubing.

X. References

Blasland, Bouck & Lee, Inc. (BBL). 2006. *Health and Safety Plan.* Prepared for Isola and Associates, LLP, Former CENCO Refinery, Santa Fe Springs, California (January 2006).

California Regional Water Quality Control Board- Los Angeles Region (LARWQCB). 1997. *Interim Guidance for Active Soil Gas Investigation.* Los Angeles, California (February 1997).

Department of Toxic Substances Control (DTSC) and California Regional Water Quality Control Board- Los Angeles Region (LARWQCB). 2003. *Advisory- Active Soil Gas Investigations.* California (January 2003).

Blasland, Bouck & Lee, Inc. (BBL). 2006. *Standard Operating Procedure: Field Sampling Equipment Decontamination.* Prepared for Isola and Associates, LLP, Former CENCO Refinery, Santa Fe Springs, California (June 2006).

Blasland, Bouck & Lee, Inc. (BBL). 2006. *Standard Operating Procedure: Equipment Cleaning- Heavy Equipment*. Prepared for Isola and Associates, LLP, Former CENCO Refinery, Santa Fe Springs, California (June 2006).

Approval Signatures

Prepared by: _____ Date: 06/22/06

Reviewed by: _____ (Technical Expert) Date: 6/22/06

Reviewed by: _____ (Editorial Reviewer) Date: 6/22/06

Reviewed by: _____ (Quality Assurance Reviewer) Date: 6/22/06

Approved by: _____ (Project Manager) Date: 6/22/06

Standard Operating Procedure: Soil Boring Installation, Soil Sampling, and Borehole Abandonment

I. Scope and Application

The objective of this Standard Operating Procedure (SOP) is to describe the procedures for the installation of soil borings, collection of soil samples, and abandonment of boreholes. Soil samples may be collected using a drill rig (hollow-stem auger, direct-push, or sonic rotary), or hand-driven equipment. Hand-driven equipment will be used when physical site features or utilities limit drilling equipment access.

Field personnel will be responsible for documenting drilling events in the field logbook. The drilling contractor will be responsible for providing all drilling supplies, obtaining accurate and representative samples, informing the field sampling personnel of any changes in drilling conditions, and field observations and/or problems. The drilling contractor is also responsible for transporting waste onsite to bins, drums, or treatment systems.

This SOP may be varied or changed, as required, dependent on site conditions, equipment limitations, or limitations imposed by the procedure. The final procedure employed will be documented in the report. If changes to the sampling procedures are required due to unanticipated field conditions, the changes will be discussed with the Project Manager (PM) and regulatory agency as soon as practicable and documented in the report.

II. Personnel Qualifications

Blasland, Bouck & Lee, an ARCADIS company (BBL), field personnel must have current health and safety training, including 40-hour Occupational Safety and Health Administration (OSHA) Hazardous Waste Operations and Emergency Response (HAZWOPER) training, site supervisor training, site-specific training, first aid training, and Cardio-Pulmonary Resuscitation (CPR) training, as needed. In addition, BBL field personnel must be experienced in soil sample collection and handling activities and possess the required skills necessary to successfully complete the desired field work.

Soil cores will be lithologically described by field sampling personnel under the supervision of a California-licensed professional geologist or a California-licensed civil engineer.

III. Equipment List

The following equipment will be used during subsurface soil sampling, as needed:

- Appropriate personal protective equipment (PPE) , as specified in the site *Health and Safety Plan (HASP)* (BBL, 2006);
- Equipment decontamination supplies, as specified in the Field Sampling Equipment Decontamination SOP and Heavy Equipment Decontamination SOP;
- Stainless steel hand auger;
- Post hole digger;

- Stainless steel slide hammer sampler;
- Drilling rig (hollow stem auger, direct push, or sonic rotary) and support equipment (e.g., augers, drill pipe, drill rods, chase truck, decontamination trailer, tools, electric concrete coring drill, etc.);
- Split spoon sampler, macrocore sampler, or core barrel sampler;
- Teflon® sheets;
- Stainless steel sample sleeves or acetate liners;
- Plastic sleeve end caps;
- Resealable plastic bags;
- Appropriate sample containers (with appropriate preservative), labels, and forms;
- Appropriate sample cooler(s) with ice or blue ice;
- TerraCore™ 5 gram soil samplers (or equivalent);
- Stainless steel spatula;
- Plastic sheeting;
- Distilled or deionized water;
- Chain-of-custody forms (COCs);
- Boring log forms;
- Photoionization detector (PID) to monitor the breathing zone air during soil sampling and to measure sample headspace volatile organic compound (VOC) concentration and any other monitoring instruments required in the HASP; and
- Munsell soil color chart for soil logging.

IV. Cautions

- Make sure the soil boring location is cleared for underground utilities and review utility clearance forms prior to drilling. Hand auger and post hole dig to a minimum of 5 feet below ground surface (bgs) prior to introducing the drilling equipment into the boring. The drilling location must be shifted no less than 10 feet from the underground utilities, if present;
- Cross-contamination of subsurface materials may occur during drilling. Follow appropriate decontamination procedures of the drilling augers/rods/pipe and sampler between different boring depths and locations;
- Follow proper lifting procedures when moving heavy equipment; and
- Care should be taken to reduce the amount of disruption to site operations (e.g., dust, noise, drilling locations near active operations) during investigation activities.

V. Health and Safety Considerations

Field sampling must be carefully conducted to minimize the potential for bodily injury and the release of hazardous substances.

Prior to the implementation of soil investigation activities, all proposed soil boring locations will be cleared for the presence of underground utilities. Soil boring locations will be marked on the ground surface with white paint or staked to facilitate utility clearance. Utility clearance will be requested with a one-call utility location markout by local telephone, gas, cable, and electric utility providers. The local one-call company, Underground Service Alert (USA), must be called (800-227-2600) at least 72 hours prior to the anticipated sampling/drilling activities. The markout will provide a baseline understanding of potential utilities located in those areas where sampling is to be conducted. Once the underground utilities have been located, BBL will meet with facility representatives to assess the suitability of the sample locations. If facility representatives cannot provide accurate or complete documentation to locate onsite utilities, a private utility locator will be contracted to positively identify onsite utilities. Sample locations will be adjusted and their positions will be resurveyed or re-measured, as necessary. Soil borings will not be advanced if all utilities have not been cleared in accordance with the HASP.

All workers present during drilling activities must be able to locate the kill switch on the drill rig.

Hearing protection must be used to minimize potential hearing loss when working close to heavy equipment.

Breathing zone air must be monitored during soil drilling and sampling activities in order to minimize exposure to vapors. The field staff must be knowledgeable of the contaminant action levels that will be used to determine the procedures and protective equipment necessary based on conditions as measured at the site, as specified in the site HASP.

All new equipment, including drill rigs, should be inspected prior to commencement of field activities.

VI. Procedure

Soil Boring Installation:

After coring through concrete or asphalt, if present, soil boring installation will be initiated by hand augering to a minimum of 5 feet bgs and post hole digging to the width of the auger flights/drilling pipe. Soil borings will then be advanced to the desired depth using hollow-stem augers with the collection of split-spoon soil samples, macrocore samples, or core barrel samples. The sampler will be composed of stainless steel and must be decontaminated between sample collection from different depths and locations. All soil borings will be cored and logged at 5-foot minimum intervals.

Subsurface Soil Sampling:

1. The sampler will be opened to retrieve the soil sample sleeves. If the sample will be analyzed for VOCs, soil will be collected (in triplicates) in 5-gram TerraCore™ (or similar) samplers and transferred to laboratory-provided, pre-weighed, pre-preserved Volatile Organic Analysis (VOA) vials in accordance with United States Environmental Protection Agency (USEPA) Methods 5035A and 8260B. Method 5035A is designed to minimize the loss of volatile compounds that may occur during the collection, storage, and analysis of soil samples. This is accomplished by employing unique sampling techniques and equipment, chemical preservatives, and special analytical instrumentation. The method can be applied to samples containing both low-level and high-level VOCs. Soil cores collected for VOC analyses cannot be exposed for an extended amount of time after the soil core is extracted from the ground. Two of the sleeves will also be capped, labeled, and stored on ice in a cooler for later laboratory analysis. Part of the third sleeve soil will be stored in a resealable plastic bag for approximately 15 minutes before headspace VOC concentration is measured with a PID.

2. The soil will be lithologically described using the Unified Soil Classification System (USCS). The following parameters will be recorded in the soil logging form as necessary:
   - Sample identification;
   - Sample interval depths;
   - Sample time;
   - Sample color using Munsell color chart;
   - Sample odor, if any;
   - Headspace PID reading;
   - Blow counts;
   - Sample recovery;
   - Soil type;
   - Grain size and shape;
   - Description of visible stratigraphic and lithologic structural features of each soil sample using USCS classification;
   - Relative percentage of gravel, sand, silt, and clay in each sample;
   - Moisture content;
   - Sample density/consistency;
   - Borehole diameter and total depth;
   - Refusal depth, if applicable; and
   - Depth to groundwater if encountered.
3. Sample containers will be labeled, packed on ice, and cooled to approximately 4°C. Collected samples will then be delivered along with appropriate COC documentation to a California-certified laboratory for analysis.

Upon the conclusion of soil boring installation and soil sampling to the desired depth, the boreholes will be backfilled using a bentonite-cement grout or high-solids bentonite grout through a tremmie pipe, from the total depth of the borehole to the surface. The surface portion of the borehole will then be leveled with concrete, asphalt, or dirt depending on the existing soil surface cover.

VII. Waste Management

Impacted soil generated from drilling and sampling activities will be transported in a hopper to onsite roll-off bins for storage or transferred to a 55-gallon drum. Every container must be properly labeled and covered to prevent rainwater from entering and to minimize the release of the contaminants to the surroundings. Waste materials, such as broken sample bottles or equipment containers and wrappings, will not be placed in bins or drums with soil or water.

Decontamination water will transported to the onsite treatment facility to be disposed off at the end of every work day. Soil residuals generated during equipment decontamination will be placed in DOT-approved drums and labeled. Containerized waste will be disposed of consistent with appropriate procedures as outlined in the

Handling and Storage of Investigation-Derived Waste SOP. Used PPE is non-hazardous and will be double-bagged and placed in a municipal refuse dumpster.

VIII. Data Recording and Management

Field sampling personnel will document field sampling events in the project field logbook in conjunction to field forms (such as soil boring logs and air monitoring forms) to record all relevant information in a clear and concise format. Field sampling logs and COC records will be transmitted to the Project Manager. The record of field sampling events will include:

- Project number, client, and site location;
- Date;
- Field sampling personnel;
- Subcontractors;
- Name and affiliation of all site visitors;
- Field sampling equipment with serial numbers;
- Weather;
- Equipment calibration details;
- Sample locations;
- Sample depths;
- Blow counts and percent recovery;
- PID readings;
- Depth to water;
- Lithologic soil core description;
- Samples collected and analytical parameters;
- Sample times;
- Air monitoring readings; and
- Other miscellaneous observations.

IX. Quality Assurance

Soil sampling equipment will be decontaminated prior to use on the site, between each boring location, and upon completion of the sampling program prior to leaving the site. All drilling equipment and associated tools, including augers, drill rods, drill pipe, sampling equipment, and other equipment or tools that may have come in contact with soil will be decontaminated. The drilling equipment will be decontaminated in an area designated as the decontamination zone. Detailed equipment decontamination procedures are provided in Heavy Equipment Decontamination SOP and Field Sampling Equipment Decontamination SOP.

X. References

Blasland, Bouck & Lee, Inc. (BBL). 2006. *Health and Safety Plan.* Prepared for Isola and Associates, LLP, Former CENCO Refinery, Santa Fe Springs, California (January 2006).

Blasland, Bouck & Lee, Inc. (BBL). 2006. *Standard Operating Procedure: Field Sampling Equipment Decontamination.* Prepared for Isola and Associates, LLP, Former CENCO Refinery, Santa Fe Springs, California (June 2006).

Blasland, Bouck & Lee, Inc. (BBL). 2006. *Standard Operating Procedure: Equipment Cleaning- Heavy Equipment.* Prepared for Isola and Associates, LLP, Former CENCO Refinery, Santa Fe Springs, California (June 2006).

Approval Signatures

Prepared by: _____ Date: 06/09/06

Reviewed by: _____ Date: 6/9/06
(Technical Expert)

Reviewed by: _____ Date: 6/9/06
(Editorial Reviewer)

Reviewed by: _____ Date: 6/9/06
(Quality Assurance Reviewer)

Approved by: _____ Date: 6/9/06
(Project Manager)

Standard Operating Procedure: Equipment Cleaning- Heavy Equipment

I. Scope and Application

The objective of this Standard Operating Procedure (SOP) is to describe the procedures to decontaminate heavy equipment. These could contain potential sources of interference to environmental samples. The sampling equipment may have come in contact with the materials adjacent to the matrix being sampled or media may be attached to the actual sampling equipment. Heavy equipment may also retain contaminants from other sources such as roadways and storage areas, or material from previous job sites that were not adequately removed. For these reasons, it is important that the sampling equipment be cleaned prior to use. Heavy equipment may include the following:

- Field vehicles;
- Wells casings;
- Drilling pipe;
- Direct-push drilling rods;
- Drilling pipe;
- Auger flights;
- Drill bits;
- Core barrel samplers;
- Storage blocks;
- Bailers; and
- Submersible pumps.

Two methods may be used for cleaning heavy equipment: pressure washing and manual scrubbing. Pressure washing can remove visible debris. Since this decontamination method provides a high pressure medium, it is very effective for solids removal. It is also easy to handle and generates low volumes of wash solutions.

A second method involves manual scrubbing of equipment using brushes and detergents. This procedure can be as effective as pressure washing and is preferred in situations where the latter fails to remove visible materials. Disadvantages to manual scrubbing are that it is labor-intensive and generates large volumes of wash and rinse solutions.

Heavy equipment will be thoroughly pressure-washed or manually scrubbed upon arrival on site and when moved between sampling locations. Drill rig items (such as auger flights, drill pipe or rods, and drill bits) will be cleaned before changing sample locations.

II. Personnel Qualifications

Blasland, Bouck & Lee, Inc., an ARCADIS company (BBL), field personnel must have current health and safety training, including 40-hour Occupational Safety and Health Administration (OSHA) Hazardous Waste Operations and Emergency Response (HAZWOPER) training, site supervisor training, site-specific training, first aid, and Cardio-Pulmonary Resuscitation (CPR), as needed. In addition, BBL field personnel must be versed in the relevant SOPs and possess the required skills and experience necessary to successfully complete the desired field work. All personnel of BBL's subcontractors are also required to have current HAZWOPER training and first aid and CPR, as needed.

III. Equipment List

The following equipment supplies will be required for use in cleaning procedures:

- Appropriate personal protective equipment (PPE) as specified in the *Health and Safety Plan (HASP)* (BBL, 2006);
- Potable water source;
- High-pressure water jet/steam-cleaner and power source;
- Lint-free absorbent towels;
- Six-mil polyethylene sheeting;
- Assorted scrub brushes;
- Water disposal containers;
- Non-phosphate detergent (Liqui-Nox, Alconox, or equivalent); and
- Distilled or deionized water.

IV. Cautions

Before a piece of equipment can be cleaned, it must be disconnected and disabled in accordance with standard Energy Control and Power Lock-Out Procedures. All energy sources, including stored energy, must be removed prior to cleaning.

Protective clothing is required during cleaning. The drilling subcontractor must have a written health and safety plan appropriate for the expected operations, including measurements for determining the need for more stringent levels of protection. The minimum allowable PPE shall be Level D.

Additional protective equipment is required for some tasks. These contingencies are included in the project HASP.

V. Health and Safety Considerations

- Appropriate PPE must be worn by all field personnel within the designated work area, as stated in the project HASP;
- Do not attempt to clean equipment that is in service or still connected to power;

- Always utilize the appropriate lifting and moving techniques and equipment when transferring heavy equipment to the washing station;
- Perform high-pressure washing with caution, also be cautious of hot water equipment when using steam-cleaning; and
- Use caution when walking near equipment decontamination areas (EDAs) due to potential wet surfaces and slip/trip/fall hazards.

VI. Procedure

Setup

1. Don protective clothing.
2. Provide proper signs and barricades for the cleaning area to control access.
3. Place the item to be cleaned inside one of the EDA washing areas.

Cleaning Procedures

Pressure Washing

Place the entire piece of equipment into the EDA and spray with pressure washer, rotating equipment as needed until cleaned.

Manual Washing

1. Pre-clean the entire piece of equipment by brushing off all large soil accumulations using a scrub brush.
2. Wash equipment in a non-phosphate detergent bath using a scrub brush. For larger items, it may be appropriate to clean the equipment in sections.
3. Clean the equipment with potable water and a scrub brush.
4. Conduct final rinsing with distilled/deionized water.
5. The equipment should be clean and dry before it is ready to be re-used on site.

Before leaving the area where a piece of equipment has been cleaned, conduct a final check to make sure all discarded materials, including paper towels, plastic sheeting, and disposable gloves, have been picked up and placed in a properly labeled drum. At the end of the day, all personal protective equipment must be cleaned and stored on site. No contaminated clothing or equipment will be permitted to leave the site.

VII. Waste Management

Decontamination water will transported from the EDA to the onsite treatment facility to be disposed off at the end of every work day. Soil residuals generated during equipment decontamination will be placed in DOT-approved drums and labeled. Containerized waste will be disposed of consistent with appropriate procedures as outlined in the Handling and Storage of Investigation-Derived Waste SOP. Used PPE is non-hazardous and will be double-bagged and placed in a municipal refuse dumpster.

VIII. Data Recording and Management

Field equipment decontamination activities will be recorded in the field logbook.

IX. Quality Assurance

After field decontamination, equipment should be handled only by personnel wearing clean gloves to prevent recontamination. In addition, the equipment should be moved away (preferably upwind) from the cleaning area to prevent recontamination. If the equipment is not to be immediately reused, it should be covered with plastic sheeting to prevent recontamination. The area where the equipment is kept prior to reuse must be free of contaminants.

All drums shall be properly marked, labeled, stored, and disposed in accordance with the procedures identified in the HASP.

X. References

Blasland, Bouck & Lee, Inc. (BBL). 2006. *Health and Safety Plan.* Prepared for Isola and Associates, LLP, Former CENCO Refinery, Santa Fe Springs, California (January 2006).

Approval Signatures

Prepared by: Mather Z. Date: 06/09/06

Reviewed by: (Technical Expert) Date: 6/9/06

Reviewed by: (Editorial Reviewer) Date: 6/9/06

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Approved by: (Project Manager) Date: 6/9/06

Standard Operating Procedure: Field Sampling Equipment Decontamination

I. Scope and Application

The objective of this Standard Operating Procedure (SOP) is to describe the procedures to decontaminate non-dedicated, non-disposable sampling equipment and instruments intended for reuse. Equipment decontamination will occur prior to use on the site, between each sample location, and upon completion of the sampling program prior to leaving the site. Field sampling equipment will be decontaminated at a designated onsite or offsite equipment decontamination area, as designated by supervising field personnel. Sampling equipment may include the following:

- Soil sampling equipment such as hand augers, slide hammer samplers, direct push samplers, and split spoon samplers;
- Well construction materials;
- Soil sample sleeves;
- Water quality instruments;
- Water/product level meters; and
- Additional task-specific sampling equipment.

Equipment decontamination procedures for sampling equipment will be monitored with the collection of equipment rinsate blanks collected at a frequency of 5% or one per crew per day.

Equipment decontamination is a process of neutralization, washing, and rinsing exposed outer surfaces of equipment to minimize the potential for contaminant migration or cross-contamination. Decontamination methods include physical removal of contaminants, chemical detoxification, disinfection, and sterilization. Personnel decontamination procedures are described in the site *Health and Safety Plan (HASP)* (Blasland, Bouck & Lee, Inc., 2006). Refer to the SOP for Heavy Equipment Decontamination for the proper procedure for decontaminating large equipment.

II. Personnel Qualifications

Blasland, Bouck & Lee, Inc., an ARCADIS company (BBL), field personnel must have current health and safety training, including 40-hour Occupational Safety and Health Administration (OSHA) Hazardous Waste Operations and Emergency Response (HAZWOPER) training, site supervisor training, site-specific training, first aid, and Cardio-Pulmonary Resuscitation (CPR), as needed. In addition, BBL field personnel must be versed in the relevant SOPs and possess the required skills and experience necessary to successfully complete the desired field work. All personnel of BBL's subcontractors are also required to have current 40-hour HAZWOPER training and first aid and CPR, as needed.

III. Equipment List

- Appropriate personal protective equipment (PPE) as specified in the HASP;

- Distilled or deionized water;
- Potable water;
- Non-phosphate detergent (Liqui-Nox, Alconox, or equivalent);
- Plastic 5-gallon buckets;
- Scrub brushes;
- Garbage bags;
- Spray bottles;
- Sealable plastic bags;
- Polyethylene sheeting; and
- Lint-free absorbent towels.

IV. Cautions

Ensure the designated equipment decontamination area is in a secure location. The decontamination area should be established in the Contamination Reduction Zone (CRZ) as specified in the HASP.

V. Health and Safety Considerations

- Appropriate PPE must be worn by all field personnel within the designated work area, as stated in the project HASP;
- Do not attempt to clean equipment that is in service;
- Always utilize the appropriate lifting and moving techniques when transferring equipment to the washing station;
- Use caution when walking near equipment decontamination areas (EDAs) due to potential wet surfaces and slip/trip/fall hazards; and
- Field sampling equipment, PPE, and field samples must be carefully handled to minimize the potential spread of hazardous substances.

VI. Procedure

Setup

1. Don protective clothing.
2. Provide proper signs and barricades for the cleaning area to control access.
3. Place the item to be cleaned inside one of the EDA washing areas.

Cleaning Procedures

1. Pre-clean the entire piece of equipment by brushing off all large soil accumulations using a scrub brush.
2. Wash equipment in a non-phosphate detergent bath using a scrub brush. For larger items, it may be appropriate to clean the equipment in sections.

3. Clean the equipment with potable water and a scrub brush.
4. Conduct final rinsing with distilled/deionized water.
5. The equipment should be clean and dry before it is ready to be re-used on site.
6. In the case the equipment will not be used right away, wrap in aluminum foil with shiny side out for storage.

Before leaving the area where a piece of equipment has been cleaned, conduct a final check to make sure all discarded materials, including paper towels, plastic sheeting, and disposable gloves, have been picked up and placed in a properly labeled drum. At the end of the day, all personal protective equipment must be cleaned and stored on site. No contaminated clothing or equipment will be permitted to leave the site.

VII. Waste Management

Decontamination water will transported from the EDA to the onsite treatment facility to be disposed off at the end of every work day. Soil residuals generated during equipment decontamination will be placed in DOT-approved drums and labeled. Containerized waste will be disposed of consistent with appropriate procedures as outlined in the Handling and Storage of Investigation-Derived Waste SOP. Used PPE is non-hazardous and will be double-bagged and placed in a municipal refuse dumpster.

VIII. Data Recording and Management

Field equipment decontamination activities will be recorded in the field logbook.

IX. Quality Assurance

After field decontamination, equipment should be handled only by personnel wearing clean gloves to prevent recontamination. In addition, the equipment should be moved away (preferably upwind) from the cleaning area to prevent recontamination. If the equipment is not to be immediately reused, it should be covered with plastic sheeting to prevent recontamination. The area where the equipment is kept prior to reuse must be free of contaminants.

All drums shall be properly marked, labeled, stored, and disposed in accordance with the procedures identified in the HASP.

X. References

Blasland, Bouck & Lee, Inc. (BBL). 2006. *Health and Safety Plan.* Prepared for Isola and Associates, LLP, Former CENCO Refinery, Santa Fe Springs, California (January 2006).

Approval Signatures

Prepared by: _____ Date: 06/09/06

Reviewed by: _____ Date: 6/9/06
(Technical Expert)

Reviewed by: _____ Date: 6/9/06
(Editorial Reviewer)

Reviewed by: _____ Date: 6/9/06
(Quality Assurance Reviewer)

Approved by: _____ Date: 6/9/06
(Project Manager)

Standard Operating Procedure: Handling and Storage of Investigation-Derived Waste

I. Scope and Application

The objective of this Standard Operating Procedure (SOP) is to describe the procedures to manage investigation derived wastes (IDW) generated during drilling, well sampling, and decontamination procedures. IDW may include soil, groundwater, drilling fluids, decontamination liquids, personal protective equipment (PPE), and disposable sampling materials that may have come in contact with potentially impacted materials. All IDW will be collected at the point of generation and taken to a storage area onsite or to a disposal facility. Soil will be containerized in roll-off bins and DOT-approved drums and analyzed for constituents of concern to evaluate proper disposal methods. Contaminated groundwater, drilling fluids and decontamination liquids will be disposed off daily at an onsite wastewater treatment system and, thus, will not need to be stored. PPE and disposable sampling equipment is considered non-hazarded and will be double-bagged and placed in a municipal refuse dumpster. This SOP describes the necessary equipment, field procedures, materials, and documentation procedures necessary to do so, as well as the handling of these materials up to the time they are properly disposed. The procedures for handling IDW are based on the United States Environmental Protection Agency's *Guide to Management of Investigation Derived Wastes* (USEPA, 1992).

IDW will be managed to ensure the protection of human health and the environment and will comply with all applicable or relevant and appropriate requirements (ARAR). The following Laws and Regulations on Hazardous Waste Management are potential ARAR for this site.

State Laws

- Hazardous Waste Control Law (HWCL) Health and Safety Code §25100-25249;
- Hazardous Substance Account Act (HSAA) Health and Safety Code §25340-25392; and
- Hazardous Waste Treatment Permitting Reform Act (AB 1772) Health and Safety Code §25201.

State Regulations

- Identification and Listing of Hazardous Waste 22 California Code of Regulations (CCR) §§66261-66261.126;
- Requirements for Generators, Generally 22 CCR §§66262.10-66262.70;
- Requirements for Generators, Contingency Plan 22 CCR §§66264.50-66265.56;
- Requirements for Generators, Personnel Training 22 CCR §66265.16;
- Requirements for Transporters 22 CCR §66263; and
- Land Disposal Prohibitions 22 CCR §66268.

Federal Laws

- Resource Conservation and Recovery Act (RCRA) 42 United States Code (USC) §6901-6987;

- Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) 42 USC §9601-9675; and
- Superfund Amendments and Reauthorization Act (SARA).

Pending characterization, IDW will be stored appropriately onsite. Under RCRA, "storage" is defined as "the holding of hazardous waste for a temporary period, at the end of which the hazardous waste is treated, disposed of, or stored elsewhere" (40 Code of Federal Regulations [CFR] 2690.10). The onsite waste staging area will be in a secure and controlled area. Waste characterization involves sending samples for each media to a California-certified laboratory for analysis. Based on the results of previous waste characterization sampling completed at the Site, IDW is assumed to be a RCRA non-hazardous and California non-hazardous industrial waste. IDW will be classified as RCRA hazardous or California hazardous, if analytical results indicate hazardous characteristics.

If IDW exhibits RCRA hazardous characteristics, RCRA requirements will be followed for packaging, labeling, transporting, storing, and recordkeeping, as described in 22 CCR §66262.34. Wastes judged to potentially meet the criteria for hazardous wastes shall be stored in DOT-approved containers. Waste material classified as RCRA non-hazardous may be handled and disposed of as an industrial waste.

If IDW exhibits California hazardous characteristics, Title 22 of the California Code of Regulations will be followed for packaging, labeling, transporting, storing, and recordkeeping, as described in 22 CCR §66262. Waste material classified as California non-hazardous waste may be disposed of as an industrial waste. Blasland, Bouck & Lee, Inc., an ARCADIS company (BBL), is responsible for waste handling and characterization. BBL will also contract a licensed waste hauler to dispose of hazardous waste.

II. Personnel Qualifications

BBL field personnel must have current health and safety training, including 40-hour Occupational Safety and Health Administration (OSHA) Hazardous Waste Operations and Emergency Response (HAZWOPER) training, site supervisor training, site-specific training, first aid, and Cardio-Pulmonary Resuscitation (CPR), as needed. In addition, BBL field personnel must be versed in the relevant SOPs and possess the required skills and experience necessary to successfully complete the desired field work.

III. Equipment List

- Appropriate personal protection equipment (PPE) as specified in the *Health and Safety Plan (HASP)* (BBL, 2006);
- 55-gallon steel drums, DOT 1A2 or equivalent;
- Socket wrench set;
- Hammer;
- Leather gloves;
- Drum dolly;
- Appropriate drum and bin labels (outdoor waterproof self-adhesive);
- DOT-approved roll-off bins;
- Indelible ink and/or permanent marking pens; and

- Appropriate sample containers, labels, and forms.

IV. Cautions

1. Filled drums can be very heavy; always use appropriate moving techniques and equipment.
2. Similar media must be stored in the same drums to aid in sample analysis and disposal.
3. Drum lids must be secured to prevent rainwater from entering the drums.
4. Drums containing solid material may not contain any free liquids.
5. All drums must be in good condition to prevent potential leakage and facilitate subsequent disposal. Inspect the drums for dents and rust, and verify the drum has a secure lid prior to use.

V. Health and Safety Considerations

1. Appropriate PPE must be worn by all field personnel within the designated work area, as stated in the project HASP.
2. Air must be periodically monitored during drilling and sampling activities, as required in the HASP.
3. If excavating in potentially hazardous areas is possible, contingency plans should be developed to address the potential for encountering gross contamination or non-aqueous phase liquids (NAPL).

VI. Procedure

Impacted soil generated from drilling and sampling activities will be transported in a hopper to onsite roll-off bins for storage or transferred to a 55-gallon drum. Every container must be properly labeled and covered to prevent rainwater from entering and to minimize the release of the contaminants to the surroundings. Waste materials, such as broken sample bottles or equipment containers and wrappings, will not be placed in bins or drums with soil or water.

Waste Management

Waste management efforts will focus on the minimization of IDW during the project activities. For example, aqueous-based cleaners instead of solvent-based ones must be used for the decontamination of equipment; traffic between exclusion and support zones must be minimized; and drilling methods and sampling techniques that generate relatively less waste must be adopted.

Waste Container Labeling

Outdoor, waterproof, self-adhesive labels must be used to identify drums and bins containing soil cuttings. IDW containers will be labeled as follows:

- Appropriate California waste characterization label (Testing In Progress, Hazardous, or Non-Hazardous);
- Waste generator's name (BBL);
- Project name (CENCO Former Refinery);
- Project address (12345 Lakeland Road, Santa Fe Springs, CA);
- Name and telephone number of BBL Field Manager;

- Accumulation start date; and
- Container number.

Drilling Soil Cuttings and Muds

Soil cuttings are solid to semi-solid soils generated during trenching activities, subsurface soil sampling, or installation of monitoring wells. Since direct push, hollow stem auger, and sonic rotary drilling are the techniques of choice in this project, no drilling fluids or "muds" will be used to remove soil cuttings.

Soil cuttings will be stored in 55-gallon steel drums or roll-off bins, which will be kept closed during storage and maintained a in good condition in accordance with the *Guide to Management of Investigation-Derived Wastes* (USEPA, 1992).

Decontamination Solutions

Decontamination solutions are generated during decontamination of PPE and sampling equipment. Decontamination solutions may range from non-phosphate detergents (e.g. Liqui-Nox) to decontaminate small field sampling equipment to steam cleaning rinsate used to wash heavy field equipment. These solutions will be disposed of at an onsite wastewater treatment system.

Disposable Equipment

Disposable equipment includes PPE (Tyvek® coveralls, gloves, booties, and APR cartridges) and disposable sampling equipment such as disposable bailers. These materials are considered non-hazardous and will be double-bagged and disposed of in a municipal refuse dumpster.

Purge Water

Purge water includes groundwater generated during well development, groundwater sampling, or aquifer testing. The volume of groundwater generated will dictate the appropriate storage procedure. Monitoring well development and groundwater sampling may generate three well volumes of groundwater or more. This volume will be temporarily stored in vacuum truck (utilized to purge the wells) or waste containers (portable tanks or drums) prior to disposal at the onsite wastewater treatment system.

VII. Data Recording and Management

Waste characterization sample handling, packing, and shipping procedures will be documented in the field logbook. Copies of the chain-of-custody forms will be maintained in the project file. Following waste characterization, BBL will initiate disposal at the appropriate waste disposal facility.

VIII. Quality Assurance

The chain-of-custody and sample labels for waste characterization samples will be filled out in accordance with the *Additional Site Investigation Work Plan* (Haley & Aldrich, Inc., 2005).

IX. References

Blasland, Bouck & Lee, Inc. (BBL). 2006. *Health and Safety Plan.* Prepared for Isola and Associates, LLP, Former CENCO Refinery, Santa Fe Springs, California (January 2006).

California Environmental Protection Agency (CalEPA). 1995. *Representative Sampling of Groundwater for Hazardous Substances.* Guidance Manual for Ground Water Investigations (July 1995).

Haley & Aldrich, Inc. 2005. *Additional Site Investigation Work Plan, CENCO Refining Company* (May 9, 2005).

United States Environmental Protection Agency (USEPA). 1992. *Guide to Management of Investigation-Derived Wastes.* Office of Remedial and Emergency Response. Hazardous Site Control Division (January 1992).

Approval Signatures

Prepared by: _____ Date: 06/09/06

Reviewed by: _____ Date: 6/9/06
(Technical Expert)

Reviewed by: _____ Date: 6/9/06
(Editorial Reviewer)

Reviewed by: _____ Date: 6/9/06
(Quality Assurance Reviewer)

Approved by: _____ Date: 6/9/06
(Project Manager)

Standard Operating Procedure: Groundwater Sampling

I. Scope and Application

This Standard Operating Procedure (SOP) describes in detail the requirements for proper sampling of groundwater monitoring and production wells by Blasland, Bouck & Lee, Inc. (BBL) at the Former CENCO Refinery site.

II. Personnel Qualifications

Blasland, Bouck & Lee, Inc., an ARCADIS company (BBL), field sampling personnel must have current health and safety training, including 40-hour Occupational Safety and Health Administration (OSHA) Hazardous Waste Operations and Emergency Response (HAZWOPER) training, site supervisor training, site-specific training, first aid, and Cardio-Pulmonary Resuscitation (CPR), as needed. In addition, BBL field sampling personnel must conduct all groundwater sampling activities in a manner consistent with this SOP. It is the responsibility of the project manager (PM) to ensure that the activities discussed herein are properly staffed, planned, and executed.

III. Equipment List

The following equipment is required for sampling groundwater monitoring and production wells:

1. **Water Level Meter**: This meter is used to measure the depth to water from the top of the well casing and the total depth of the well by lowering the probe all the way to the bottom.
2. **Organic Vapor Monitor (OVM)**: This instrument is used to monitor the air quality in the breathing zone when opening a monitoring well. Organic vapor concentrations are expressed in parts per million (ppm).
3. **Vacuum Truck**: Groundwater sampling is conducted using a vacuum truck to purge the monitoring wells prior to sampling.
4. **Water Quality Meter(s)**: The meter(s) measures water quality parameters of the groundwater prior to sampling. The meter(s) must be calibrated daily or prior to use in accordance to manufacturer instructions. Water quality parameters may include pH, temperature, conductivity, turbidity, dissolved oxygen, oxidation-reduction potential, and total dissolved solids. One or more meters may be required to measure the desired water quality parameters.
5. **Five-Gallon Buckets**: Buckets are needed to transport fluids used for decontaminating sampling equipment.
6. **Purge Water Collection Container**: Purged groundwater will be collected in this container for field parameters measurement prior to sampling. Container may be a vacuum truck, 55-gallon, drums, or a portable tank.
7. **Disposable Bailers**: These are polyethylene sample collection devices used to manually extract groundwater samples from monitoring and production wells. Cotton twine, rather than polyester, will be used to lower bailers down the wells in order to prevent static electricity.
8. **Sample Cooler**: A sample cooler is used to store the groundwater samples on wet ice at a temperature lower than 6°C until the samples are transferred to the analytical laboratory.

9. **Well Keys**: In order to gain access to selected monitoring wells, the corresponding lock keys will be obtained prior to sampling.
10. **Miscellaneous Hardware**: This includes any tools that will be needed to open the groundwater monitoring wells to be sampled, such as screw drivers and adjustable wrenches.

IV. Cautions

The breathing zone quality must be monitored for organic vapors every time a monitoring or production well is opened. This is essential to avoid exposure to high levels of toxic or combustible vapors.

Only cotton twine is to be used to lower disposable bailers down the wells to avoid fire hazard due to static.

V. Health and Safety Considerations

All personnel including subcontractors must have read, understand, and abide by all requirements stated in the site *Health and Safety Plan (HASP)* (BBL, 2006) for all site activities. All personnel will have completed 40-hour HAZWOPER training and an annual 8-hour refresher taken within the last 12 months as specified under Title 8 California Code of Regulations Section 5192.

In accordance with the BBL HASP, the following PPE is required for use when personnel are performing sampling activities at the monitoring wells.

- Hard hat, meeting ANSI Z89, when falling object hazards are present;
- Safety glasses with side shields or goggles, meeting ANSI Z87;
- Steel-toe work boots, meeting ANSI Z41;
- Work gloves, as appropriate;
- Nitrile gloves, as appropriate;
- Nomex fire retardant coveralls; and
- Full-face, National Institute for Occupational Safety and Health- (NIOSH-) approved, air-purifying respirator with organic vapor cartridges, when high levels of organic vapors are detected.

VI. Procedure

A. General

- To protect against pinch points and biological hazards, wear leather gloves when opening monitoring well covers.
- To prevent back injury while removing vault covers flush to the ground, use the vault hook.
- To prevent back injury while sampling flush wells, use a chair or equivalent.
- A site map may be required to locate the groundwater monitoring or production wells.

B. Well Head Inspection

- The well must be securely locked using a cap or lid. The purpose of the cap is for security and to keep out insects, rodents, water or anything else that might enter the well. The cap or lid should fit snuggly and be lockable and must be replaced if otherwise. A slip cap is acceptable but may only be used when there is another means available to lock the well.
- The well casing must be in a good condition, free of large cracks, cuts, holes or other defects. Also note if the casing appears bent or dislocated more than normal.
- A seal, usually made of cement, is placed between the casing and the borehole during well construction to prevent surface water or other materials from migrating down to the aquifer. The seal must be in a good condition and not severely cracked or broken. In some cases the seal may have been extended onto the ground surface around the well to form a pad.
- There should not be any standing water around the well, whether on the ground surface or within the riser or well box.
- The well must have a legible identification marking. The marking can be a tag, label, or painted on.

C. Sampling Monitoring Wells

- Prior to opening a monitoring well, a full-face respirator must be worn to protect possible organic volatiles. Open well slowly, while holding the OVM meter tip at the head of the well casing to obtain a reading. Record the reading on the Well Measurements Form. Obtain a second reading in the breathing zone, defined as that zone within an 18-inch radius of the face during operations. Record the reading on the Air Monitoring Log. Refer to Chapter 6 of the Former CENCO Refinery project HASP (BBL, 2006) for contaminant action levels.
- The water level below the top of the casing must be measured using a water level meter prior to sampling. The top of well casing is usually marked by black paint. Care must be taken to ensure that the meter probe does not become entangled in the stinger/air assist tubing of the well. Record the level to the nearest hundredth of a foot on the Well Measurements Form and Groundwater Sampling Form. Measure the total depth of the well for all wells not containing free product. Depending on the water level meter utilized, 0.3 inches must be added to the total depth of the water level reading. If a total well depth measurement cannot be obtained due to limited space within the well, an approximate depth from well construction information sheet can be used to calculate the casing and purge volume.
- The well purge volume must be calculated and recorded next. The well volume factors listed in the table below are used to calculate the bore volume and purge volume.

Well Volume Conversion Factors

Well Casing ID (inches)	**Volume Factor** (gal/ft)
2.0	0.1632
3.0	0.3672
4.0	0.6528
4.5	0.8260
6.0	1.4690

ID – Inside diameter
gal/ft – Gallons per foot

Casing Volume (C), gal = (D-L) x V (1)
Calculated Purge Volume, gal = C x P (2)

Where:
D = total depth (ft)
L = depth to water level (ft)
V = Well volume factor (gal/ft)
P = Number of volumes to purge = 3 (Maximum of five if readings are not stable)

With the assistance of a vacuum truck, begin purging well and collect an initial field parameter measurement and record the required field parameters as stated on the Groundwater Sampling Form (pH, temperature, conductivity, oxidation-reduction potential, dissolved oxygen, and turbidity). Continue collecting field parameter measurements during purging (minimum of 2 measurements per well volume purged) until a minimum of 3 casing volumes have been purged and pH, temperature, and conductivity are within 10% for the final 3 consecutive readings. If field parameters have not stabilized after five casing volumes have been purged, document the final measurements and sample. Make note of the lack of stabilization and bring to PM's attention.

- Decontaminate the field parameter probe, turn meters off and close storage cases. Decontaminate the field parameter collection container and store until next use.
- Record water level measurement following purging completion. Proceed to sampling only if the well has recharged to at least 80% of the original static water level.
- Using a disposable bailer tied to a cotton twine, sample the groundwater monitoring well, collect the samples in labeled containers, and store on ice in a cooler. The sample vials and bottles might contain preservatives depending on the analysis method. Record samples on the Chain of Custody (COC) forms.
- Replace the vault lid back on the well and lock.

NOTES

- If the well runs dry before three well casing volumes can be purged or parameters stabilized, the well is considered dewatered and should be allowed to recharge. The well is considered dry if, upon returning 24 hours later, one set of field parameters and the sample cannot be collected. If well is dry, record DRY on the Groundwater Sampling Form. If well recovery rate is ≥ 80% within 24 hours of purging, take 1 set of parameters and required samples. If well recovery rate is < 80% the following day and there is enough water to sample, then it is acceptable to take one set of parameters and the required samples. Finally, if unable to fill all sample containers due to the well dewatering while sampling, it is permissible to return within 24 hours to finish filling sample containers (this may continue into another 24 to 48 hour period after original purging due to slow recovery rate). Do not re-purge the well in this case.
- The following must be noted in comments on the Groundwater Sampling Form: water level prior to sampling, time of each sampling, and percent recovery rate of the well prior to each sampling.

VII. Waste Management

All equipment utilized in groundwater monitoring and production wells must be thoroughly decontaminated with a non-phosphate detergent solution and rinsed with deionized water (decontamination solution is a 1:3

mixture of detergent and DI water). All generated purged groundwater and decontamination liquids must be transported daily to the onsite wastewater treatment facility for disposal by the end of the sampling event.

VIII. Data Recording and Management

Groundwater sampling activities must be recorded in the field logbook.

IX. Quality Assurance

All purged groundwater and decontamination fluids will be disposed of at an onsite wastewater treatment system. Containerized waste will be disposed of consistent with appropriate procedures as outlined in the Handling and Storage of Investigation-Derived Waste SOP. Used PPE is non-hazardous and will be double-bagged and placed in a municipal refuse dumpster.

All drums shall be properly marked, labeled, stored, and disposed in accordance with the procedures identified in the HASP.

X. References

Blasland, Bouck & Lee, Inc. (BBL). 2006. *Health and Safety Plan.* Prepared for Isola and Associates, LLP, Former CENCO Refinery, Santa Fe Springs, California (January 2006).

Appendix I

Regulatory Screening Criteria Tables

BBL®
an ARCADIS company

TABLE I-1
REGULATORY SCREENING CRITERIA
VOLATILE ORGANIC COMPOUNDS IN SOIL VAPOR

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

Matrix	Test Method	Screening Method Res/Ind/Com (If Applicable) Year Published		CHHSLs	
				Res 2010Y5	Com/Ind 2010Y5
		Analyte	Units		
Air	8260B	1,1,1,2-Tetrachloroethane	µg/L	--	--
Air	8260B	1,1,1-Trichloroethane	µg/L	991	2790
Air	8260B	1,1,2,2-Tetrachloroethane	µg/L	--	--
Air	8260B	1,1,2-Trichloro-trifluoroethane	µg/L	--	--
Air	8260B	1,1,2-Trichloroethane	µg/L	--	--
Air	8260B	1,1-Dichloroethane	µg/L	--	--
Air	8260B	1,1-Dichloroethene	µg/L	--	--
Air	8260B	1,2-Dichloroethane	µg/L	0.0496	0.167
Air	8260B	2-Propanol	µg/L	--	--
Air	8260B	4-Bromofluorobenzene	µg/L	--	--
Air	8260B	Benzene	µg/L	0.0362	0.122
Air	8260B	Carbon tetrachloride	µg/L	0.0251	0.0846
Air	8260B	Chloroethane	µg/L	--	--
Air	8260B	Chloroform	µg/L	--	--
Air	8260B	cis-1,2-Dichloroethene	µg/L	15.9	44.4
Air	8260B	Dibromofluoromethane	µg/L	--	--
Air	8260B	Dichlorodifluoromethane	µg/L	--	--
Air	8260B	Ethylbenzene	µg/L	--	--
Air	8260B	meta-Xylene	µg/L	319	887
Air	8260B	Methylene Chloride	µg/L	--	--
Air	8260B	ortho-Xylene	µg/L	315	879
Air	8260B	para-Xylene	µg/L	317	887
Air	8260B	Tetrachloroethene	µg/L	0.18	0.603
Air	8260B	Toluene	µg/L	135	378
Air	8260B	Toluene-d8	µg/L	--	--
Air	8260B	trans-1,2-Dichloroethene	µg/L	31.9	88.7
Air	8260B	Trichloroethene	µg/L	0.528	1.77
Air	8260B	Trichlorofluoromethane	µg/L	--	--
Air	8260B	Vinyl Chloride	µg/L	0.0133	0.0448

NOTES:
CHHSLs - California Human Health Screening Levels established by the California Environmental Protection Agency
Res - Residential
Ind - Industrial
Com - Commercial
µg/L - Micrograms per Liter

TABLE I-2
REGULATORY SCREENING CRITERIA
VOLATILE ORGANIC COMPOUNDS IN SOIL

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

		Screening Method		PRGs		RB2 ESLs (Table A)		RB2 ESLs (Table E)		DAF 20	SSL Table 4 1 and 5 1 (Silt)				Lowest ESL VOCs			
		Res/Ind/Com (If Applicable)		Res	Ind	Res	Com/Ind	Res	Com/Ind	NA	2-5	10-20	30-40	50	2-5	10-20	30-40	50
		Year Published		2004	2004	2005	2005	2005	2005	2004	1996	1996	1996	1996				
Matrix	Test Method	Analyte	Units															
Soil	8260B	1,1,1,2-Tetrachloroethane	µg/Kg	3,200	7,300	24	24	24	24	--	9.46	5.59	2.15	1.29	9.46	5.59	2.15	1.29
Soil	8260B	1,1,1-Trichloroethane	µg/Kg	1,200,000	1,200,000	7,800	7,800	7,800	7,800	2,000	4400	2600	1000	600	2,000	2,000	1,000	600
Soil	8260B	1,1,2,2-Tetrachloroethane	µg/Kg	410	930	9.1	18	9.1	18	3	22	13	5	3	3	3	3	3
Soil	8260B	1,1,2-Trichloroethane	µg/Kg	730	1,600	32	70	32	70	20	110	65	25	15	20	20	20	15
Soil	8260B	1,1,2-Trichlorotrifluoroethane	µg/Kg	--	--	--	--	--	--	--	26400	15600	6000	3600	26,400	15,600	6,000	3,600
Soil	8260B	1,1-Dichloroethane	µg/Kg	2,800	6,000	200	200	200	200	23,000	110	65	25	15	110	65	25	15
Soil	8260B	1,1-Dichloroethene	µg/Kg	120,000	410,000	1,000	1,000	1,000	1,000	60	132	78	30	18	60	60	30	18
Soil	8260B	1,1-Dichloropropene	µg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Soil	8260B	1,2,3-Trichlorobenzene	µg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Soil	8260B	1,2,3-Trichloropropane	µg/Kg	34	76	--	--	--	--	--	0.1232	0.0728	0.028	0.0168	0.1232	0.0728	0.028	0.0168
Soil	8260B	1,2,4-Trichlorobenzene	µg/Kg	62,000	220,000	380	1,000	380	1,000	5,000	110	65	25	15	110	65	25	15
Soil	8260B	1,2,4-Trimethylbenzene	µg/Kg	52,000	170,000	--	--	--	--	--	264	156	60	36	264	156	60	36
Soil	8260B	1,2-Dibromo-3-chloropropane	µg/Kg	30	76	4.5	4.5	4.5	4.5	--	0.0352	0.0208	0.008	0.0048	0.0352	0.0208	0.008	0.0048
Soil	8260B	1,2-Dibromoethane	µg/Kg	32	73	0.33	0.33	0.33	0.33	--	0.1232	0.0728	0.028	0.0168	0.1232	0.0728	0.028	0.0168
Soil	8260B	1,2-Dichlorobenzene	µg/Kg	600,000	600,000	1,100	1,100	1,100	1,100	17,000	13200	7800	3000	1800	1,100	1,100	1,100	1,100
Soil	8260B	1,2-Dichloroethane	µg/Kg	280	600	4.5	4.5	4.5	4.5	20	11	6.5	2.5	1.5	4.5	4.5	2.5	1.5
Soil	8260B	1,2-Dichloropropane	µg/Kg	340	740	51	120	51	120	30	110	65	25	15	30	30	25	15
Soil	8260B	1,3,5-Trimethylbenzene	µg/Kg	21,000	7,000	--	--	--	--	--	264	156	60	36	264	156	60	36
Soil	8260B	1,3-Dichlorobenzene	µg/Kg	530,000	600,000	7,400	7,400	7,400	7,400	--	3960	2340	900	540	3,960	2,340	900	540
Soil	8260B	1,3-Dichloropropane	µg/Kg	100,000	360,000	--	--	--	--	--	2640	1560	600	360	2,640	1,560	600	360
Soil	8260B	1,4-Dichlorobenzene	µg/Kg	3,400	7,900	46	130	46	130	2,000	110	65	25	15	46	46	25	15
Soil	8260B	1-Chlorohexane	µg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Soil	8260B	2,2-Dichloropropane	µg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Soil	8260B	2-Butanone (MEK)	µg/Kg	22,000,000	110,000,000	3,900	3,900	3,900	3,900	--	154000	91000	35000	21000	3,900	3,900	3,900	3,900
Soil	8260B	2-Chloroethyl vinyl ether	µg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Soil	8260B	2-Chlorotoluene	µg/Kg	--	--	--	--	--	--	--	2640	1560	600	360	2640	1560	600	360
Soil	8260B	2-Hexanone	µg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Soil	8260B	4-Chlorotoluene	µg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Soil	8260B	4-Methyl -2- Pentanone (MIBK)	µg/Kg	--	--	--	--	--	--	--	44000	26000	10000	6000	44000	26000	10000	6000
Soil	8260B	Acetone	µg/Kg	14,000,000	54,000,000	500	500	500	500	16,000	121000	71500	27500	16500	500	500	500	500
Soil	8260B	Acetonitrile	µg/Kg	420,000	1,800,000	--	--	--	--	--	2200	1300	500	300	2,200	1,300	500	300
Soil	8260B	Acrolein	µg/Kg	100	340	--	--	--	--	--	0.924	0.546	0.21	0.126	0.924	0.546	0.21	0.126
Soil	8260B	Acrylonitrile	µg/Kg	55	120	--	--	--	--	--	0.858	0.507	0.195	0.117	0.858	0.507	0.195	0.117
Soil	8260B	Allyl chloride	µg/Kg	17,000	180,000	--	--	--	--	--	220	130	50	30	220	130	50	30
Soil	8260B	Benzene	µg/Kg	640	1,400	44	44	44	44	30	66	11	11	11	30	11	11	11
Soil	8260B	Benzyl chloride	µg/Kg	890	2,200	--	--	--	--	--	1.452	0.858	0.33	0.198	1.452	0.858	0.33	0.198
Soil	8260B	Bromobenzene	µg/Kg	28,000	92,000	--	--	--	--	--	440	260	100	60	440	260	100	60
Soil	8260B	Bromochloromethane	µg/Kg	--		--	--	--	--	--	--	--	--	--	--	--	--	--
Soil	8260B	Bromodichloromethane	µg/Kg	820	1,800	14	39	14	39	600	3.96	2.34	0.9	0.54	3.96	2.34	0.9	0.54
Soil	8260B	Bromoform	µg/Kg	62,000	220,000	2,200	2,200	2,200	2,200	800	187	110.5	42.5	25.5	187	110.5	42.5	25.5
Soil	8260B	Bromomethane	µg/Kg	3,900	13,000	220	390	220	390	200	191.4	113.1	43.5	26.1	191.4	113.1	43.5	26.1
Soil	8260B	Carbon Disulfide	µg/Kg	360,000	720,000	--	--	--	--	32,000	22000	13000	5000	3000	22,000	13,000	5,000	3,000
Soil	8260B	Carbon tetrachloride	µg/Kg	250	550	12	34	12	34	70	11	6.5	2.5	1.5	11	6.5	2.5	1.5
Soil	8260B	Chlorobenzene	µg/Kg	150,000	530,000	1,500	1,500	1,500	1,500	1,000	1540	910	350	210	1,000	910	350	210
Soil	8260B	Chloroethane	µg/Kg	3,000	6,500	630	850	630	850	--	101.2	59.8	23	13.8	101.2	59.8	23	13.8
Soil	8260B	Chloroform	µg/Kg	940	2,000	880	1,900	2,100	2,100	600	11.66	6.89	2.65	1.59	11.66	6.89	2.65	1.59
Soil	8260B	Chloromethane	µg/Kg	47,000	160,000	70	200	70	200	--	3520	2080	800	480	70	70	70	70
Soil	8260B	Dibromochloromethane	µg/Kg	1,100	2,600	19	54	19	54	400	2.86	1.69	0.65	0.39	2.86	1.69	0.65	0.39
Soil	8260B	Dibromomethane	µg/Kg	--	--	--	--	--	--	--	1342	793	305	183	1342	793	305	183
Soil	8260B	Dichlorodifluoromethane	µg/Kg	94,000	310,000	--	--	--	--	--	8580	5070	1950	1170	8,580	5,070	1,950	1,170
Soil	8260B	Ethyl benzene	µg/Kg	400,000	400,000	3,300	3,300	3,300	3,300	13,000	15,000	2,000	2,000	2,000	3,300	2,000	2,000	2,000
Soil	8260B	Ethyl methacrylate	µg/Kg	140,000	140,000	--	--	--	--	--	12,100	7,150	2,750	1,650	12,100	7,150	2,750	1,650

TABLE I-2
REGULATORY SCREENING CRITERIA
VOLATILE ORGANIC COMPOUNDS IN SOIL

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

		Screening Method		PRGs		RB2 ESLs (Table A)		RB2 ESLs (Table C)		DAF 20	SSL Table 41 Fand 5.1 (Silt)				Lowest SSL VOCs			
		Res/Ind/Com (If Applicable)		Res	Ind	Res	Com/Ind	Res	Com/Ind	NA	2-5	10-20	30-40	50	2-5	10-20	30-40	50
		Year Published		2004	2004	2005	2005	2005	2005	2004	1996	1996	1996	1996				
Matrix	Test Method	Analyte	Units															
Soil	8260B	Ethyl-tertbutylether (ETBE)	µg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Soil	8260B	Hexachlorobutadiene	µg/Kg	6,200	22,000	1,000	1,000	1,000	1,000	2,000	18.92	11.18	4.3	2.58	18.92	11.18	4.30	2.58
Soil	8260B	Iodomethane	µg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Soil	8260B	Isopropyl ether (DIPE)	µg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Soil	8260B	Isopropylbenzene (Cumene)	µg/Kg	570,000	2,000,000	--	--	--	--	--	14520	8580	3300	1980	14,520	8,580	3,300	1,980
Soil	8260B	Methacrylonitrile	µg/Kg	2,100	8,400	--	--	--	--	--	22	13	5	3	22	13	5	3
Soil	8260B	Methyl methacrylate	µg/Kg	2,200,000	2,700,000	--	--	--	--	--	30800	18200	7000	4200	30,800	18,200	7,000	4,200
Soil	8260B	Methyl-tert-butylether (MTBE)	µg/Kg	32,000	70,000	23	23	23	23	--	110	65	25	15	23	23	23	15
Soil	8260B	Methylene chloride	µg/Kg	9,100	21,000	77	77	77	77	20	94.6	55.9	21.5	12.9	20	20	20	12.9
Soil	8260B	Naphthalene	µg/Kg	1,700	4,200	460	1,500	460	1,500	84,000	2.046	1.209	0.465	0.279	2.046	1.209	0.465	0.279
Soil	8260B	Pentachloroethane	µg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Soil	8260B	Propionitrile	µg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Soil	8260B	Styrene	µg/Kg	1,700,000	1,700,000	1,500	1,500	1,500	1,500	4,000	2200	1300	500	300	1,500	1,300	500	300
Soil	8260B	Tert-amylmethylether (TAME)	µg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Soil	8260B	Tertiary butyl alcohol (TBA)	µg/Kg	--	--	73	73	73	73	--	--	--	--	--	73	73	73	73
Soil	8260B	Tetrachloroethene	µg/Kg	480	1,300	87	240	87	240	60	110	65	25	15	60	60	25	15
Soil	8260B	Toluene	µg/Kg	520,000	520,000	2,900	2,900	2,900	2,900	12,000	4,000	450	450	450	2,900	450	450	450
Soil	8260B	Trichloroethene	µg/Kg	2,900	6,500	260	460	260	460	60	110	65	25	15	60	60	25	15
Soil	8260B	Trichlorofluoromethane	µg/Kg	390,000	2,000,000	--	--	--	--	--	3300	1950	750	450	3,300	1,950	750	450
Soil	8260B	Vinyl acetate	µg/Kg	430,000	1,400,000	--	--	--	--	170,000	9020	5330	2050	1230	9,020	5,330	2,050	1,230
Soil	8260B	Vinyl chloride	µg/Kg	79	750	6.7	19	6.7	19	10	11	6.5	2.5	1.5	6.7	6.5	2.5	1.5
Soil	8260B	Xylenes, total	µg/Kg	270,000	420,000	2,300	2,300	2,300	2,300	210,000	40,000	5,300	5,300	5,300	2,300	2,300	2,300	2,300
Soil	8260B	cis-1,2-Dichloroethene	µg/Kg	43,000	150,000	190	190	190	190	400	132	78	30	18	132	78	30	18
Soil	8260B	cis-1,3-Dichloropropene	µg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Soil	8260B	cis-1,4-Dichloro-2-butene	µg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Soil	8260B	m and p-Xylene	µg/Kg	--	--	--	--	--	--	--	40,000	5,300	5,300	5,300	40,000	5,300	5,300	5,300
Soil	8260B	n-Butylbenzene	µg/Kg	240,000	240,000	--	--	--	--	--	5280	3120	1200	720	5,280	3,120	1,200	720
Soil	8260B	n-Propylbenzene	µg/Kg	240,000	240,000	--	--	--	--	--	5280	3120	1200	720	5,280	3,120	1,200	720
Soil	8260B	o-Xylene	µg/Kg	--	--	--	--	--	--	--	40,000	5,300	5,300	5,300	40,000	5,300	5,300	5,300
Soil	8260B	p-Isopropyltoluene	µg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Soil	8260B	sec-Butylbenzene	µg/Kg	220,000	220,000	--	--	--	--	--	5280	3120	1200	720	5,280	3,120	1,200	720
Soil	8260B	tert-Butylbenzene	µg/Kg	390,000	390,000	--	--	--	--	--	5280	3120	1200	720	5,280	3,120	1,200	720
Soil	8260B	trans-1,2-Dichloroethene	µg/Kg	69,000	230,000	670	670	670	670	700	220	130	50	30	220	130	50	30
Soil	8260B	trans-1,3-Dichloropropene	µg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Soil	8260B	trans-1,4-Dichloro-2-butene	µg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

NOTES:
PRGs - Preliminary Remediation Goals
RB2 ESLs - Regional Water Quality Control Board Region 2 Environmental Screening Levels
DAF20 - Dilution Attenuation Factor of 20
SSL - Soil Screening Level
CSL - Cleanup Screening Level (the lowest of the compared regulatory screening levels)
VOCs - Volatile organic compounds
Res - Residential
Ind - Industrial
Com - Commercial
NA - Not applicalbe
µg/kg - Micrograms per kilogram

tert - Tertiary
m - Meta
p - Para
n - Normal
o - Ortho
sec - Secondary

TABLE I-3
REGULATORY SCREENING CRITERIA
POLYNUCLEAR AROMATIC HYDROCARBONS IN SOIL

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

		Screening Method		PRGs		RB2 ESLs (Table A)		RB2 ESLs (Table C)		DAF20 (PRG Table)	Lowest CSL PAHs
		Res/Ind/Com (If Applicable)		Res	Ind	Res	Com/Ind	Res	Com/Ind	NA	NA
		Year Published		2004	2004	2005	2005	2005	2005	2004	
Matrix	Test Method	Analyte	Units								
Soil	8270C-PAHs	Acenaphthene	µg/Kg	3,700,000	29,000,000	16,000	16,000	16,000	16,000	570,000	16,000
Soil	8270C-PAHs	Acenaphthylene	µg/Kg	--	--	13,000	13,000	13,000	13,000	--	13,000
Soil	8270C-PAHs	Anthracene	µg/Kg	22,000,000	100,000,000	2,800	2,800	2,800	2,800	12,000,000	2,800
Soil	8270C-PAHs	Benzo(a)anthracene	µg/Kg	620	2,100	380	1,300	12,000	12,000	2,000	380
Soil	8270C-PAHs	Benzo(a)pyrene	µg/Kg	62	210	38	130	1,500	1,500	8,000	38
Soil	8270C-PAHs	Benzo(b)fluoranthene	µg/Kg	620	2,100	380	1,300	15,000	15,000	5,000	380
Soil	8270C-PAHs	Benzo(ghi)perylene	µg/Kg	--	--	27,000	27,000	27,000	27,000	--	27,000
Soil	8270C-PAHs	Benzo(k)fluoranthene	µg/Kg	380	1,300	380	1,300	2,700	2,700	49,000	380
Soil	8270C-PAHs	Chrysene	µg/Kg	3,800	13,000	3,800	13,000	19,000	19,000	160,000	3,800
Soil	8270C-PAHs	Dibenzo(a,h)anthracene	µg/Kg	62	210	110	380	4,300	4,300	2,000	62
Soil	8270C-PAHs	Fluoranthene	µg/Kg	2,300,000	22,000,000	40,000	40,000	60,000	60,000	4,300,000	40,000
Soil	8270C-PAHs	Fluorene	µg/Kg	2,700,000	26,000,000	8,900	8,900	8,900	8,900	560,000	8,900
Soil	8270C-PAHs	Indeno(1,2,3-cd)pyrene	µg/Kg	620	2,100	380	1,300	7,700	7,700	14,000	380
Soil	8270C-PAHs	Naphthalene	µg/Kg	1,700	4,200	460	1,500	460	1,500	84,000	460
Soil	8270C-PAHs	Phenanthrene	µg/Kg	--	--	11,000	11,000	11,000	11,000	--	11,000
Soil	8270C-PAHs	Pyrene	µg/Kg	2,300,000	29,000,000	85,000	85,000	85,000	85,000	4,200,000	85,000

NOTES:
PRGs - Preliminary Remediation Goals
RB2 ESLs - Regional Water Quality Control Board Region 2 Environmental Screening Levels
DAF20 - Dilution Attenuation Factor of 20
CSL - Cleanup Screening Level (the lowest of the compared regulatory screening levels)
PAHs - Polynuclear aromatic hydrocarbons
Res - Residential
Ind - Industrial
Com - Commercial
NA - Not applicalbe
µg/kg - Micrograms per kilogram

TABLE I-4
REGULATORY SCREENING CRITERIA
METALS IN SOIL

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

		Screening Method:		PRGs		CHHSLs (non-volatile)		RB2 ESLs (Table A)		RB2 ESLs (Table C)		DAF20 (PRG Table)	DLM Metals	Lowest CSL Metals
		Res/Ind/Com (If Applicable):		Res	Ind	Res	Com/Ind	Res	Com/Ind	Res	Com/Ind	NA	NA	NA
		Year Published:		2004	2004	2005	2005	2005	2005	2005	2005	2004	1989	
Matrix	Test Method	Analyte	Units											
Soil	6010B	Antimony	mg/Kg	31	410	30	380	6.1	40	280	280	5	6	5
Soil	6010B	Arsenic	mg/Kg	0.062	0.25	0.07	0.24	5.5	5.5	5.5	5.5	29	50	0.062
Soil	6010B	Barium	mg/Kg	5,400	67,000	5,200	63,000	750	1,500	2,500	2,500	1,600	1000	750
Soil	6010B	Beryllium	mg/Kg	150	1,900	150	1,700	4	8	36	36	63	4	4
Soil	6010B	Cadmium	mg/Kg	37	450	1.7	7.5	1.7	7.4	38	38	8	5	1.7
Soil	6010B	Chromium	mg/Kg	210	450	--	--	58	58	58	58	38	50	38
Soil	6010B	Cobalt	mg/Kg	900	1,900	660	3,200	10	10	10	10	--	--	10
Soil	6010B	Copper	mg/Kg	3,100	41,000	3,000	38,000	230	230	2,500	5,000	--	1300	230
Soil	6010B	Lead	mg/Kg	150	800	150	3,500	150	750	750	750	--	15	15
Soil	6010B	Molybdenum	mg/Kg	390	5,100	380	4,800	40	40	2,500	3,600	--	--	40
Soil	6010B	Nickel	mg/Kg	1,600	20,000	1,600	16,000	150	150	1,000	1,000	130	100	100
Soil	6010B	Selenium	mg/Kg	390	5,100	380	4,800	10	10	2,500	3,400	5	50	5
Soil	6010B	Silver	mg/Kg	390	5,100	380	4,800	20	40	2,500	3,600	34	--	20
Soil	6010B	Thallium	mg/Kg	5.2	67	5	63	1	13	47	47	--	2	1
Soil	6010B	Vanadium	mg/Kg	78	1,000	530	6700	110	200	2,500	5,000	6,000	--	78
Soil	6010B	Zinc	mg/Kg	23,000	100,000	23,000	100,000	600	600	2,500	5,000	12,000	--	600
Soil	7471A	Mercury	mg/Kg	23	310	18	180	3.7	10	98	98	--	2	2
Soil	7199	Hexavalent Chromium	µg/Kg	30,000	64,000	17,000	37,000	1,800	1,800	1,800	1,800	38,000	110,000	1,800

NOTES:
PRGs - Preliminary Remediation Goals
CHHSLs - California Human Health Screening Levels
RB2 ESLs - Regional Water Quality Control Board Region 2 Environmental Screening Levels
DAF20 - Dilution Attenuation Factor of 20
DLM - Designated Level Methodology
CSL - Cleanup Screening Level (the lowest of the compared regulatory screening levels)
Res - Residential
Ind - Industrial
Com - Commercial
NA - Not applicalbe
mg/kg - Micrograms per kilogram
µg/kg - Micrograms per kilogram

TABLE I-7
REGULATORY SCREENING CRITERIA
PESTICIDES IN SOIL

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

		Screening Method		PRGs		CHHSLs (non-volatile)		RB2 ESLs (Table A)		RB2 ESLs (Table C)		DAF20 (PRG Table)	Lowest CSL Pesticides
		Res/Ind/Com (if Applicable)		Res	Ind	Res	Com/Ind	Res	Com/Ind	Res	Com/Ind	NA	NA
		Year Published		2004	2004	2005	2005	2005	2005	2005	2005	2004	
Matrix	Test Method	Analyte	Units										
Soil	8081A	4,4-DDD	mg/Kg	2.4	10	2.3	9	2.3	9	110	110	16	2.3
Soil	8081A	4,4-DDE	mg/Kg	1.7	7	1.6	6.3	1.6	4	76	76	54	1.6
Soil	8081A	4,4-DDT	mg/Kg	1.7	7	1.6	6.3	1.6	4	4.3	4.3	32	1.6
Soil	8081A	Aldrin	mg/Kg	0.029	0.1	0.033	0.13	0.032	0.13	1.5	1.5	0.5	0.029
Soil	8081A	Alpha BHC	mg/Kg	--	--	--	--	--	--	--	--	--	--
Soil	8081A	Beta BHC	mg/Kg	--	--	--	--	--	--	--	--	--	--
Soil	8081A	Chlordane	mg/Kg	1.6	6.5	0.43	1.7	0.44	1.7	15	15	10	0.43
Soil	8081A	Delta BHC	mg/Kg	--	--	--	--	--	--	--	--	--	--
Soil	8081A	Dieldrin	mg/Kg	0.03	0.11	0.035	0.13	0.0023	0.0023	0.0023	0.0023	0.004	0.0023
Soil	8081A	Endosulfan I	mg/Kg	370	3,700	--	--	0.0046	0.0046	0.0046	0.0046	18	0.0046
Soil	8081A	Endosulfan II	mg/Kg	370	3,700	--	--	0.0046	0.0046	0.0046	0.0046	18	0.0046
Soil	8081A	Endosulfan sulfate	mg/Kg	--	--	--	--	--	--	--	--	--	--
Soil	8081A	Endrin	mg/Kg	18	180	21	230	0.00065	0.00065	0.00065	0.00065	1	0.00065
Soil	8081A	Endrin aldehyde	mg/Kg	--	--	--	--	--	--	--	--	--	--
Soil	8081A	Heptachlor	mg/Kg	0.11	0.38	0.13	0.52	0.014	0.014	0.014	0.014	--	0.014
Soil	8081A	Heptachlor epoxide	mg/Kg	0.053	0.19	--	--	0.015	0.015	0.015	0.015	--	0.015
Soil	8081A	Lindane	mg/Kg	--	--	0.5	2	--	--	--	--	--	0.5
Soil	8081A	Methoxychlor	mg/Kg	310	3,100	340	3,800	19	19	19	19	--	19
Soil	8081A	Toxaphene	mg/Kg	0.44	1.6	0.46	1.8	0.00042	0.00042	0.00042	0.00042	31	0.00042

NOTES:
PRGs - Preliminary Remediation Goals
CHHSLs - California Human Health Screening Levels
RB2 ESLs - Regional Water Quality Control Board Region 2 Environmental Screening Levels
DAF20 - Dilution Attenuation Factor of 20
CSL - Cleanup Screening Level (the lowest of the compared regulatory screening levels)
Res - Residential
Ind - Industrial
Com - Commercial
NA - Not applicalbe
mg/kg - Micrograms per kilogram

TABLE I-5
REGULATORY SCREENING CRITERIA
TOTAL PETROLEUM HYDROCARBONS IN SOIL

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

		Screening Method		RB2 ESLs (Table A)		RB2 ESLs (Table C)		SSL Table 4-1 and 5-1 (Silt) VOCs and TPH				Lowest CSL-TPH
		Res/Ind/Com (If Applicable)		Res	Com/Ind	Res	Com/Ind	2-5	10-20	30-40	50	NA
		Year Published		2005	2005	2005	2005	1996	1996	1996	1996	
Matrix	Test Method	Analyte	Units									
Soil	8015	C06 - C10	mg/Kg	100	100	100	100	500	500	500	500	100
Soil	8015	C10 - C22	mg/Kg	100	100	100	100	1,000	1,000	1,000	1,000	100
Soil	8015	C22 - C36	mg/Kg	500	1,000	1,000	1,000	10,000	10,000	10,000	10,000	500

NOTES:
RB2 ESLs - Regional Water Quality Control Board Region 2 Environmental Screening Levels
SSL- Soil Screeing Level
CSL - Cleanup Screening Level (the lowest of the compared regulatory screening levels)
VOCs - Volatile organic compounds
TPH - Total petroleum hydrocarbon
Res - Residential
Ind - Industrial
Com - Commercial
NA - Not applicalbe
mg/kg - Micrograms per kilogram

TABLE I-6
REGULATORY SCREENING CRITERIA
POLYCHLORINATED BIPHENYLS IN SOIL

ISOLA AND ASSOCIATES, LLP
FORMER CENCO REFINERY
SANTA FE SPRINGS, CA

		Screening Method		PRGs		CHHSLs (non-volatile)		RB2 ESLs (Table A)		RB2 ESLs (Table C)		Lowest CSL-PCBs
		Res/Ind/Com (If Applicable)		Res	Ind	Res	Com/Ind	Res	Com/Ind	Res	Com/Ind	NA
		Year Published		2004	2004	2005	2005	2005	2005	2005	2005	
Matrix	Test Method	Analyte	Units									
Soil	8082	PCB-1016	mg/Kg	3.9	21	0.089	0.3	0.22	0.74	6.3	6.3	0.089
Soil	8082	PCB-1221	mg/Kg	0.22	0.74	0.089	0.3	0.22	0.74	6.3	6.3	0.089
Soil	8082	PCB-1232	mg/Kg	0.22	0.74	0.089	0.3	0.22	0.74	6.3	6.3	0.089
Soil	8082	PCB-1242	mg/Kg	3.9	21	0.089	0.3	0.22	0.74	6.3	6.3	0.089
Soil	8082	PCB-1248	mg/Kg	0.22	0.74	0.089	0.3	0.22	0.74	6.3	6.3	0.089
Soil	8082	PCB-1254	mg/Kg	0.22	0.74	0.089	0.3	0.22	0.74	6.3	6.3	0.089
Soil	8082	PCB-1260	mg/Kg	0.22	0.74	0.089	0.3	0.22	0.74	6.3	6.3	0.089

NOTES:
PRGs - Preliminary Remediation Goals
CHHSLs - California Human Health Screening Levels
RB2 ESLs - Regional Water Quality Control Board Region 2 Environmental Screening Levels
CSL - Cleanup Screening Level (the lowest of the compared regulatory screening levels)
PCBs - Polychlorinated biphenyls
Res - Residential
Ind - Industrial
Com - Commercial
NA - Not applicalbe
mg/kg - Micrograms per kilogram

Appendix J

Laboratory Analytical Reports

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Soil Vapor Laboratory Analytical Data

Located on CD

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Soil Chemical Laboratory Analytical Data

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Soil Physical Laboratory Analytical Data

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PTS Laboratories

Blasland, Bouck & Lee, Inc.
PTS File No: 36013

PHYSICAL PROPERTIES DATA - AIR/WATER CAPILLARY PRESSURE

PROJECT NAME: Former CENCO Refinery
PROJECT NO: 54203.002

		METHODS:	API RP 40 / ASTM D2216	API RP 40		API RP 40		API RP 40	
SAMPLE ID.	DEPTH, ft.	SAMPLE ORIENT. (1)	MOISTURE CONTENT (% wt)	DENSITY BULK (g/cc)	DENSITY GRAIN (g/cc)	POROSITY, %Vb (2) TOTAL	POROSITY, %Vb (2) AIR FILLED	PORE FLUID SATURATIONS, % Pv (3) WATER	PORE FLUID SATURATIONS, % Pv (3) NAPL
B031-2.5	3.1	V	14.8	1.72	2.70	36.3	10.8	69.4	0.7
B102-2.5	3.15	V	14.6	1.72	2.72	36.6	11.3	66.8	2.3

(1) Sample Orientation: H = horizontal; V = vertical (2) Total Porosity = no pore fluids in place; all interconnected pore channels; Air Filled = pore

(1) Sample Orientation: H = horizontal; V = vertical (2) Total Porosity = no pore fluids in place; all interconnected pore channels; Air Filled = pore channels not occupied by pore fluids (3) Water = 0.9996 g/cc, Hydrocarbon = 0.8600 g/cc; Vb = Bulk Volume, cc; Pv = Pore Volume, cc; ND = Not Detected

FREE PRODUCT MOBILITY: INITIAL AND RESIDUAL SATURATIONS

PROJECT NAME: Former CENCO Refinery
PROJECT NO: 54203.002

		METHODS:	API RP40	API RP40	API RP40	ASTM D425M, DEAN-STARK			
						PORE FLUID SATURATIONS, % Pv			
						Initial Fluid Saturations		After Centrifuge at 1000xG	
SAMPLE ID.	DEPTH, ft.	SAMPLE ORIENTATION (1)	BULK DENSITY, (g/cc)	GRAIN DENSITY, (g/cc)	TOTAL POROSITY, %Vb	WATER (Swi) SATURATION	NAPL (Soi) SATURATION	WATER (Srw) SATURATION	NAPL (Sor) SATURATION
B031-2.5	2.6	H	1.61	2.70	40.4	61.0	8.3	57.1	8.3
NOTE: No free product produced. Produced water clear with no odor.									
B102-2.5	2.6	H	1.84	2.74	32.8	63.2	14.4	62.5	14.4
NOTE: No free product produced. Trace produced water clear with no odor.									

N/A = Not Analyzed. Vb = Bulk Volume, Pv = Pore Volume. (1) H = horizontal, V = vertical
Soi = Initial NAPL Saturation as received prior to centrifuging at 1000xG, Swi = Initial Water Saturation as received prior to centrifuging at 1000xG
Sor = Residual NAPL Saturation after centrifuging at 1000xG, Srw = Residual Water Saturation after centrifuging at 1000xG
Fluid Densities for pore fluid saturation calculations: Water =0.9996 g/cc, NAPL = 0.8600 g/cc.

PTS Laboratories, Inc.

Blasland, Bouck & Lee, Inc.
PTS File No: 36013

PARTICLE SIZE SUMMARY

(METHODOLOGY: ASTM D422/D4464M)

PROJECT NAME: Former CENCO Refinery
PROJECT NO: 54203.002

Sample ID	Depth, ft.	Mean Grain Size Description (1)	Median Grain Size mm	Particle Size Distribution, wt. percent						Silt & Clay
				Gravel	Sand Size			Silt	Clay	
					Coarse	Medium	Fine			
B031-2.5	3.7	Fine sand	0.046	0.00	0.00	13.09	28.14	42.52	16.24	58.77
B102-2.5	3.7	Silt	0.027	0.00	0.00	0.00	25.84	54.30	19.86	74.16

(1) Based on Mean from Trask

PHYSICAL PROPERTIES DATA - VAPOR TRANSPORT PACKAGE

PROJECT NAME: Former CENCO Refinery
PROJECT NO: 54203.002

		METHODOLOGY:	API RP40/ASTM D2216		API RP40		API RP40	API RP40		ASTM D425M	API RP40	WALKLEY-BLACK	
							POROSITY (2)				TOTAL	TOTAL	FRACTION
SAMPLE ID.	DEPTH, ft.	SAMPLE ORIENTATION (1)	MOISTURE CONTENT, % weight	MOISTURE CONTENT, cm^3/cm^3	DENSITY DRY BULK, g/cm^3	DENSITY GRAIN, g/cm^3	TOTAL, cm^3/cm^3	AIR FILLED, cm^3/cm^3	WATER FILLED, cm^3/cm^3	EFFECTIVE, cm^3/cm^3	PORE FLUID (3) SATURATIONS, % Pv	ORGANIC CARBON, mg/kg	ORGANIC CARBON, g/g
B031-2.5	3.6	V	16.5	0.268	1.62	2.66	0.390	0.122	0.268	0.098	68.6	28400	2.84E-02
B102-2.5	3.6	V	15.7	0.275	1.75	2.73	0.358	0.082	0.275	0.016	76.9	4700	4.70E-03

(1) Sample Orientation: H = horizontal; V = vertical (2) Total Porosity = no pore fluids in place; all interconnected pore channels; Air Filled = pore channels not occupied by pore fluids, native sample; Effective = drainage porosity (3) Water = 0.9996 g/cc; Hydrocarbon = 0.8600 g/cc Vb = Bulk Volume, cc; Pv = Pore Volume, cc; ND = Not Detected

PHYSICAL PROPERTIES DATA - VAPOR TRANSPORT PACKAGE

PROJECT NAME: Former CENCO Refinery
PROJECT NO: 54203.002

		METHODOLOGY:	API RP40/ASTM D2216		API RP40		API RP40	API RP40		ASTM D425M	API RP40	WALKLEY-BLACK	
							POROSITY (2)				TOTAL	TOTAL	FRACTION
SAMPLE ID.	DEPTH, ft.	SAMPLE ORIENTATION (1)	MOISTURE CONTENT,		DENSITY		TOTAL, cm^3/cm^3	AIR FILLED, cm^3/cm^3	WATER FILLED, cm^3/cm^3	EFFECTIVE, cm^3/cm^3	PORE FLUID (3) SATURATIONS, % Pv	ORGANIC CARBON, mg/kg	ORGANIC CARBON, g/g
			% weight	cm^3/cm^3	DRY BULK, g/cm^3	GRAIN, g/cm^3							

Effective = drainage porosity (3) Water = 0.9990 g/cc; Hydrocarbon = 0.8600 g/cc VB = Bulk Volume, cc; PV = Pore Volume, cc; ND = Not Detected

PERMEABILITY DATA - VAPOR TRANSPORT PACKAGE

PROJECT NAME: Former CENCO Refinery
PROJECT NO: 54203.002

		METHODOLOGY:	API RP40		API RP40 / ASTM D5084		
			25 PSI CONFINING PRESSURE		25 PSI CONFINING PRESSURE		
SAMPLE ID.	DEPTH, ft.	SAMPLE ORIENTATION (1)	EFFECTIVE PERMEABILITY TO AIR (2), millidarcy	SPECIFIC PERMEABILITY TO AIR (3), millidarcy	SPECIFIC PERMEABILITY TO WATER (4), millidarcy	HYDRAULIC CONDUCTIVITY (4), cm/s	INTRINSIC PERMEABILITY TO WATER (4), cm^2
B031-2.5	3.6	V	4.39	188			
B102-2.5	3.6	V	3.67	36.2			
B031-2.5	3.7	V			1.19	1.14E-06	1.18E-11
B102-2.5	3.7	V			0.423	4.06E-07	4.17E-12

(1) Sample Orientation: H = horizontal, V = vertical, R = remold (2) Native State = As received with pore fluids in place; (3) Specific = without

(1) Sample Orientation: H = horizontal, V = vertical, R = remold (2) Native State = As received with pore fluids in place; (3) Specific = without moisture; (4) Permeability to water and conductivity measured at saturated conditions

PTS Laboratories

Blasland, Bouck & [illegible], Inc.
PTS File No: 36013

SOIL CLASSIFICATION DATA - VAPOR TRANSPORT PACKAGE

PROJECT NAME: Former CENCO Refinery
PROJECT NO: 54203.002

METHODS:		ASTM D4318			ASTM D4318	ASTM D2487	USDA
		ATTERBERG LIMITS			USCS / PLASTICITY	USCS	USDA (2)
SAMPLE ID.	DEPTH, ft.	LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX	CHART SYMBOL (Fines: <#40 Sieve)	CLASSIFICATION, Group Symbol: Name	SOIL TEXTURE SCHEME
B031-2.5	3.5-4.0	31.7	15.7	16.0	CL	CL: Sandy lean clay	Loam
B102-2.5	3.5-4.0	30.8	12.0	18.8	CL	CL: Lean clay with sand	Silt loam

PTS Laboratories

Blasland, Bouck & [illegible], Inc.
PTS File No: 36013

SOIL CLASSIFICATION DATA - VAPOR TRANSPORT PACKAGE

PROJECT NAME: Former CENCO Refinery
PROJECT NO: 54203.002

METHODS:		ASTM D4318			ASTM D4318	ASTM D2487	USDA
		ATTERBERG LIMITS			USCS / PLASTICITY	USCS	USDA (2)
SAMPLE ID.	DEPTH, ft.	LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX	CHART SYMBOL (Fines: <#40 Sieve)	CLASSIFICATION, Group Symbol: Name	SOIL TEXTURE SCHEME

(1) Silt assumed as fine fraction for NON-PLASTIC (NP) samples. (2) Sand considered to be >No. 200 sieve for USDA SOIL TEXTURE SCHEME.

CAPILLARY PRESSURE DATA

(ASTM D6836, Centrifugal Method: air displacing water)

PROJECT NAME: Former CENCO Refinery
PROJECT NO: 54203.002

Capillary Pressure		Height Above Water Table, ft	Sample ID B031-2.5 at 3.1 ft.	
psi	cm water		Saturation, % Pore Volume	Moisture, % dry weight
0.000	0.00	0.000	100.0	20.5
0.082	5.78	0.190	100.0	20.5
0.185	13.0	0.428	100.0	20.5
0.329	23.1	0.760	100.0	20.5
0.513	36.1	1.19	100.0	20.5
0.739	52.0	1.71	99.7	20.5
1.01	70.8	2.33	99.3	20.4
1.31	92.4	3.04	99.0	20.3
2.05	144	4.75	97.6	20.0
2.96	208	6.84	96.0	19.7
4.03	283	9.32	94.1	19.3
5.26	370	12.2	92.6	19.0
6.65	468	15.4	91.1	18.6
8.21	578	19.0	89.6	18.3
18.5	1300	42.8	85.1	17.4

Specific Permeability to Air, md:	151
Permeability to Water, md:	0.882
Saturated Hydraulic Conductivity, cm/sec:	8.22E-07

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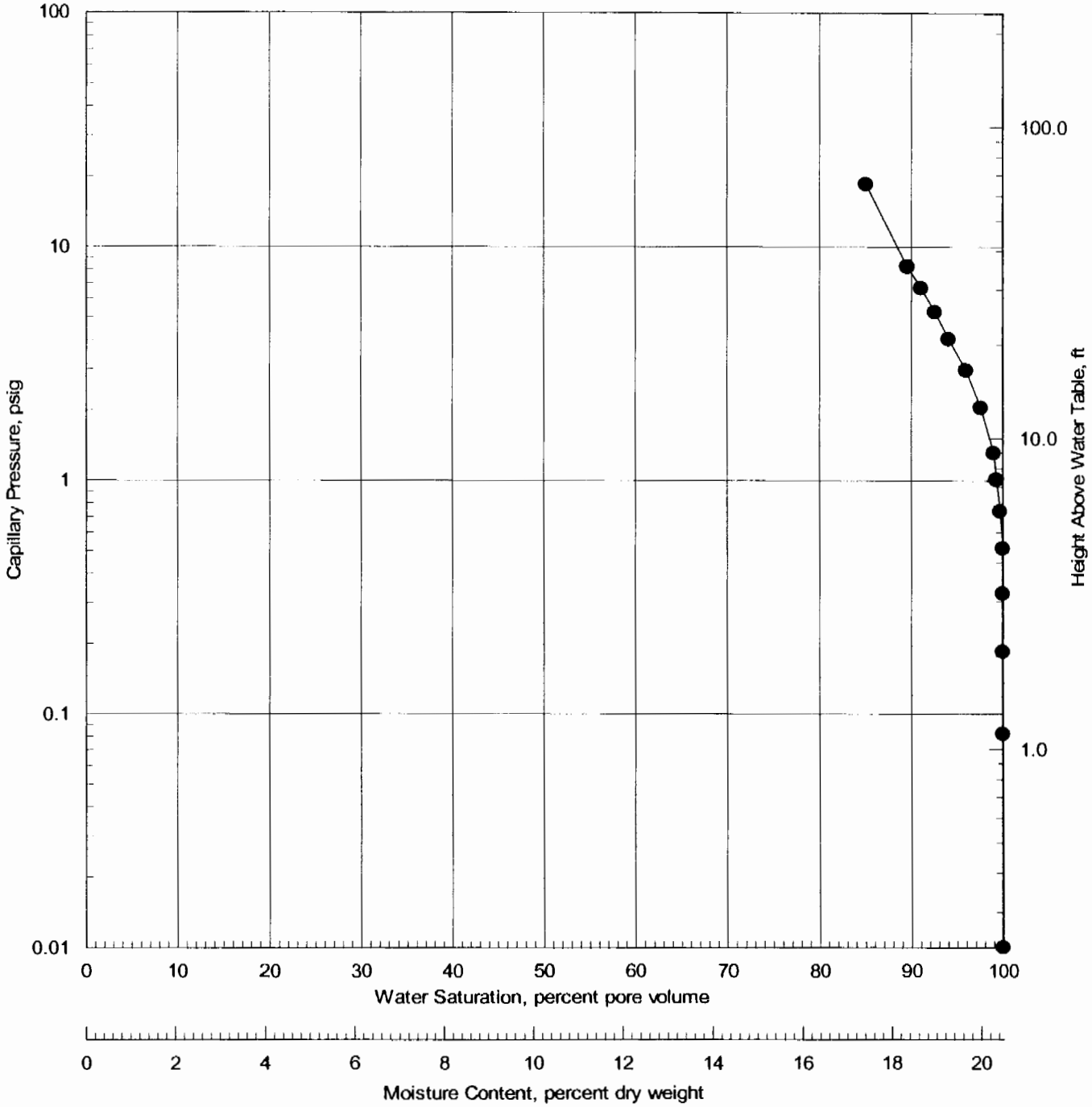
Blasland, Bouck & Lee, Inc.
File No.: 36013

CAPILLARY PRESSURE
Centrifugal Method
Air Displacing Water System - ASTM D6836

Project Name: Former CENCO Refinery
Project No: 54203.002

Sample ID: B031-2.5
Depth, ft: 3.1



Soil Moisture Retention Curve Fitting for Quantifying The Hydraulic Functions of Unsaturated Soils

TABLE 1

Project Name: Former CENCO Refinery
Project No: 54203.002
Sample ID: B031-2.5 at 3.1 ft.

van Genuchten Parameters

alpha (1/cm)	3.736E-03
n	2.301
residual water	0.772
total water	1.000
m	0.565
Water Perm (mD)	0.882
Air Perm (mD)	151
R^2	0.99923

Notes: alpha, n, and residual saturation are capillary parameters defined by the following equation (van Genuchten, 1980), with m = 1-1/n, S = water saturation, and h = capillary head (cm):

$$S_r + [(S_s - S_r)/(1 + (\alpha h)^n)^m]$$

Laboratory Measured Data*

Capillary Head (cm)	**B031-2.5 at 3.1 ft.** Volumetric Moisture	Predicted Moisture by Curve Fit	RPD (%)
0.00	1.000	1.000	0.00%
5.78	1.000	1.000	0.00%
13.00	1.000	1.000	-0.01%
23.10	1.000	1.000	-0.05%
36.10	1.000	0.999	-0.13%
51.98	1.000	0.997	-0.29%
70.75	0.995	0.994	-0.11%
92.41	0.991	0.990	-0.11%
144.39	0.976	0.974	-0.28%
207.92	0.946	0.949	0.36%
283.00	0.918	0.920	0.29%
369.64	0.894	0.892	-0.23%
467.82	0.871	0.868	-0.31%
577.56	0.847	0.849	0.17%
1299.50	0.800	0.801	0.06%

*Residual saturation estimated by visual inspection of data prior to using iterative solver to fit van Genuchten alpha and n to the data.

Soil Moisture Retention Curve Fitting for Quantifying The Hydraulic Functions of Unsaturated Soils

TABLE 2

Project Name: Former CENCO Refinery
Project No: 54203.002
Sample ID: B031-2.5 at 3.1 ft.

FUNCTIONAL RELATIONSHIPS BASED ON DERIVED CAPILLARY PARAMETERS

Capillary Head (cm)	(van Genuchten, 1980) Volumetric Moisture	(Mualem, 1976) Effective Water Perm.	(Mualem, 1976) Effective Air Perm.
0.001	1.000	8.82E-01	4.88E-19
0.02	1.000	8.82E-01	3.72E-14
0.04	1.000	8.82E-01	5.01E-13
0.05	1.000	8.82E-01	1.16E-12
0.08	1.000	8.82E-01	6.75E-12
0.09	1.000	8.82E-01	1.05E-11
1	1.000	8.81E-01	8.82E-08
1.2	1.000	8.81E-01	1.75E-07
1.3	1.000	8.80E-01	2.36E-07
1.5	1.000	8.80E-01	4.04E-07
2	1.000	8.79E-01	1.19E-06
3	1.000	8.77E-01	5.45E-06
5	1.000	8.72E-01	3.70E-05
7	1.000	8.67E-01	1.31E-04
9	1.000	8.61E-01	3.36E-04
11	1.000	8.54E-01	7.13E-04
15	1.000	8.41E-01	2.28E-03
20	1.000	8.22E-01	6.70E-03
25	0.999	8.02E-01	1.54E-02
30	0.999	7.82E-01	3.05E-02
35	0.999	7.60E-01	5.42E-02
40	0.998	7.38E-01	8.89E-02
45	0.998	7.15E-01	1.38E-01
50	0.997	6.92E-01	2.03E-01
60	0.996	6.46E-01	3.96E-01
70	0.994	6.00E-01	6.91E-01
75	0.993	5.77E-01	8.86E-01
80	0.992	5.54E-01	1.11E+00
85	0.991	5.31E-01	1.38E+00
90	0.990	5.09E-01	1.69E+00
95	0.989	4.88E-01	2.04E+00
100	0.988	4.66E-01	2.43E+00
120	0.982	3.87E-01	4.47E+00
140	0.975	3.16E-01	7.32E+00
160	0.968	2.56E-01	1.10E+01
180	0.960	2.06E-01	1.53E+01
200	0.953	1.65E-01	2.02E+01
220	0.945	1.31E-01	2.56E+01
240	0.937	1.05E-01	3.13E+01

Soil Moisture Retention Curve Fitting for Quantifying The Hydraulic Functions of Unsaturated Soils

TABLE 2

Project Name: Former CENCO Refinery
Project No: 54203.002
Sample ID: B031-2.5 at 3.1 ft.

FUNCTIONAL RELATIONSHIPS BASED ON DERIVED CAPILLARY PARAMETERS

Capillary Head (cm)	(van Genuchten, 1980) Volumetric Moisture	(Mualem, 1976) Effective Water Perm.	(Mualem, 1976) Effective Air Perm.
260	0.929	8.32E-02	3.70E+01
280	0.921	6.63E-02	4.28E+01
300	0.914	5.30E-02	4.85E+01
320	0.908	4.25E-02	5.41E+01
340	0.901	3.42E-02	5.94E+01
360	0.895	2.77E-02	6.45E+01
380	0.889	2.25E-02	6.93E+01
400	0.884	1.83E-02	7.38E+01
420	0.879	1.50E-02	7.81E+01
440	0.874	1.24E-02	8.21E+01
460	0.870	1.03E-02	8.58E+01
480	0.866	8.53E-03	8.92E+01
500	0.862	7.13E-03	9.25E+01
550	0.853	4.64E-03	9.96E+01
600	0.845	3.11E-03	1.06E+02
650	0.839	2.13E-03	1.11E+02
700	0.833	1.49E-03	1.15E+02
750	0.829	1.07E-03	1.18E+02
800	0.824	7.77E-04	1.21E+02
850	0.821	5.76E-04	1.24E+02
900	0.817	4.33E-04	1.26E+02
950	0.815	3.30E-04	1.28E+02
1000	0.812	2.55E-04	1.30E+02
1050	0.810	1.99E-04	1.32E+02
1100	0.807	1.57E-04	1.33E+02
1150	0.805	1.25E-04	1.34E+02
1200	0.804	1.01E-04	1.35E+02
1250	0.802	8.17E-05	1.36E+02
1300	0.801	6.68E-05	1.37E+02
1350	0.799	5.50E-05	1.38E+02
1400	0.798	4.56E-05	1.39E+02
1450	0.797	3.80E-05	1.39E+02
1500	0.796	3.19E-05	1.40E+02
1550	0.795	2.69E-05	1.40E+02
1600	0.794	2.28E-05	1.41E+02
1650	0.793	1.95E-05	1.41E+02
1700	0.792	1.67E-05	1.42E+02
1750	0.792	1.43E-05	1.42E+02
1800	0.791	1.24E-05	1.43E+02

Soil Moisture Retention Curve Fitting for Quantifying The Hydraulic Functions of Unsaturated Soils

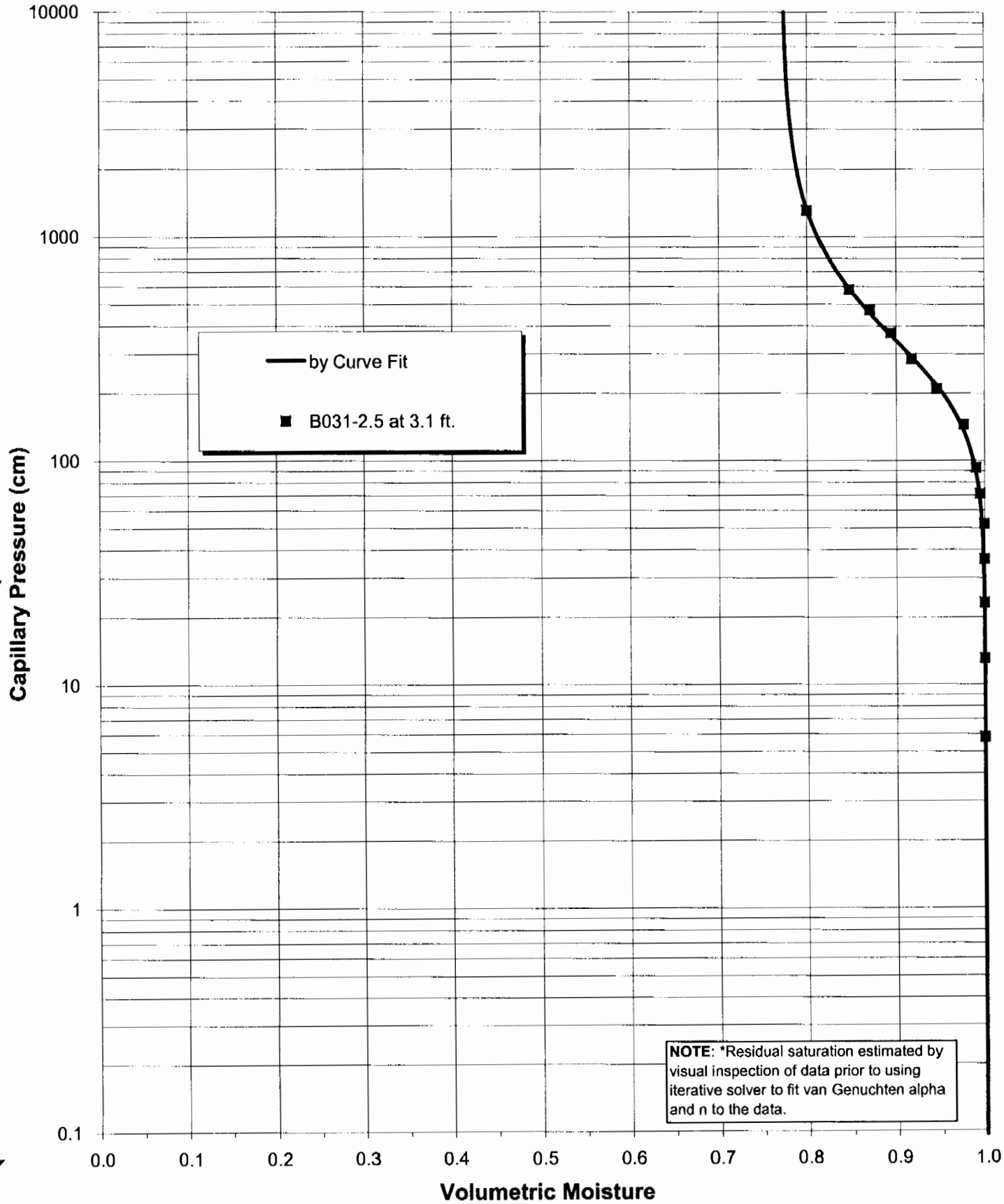
TABLE 2

Project Name: Former CENCO Refinery
Project No: 54203.002
Sample ID: B031-2.5 at 3.1 ft.

FUNCTIONAL RELATIONSHIPS BASED ON DERIVED CAPILLARY PARAMETERS

Capillary Head (cm)	(van Genuchten, 1980) Volumetric Moisture	(Mualem, 1976) Effective Water Perm.	(Mualem, 1976) Effective Air Perm.
1850	0.790	1.07E-05	1.43E+02
1900	0.790	9.36E-06	1.43E+02
1950	0.789	8.17E-06	1.44E+02
2000	0.788	7.16E-06	1.44E+02
2200	0.787	4.36E-06	1.45E+02
2400	0.785	2.77E-06	1.46E+02
2600	0.784	1.82E-06	1.46E+02
2800	0.783	1.24E-06	1.47E+02
3000	0.782	8.61E-07	1.47E+02
3200	0.781	6.14E-07	1.47E+02
3400	0.780	4.47E-07	1.48E+02
3600	0.780	3.31E-07	1.48E+02
3800	0.779	2.49E-07	1.48E+02
4000	0.779	1.91E-07	1.48E+02
4200	0.778	1.48E-07	1.49E+02
4400	0.778	1.16E-07	1.49E+02
4600	0.778	9.16E-08	1.49E+02
4800	0.777	7.32E-08	1.49E+02
5000	0.777	5.91E-08	1.49E+02
5200	0.777	4.81E-08	1.49E+02
5400	0.776	3.95E-08	1.49E+02
5600	0.776	3.26E-08	1.49E+02
5800	0.776	2.71E-08	1.50E+02
6000	0.776	2.27E-08	1.50E+02
6500	0.776	1.49E-08	1.50E+02
7000	0.775	1.01E-08	1.50E+02
7500	0.775	7.04E-09	1.50E+02
8000	0.775	5.01E-09	1.50E+02
8500	0.774	3.65E-09	1.50E+02
9000	0.774	2.70E-09	1.50E+02
9500	0.774	2.03E-09	1.50E+02
10000	0.774	1.55E-09	1.50E+02

CAPILLARY CURVE FIT: B031-2.5 at 3.1 ft.

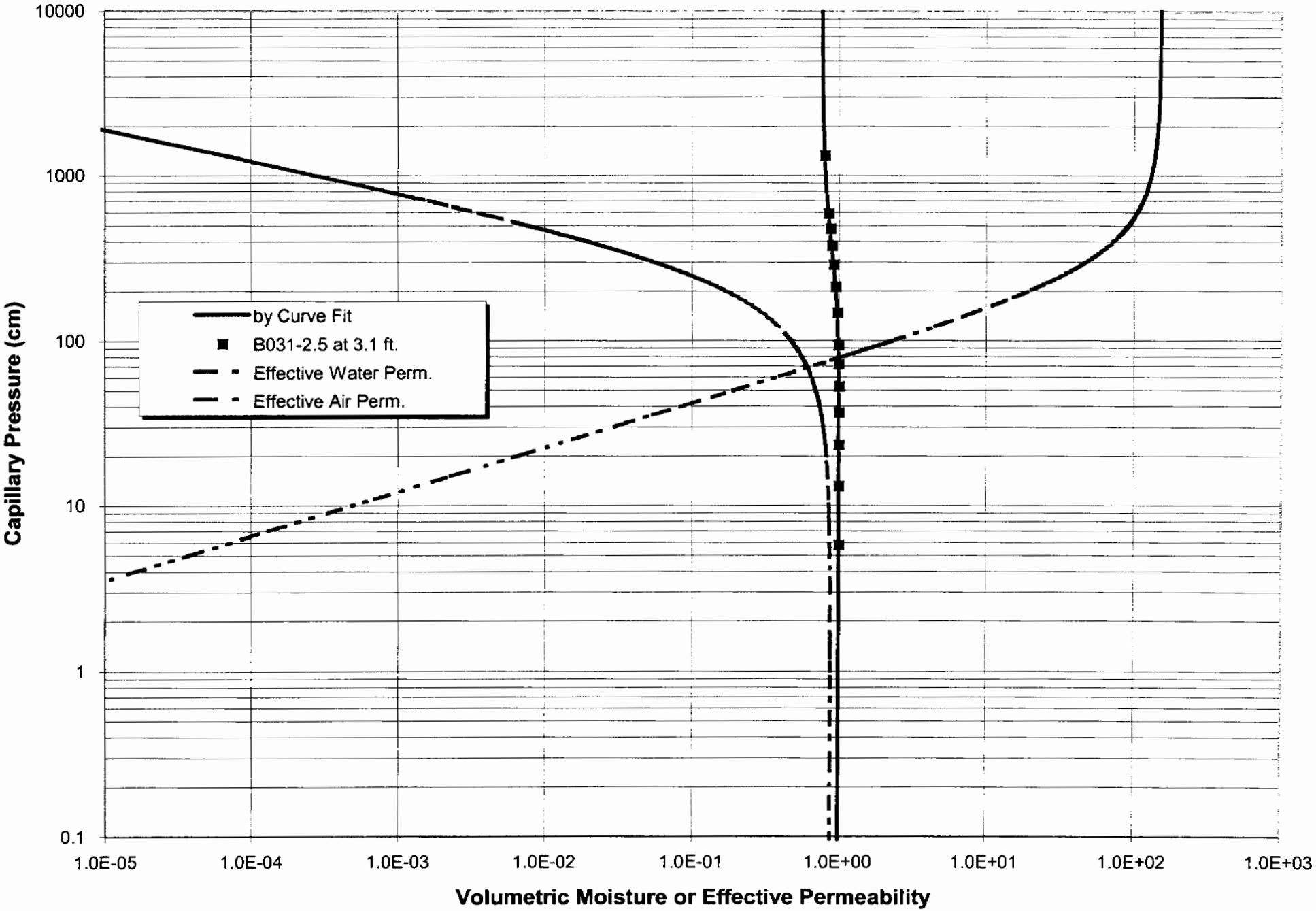


Curve fit by AQUI-VER, INC.

PTS Laboratories

Blasland, Bouck & Lee, Inc.
PTS File No. 56013

CAPILLARY CURVE FIT: B031-2.5 at 3.1 ft.



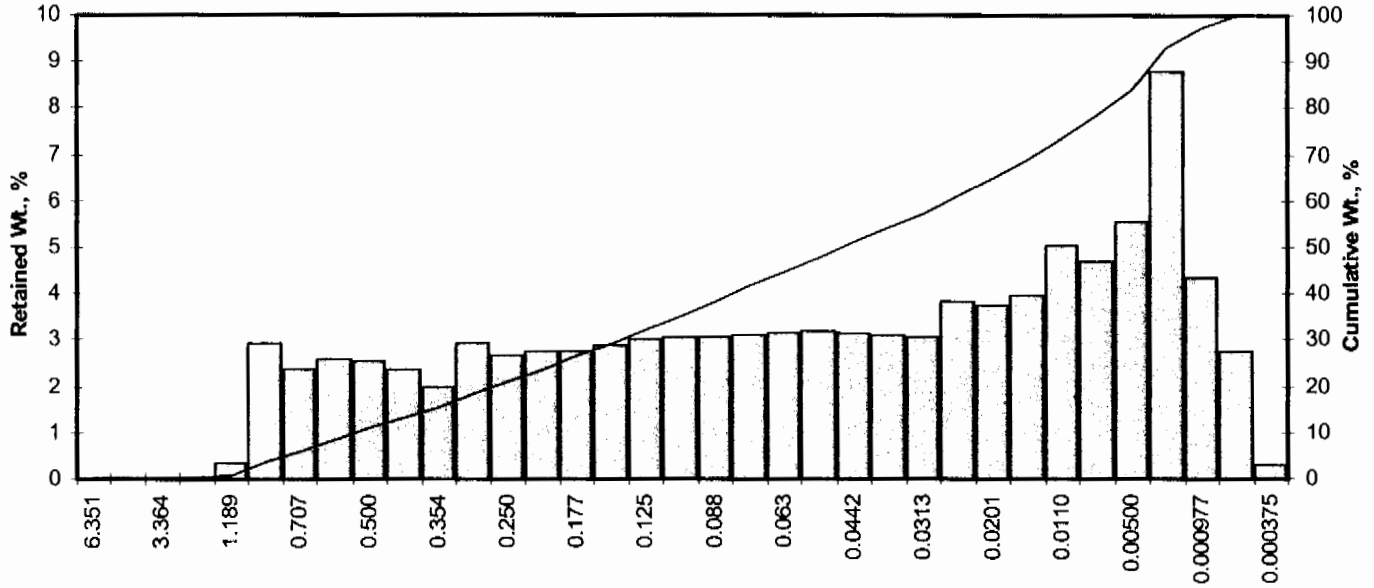
Curve fit by AQUI-VER, INC.

PTS Laboratories, Inc.

Particle Size Analysis - ASTM D4464M

Client:	Blasland, Bouck & Lee, Inc.	**PTS File No:**	36013
Project:	Former CENCO Refinery	**Sample ID:**	B031-2.5
Project No:	54203	**Depth, ft:**	3.7

Grv	Sand Size			Silt	Clay
	crs	medium	fine		



Particle Size, mm

Opening Inches	Opening Millimeters	Phi of Screen	U.S. No.	Sample Weight, grams	Increment Weight, percent	Cumulative Weight, percent
0.2500	6.351	-2.67	1/4	0.00	0.00	0.00
0.1873	4.757	-2.25	4	0.00	0.00	0.00
0.1324	3.364	-1.75	6	0.00	0.00	0.00
0.0787	2.000	-1.00	10	0.00	0.00	0.00
0.0468	1.189	-0.25	16	0.34	0.34	0.34
0.0331	0.841	0.25	20	2.91	2.91	3.25
0.0278	0.707	0.50	25	2.35	2.35	5.60
0.0234	0.595	0.75	30	2.57	2.57	8.17
0.0197	0.500	1.00	35	2.53	2.53	10.70
0.0166	0.420	1.25	40	2.39	2.39	13.09
0.0139	0.354	1.50	45	1.98	1.98	15.07
0.0117	0.297	1.75	50	2.92	2.92	17.99
0.0098	0.250	2.00	60	2.68	2.68	20.67
0.0083	0.210	2.25	70	2.75	2.75	23.42
0.0070	0.177	2.50	80	2.74	2.74	26.16
0.0059	0.149	2.75	100	2.88	2.88	29.04
0.0049	0.125	3.00	120	3.00	3.00	32.04
0.0041	0.105	3.25	140	3.05	3.05	35.09
0.0035	0.088	3.50	170	3.05	3.05	38.14
0.0029	0.074	3.75	200	3.09	3.09	41.23
0.0025	0.063	4.00	230	3.14	3.14	44.37
0.0021	0.053	4.25	270	3.17	3.17	47.54
0.00174	0.0442	4.50	325	3.15	3.15	50.70
0.00146	0.0372	4.75	400	3.11	3.11	53.81
0.00123	0.0313	5.00	450	3.05	3.05	56.86
0.000986	0.0250	5.32	500	3.84	3.84	60.70
0.000790	0.0201	5.64	635	3.77	3.77	64.47
0.000615	0.0156	6.00		3.96	3.96	68.43
0.000435	0.0110	6.50		5.05	5.05	73.48
0.000308	0.00781	7.00		4.71	4.71	78.19
0.000197	0.00500	7.65		5.57	5.57	83.76
0.000077	0.00195	9.00		8.81	8.81	92.57
0.000038	0.000977	10.00		4.37	4.37	96.94
0.000019	0.000488	11.00		2.76	2.76	99.70
0.000015	0.000375	11.38		0.30	0.30	100.00
TOTALS				**100.00**	**100.00**	**100.00**

Cumulative Weight Percent greater than			
Weight percent	Phi Value	Particle Size Inches	Particle Size Millimeters
5	0.44	0.0291	0.739
10	0.93	0.0207	0.525
16	1.58	0.0132	0.335
25	2.39	0.0075	0.190
40	3.65	0.0031	0.080
50	4.44	0.0018	0.046
60	5.26	0.0010	0.026
75	6.66	0.0004	0.010
84	7.68	0.0002	0.005
90	8.60	0.0001	0.003
95	9.56	0.0001	0.001

Measure	Trask	Inman	Folk-Ward
Median, phi	4.44	4.44	4.44
Median, in.	0.0018	0.0018	0.0018
Median, mm	0.046	0.046	0.046
Mean, phi	3.32	4.63	4.57
Mean, in.	0.0039	0.0016	0.0017
Mean, mm	0.100	0.040	0.042
Sorting	4.389	3.051	2.907
Skewness	0.944	0.061	0.091
Kurtosis	0.173	0.494	0.876
Grain Size Description (ASTM-USCS Scale)		Fine sand (based on Mean from Trask)	

Description	Retained on Sieve #	Weight Percent
Gravel	4	0.00
Coarse Sand	10	0.00
Medium Sand	40	13.09
Fine Sand	200	28.14
Silt	>0.005 mm	42.52
Clay	<0.005 mm	16.24
	Total	**100**

CAPILLARY PRESSURE DATA

(ASTM D6836, Centrifugal Method: air displacing water)

PROJECT NAME: Former CENCO Refinery
PROJECT NO: 54203.002

Capillary Pressure		Height Above Water Table, ft	Sample ID B102-2.5 at 3.15 ft.	
psi	cm water		Saturation, % Pore Volume	Moisture, % dry weight
0.000	0.00	0.000	100.0	18.5
0.083	5.82	0.192	100.0	18.5
0.186	13.1	0.431	100.0	18.5
0.331	23.3	0.766	100.0	18.5
0.517	36.4	1.20	100.0	18.5
0.745	52.4	1.72	99.7	18.5
1.014	71.3	2.35	99.3	18.4
1.32	93.1	3.06	98.8	18.3
2.07	145	4.79	98.4	18.2
2.98	209	6.90	97.8	18.1
4.06	285	9.38	96.8	17.9
5.30	372	12.3	95.6	17.6
6.70	471	15.5	94.7	17.4
8.28	582	19.2	94.1	17.3
18.6	1309	43.1	92.6	17.0

Specific Permeability to Air, md:	94.2
Permeability to Water, md:	1.14
Saturated Hydraulic Conductivity, cm/sec:	1.06E-06

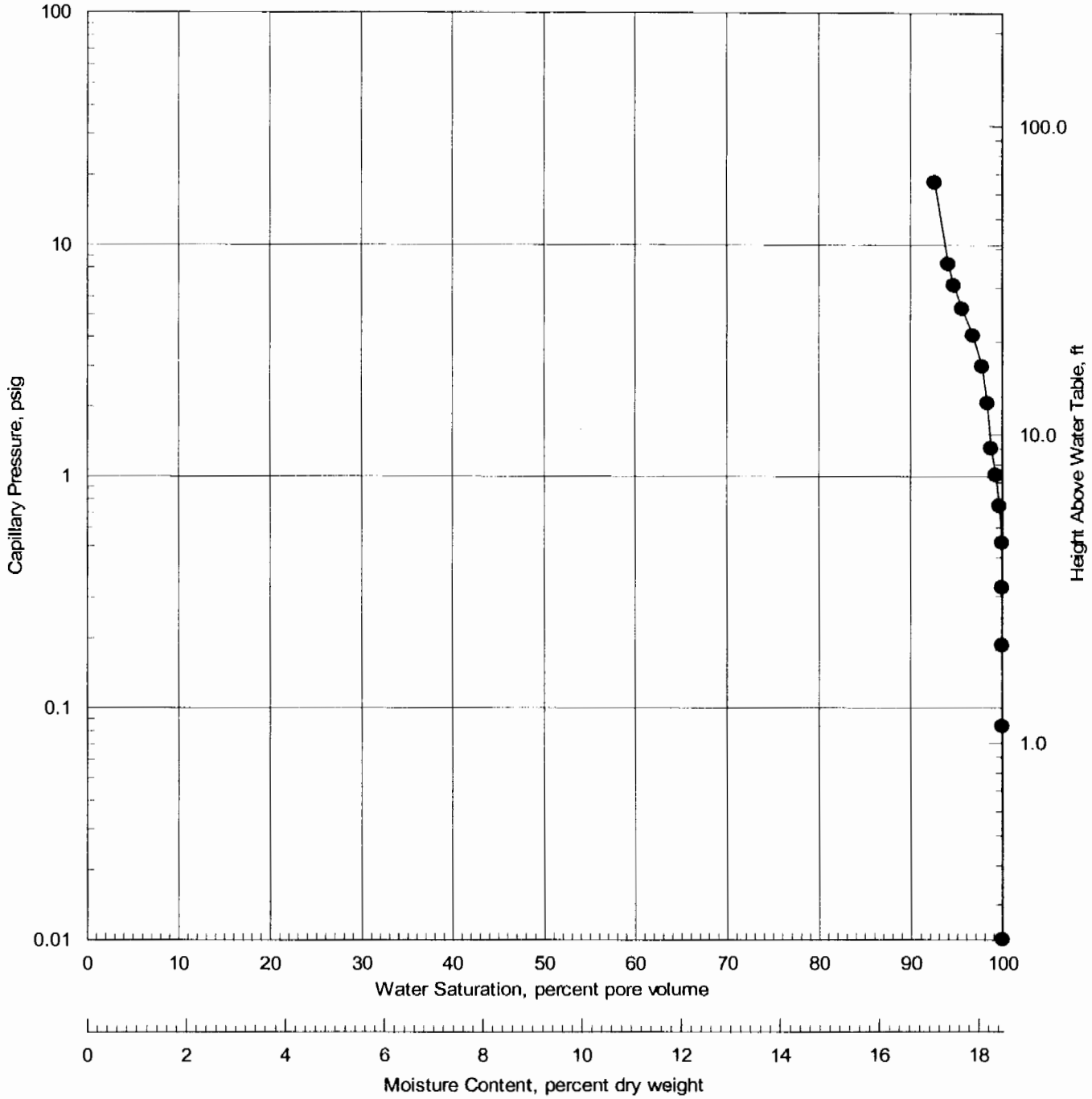
Laboratories
ENVIRONMENTAL SERVICES

Blasland, Bouck & Lee, Inc.
File No.: 36013

CAPILLARY PRESSURE
Centrifugal Method
Air Displacing Water System - ASTM D6836

Project Name: Former CENCO Refinery
Project No: 54203.002

Sample ID: B102-2.5
Depth, ft: 3.15



Soil Moisture Retention Curve Fitting for Quantifying The Hydraulic Functions of Unsaturated Soils

TABLE 1

Project Name: Former CENCO Refinery
Project No: 54203.002
Sample ID: B102-2.5 at 3.15 ft.

van Genuchten Parameters

alpha (1/cm)	4.673E-03
n	1.863
residual water	0.905
total water	1.000
m	0.463
Water Perm (mD)	1.14
Air Perm (mD)	94.2
R^2	0.99456

Notes: alpha, n, and residual saturation are capillary parameters defined by the following equation (van Genuchten, 1980), with m = 1-1/n, S = water saturation, and h = capillary head (cm):

$$S_r + [(S_s - S_r)/(1 + (\alpha h)^n)^m]$$

Laboratory Measured Data

Capillary Head (cm)	**B102-2.5 at 3.15 ft.** Volumetric Moisture	Predicted Moisture by Curve Fit	RPD (%)
0.00	1.000	1.000	0.00%
5.82	1.000	1.000	-0.01%
13.09	1.000	1.000	-0.02%
23.28	1.000	0.999	-0.07%
36.37	1.000	0.998	-0.16%
52.37	0.997	0.997	-0.01%
71.28	0.993	0.995	0.22%
93.10	0.988	0.992	0.38%
145.47	0.984	0.984	0.03%
209.48	0.978	0.975	-0.33%
285.12	0.968	0.965	-0.26%
372.41	0.956	0.956	0.06%
471.33	0.947	0.949	0.21%
581.89	0.941	0.943	0.18%
1309.24	0.926	0.925	-0.14%

Soil Moisture Retention Curve Fitting for Quantifying The Hydraulic Functions of Unsaturated Soils

TABLE 2

Project Name: Former CENCO Refinery
Project No: 54203.002
Sample ID: B102-2.5 at 3.15 ft.

FUNCTIONAL RELATIONSHIPS BASED ON DERIVED CAPILLARY PARAMETERS

Capillary Head (cm)	(van Genuchten, 1980) Volumetric Moisture	(Mualem, 1976) Effective Water Perm.	(Mualem, 1976) Effective Air Perm.
0.001	1.000	1.14E+00	4.33E-13
0.02	1.000	1.13E+00	1.25E-09
0.04	1.000	1.13E+00	7.86E-09
0.05	1.000	1.13E+00	1.42E-08
0.08	1.000	1.13E+00	4.96E-08
0.09	1.000	1.13E+00	6.79E-08
1	1.000	1.11E+00	4.09E-05
1.2	1.000	1.11E+00	6.64E-05
1.3	1.000	1.11E+00	8.22E-05
1.5	1.000	1.10E+00	1.20E-04
2	1.000	1.10E+00	2.58E-04
3	1.000	1.08E+00	7.59E-04
5	1.000	1.05E+00	2.95E-03
7	1.000	1.02E+00	7.20E-03
9	1.000	9.93E-01	1.40E-02
11	1.000	9.67E-01	2.39E-02
15	1.000	9.17E-01	5.43E-02
20	0.999	8.60E-01	1.16E-01
25	0.999	8.07E-01	2.08E-01
30	0.999	7.57E-01	3.35E-01
35	0.999	7.10E-01	4.99E-01
40	0.998	6.66E-01	7.03E-01
45	0.998	6.24E-01	9.48E-01
50	0.997	5.85E-01	1.24E+00
60	0.996	5.14E-01	1.94E+00
70	0.995	4.51E-01	2.82E+00
75	0.994	4.23E-01	3.33E+00
80	0.994	3.96E-01	3.87E+00
85	0.993	3.71E-01	4.45E+00
90	0.992	3.47E-01	5.07E+00
95	0.992	3.25E-01	5.72E+00
100	0.991	3.05E-01	6.41E+00
120	0.988	2.35E-01	9.42E+00
140	0.985	1.81E-01	1.28E+01
160	0.982	1.40E-01	1.63E+01
180	0.979	1.10E-01	1.99E+01
200	0.976	8.61E-02	2.35E+01
220	0.973	6.81E-02	2.70E+01
240	0.971	5.42E-02	3.04E+01

Soil Moisture Retention Curve Fitting for Quantifying The Hydraulic Functions of Unsaturated Soils

TABLE 2

Project Name: Former CENCO Refinery
Project No: 54203.002
Sample ID: B102-2.5 at 3.15 ft.

FUNCTIONAL RELATIONSHIPS BASED ON DERIVED CAPILLARY PARAMETERS

Capillary Head (cm)	(van Genuchten, 1980) Volumetric Moisture	(Mualem, 1976) Effective Water Perm.	(Mualem, 1976) Effective Air Perm.
260	0.968	4.35E-02	3.36E+01
280	0.966	3.52E-02	3.66E+01
300	0.963	2.87E-02	3.95E+01
320	0.961	2.35E-02	4.21E+01
340	0.959	1.94E-02	4.46E+01
360	0.957	1.61E-02	4.69E+01
380	0.956	1.35E-02	4.91E+01
400	0.954	1.14E-02	5.11E+01
420	0.952	9.62E-03	5.30E+01
440	0.951	8.18E-03	5.47E+01
460	0.950	7.00E-03	5.63E+01
480	0.948	6.02E-03	5.78E+01
500	0.947	5.20E-03	5.92E+01
550	0.944	3.67E-03	6.24E+01
600	0.942	2.65E-03	6.51E+01
650	0.940	1.96E-03	6.74E+01
700	0.938	1.48E-03	6.94E+01
750	0.936	1.13E-03	7.11E+01
800	0.935	8.81E-04	7.26E+01
850	0.933	6.94E-04	7.39E+01
900	0.932	5.54E-04	7.51E+01
950	0.931	4.47E-04	7.62E+01
1000	0.930	3.65E-04	7.72E+01
1050	0.929	3.00E-04	7.80E+01
1100	0.928	2.49E-04	7.88E+01
1150	0.927	2.08E-04	7.95E+01
1200	0.926	1.75E-04	8.01E+01
1250	0.926	1.49E-04	8.07E+01
1300	0.925	1.27E-04	8.13E+01
1350	0.924	1.09E-04	8.18E+01
1400	0.924	9.40E-05	8.22E+01
1450	0.923	8.15E-05	8.27E+01
1500	0.923	7.09E-05	8.31E+01
1550	0.922	6.21E-05	8.34E+01
1600	0.922	5.45E-05	8.38E+01
1650	0.921	4.81E-05	8.41E+01
1700	0.921	4.25E-05	8.44E+01
1750	0.921	3.78E-05	8.47E+01
1800	0.920	3.37E-05	8.50E+01

Soil Moisture Retention Curve Fitting for Quantifying The Hydraulic Functions of Unsaturated Soils

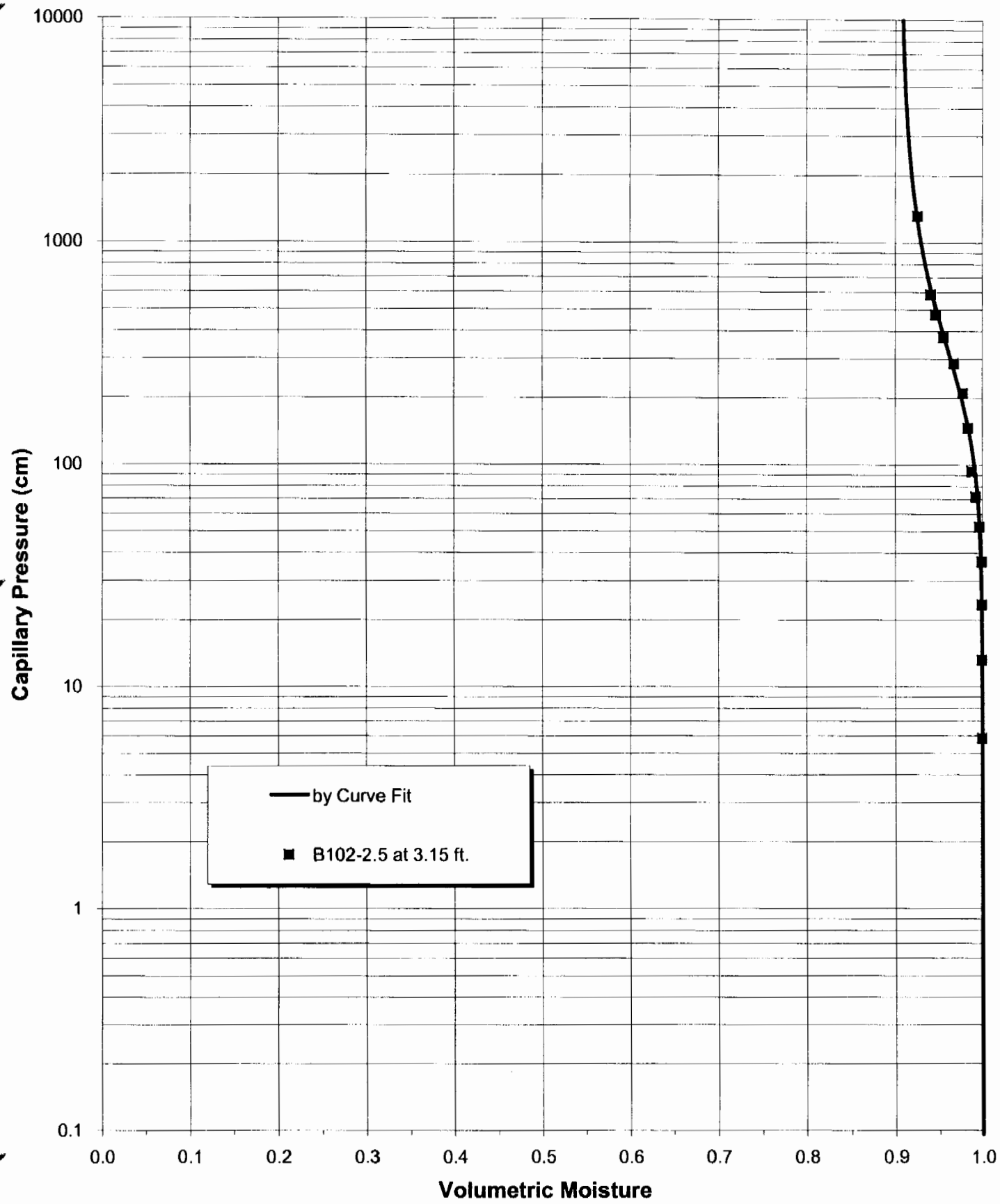
TABLE 2

Project Name: Former CENCO Refinery
Project No: 54203.002
Sample ID: B102-2.5 at 3.15 ft.

FUNCTIONAL RELATIONSHIPS BASED ON DERIVED CAPILLARY PARAMETERS

Capillary Head (cm)	(van Genuchten, 1980) Volumetric Moisture	(Mualem, 1976) Effective Water Perm.	(Mualem, 1976) Effective Air Perm.
1850	0.920	3.01E-05	8.52E+01
1900	0.920	2.70E-05	8.55E+01
1950	0.919	2.42E-05	8.57E+01
2000	0.919	2.18E-05	8.59E+01
2200	0.918	1.48E-05	8.67E+01
2400	0.917	1.03E-05	8.73E+01
2600	0.916	7.41E-06	8.78E+01
2800	0.916	5.46E-06	8.83E+01
3000	0.915	4.10E-06	8.87E+01
3200	0.914	3.14E-06	8.90E+01
3400	0.914	2.44E-06	8.93E+01
3600	0.914	1.93E-06	8.96E+01
3800	0.913	1.54E-06	8.98E+01
4000	0.913	1.25E-06	9.00E+01
4200	0.913	1.02E-06	9.02E+01
4400	0.912	8.40E-07	9.04E+01
4600	0.912	6.98E-07	9.06E+01
4800	0.912	5.85E-07	9.07E+01
5000	0.912	4.94E-07	9.08E+01
5200	0.911	4.20E-07	9.10E+01
5400	0.911	3.59E-07	9.11E+01
5600	0.911	3.09E-07	9.12E+01
5800	0.911	2.67E-07	9.13E+01
6000	0.911	2.32E-07	9.14E+01
6500	0.910	1.66E-07	9.16E+01
7000	0.910	1.22E-07	9.17E+01
7500	0.910	9.18E-08	9.19E+01
8000	0.909	7.02E-08	9.20E+01
8500	0.909	5.46E-08	9.21E+01
9000	0.909	4.30E-08	9.23E+01
9500	0.909	3.44E-08	9.23E+01
10000	0.909	2.78E-08	9.24E+01

CAPILLARY CURVE FIT: B102-2.5 at 3.15 ft.

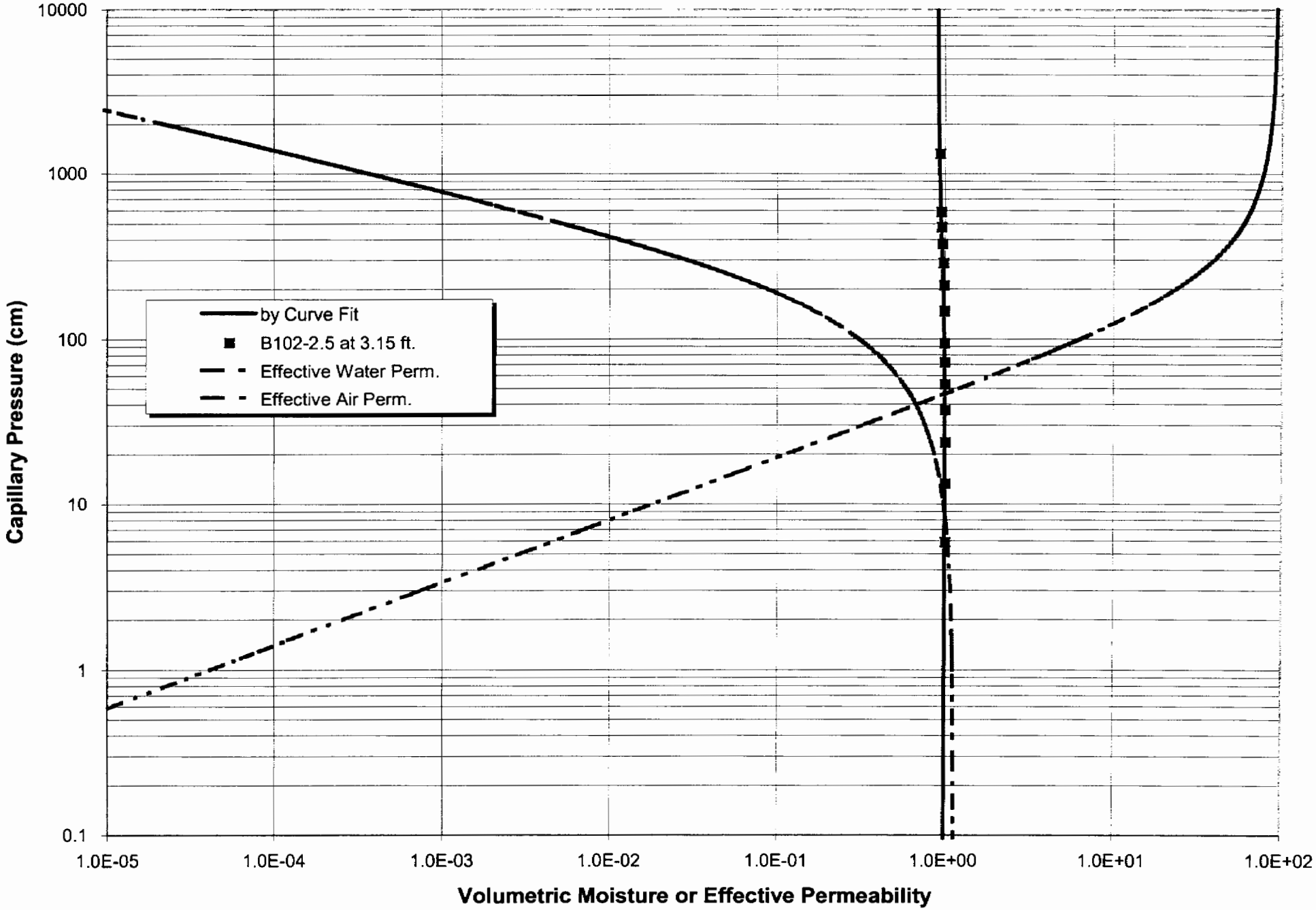


Curve fit by AQUI-VER, INC.

PTS Laboratories

Blasland, Bouck & Lee, Inc.
PTS File No. 36013

CAPILLARY CURVE FIT: B102-2.5 at 3.15 ft.



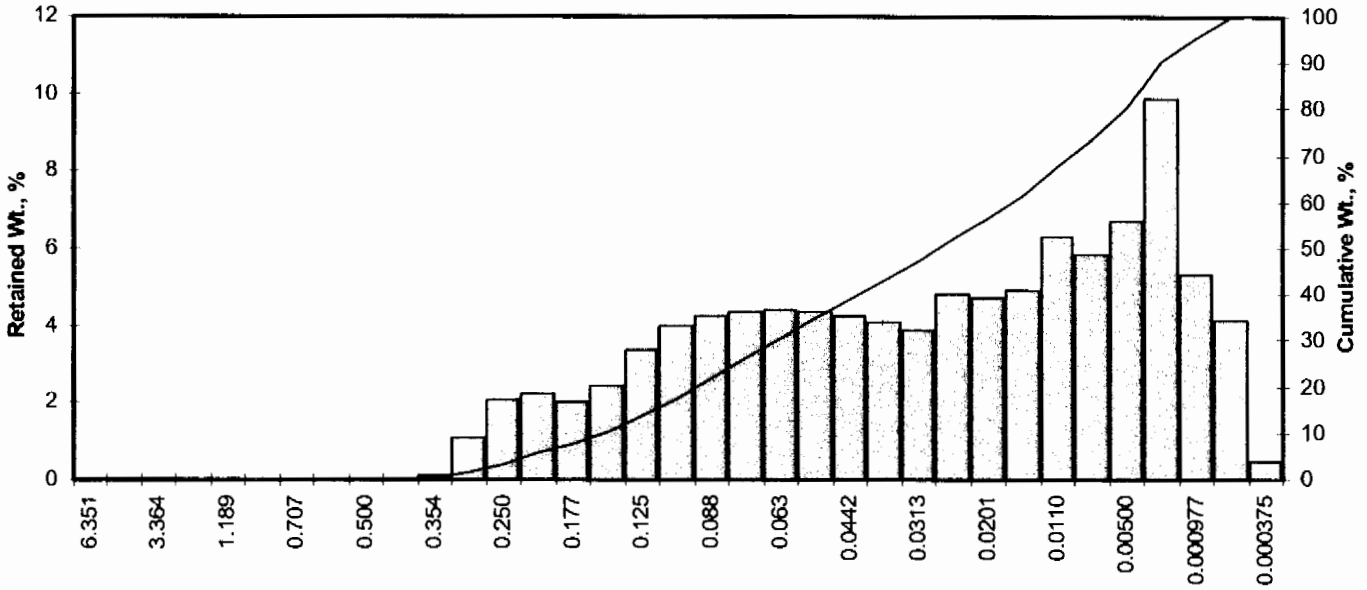
Curve fit by AQUI-VER, INC.

PTS Laboratories, Inc.

Particle Size Analysis - ASTM D4464M

Client:	Blasland, Bouck & Lee, Inc.	**PTS File No:**	36013
Project:	Former CENCO Refinery	**Sample ID:**	B102-2.5
Project No:	54203	**Depth, ft:**	3.7

Grv	Sand Size			Silt	Clay
	crs	medium	fine		



Opening Inches	Opening Millimeters	Phi of Screen	U.S. No.	Sample Weight, grams	Increment Weight, percent	Cumulative Weight, percent
0.2500	6.351	-2.67	1/4	0.00	0.00	0.00
0.1873	4.757	-2.25	4	0.00	0.00	0.00
0.1324	3.364	-1.75	6	0.00	0.00	0.00
0.0787	2.000	-1.00	10	0.00	0.00	0.00
0.0468	1.189	-0.25	16	0.00	0.00	0.00
0.0331	0.841	0.25	20	0.00	0.00	0.00
0.0278	0.707	0.50	25	0.00	0.00	0.00
0.0234	0.595	0.75	30	0.00	0.00	0.00
0.0197	0.500	1.00	35	0.00	0.00	0.00
0.0166	0.420	1.25	40	0.00	0.00	0.00
0.0139	0.354	1.50	45	0.10	0.10	0.10
0.0117	0.297	1.75	50	1.07	1.07	1.17
0.0098	0.250	2.00	60	2.05	2.05	3.22
0.0083	0.210	2.25	70	2.24	2.24	5.46
0.0070	0.177	2.50	80	2.00	2.00	7.46
0.0059	0.149	2.75	100	2.45	2.45	9.91
0.0049	0.125	3.00	120	3.35	3.35	13.26
0.0041	0.105	3.25	140	4.00	4.00	17.26
0.0035	0.088	3.50	170	4.24	4.24	21.49
0.0029	0.074	3.75	200	4.35	4.35	25.84
0.0025	0.063	4.00	230	4.39	4.39	30.23
0.0021	0.053	4.25	270	4.34	4.34	34.57
0.00174	0.0442	4.50	325	4.23	4.23	38.80
0.00146	0.0372	4.75	400	4.07	4.07	42.87
0.00123	0.0313	5.00	450	3.90	3.90	46.77
0.000986	0.0250	5.32	500	4.81	4.81	51.58
0.000790	0.0201	5.64	635	4.69	4.69	56.27
0.000615	0.0156	6.00		4.94	4.94	61.21
0.000435	0.0110	6.50		6.33	6.33	67.54
0.000308	0.00781	7.00		5.87	5.87	73.41
0.000197	0.00500	7.65		6.74	6.74	80.14
0.000077	0.00195	9.00		9.89	9.89	90.03
0.000038	0.000977	10.00		5.32	5.32	95.35
0.000019	0.000488	11.00		4.16	4.16	99.51
0.000015	0.000375	11.38		0.49	0.49	100.00
TOTALS				**100.00**	**100.00**	**100.00**

Cumulative Weight Percent greater than			
Weight percent	Phi Value	Particle Size Inches	Particle Size Millimeters
5	2.20	0.0086	0.218
10	2.76	0.0058	0.148
16	3.17	0.0044	0.111
25	3.70	0.0030	0.077
40	4.57	0.0017	0.042
50	5.21	0.0011	0.027
60	5.91	0.0007	0.017
75	7.15	0.0003	0.007
84	8.17	0.0001	0.003
90	9.00	0.0001	0.002
95	9.93	0.0000	0.001

Measure	Trask	Inman	Folk-Ward
Median, phi	5.21	5.21	5.21
Median, in.	0.0011	0.0011	0.0011
Median, mm	0.027	0.027	0.027
Mean, phi	4.58	5.67	5.52
Mean, in.	0.0017	0.0008	0.0009
Mean, mm	0.042	0.020	0.022
Sorting	3.307	2.501	2.422
Skewness	0.863	0.183	0.202
Kurtosis	0.239	0.546	0.919
Grain Size Description (ASTM-USCS Scale)		Silt (based on Mean from Trask)	

Description	Retained on Sieve #	Weight Percent
Gravel	4	0.00
Coarse Sand	10	0.00
Medium Sand	40	0.00
Fine Sand	200	25.84
Silt	>0.005 mm	54.30
Clay	<0.005 mm	19.86
	Total	**100**

DATE PTS FILE# 36013 CHAIN OF CUSTODY RECORD PAGE 1 OF 2

COMPANY: BLASLAND, BOUCK & LEE, INC.

ADDRESS: 2600 MICHELSON DR., STE B30 CITY: IRVINE, CA ZIP CODE: 92612

PROJECT MANAGER: JENNIFER WILEY

PROJECT NAME: FORMER CENCO REFINERY. PHONE NUMBER: 949-474-9052

PROJECT NUMBER: 54203.002 FAX NUMBER: 949-474-9345

SITE LOCATION: SANTA FE SPRINGS, CA

SAMPLER SIGNATURE: [signature]

ANALYSIS REQUEST

PO#

SPECIAL HANDLING: 24 HOURS, 5 DAYS, 72 HOURS, NORMAL, OTHER

SAMPLE CONDITIONS: RECEIVED ON ICE YES/NO; SEALED YES/NO; OTHER YES/NO

SAMPLE ID NUMBER	DATE	TIME	DEPTH, FT	PHYSICAL PROPERTIES PACKAGE, API RP40	MOISTURE CONTENT, ASTM D2216	POROSITY: TOTAL, API RP40	GRAIN DENSITY, API RP40	BULK DENSITY (DRY), API RP40	AIR PERMEABILITY, API RP40	SPECIFIC RETENTION/YIELD ASTM D425	CAPILLARY PRESSURE, ASTM D425M	SOIL pH, EPA 9045	POROSITY: EFFECTIVE, ASTM D425M	TCEQ/TNRCC PROPERTIES PACKAGE	GRAIN SIZE DISTRIBUTION, ASTM D422/4464M	HYDRAULIC CONDUCTIVITY, EPA 9100, API RP40	TOC: WALKLEY-BLACK	HYDRAULIC CONDUCTIVITY PACKAGE	ATTERBERG LIMITS, ASTM D4318	NUMBER OF SAMPLES	COMMENTS
B031-2.5	01-06-06	1010	2.5-5'																		SEE PAGE 2 FOR ANALYSES

1. RELINQUISHED BY	2. RECEIVED BY	3. RELINQUISHED BY	4. RECEIVED BY
[signature]	[signature]		
COMPANY: BBL	COMPANY: PTS	COMPANY	COMPANY
DATE: 01/06/05 TIME: 1635	DATE: 01/06/05 TIME: 16:35	DATE TIME	DATE TIME

BBL
CONCO / SANTA FE SPRINGS
PM: JENNIFER WILBY
PHONE: 949-474-9052

01-06-06

PLEASE ANALYZE B031-2.5 FOR THE FOLLOWING:

Physical samples analyzed by the following: Vapor Transport Package (Johnson-Ettinger); Free Product Mobility Package; Capillarity Package (Air/Water Drainage); and Van Genuchten Parameters and Relative Permeability)

DATE 01.09.06 PTS FILE# **CHAIN OF CUSTODY RECORD** PAGE 1 of 2

COMPANY: Blasland, Bouck & Lee, Inc.

ADDRESS: 2600 Michelson Dr. Suite 830 CITY: Irvine ZIP CODE: 92612

PROJECT MANAGER: Jennifer Wilcox

PROJECT NAME: Former Cerro Refinery PHONE NUMBER: (949) 474-9562

PROJECT NUMBER: 5423.002 FAX NUMBER:

SITE LOCATION: 12345 Lakeland Rd. Santa Fe Springs, CA

SAMPLER SIGNATURE: [signature]

ANALYSIS REQUEST

PO#

SPECIAL HANDLING: 24 HOURS / 72 HOURS / 5 DAYS / NORMAL / OTHER

SAMPLE CONDITIONS: RECEIVED ON ICE YES/NO; SEALED YES/NO; OTHER YES/NO

SAMPLE ID NUMBER	DATE	TIME	DEPTH, FT	PHYSICAL PROPERTIES PACKAGE, API RP40	MOISTURE CONTENT, ASTM D2216	POROSITY: TOTAL, API RP40	GRAIN DENSITY, API RP40	BULK DENSITY (DRY), API RP40	AIR PERMEABILITY, API RP40	SPECIFIC RETENTION/YIELD ASTM D425	CAPILLARY PRESSURE, ASTM D425M	SOIL pH, EPA 9045	POROSITY: EFFECTIVE, ASTM D425M	TCEQ/TNRCC PROPERTIES PACKAGE	GRAIN SIZE DISTRIBUTION, ASTM D422/4464M	HYDRAULIC CONDUCTIVITY, EPA 9100, API RP40	TOC: WALKLEY-BLACK	HYDRAULIC CONDUCTIVITY PACKAGE	ATTERBERG LIMITS, ASTM D4318	NUMBER OF SAMPLES	COMMENTS
B102_2.5	01.09.06		2→5			See	Page				2									5	

1. RELINQUISHED BY	2. RECEIVED BY	3. RELINQUISHED BY	4. RECEIVED BY
Maher Zein	Roy Guillen		
COMPANY: Blasland, Bouck & Lee, Inc.	COMPANY: PTS	COMPANY:	COMPANY:
DATE: 01.09.06 TIME: 1620	DATE: 1-09-06 TIME: 16:20	DATE: TIME:	DATE: TIME:

BBL

01. 09.06 Page 2.

* Physical samples analyzed by the following: Vapor Transport Package (Johnson-Ettinger); Free Product Mobility Package; Capillarity Package (Air/Water Drainage); and Van Genuchten Parameters and Relative Permeability)

PTS Laboratories

Blasland, Bouck & Lee, Inc.
PTS File No: 36013

PHYSICAL PROPERTIES DATA - AIR/WATER CAPILLARY PRESSURE

PROJECT NAME: Former CENCO Refinery
PROJECT NO: 54203.002

		METHODS:	API RP 40 / ASTM D2216	API RP 40		API RP 40		API RP 40	
SAMPLE ID.	DEPTH, ft.	SAMPLE ORIENT. (1)	MOISTURE CONTENT (% wt)	DENSITY BULK (g/cc)	DENSITY GRAIN (g/cc)	POROSITY, %Vb (2) TOTAL	POROSITY, %Vb (2) AIR FILLED	PORE FLUID SATURATIONS, % Pv (3) WATER	PORE FLUID SATURATIONS, % Pv (3) NAPL
B180-2.5	3.4	V	13.4	1.75	2.71	35.5	11.5	66.6	1.1
B121-2.5	2.9	V	15.7	1.69	2.67	36.6	8.9	56.2	19.5

(1) Sample Orientation: H = horizontal; V = vertical (2) Total Porosity = no pore fluids in place; all interconnected pore channels; Air Filled = pore

(1) Sample Orientation: H = horizontal; V = vertical (2) Total Porosity = no pore fluids in place; all interconnected pore channels; Air Filled = pore channels not occupied by pore fluids (3) Water = 0.9996 g/cc, Hydrocarbon = 0.8600 g/cc; Vb = Bulk Volume, cc; Pv = Pore Volume, cc; ND = Not Detected

FREE PRODUCT MOBILITY: INITIAL AND RESIDUAL SATURATIONS

PROJECT NAME: Former CENCO Refinery
PROJECT NO: 54203.002

		METHODS:	API RP40	API RP40	API RP40	ASTM D425M, DEAN-STARK			
						PORE FLUID SATURATIONS, % Pv			
						Initial Fluid Saturations		After Centrifuge at 1000xG	
SAMPLE ID.	DEPTH, ft.	SAMPLE ORIENTATION (1)	BULK DENSITY, (g/cc)	GRAIN DENSITY, (g/cc)	TOTAL POROSITY, %Vb	WATER (Swi) SATURATION	NAPL (Soi) SATURATION	WATER (Srw) SATURATION	NAPL (Sor) SATURATION
B180-2.5	4.3	H	1.83	2.73	32.9	72.2	ND<0.1	64.6	ND<0.1
NOTE: No free product produced. Produced water clear with no odor.									
B121-2.5	4.15	H	1.85	2.66	30.7	72.5	4.3	66.8	4.3
NOTE: No free product produced. Produced water clear with no odor.									

N/A = Not Analyzed. Vb = Bulk Volume, Pv = Pore Volume. (1) H = horizontal, V = vertical
Soi = Initial NAPL Saturation as received prior to centrifuging at 1000xG, Swi = Initial Water Saturation as received prior to centrifuging at 1000xG
Sor = Residual NAPL Saturation after centrifuging at 1000xG, Srw = Residual Water Saturation after centrifuging at 1000xG
Fluid Densities for pore fluid saturation calculations: Water =0.9996 g/cc, NAPL = 0.8600 g/cc.

FREE PRODUCT MOBILITY: INITIAL AND RESIDUAL SATURATIONS

PROJECT NAME: Former CENCO Refinery
PROJECT NO: 54203.002

		METHODS:	API RP40	API RP40	API RP40	ASTM D425M, DEAN-STARK			
						PORE FLUID SATURATIONS, % Pv			
						Initial Fluid Saturations		After Centrifuge at 1000xG	
SAMPLE ID.	DEPTH, ft.	SAMPLE ORIENTATION (1)	BULK DENSITY, (g/cc)	GRAIN DENSITY, (g/cc)	TOTAL POROSITY, %Vb	WATER (Swi) SATURATION	NAPL (Soi) SATURATION	WATER (Srw) SATURATION	NAPL (Sor) SATURATION
B180-2.5	4.3	H	1.83	2.73	32.9	72.2	ND<0.1	64.6	ND<0.1
NOTE: No free product produced. Produced water clear with no odor.									
B121-2.5	4.15	H	1.85	2.66	30.7	72.5	4.3	66.8	4.3
NOTE: No free product produced. Produced water clear with no odor.									

N/A = Not Analyzed. Vb = Bulk Volume, Pv = Pore Volume. (1) H = horizontal, V = vertical
Soi = Initial NAPL Saturation as received prior to centrifuging at 1000xG, Swi = Initial Water Saturation as received prior to centrifuging at 1000xG
Sor = Residual NAPL Saturation after centrifuging at 1000xG, Srw = Residual Water Saturation after centrifuging at 1000xG
Fluid Densities for pore fluid saturation calculations: Water =0.9996 g/cc, NAPL = 0.8600 g/cc.

PTS Laboratories, Inc.

Blasland, Bouck & Lee, Inc.
PTS File No: 36013

PARTICLE SIZE SUMMARY

(METHODOLOGY: ASTM D422/D4464M)

PROJECT NAME: Former CENCO Refinery
PROJECT NO: 54203.002

Sample ID	Depth, ft.	Mean Grain Size Description (1)	Median Grain Size mm	Particle Size Distribution, wt. percent						Silt & Clay
				Gravel	Sand Size			Silt	Clay	
					Coarse	Medium	Fine			
B180-2.5	3.4	Silt	0.027	0.00	0.00	2.73	25.83	50.84	20.60	71.44
B121-2.5	4.5	Silt	0.036	0.00	0.00	0.80	28.48	54.45	16.27	70.72

(1) Based on Mean from Trask

PHYSICAL PROPERTIES DATA - VAPOR TRANSPORT PACKAGE

PROJECT NAME: Former CENCO Refinery
PROJECT NO: 54203.002

		METHODOLOGY:	API RP40/ASTM D2216		API RP40		API RP40	API RP40		ASTM D425M	API RP40	WALKLEY-BLACK	
							POROSITY (2)						
SAMPLE ID.	DEPTH, ft.	SAMPLE ORIENTATION (1)	MOISTURE CONTENT, % weight	MOISTURE CONTENT, cm^3/cm^3	DENSITY DRY BULK, g/cm^3	DENSITY GRAIN, g/cm^3	TOTAL, cm^3/cm^3	AIR FILLED, cm^3/cm^3	WATER FILLED, cm^3/cm^3	EFFECTIVE, cm^3/cm^3	TOTAL PORE FLUID (3) SATURATIONS, % Pv	TOTAL ORGANIC CARBON, mg/kg	FRACTION ORGANIC CARBON, g/g
B180-2.5	3.05	V	13.0	0.250	1.92	2.71	0.293	0.043	0.250	0.063	85.2	2650	2.65E-03
B121-2.5	3.6	V	13.6	0.250	1.84	2.65	0.306	0.056	0.250	0.100	81.7	5250	5.25E-03

(1) Sample Orientation: H = horizontal; V = vertical (2) Total Porosity = no pore fluids in place; all interconnected pore channels; Air Filled = pore channels not occupied by pore fluids, native sample;

PHYSICAL PROPERTIES DATA - VAPOR TRANSPORT PACKAGE

PROJECT NAME: Former CENCO Refinery
PROJECT NO: 54203.002

		METHODOLOGY:	API RP40/ASTM D2216		API RP40		API RP40	API RP40		ASTM D425M	API RP40	WALKLEY-BLACK	
							POROSITY (2)				TOTAL	TOTAL	FRACTION
SAMPLE ID.	DEPTH, ft.	SAMPLE ORIENTATION (1)	MOISTURE CONTENT,		DENSITY		TOTAL, cm^3/cm^3	AIR FILLED, cm^3/cm^3	WATER FILLED, cm^3/cm^3	EFFECTIVE, cm^3/cm^3	PORE FLUID (3) SATURATIONS, % Pv	ORGANIC CARBON, mg/kg	ORGANIC CARBON, g/g
			% weight	cm^3/cm^3	DRY BULK, g/cm^3	GRAIN, g/cm^3							

(1) Sample Orientation: H = horizontal; V = vertical (2) Total Porosity = no pore fluids in place; all interconnected pore channels; Air Filled = pore channels not occupied by pore fluids, native sample; Effective = drainage porosity (3) Water = 0.9996 g/cc; Hydrocarbon = 0.8600 g/cc Vb = Bulk Volume, cc; Pv = Pore Volume, cc; ND = Not Detected

PTS Laboratories

Blasland, Bouck & Lee, Inc.
PTS File No: 36013

PERMEABILITY DATA - VAPOR TRANSPORT PACKAGE

PROJECT NAME: Former CENCO Refinery
PROJECT NO: 54203.002

		METHODOLOGY:	API RP40		API RP40 / ASTM D5084		
			25 PSI CONFINING PRESSURE		25 PSI CONFINING PRESSURE		
SAMPLE ID.	DEPTH, ft.	SAMPLE ORIENTATION (1)	EFFECTIVE PERMEABILITY TO AIR (2), millidarcy	SPECIFIC PERMEABILITY TO AIR (3), millidarcy	SPECIFIC PERMEABILITY TO WATER (4), millidarcy	HYDRAULIC CONDUCTIVITY (4), cm/s	INTRINSIC PERMEABILITY TO WATER (4), cm^2
B180-2.5	3.05	V	21.6	94.2			
B121-2.5	3.6	V	1.59	37.2			
B180-2.5	2.9	V			2.22	2.09E-06	2.19E-11
B121-2.5	3.8	V			17.7	1.67E-05	1.75E-10

(1) Sample Orientation: H = horizontal, V = vertical, R = remold (2) Native State = As received with pore fluids in place; (3) Specific = without

(1) Sample Orientation: H = horizontal, V = vertical, R = remold (2) Native State = As received with pore fluids in place; (3) Specific = without moisture; (4) Permeability to water and conductivity measured at saturated conditions

PTS Laboratories

Blasland, Bouck & Lee, Inc.
PTS File No: 36013

SOIL CLASSIFICATION DATA - VAPOR TRANSPORT PACKAGE

PROJECT NAME: Former CENCO Refinery
PROJECT NO: 54203.002

METHODS:		ASTM D4318			ASTM D4318	ASTM D2487	USDA
		ATTERBERG LIMITS			USCS / PLASTICITY	USCS	USDA (2)
SAMPLE ID.	DEPTH, ft.	LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX	CHART SYMBOL (Fines: <#40 Sieve)	CLASSIFICATION, Group Symbol: Name	SOIL TEXTURE SCHEME
B180-2.5	2.5-5.0	18.8	12.0	6.8	CL-ML	CL-ML: Silty clay with sand	Silt loam
B121-2.5	2.5-5.0	16.5	NP	NP	NON-PLASTIC	ML: Silt with sand	Silt loam

PTS Laboratories

Blasland, Bouck & Lee, Inc.
PTS File No: 36013

SOIL CLASSIFICATION DATA - VAPOR TRANSPORT PACKAGE

PROJECT NAME: Former CENCO Refinery
PROJECT NO: 54203.002

METHODS:		ASTM D4318			ASTM D4318	ASTM D2487	USDA
		ATTERBERG LIMITS			USCS / PLASTICITY	USCS	USDA (2)
SAMPLE ID.	DEPTH, ft.	LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX	CHART SYMBOL (Fines: <#40 Sieve)	CLASSIFICATION, Group Symbol: Name	SOIL TEXTURE SCHEME

(1) Silt assumed as fine fraction for NON-PLASTIC (NP) samples. (2) Sand considered to be >No. 200 sieve for USDA SOIL TEXTURE SCHEME.

CAPILLARY PRESSURE DATA

(ASTM D6836, Centrifugal Method: air displacing water)

PROJECT NAME: Former CENCO Refinery
PROJECT NO: 54203.002

Capillary Pressure		Height Above Water Table,	Sample ID	
			B180-2.5 at 3.4 ft.	
psi	cm water	ft	Saturation, % Pore Volume	Moisture, % dry weight
0.000	0.00	0.000	100.0	14.7
0.087	6.12	0.201	100.0	14.7
0.196	13.8	0.453	100.0	14.7
0.348	24.5	0.806	100.0	14.7
0.544	38.2	1.26	100.0	14.7
0.783	55.1	1.81	100.0	14.7
1.07	75.0	2.47	100.0	14.7
1.39	97.9	3.22	99.3	14.6
2.18	153	5.04	98.7	14.4
3.13	220	7.25	97.5	14.2
4.26	300	9.87	95.9	14.0
5.57	392	12.9	93.4	13.5
7.05	496	16.3	91.8	13.2
8.70	612	20.1	90.1	13.0
19.6	1377	45.3	86.9	12.4

Specific Permeability to Air, md:	61.0
Permeability to Water, md:	5.89
Saturated Hydraulic Conductivity, cm/sec:	5.54E-06

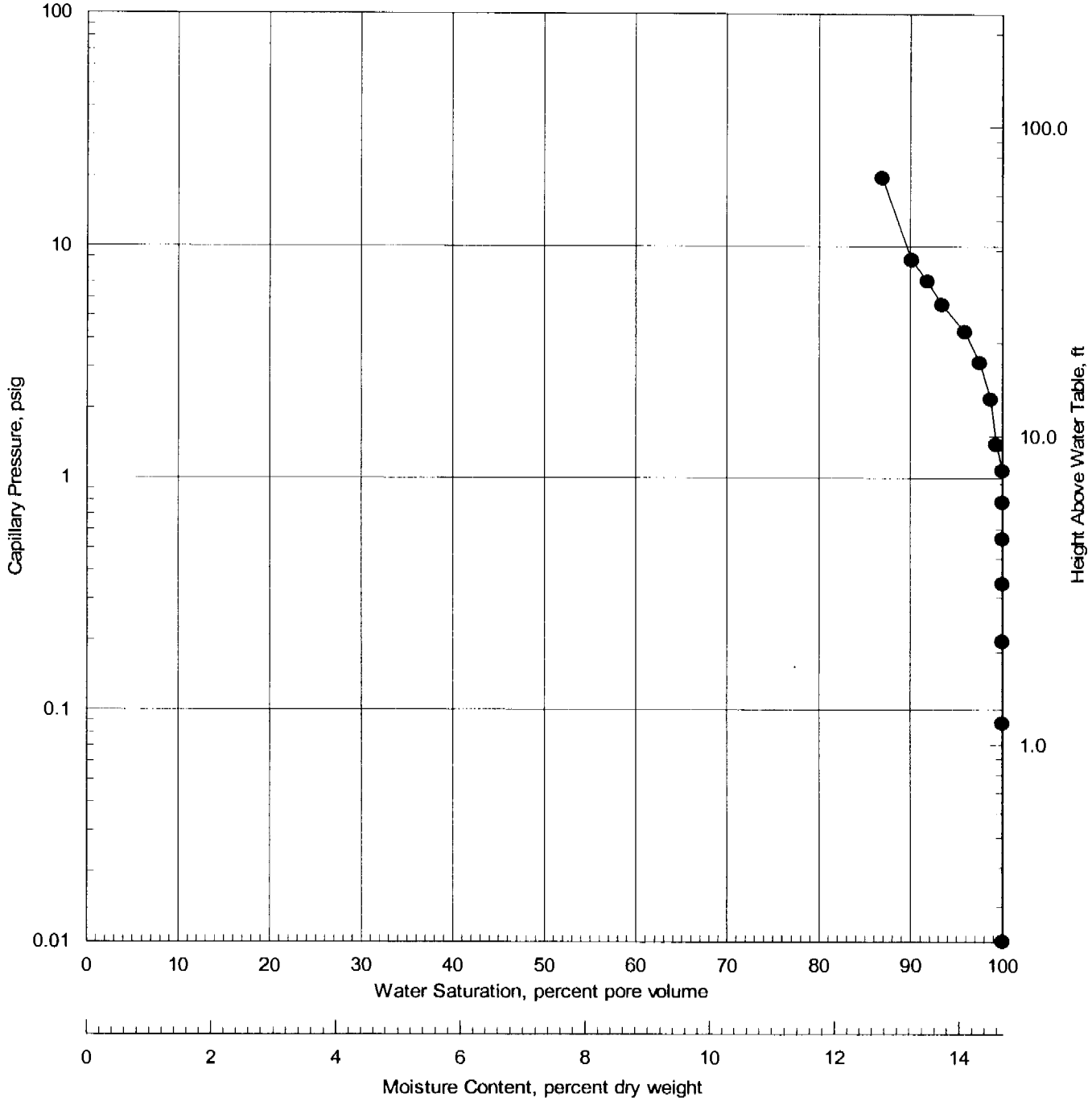
Laboratories
ENVIRONMENTAL SERVICES

Blasland, Bouck & Lee, Inc.
File No.: 36013

CAPILLARY PRESSURE
Centrifugal Method
Air Displacing Water System - ASTM D6836

Project Name: Former CENCO Refinery
Project No: 54203.002

Sample ID: B180-2.5
Depth, ft: 3.4



Soil Moisture Retention Curve Fitting for Quantifying The Hydraulic Functions of Unsaturated Soils

TABLE 1

Project Name: Former CENCO Refinery
Project No: 54203.002
Sample ID: B180-2.5 at 3.4 ft.

van Genuchten Parameters

alpha (1/cm)	2.991E-03
n	3.050
residual water	0.860
total water	1.000
m	0.672
Water Perm (mD)	5.89
Air Perm (mD)	61.0
R^2	0.99712

Notes: alpha, n, and residual saturation are capillary parameters defined by the following equation (van Genuchten, 1980), with m = 1-1/n, S = water saturation, and h = capillary head (cm):

$$S_r + [(S_s - S_r)/(1 + (\alpha h)^n)^m]$$

Laboratory Measured Data*

Capillary Head (cm)	**B180-2.5 at 3.4 ft.** Volumetric Moisture	Predicted Moisture by Curve Fit	RPD (%)
0.00	1.000	1.000	0.00%
6.12	1.000	1.000	0.00%
13.77	1.000	1.000	0.00%
24.48	1.000	1.000	0.00%
38.24	1.000	1.000	-0.01%
55.07	1.000	1.000	-0.04%
74.96	1.000	0.999	-0.10%
97.91	0.993	0.998	0.44%
152.98	0.987	0.992	0.52%
220.29	0.975	0.979	0.33%
299.84	0.959	0.957	-0.17%
391.63	0.934	0.933	-0.11%
495.65	0.918	0.912	-0.61%
611.92	0.901	0.897	-0.53%
1376.81	0.869	0.868	-0.12%

*Residual saturation estimated by visual inspection of data prior to using iterative solver to fit van Genuchten alpha and n to the data.

Soil Moisture Retention Curve Fitting for Quantifying The Hydraulic Functions of Unsaturated Soils

TABLE 2

Project Name: Former CENCO Refinery
Project No: 54203.002
Sample ID: B180-2.5 at 3.4 ft.

FUNCTIONAL RELATIONSHIPS BASED ON DERIVED CAPILLARY PARAMETERS

Capillary Head (cm)	(van Genuchten, 1980) Volumetric Moisture	(Mualem, 1976) Effective Water Perm.	(Mualem, 1976) Effective Air Perm.
0.001	1.000	5.89E+00	1.00E-100
0.02	1.000	5.89E+00	8.85E-23
0.04	1.000	5.89E+00	4.34E-21
0.05	1.000	5.89E+00	1.52E-20
0.08	1.000	5.89E+00	2.14E-19
0.09	1.000	5.89E+00	4.15E-19
1	1.000	5.89E+00	3.17E-13
1.2	1.000	5.89E+00	8.83E-13
1.3	1.000	5.89E+00	1.39E-12
1.5	1.000	5.89E+00	3.10E-12
2	1.000	5.89E+00	1.56E-11
3	1.000	5.89E+00	1.53E-10
5	1.000	5.89E+00	2.71E-09
7	1.000	5.89E+00	1.80E-08
9	1.000	5.88E+00	7.38E-08
11	1.000	5.88E+00	2.28E-07
15	1.000	5.87E+00	1.31E-06
20	1.000	5.85E+00	6.59E-06
25	1.000	5.83E+00	2.31E-05
30	1.000	5.81E+00	6.44E-05
35	1.000	5.77E+00	1.53E-04
40	1.000	5.74E+00	3.24E-04
45	1.000	5.69E+00	6.28E-04
50	1.000	5.65E+00	1.14E-03
60	1.000	5.54E+00	3.15E-03
70	0.999	5.41E+00	7.46E-03
75	0.999	5.34E+00	1.10E-02
80	0.999	5.26E+00	1.57E-02
85	0.999	5.18E+00	2.20E-02
90	0.998	5.10E+00	3.02E-02
95	0.998	5.01E+00	4.06E-02
100	0.998	4.91E+00	5.39E-02
120	0.996	4.51E+00	1.46E-01
140	0.994	4.06E+00	3.32E-01
160	0.991	3.59E+00	6.64E-01
180	0.987	3.11E+00	1.20E+00
200	0.983	2.65E+00	1.99E+00
220	0.979	2.23E+00	3.08E+00
240	0.974	1.84E+00	4.48E+00

Soil Moisture Retention Curve Fitting for Quantifying The Hydraulic Functions of Unsaturated Soils

TABLE 2

Project Name: Former CENCO Refinery
Project No: 54203.002
Sample ID: B180-2.5 at 3.4 ft.

FUNCTIONAL RELATIONSHIPS BASED ON DERIVED CAPILLARY PARAMETERS

Capillary Head (cm)	(van Genuchten, 1980) Volumetric Moisture	(Mualem, 1976) Effective Water Perm.	(Mualem, 1976) Effective Air Perm.
260	0.968	1.50E+00	6.20E+00
280	0.963	1.21E+00	8.20E+00
300	0.957	9.66E-01	1.04E+01
320	0.952	7.66E-01	1.29E+01
340	0.946	6.05E-01	1.54E+01
360	0.941	4.76E-01	1.80E+01
380	0.936	3.74E-01	2.06E+01
400	0.931	2.94E-01	2.31E+01
420	0.927	2.31E-01	2.56E+01
440	0.923	1.82E-01	2.80E+01
460	0.919	1.43E-01	3.02E+01
480	0.915	1.13E-01	3.23E+01
500	0.912	9.00E-02	3.43E+01
550	0.904	5.14E-02	3.87E+01
600	0.898	3.02E-02	4.23E+01
650	0.893	1.82E-02	4.52E+01
700	0.889	1.12E-02	4.75E+01
750	0.885	7.14E-03	4.95E+01
800	0.882	4.64E-03	5.11E+01
850	0.880	3.08E-03	5.24E+01
900	0.878	2.09E-03	5.35E+01
950	0.876	1.44E-03	5.44E+01
1000	0.874	1.01E-03	5.51E+01
1050	0.873	7.20E-04	5.58E+01
1100	0.872	5.21E-04	5.63E+01
1150	0.871	3.82E-04	5.68E+01
1200	0.870	2.84E-04	5.72E+01
1250	0.869	2.13E-04	5.76E+01
1300	0.869	1.62E-04	5.79E+01
1350	0.868	1.24E-04	5.81E+01
1400	0.867	9.61E-05	5.84E+01
1450	0.867	7.50E-05	5.86E+01
1500	0.866	5.90E-05	5.88E+01
1550	0.866	4.68E-05	5.89E+01
1600	0.866	3.74E-05	5.91E+01
1650	0.865	3.01E-05	5.92E+01
1700	0.865	2.44E-05	5.93E+01
1750	0.865	1.98E-05	5.95E+01
1800	0.864	1.62E-05	5.96E+01

Soil Moisture Retention Curve Fitting for Quantifying The Hydraulic Functions of Unsaturated Soils

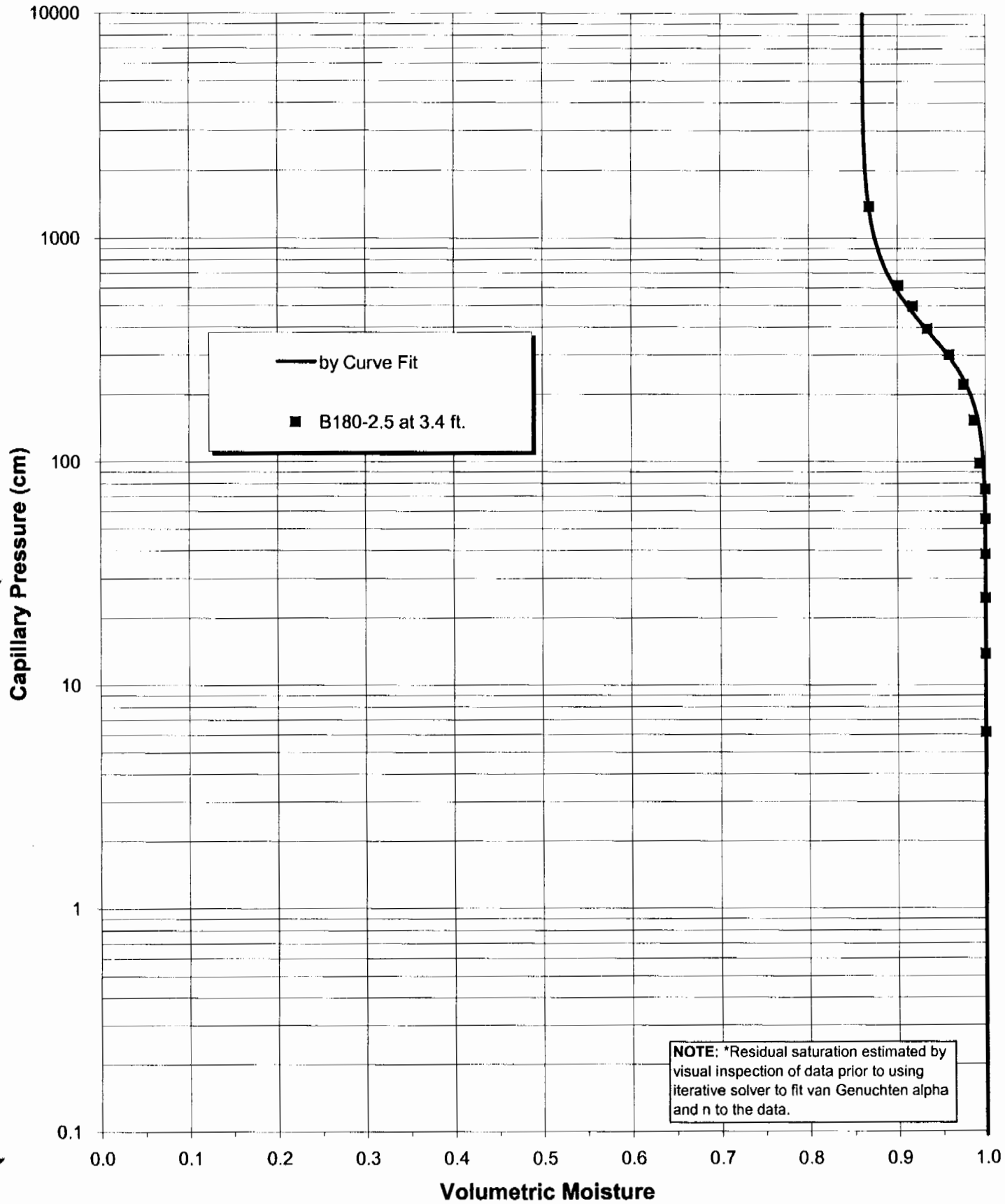
TABLE 2

Project Name: Former CENCO Refinery
Project No: 54203.002
Sample ID: B180-2.5 at 3.4 ft.

FUNCTIONAL RELATIONSHIPS BASED ON DERIVED CAPILLARY PARAMETERS

Capillary Head (cm)	(van Genuchten, 1980) Volumetric Moisture	(Mualem, 1976) Effective Water Perm.	(Mualem, 1976) Effective Air Perm.
1850	0.864	1.34E-05	5.96E+01
1900	0.864	1.11E-05	5.97E+01
1950	0.864	9.21E-06	5.98E+01
2000	0.864	7.69E-06	5.99E+01
2200	0.863	3.91E-06	6.01E+01
2400	0.862	2.11E-06	6.03E+01
2600	0.862	1.19E-06	6.04E+01
2800	0.862	7.04E-07	6.05E+01
3000	0.862	4.31E-07	6.06E+01
3200	0.861	2.72E-07	6.06E+01
3400	0.861	1.77E-07	6.07E+01
3600	0.861	1.18E-07	6.07E+01
3800	0.861	8.00E-08	6.07E+01
4000	0.861	5.55E-08	6.08E+01
4200	0.861	3.92E-08	6.08E+01
4400	0.861	2.82E-08	6.08E+01
4600	0.861	2.05E-08	6.08E+01
4800	0.861	1.52E-08	6.08E+01
5000	0.861	1.13E-08	6.09E+01
5200	0.861	8.57E-09	6.09E+01
5400	0.860	6.55E-09	6.09E+01
5600	0.860	5.05E-09	6.09E+01
5800	0.860	3.94E-09	6.09E+01
6000	0.860	3.09E-09	6.09E+01
6500	0.860	1.75E-09	6.09E+01
7000	0.860	1.03E-09	6.09E+01
7500	0.860	6.31E-10	6.09E+01
8000	0.860	3.98E-10	6.09E+01
8500	0.860	2.59E-10	6.10E+01
9000	0.860	1.72E-10	6.10E+01
9500	0.860	1.17E-10	6.10E+01
10000	0.860	8.12E-11	6.10E+01

CAPILLARY CURVE FIT: B180-2.5 at 3.4 ft.

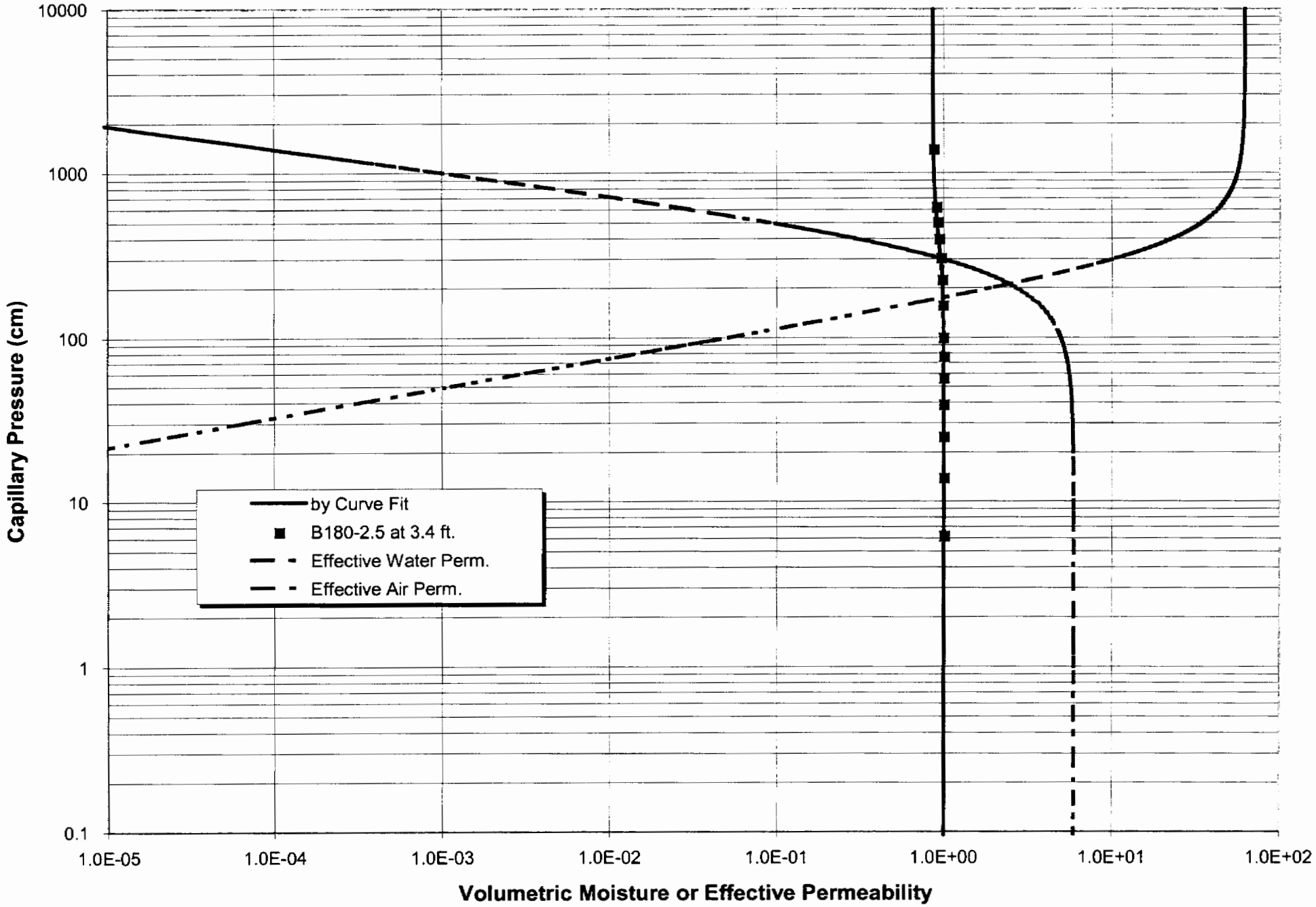


Curve fit by AQUI-VER, INC.

PTS Laboratories

Blasland, Bouck & Inc.
PTS File No. 36013

CAPILLARY CURVE FIT: B180-2.5 at 3.4 ft.



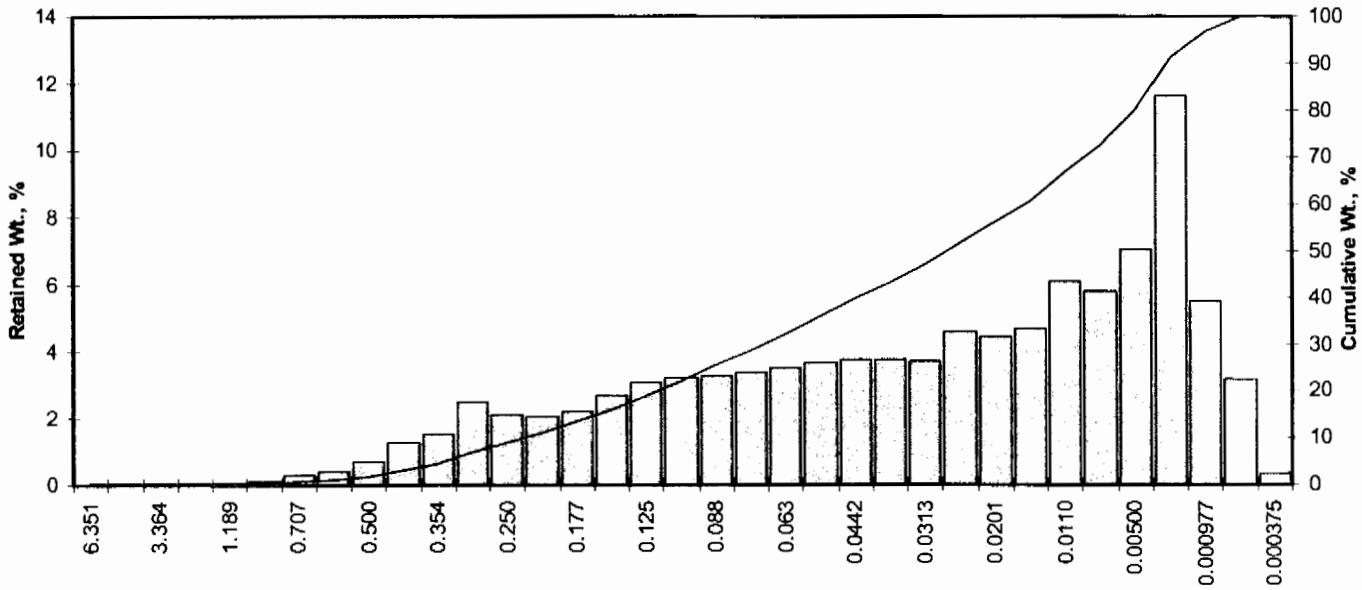
Curve fit by AQUI-VER, INC.

PTS Laboratories, Inc.

Particle Size Analysis - ASTM D4464M

Client:	Blasland, Bouck & Lee, Inc.	**PTS File No:**	36013
Project:	Former CENCO Refinery	**Sample ID:**	B180-2.5
Project No:	54203.002	**Depth, ft:**	3.4

Grv	Sand Size			Silt	Clay
	crs	medium	fine		



Opening Inches	Opening Millimeters	Phi of Screen	U.S. No.	Sample Weight, grams	Increment Weight, percent	Cumulative Weight, percent
0.2500	6.351	-2.67	1/4	0.00	0.00	0.00
0.1873	4.757	-2.25	4	0.00	0.00	0.00
0.1324	3.364	-1.75	6	0.00	0.00	0.00
0.0787	2.000	-1.00	10	0.00	0.00	0.00
0.0468	1.189	-0.25	16	0.00	0.00	0.00
0.0331	0.841	0.25	20	0.12	0.12	0.12
0.0278	0.707	0.50	25	0.29	0.29	0.41
0.0234	0.595	0.75	30	0.40	0.40	0.81
0.0197	0.500	1.00	35	0.68	0.68	1.49
0.0166	0.420	1.25	40	1.24	1.24	2.73
0.0139	0.354	1.50	45	1.50	1.50	4.23
0.0117	0.297	1.75	50	2.47	2.47	6.70
0.0098	0.250	2.00	60	2.09	2.09	8.79
0.0083	0.210	2.25	70	2.03	2.03	10.82
0.0070	0.177	2.50	80	2.21	2.21	13.03
0.0059	0.149	2.75	100	2.69	2.69	15.72
0.0049	0.125	3.00	120	3.04	3.04	18.76
0.0041	0.105	3.25	140	3.20	3.20	21.96
0.0035	0.088	3.50	170	3.24	3.24	25.21
0.0029	0.074	3.75	200	3.35	3.35	28.56
0.0025	0.063	4.00	230	3.50	3.50	32.06
0.0021	0.053	4.25	270	3.64	3.64	35.70
0.00174	0.0442	4.50	325	3.74	3.74	39.44
0.00146	0.0372	4.75	400	3.74	3.74	43.18
0.00123	0.0313	5.00	450	3.67	3.67	46.85
0.000986	0.0250	5.32	500	4.56	4.56	51.41
0.000790	0.0201	5.64	635	4.43	4.43	55.84
0.000615	0.0156	6.00		4.68	4.68	60.52
0.000435	0.0110	6.50		6.06	6.06	66.58
0.000308	0.00781	7.00		5.78	5.78	72.36
0.000197	0.00500	7.65		7.03	7.03	79.40
0.000077	0.00195	9.00		11.60	11.60	91.00
0.000038	0.000977	10.00		5.50	5.50	96.50
0.000019	0.000488	11.00		3.16	3.16	99.66
0.000015	0.000375	11.38		0.34	0.34	100.00
TOTALS				**100.00**	**100.00**	**100.00**

Cumulative Weight Percent greater than			
Weight percent	Phi Value	Particle Size Inches	Particle Size Millimeters
5	1.58	0.0132	0.335
10	2.15	0.0089	0.226
16	2.77	0.0058	0.146
25	3.48	0.0035	0.089
40	4.54	0.0017	0.043
50	5.22	0.0011	0.027
60	5.96	0.0006	0.016
75	7.24	0.0003	0.007
84	8.18	0.0001	0.003
90	8.88	0.0001	0.002
95	9.73	0.0000	0.001

Measure	Trask	Inman	Folk-Ward
Median, phi	5.22	5.22	5.22
Median, in.	0.0011	0.0011	0.0011
Median, mm	0.027	0.027	0.027
Mean, phi	4.38	5.48	5.39
Mean, in.	0.0019	0.0009	0.0009
Mean, mm	0.048	0.022	0.024
Sorting	3.678	2.705	2.587
Skewness	0.906	0.095	0.100
Kurtosis	0.185	0.506	0.889
Grain Size Description (ASTM-USCS Scale)		Silt (based on Mean from Trask)	

Description	Retained on Sieve #	Weight Percent
Gravel	4	0.00
Coarse Sand	10	0.00
Medium Sand	40	2.73
Fine Sand	200	25.83
Silt	>0.005 mm	50.84
Clay	<0.005 mm	20.60
	Total	**100**

CAPILLARY PRESSURE DATA

(ASTM D6836, Centrifugal Method: air displacing water)

PROJECT NAME: Former CENCO Refinery
PROJECT NO: 54203.002

Capillary Pressure		Height Above Water Table, ft	Sample ID B121-2.5 at 2.9 ft.	
psi	cm water		Saturation, % Pore Volume	Moisture, % dry weight
0.000	0.00	0.000	100.0	17.0
0.090	6.36	0.209	100.0	17.0
0.203	14.3	0.471	100.0	17.0
0.362	25.4	0.837	100.0	17.0
0.565	39.7	1.31	100.0	17.0
0.814	57.2	1.88	100.0	17.0
1.11	77.9	2.56	100.0	17.0
1.45	102	3.35	99.3	16.8
2.26	159	5.23	98.6	16.7
3.26	229	7.53	95.8	16.1
4.43	312	10.3	92.3	15.3
5.79	407	13.4	87.4	14.3
7.33	515	17.0	82.6	13.2
9.04	636	20.9	79.8	12.6
20.3	1431	47.1	72.1	11.0

Specific Permeability to Air, md:	66.5
Permeability to Water, md:	34.9
Saturated Hydraulic Conductivity, cm/sec:	3.32E-05

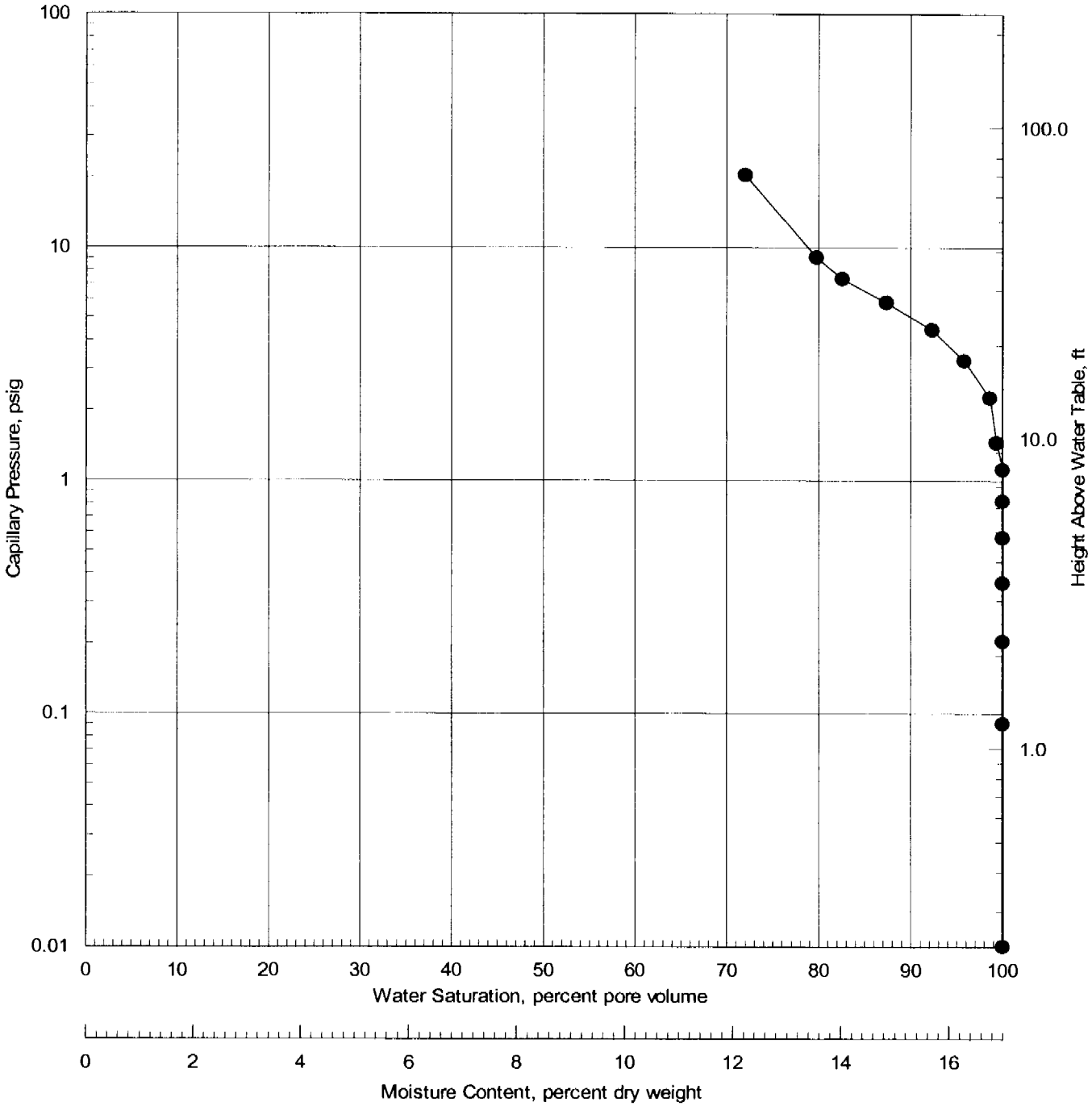
Laboratories
ENVIRONMENTAL SERVICES

Blasland, Bouck & Lee, Inc.
File No.: 36013

CAPILLARY PRESSURE
Centrifugal Method
Air Displacing Water System - ASTM D6836

Project Name: Former CENCO Refinery
Project No: 54203.002

Sample ID: B121-2.5
Depth, ft: 2.9



Soil Moisture Retention Curve Fitting for Quantifying The Hydraulic Functions of Unsaturated Soils

TABLE 1

Project Name: Former CENCO Refinery
Project No: 54203.002
Sample ID: B121-2.5 at 2.9 ft.

van Genuchten Parameters

alpha (1/cm)	2.620E-03
n	3.250
residual water	0.705
total water	1.000
m	0.692
Water Perm (mD)	34.9
Air Perm (mD)	66.5
R^2	0.99863

Notes: alpha, n, and residual saturation are capillary parameters defined by the following equation (van Genuchten, 1980), with m = 1-1/n, S = water saturation, and h = capillary head (cm):

$$S_r + [(S_s - S_r)/(1 + (\alpha h)^n)^m]$$

Laboratory Measured Data*

Capillary Head (cm)	**B121-2.5 at 2.9 ft.** Volumetric Moisture	Predicted Moisture by Curve Fit	RPD (%)
0.00	1.000	1.000	0.00%
6.36	1.000	1.000	0.00%
14.31	1.000	1.000	0.00%
25.43	1.000	1.000	0.00%
39.74	1.000	1.000	-0.01%
57.23	1.000	1.000	-0.04%
77.89	1.000	0.999	-0.12%
101.74	0.993	0.997	0.43%
158.97	0.986	0.989	0.27%
228.91	0.958	0.967	0.88%
311.57	0.923	0.926	0.31%
406.95	0.874	0.874	-0.02%
515.05	0.826	0.825	-0.02%
635.87	0.798	0.788	-1.22%
1430.70	0.721	0.720	-0.14%

*Residual saturation estimated by visual inspection of data prior to using iterative solver to fit van Genuchten alpha and n to the data.

Soil Moisture Retention Curve Fitting for Quantifying The Hydraulic Functions of Unsaturated Soils

TABLE 2

Project Name: Former CENCO Refinery
Project No: 54203.002
Sample ID: B121-2.5 at 2.9 ft.

FUNCTIONAL RELATIONSHIPS BASED ON DERIVED CAPILLARY PARAMETERS

Capillary Head (cm)	(van Genuchten, 1980) Volumetric Moisture	(Mualem, 1976) Effective Water Perm.	(Mualem, 1976) Effective Air Perm.
0.001	1.000	3.49E+01	1.00E-100
0.02	1.000	3.49E+01	3.22E-25
0.04	1.000	3.49E+01	2.32E-23
0.05	1.000	3.49E+01	9.13E-23
0.08	1.000	3.49E+01	1.63E-21
0.09	1.000	3.49E+01	3.35E-21
1	1.000	3.49E+01	8.51E-15
1.2	1.000	3.49E+01	2.60E-14
1.3	1.000	3.49E+01	4.24E-14
1.5	1.000	3.49E+01	1.02E-13
2	1.000	3.49E+01	5.94E-13
3	1.000	3.49E+01	7.11E-12
5	1.000	3.49E+01	1.63E-10
7	1.000	3.49E+01	1.28E-09
9	1.000	3.49E+01	5.95E-09
11	1.000	3.49E+01	2.03E-08
15	1.000	3.49E+01	1.36E-07
20	1.000	3.48E+01	7.92E-07
25	1.000	3.47E+01	3.11E-06
30	1.000	3.47E+01	9.48E-06
35	1.000	3.46E+01	2.44E-05
40	1.000	3.45E+01	5.52E-05
45	1.000	3.43E+01	1.13E-04
50	1.000	3.42E+01	2.16E-04
60	1.000	3.38E+01	6.59E-04
70	0.999	3.33E+01	1.69E-03
75	0.999	3.31E+01	2.57E-03
80	0.999	3.28E+01	3.81E-03
85	0.998	3.25E+01	5.52E-03
90	0.998	3.22E+01	7.81E-03
95	0.998	3.18E+01	1.08E-02
100	0.997	3.14E+01	1.48E-02
120	0.995	2.98E+01	4.43E-02
140	0.992	2.78E+01	1.11E-01
160	0.988	2.55E+01	2.43E-01
180	0.983	2.31E+01	4.76E-01
200	0.977	2.06E+01	8.57E-01
220	0.970	1.81E+01	1.43E+00
240	0.962	1.57E+01	2.25E+00

Soil Moisture Retention Curve Fitting for Quantifying The Hydraulic Functions of Unsaturated Soils

TABLE 2

Project Name: Former CENCO Refinery
Project No: 54203.002
Sample ID: B121-2.5 at 2.9 ft.

FUNCTIONAL RELATIONSHIPS BASED ON DERIVED CAPILLARY PARAMETERS

Capillary Head (cm)	(van Genuchten, 1980) Volumetric Moisture	(Mualem, 1976) Effective Water Perm.	(Mualem, 1976) Effective Air Perm.
260	0.953	1.33E+01	3.33E+00
280	0.943	1.12E+01	4.72E+00
300	0.932	9.33E+00	6.40E+00
320	0.921	7.67E+00	8.35E+00
340	0.910	6.25E+00	1.06E+01
360	0.899	5.06E+00	1.30E+01
380	0.888	4.06E+00	1.55E+01
400	0.878	3.25E+00	1.81E+01
420	0.868	2.60E+00	2.08E+01
440	0.858	2.07E+00	2.35E+01
460	0.848	1.65E+00	2.61E+01
480	0.840	1.31E+00	2.86E+01
500	0.831	1.05E+00	3.11E+01
550	0.813	5.98E-01	3.66E+01
600	0.797	3.48E-01	4.14E+01
650	0.785	2.07E-01	4.53E+01
700	0.774	1.26E-01	4.86E+01
750	0.765	7.82E-02	5.13E+01
800	0.758	4.97E-02	5.35E+01
850	0.751	3.23E-02	5.53E+01
900	0.746	2.14E-02	5.68E+01
950	0.742	1.44E-02	5.80E+01
1000	0.738	9.92E-03	5.91E+01
1050	0.735	6.92E-03	6.00E+01
1100	0.732	4.90E-03	6.07E+01
1150	0.729	3.52E-03	6.13E+01
1200	0.727	2.57E-03	6.19E+01
1250	0.725	1.89E-03	6.24E+01
1300	0.723	1.41E-03	6.28E+01
1350	0.722	1.06E-03	6.31E+01
1400	0.721	8.07E-04	6.34E+01
1450	0.720	6.20E-04	6.37E+01
1500	0.718	4.80E-04	6.39E+01
1550	0.718	3.75E-04	6.41E+01
1600	0.717	2.95E-04	6.43E+01
1650	0.716	2.34E-04	6.45E+01
1700	0.715	1.86E-04	6.46E+01
1750	0.715	1.50E-04	6.48E+01
1800	0.714	1.21E-04	6.49E+01

Soil Moisture Retention Curve Fitting for Quantifying The Hydraulic Functions of Unsaturated Soils

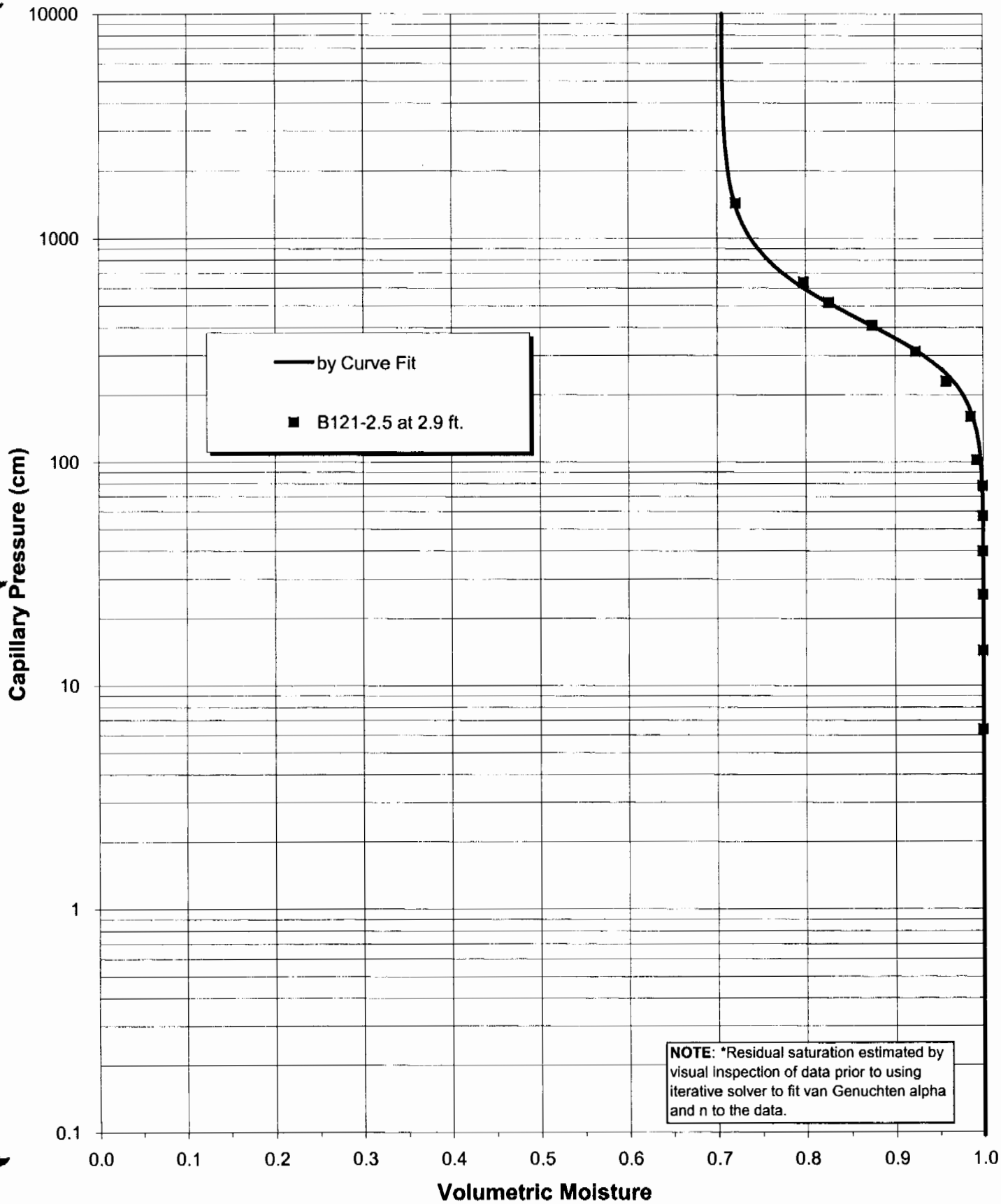
TABLE 2

Project Name: Former CENCO Refinery
Project No: 54203.002
Sample ID: B121-2.5 at 2.9 ft.

FUNCTIONAL RELATIONSHIPS BASED ON DERIVED CAPILLARY PARAMETERS

Capillary Head (cm)	(van Genuchten, 1980) Volumetric Moisture	(Mualem, 1976) Effective Water Perm.	(Mualem, 1976) Effective Air Perm.
1850	0.713	9.81E-05	6.50E+01
1900	0.713	8.02E-05	6.51E+01
1950	0.712	6.58E-05	6.52E+01
2000	0.712	5.43E-05	6.53E+01
2200	0.711	2.63E-05	6.55E+01
2400	0.710	1.36E-05	6.57E+01
2600	0.709	7.38E-06	6.59E+01
2800	0.708	4.20E-06	6.60E+01
3000	0.708	2.48E-06	6.61E+01
3200	0.707	1.52E-06	6.61E+01
3400	0.707	9.57E-07	6.62E+01
3600	0.707	6.19E-07	6.62E+01
3800	0.707	4.10E-07	6.63E+01
4000	0.706	2.77E-07	6.63E+01
4200	0.706	1.91E-07	6.63E+01
4400	0.706	1.34E-07	6.63E+01
4600	0.706	9.56E-08	6.63E+01
4800	0.706	6.91E-08	6.64E+01
5000	0.706	5.06E-08	6.64E+01
5200	0.706	3.75E-08	6.64E+01
5400	0.706	2.82E-08	6.64E+01
5600	0.706	2.13E-08	6.64E+01
5800	0.706	1.63E-08	6.64E+01
6000	0.706	1.26E-08	6.64E+01
6500	0.706	6.85E-09	6.64E+01
7000	0.705	3.89E-09	6.64E+01
7500	0.705	2.30E-09	6.65E+01
8000	0.705	1.41E-09	6.65E+01
8500	0.705	8.86E-10	6.65E+01
9000	0.705	5.73E-10	6.65E+01
9500	0.705	3.79E-10	6.65E+01
10000	0.705	2.57E-10	6.65E+01

CAPILLARY CURVE FIT: B121-2.5 at 2.9 ft.

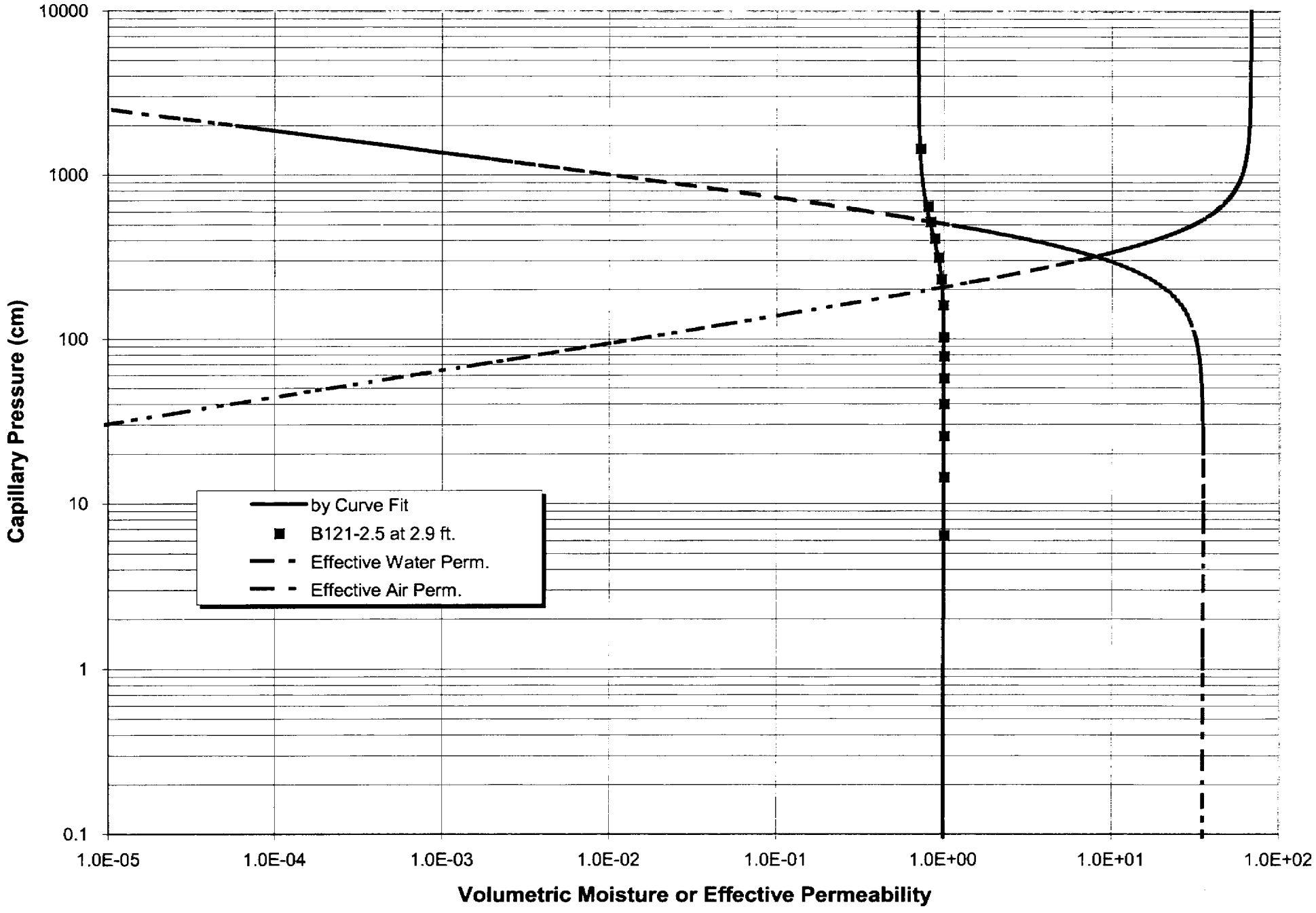


Curve fit by AQUI-VER, INC.

PTS Laboratories

Blasland, Bouck & Lee, Inc.
PTS File No. 36013

CAPILLARY CURVE FIT: B121-2.5 at 2.9 ft.



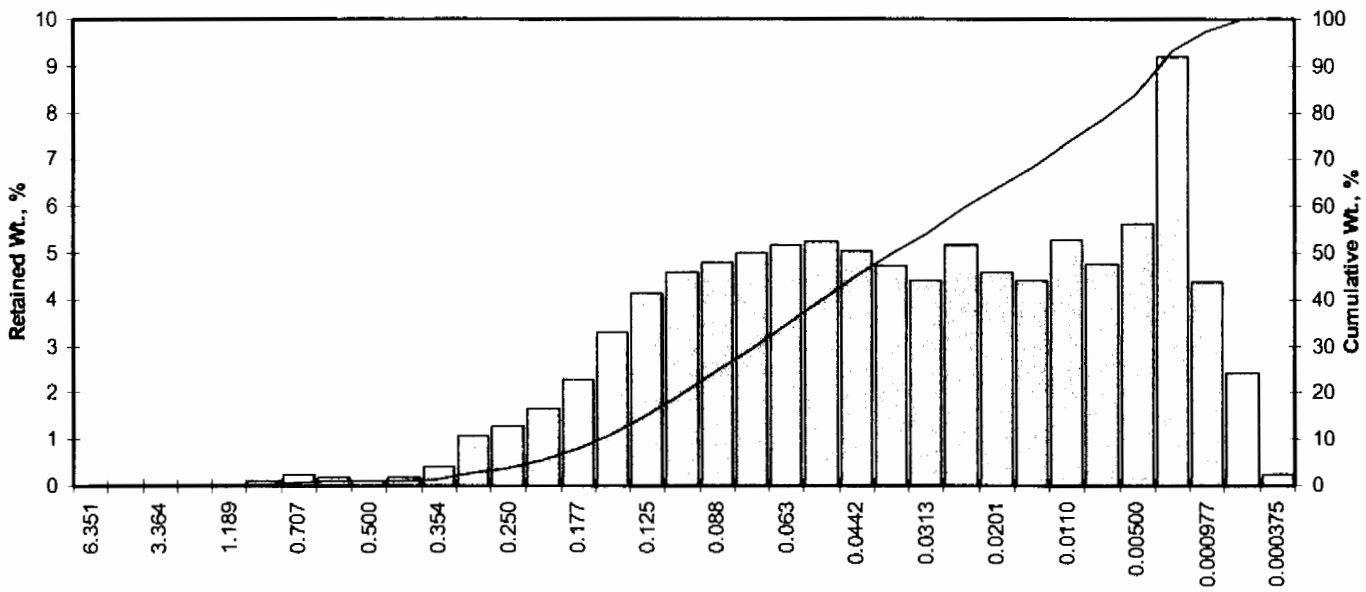
Curve fit by AQUI-VER, INC.

PTS Laboratories, Inc.

Particle Size Analysis - ASTM D4464M

Client:	Blasland, Bouck & Lee, Inc.	**PTS File No:**	36013
Project:	Former CENCO Refinery	**Sample ID:**	B121-2.5
Project No:	54203.002	**Depth, ft:**	4.5

Grv	Sand Size			Silt	Clay
	crs	medium	fine		



Opening Inches	Opening Millimeters	Phi of Screen	U.S. No.	Sample Weight, grams	Increment Weight, percent	Cumulative Weight, percent
0.2500	6.351	-2.67	1/4	0.00	0.00	0.00
0.1873	4.757	-2.25	4	0.00	0.00	0.00
0.1324	3.364	-1.75	6	0.00	0.00	0.00
0.0787	2.000	-1.00	10	0.00	0.00	0.00
0.0468	1.189	-0.25	16	0.00	0.00	0.00
0.0331	0.841	0.25	20	0.12	0.12	0.12
0.0278	0.707	0.50	25	0.24	0.24	0.36
0.0234	0.595	0.75	30	0.17	0.17	0.53
0.0197	0.500	1.00	35	0.08	0.08	0.61
0.0166	0.420	1.25	40	0.19	0.19	0.80
0.0139	0.354	1.50	45	0.41	0.41	1.21
0.0117	0.297	1.75	50	1.06	1.06	2.27
0.0098	0.250	2.00	60	1.28	1.28	3.55
0.0083	0.210	2.25	70	1.66	1.66	5.21
0.0070	0.177	2.50	80	2.28	2.28	7.49
0.0059	0.149	2.75	100	3.29	3.29	10.78
0.0049	0.125	3.00	120	4.12	4.12	14.90
0.0041	0.105	3.25	140	4.59	4.59	19.49
0.0035	0.088	3.50	170	4.79	4.79	24.28
0.0029	0.074	3.75	200	5.00	5.00	29.28
0.0025	0.063	4.00	230	5.19	5.19	34.47
0.0021	0.053	4.25	270	5.23	5.23	39.70
0.00174	0.0442	4.50	325	5.05	5.05	44.75
0.00146	0.0372	4.75	400	4.74	4.74	49.49
0.00123	0.0313	5.00	450	4.41	4.41	53.90
0.000986	0.0250	5.32	500	5.17	5.17	59.07
0.000790	0.0201	5.64	635	4.59	4.59	63.66
0.000615	0.0156	6.00		4.42	4.42	68.07
0.000435	0.0110	6.50		5.28	5.28	73.35
0.000308	0.00781	7.00		4.76	4.76	78.11
0.000197	0.00500	7.65		5.62	5.62	83.73
0.000077	0.00195	9.00		9.19	9.19	92.92
0.000038	0.000977	10.00		4.38	4.38	97.30
0.000019	0.000488	11.00		2.44	2.44	99.74
0.000015	0.000375	11.38		0.26	0.26	100.00
TOTALS				**100.00**	**100.00**	**100.00**

Cumulative Weight Percent greater than			
Weight percent	Phi Value	Particle Size Inches	Particle Size Millimeters
5	2.22	0.0085	0.215
10	2.69	0.0061	0.155
16	3.06	0.0047	0.120
25	3.54	0.0034	0.086
40	4.26	0.0020	0.052
50	4.78	0.0014	0.036
60	5.39	0.0009	0.024
75	6.67	0.0004	0.010
84	7.68	0.0002	0.005
90	8.57	0.0001	0.003
95	9.47	0.0001	0.001

Measure	Trask	Inman	Folk-Ward
Median, phi	4.78	4.78	4.78
Median, in.	0.0014	0.0014	0.0014
Median, mm	0.036	0.036	0.036
Mean, phi	4.38	5.37	5.17
Mean, in.	0.0019	0.0010	0.0011
Mean, mm	0.048	0.024	0.028
Sorting	2.966	2.312	2.256
Skewness	0.798	0.256	0.275
Kurtosis	0.251	0.569	0.948
Grain Size Description (ASTM-USCS Scale)		Silt (based on Mean from Trask)	

Description	Retained on Sieve #	Weight Percent
Gravel	4	0.00
Coarse Sand	10	0.00
Medium Sand	40	0.80
Fine Sand	200	28.48
Silt	>0.005 mm	54.45
Clay	<0.005 mm	16.27
	Total	**100**

DATE PTS FILE# 36013 36059 **CHAIN OF CUSTODY RECORD** PAGE 1 of 2

COMPANY	Blasland, Bouck & Lee, Inc.
ADDRESS	2600 Michelson Dr. Ste. 830
CITY	Irvine
ZIP CODE	CA 92612
PROJECT MANAGER	Jennifer Wiley
PHONE NUMBER	(949) 474-9052
PROJECT NAME	Former Cenco Refinery
PHONE NUMBER	(949) 474-9345
PROJECT NUMBER	54203.002
FAX NUMBER	
SITE LOCATION	12345 Lakeland Rd., Santa Fe Springs, CA
SAMPLER SIGNATURE	Maher Zein

ANALYSIS REQUEST

SAMPLE ID NUMBER	DATE	TIME	DEPTH, FT	PHYSICAL PROPERTIES PACKAGE, API RP40	MOISTURE CONTENT, ASTM D2216	POROSITY: TOTAL, API RP40	GRAIN DENSITY, API RP40	BULK DENSITY (DRY), API RP40	AIR PERMEABILITY, API RP40	SPECIFIC RETENTION/YIELD ASTM D425	CAPILLARY PRESSURE, ASTM D425M	SOIL pH, EPA 9045	POROSITY: EFFECTIVE, ASTM D425M	TCEQ/TNRCC PROPERTIES PACKAGE	GRAIN SIZE DISTRIBUTION, ASTM D422/4464M	HYDRAULIC CONDUCTIVITY, EPA 9100, API RP40	TOC: WALKLEY-BLACK	HYDRAULIC CONDUCTIVITY PACKAGE	ATTERBERG LIMITS, ASTM D4318	NUMBER OF SAMPLES
B180-2.5	01.26.06	1400	2.5' → 5.0'				SEE						PAGE					2		

PO#

SPECIAL HANDLING

24 HOURS 5 DAYS
72 HOURS (NORMAL)
OTHER

SAMPLE CONDITIONS

RECEIVED ON ICE YES/NO
SEALED YES/NO
OTHER YES/NO

COMMENTS

1. RELINQUISHED BY	2. RECEIVED BY	3. RELINQUISHED BY	4. RECEIVED BY
Maher Zein	[signature]		
COMPANY: Blasland, Bouck & Lee, Inc.	COMPANY: PTS LABS	COMPANY	COMPANY
DATE: 01.26.06 TIME:	DATE: 01/26/06 TIME: 16 55	DATE TIME	DATE TIME

Blasland, Bouck & Lee, Inc.

Physical Analysis:

Physical samples analyzed by the following: Vapor Transport Package (Johnson-Ettinger); Free Product Mobility Package; Capillarity Package (Air/Water Drainage); and Van Genuchten Parameters and Relative Permeability)

Laboratories ENVIRONMENTAL SERVICES 36013

CHAIN OF CUSTODY RECORD

PAGE 1 of 2

COMPANY: BLASLAND, BOUCK & LEE, INC.

ADDRESS: 18200 NICHOLSON DR. CITY: IRVING, CA ZIP CODE:

PROJECT MANAGER: JENNIFER WILEY

PROJECT NAME: FORMER CENCO REFINERY PHONE NUMBER: 949-474-9052

PROJECT NUMBER: 54203.002 FAX NUMBER: 949-474-9345

SITE LOCATION:

SAMPLER SIGNATURE: [signature]

PO#:

TURNAROUND TIME: 24 HOURS ☐ 48 HOURS ☐ 72 HOURS ☐ 5 DAYS ☐ NORMAL ☒ OTHER: _____

SAMPLE INTEGRITY (CHECK): INTACT ____ ON ICE ____

PTS QUOTE NO.:

PTS FILE: 36013

ANALYSIS REQUEST

SAMPLE ID NUMBER	DATE	TIME	DEPTH, FT	NUMBER OF SAMPLES	SOIL PROPERTIES PACKAGE	HYDRAULIC CONDUCTIVITY PACKAGE	PORE FLUID SATURATIONS PACKAGE	TCEQ/TNRCC PROPERTIES PACKAGE	CAPILLARITY PACKAGE	FLUID PROPERTIES PACKAGE	PHOTOLOG: CORE PHOTOGRAPHY	MOISTURE CONTENT, ASTM D2216	POROSITY: TOTAL, API RP40	POROSITY: EFFECTIVE, ASTM D425M	SPECIFIC GRAVITY, ASTM D854	BULK DENSITY (DRY), API RP40 or ASTM D2937	AIR PERMEABILITY, API RP40	HYDRAULIC CONDUCTIVITY, EPA9100, API RP40, D5084	GRAIN SIZE DISTRIBUTION, ASTM D422/4464M	TOC: WALKLEY-BLACK	ATTERBERG LIMITS, ASTM D4318				COMMENTS
B121-2.5	2/1/06	1033	2.5-5.0'																						SEE ATTACHED (PG 2) FOR ANALYSIS REQUEST

1. RELINQUISHED BY	2. RECEIVED BY	3. RELINQUISHED BY	4. RECEIVED BY
[signature]	[signature]		
COMPANY: BBL	COMPANY: PTS	COMPANY:	COMPANY:
DATE: 2/1/06 TIME: 16:45	DATE: 2/1/06 TIME: 16:45	DATE: TIME:	DATE: TIME:

BBL | CENCO 02/01/06

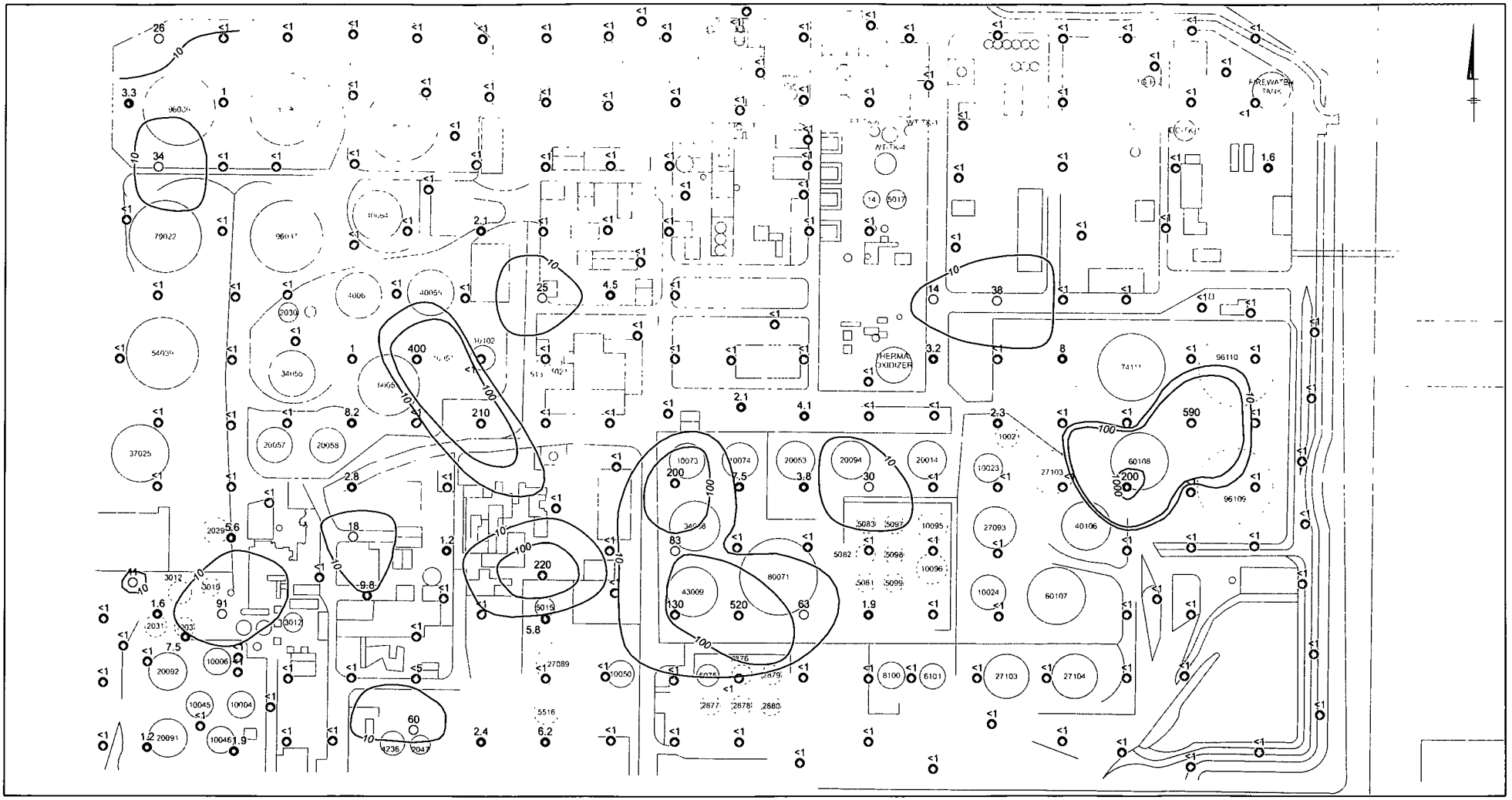
PLEASE ANALYZE B121-2.5 FOR THE FOLLOWING:

Physical samples analyzed by the following: Vapor Transport Package (Johnson-Ettinger); Free Product Mobility Package; Capillarity Package (Air/Water Drainage); and Van Genuchten Parameters and Relative Permeability)

Appendix K

Supplemental Soil Vapor Isoconcentration Maps

BBL®
an ARCADIS company



LEGEND:

SOIL VAPOR SAMPLE LOCATIONS (5ft BGS)

ETHYLBENZENE

- 0 - 1
- 1 - 10
- 10 - 100
- 100 - 1000
- > 1000
- NON DETECT
- ETHYLBENZENE ISOCONCENTRATION CONTOUR
- FORMER ABOVEGROUND STORAGE TANK LOCATION
- EXISTING ABOVEGROUND STORAGE TANK LOCATION

0 150 300 Feet

GRAPHIC SCALE

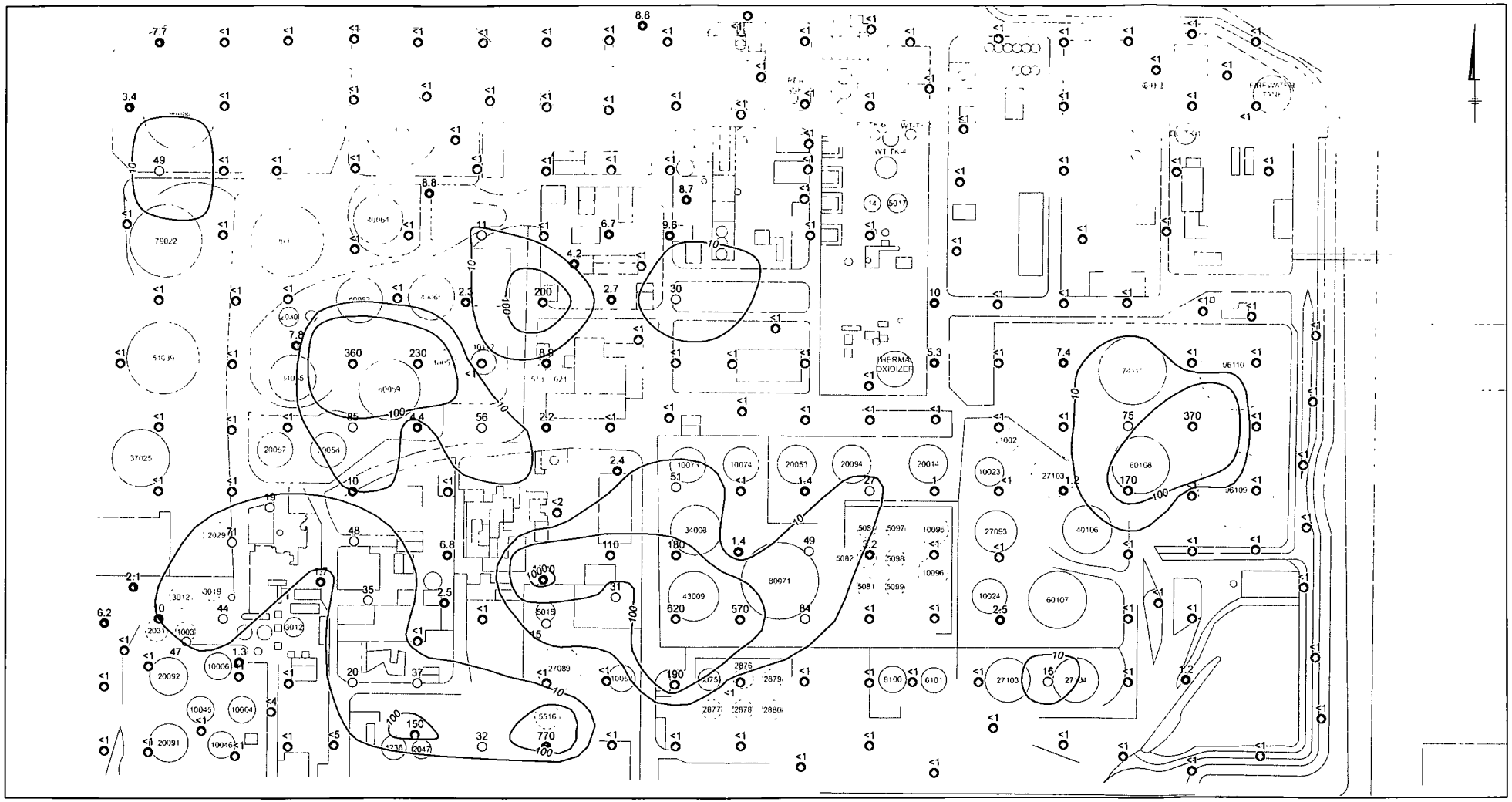
ISOLA AND ASSOCIATES LLP
FORMER CENCO REFINERY
SANATA FE SPRINGS, CALIFORNIA

SOIL VAPOR CONCENTRATION ETHYLBENZENE 5FT BGS

BBL an ARCADIS company

FIGURE **K-1**

8/10/06 ROCH-85 EAB
Isola & Associates
Q:\IsolaandAssociates\SantaFeSprings\FormerCencoRefinery\AddCENCOSiteInvestigationReport\mxd\Ethylbenzene5ftBGS.mxd



LEGEND:

SOIL VAPOR SAMPLE LOCATIONS - 10ft BGS

ETHYLBENZENE CONCENTRATION (ug/L)

- 1
- 1 - 10
- 10 - 100
- 100 - 1000
- > 1000
- NON DETECT

ETHYLBENZENE ISOCONCENTRATION CONTOUR

FORMER ABOVEGROUND STORAGE TANK LOCATION

EXISTING ABOVEGROUND STORAGE TANK LOCATION

0 150 300 Feet

GRAPHIC SCALE

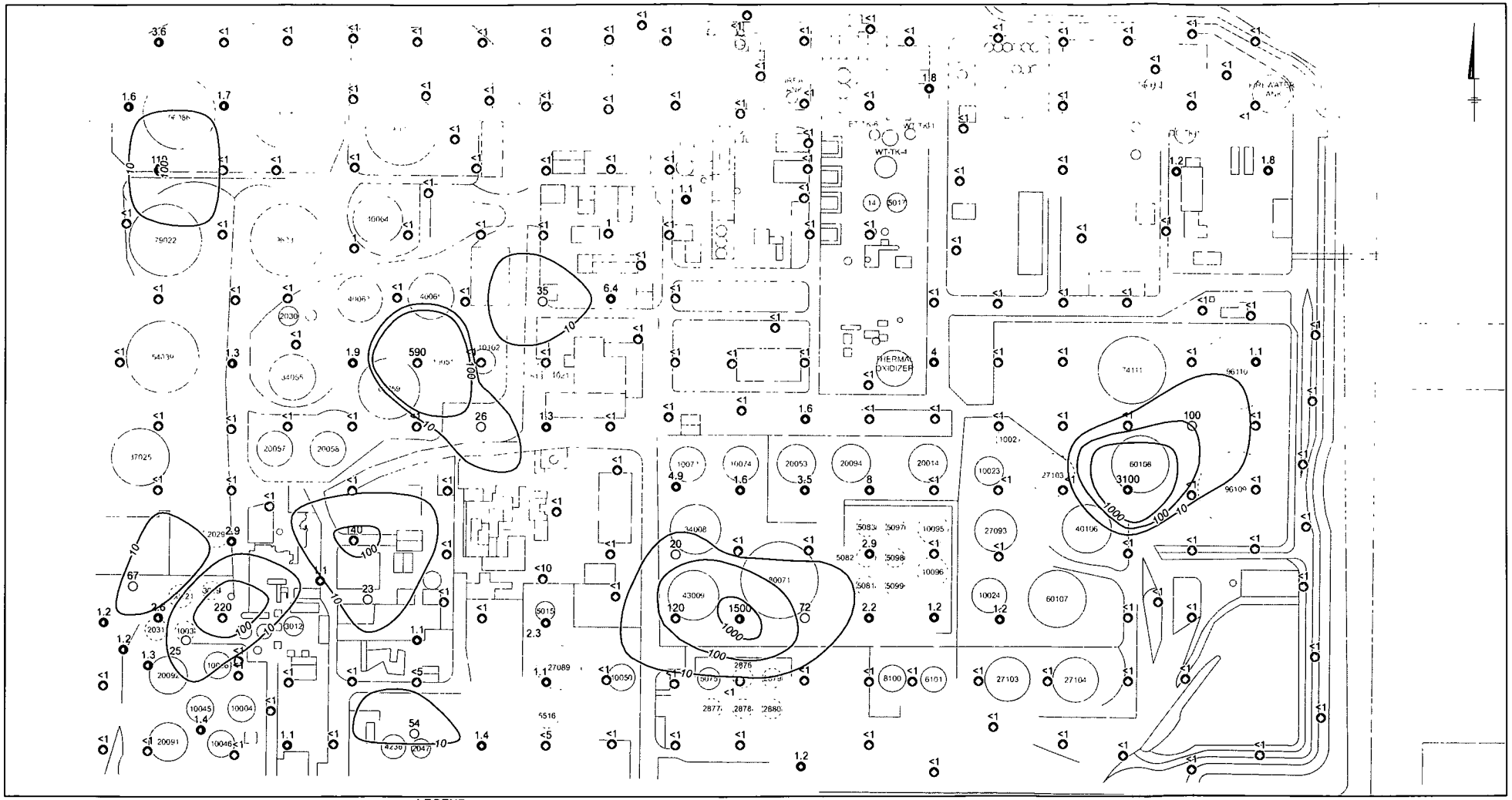
ISOLA AND ASSOCIATES LLP
FORMER CENCO REFINERY
SANATA FE SPRINGS, CALIFORNIA

SOIL VAPOR CONCENTRATION ETHYLBENZENE 10FT BGS

BBL an ARCADIS company

FIGURE **K-2**

8/10/06 ROCH-85 EAB
Isola & Associates
C:\IsolaandAssociates\SantaFeSprings\FormerCencoRefinery\Add\CENCOSiteInvestigationReport\mxd\Ethylbenzene10ftBGS.mxd



LEGEND:

SOIL VAPOR SAMPLE LOCATIONS (5ft BGS)

TOLUENE CONCENTRATION (ug/L)

- 1
- 1 - 10
- 10 - 100
- 100 - 1000
- > 1000
- NON DETECT

—— TOLUENE ISOCONCENTRATION CONTOUR

FORMER ABOVEGROUND STORAGE TANK LOCATION

EXISTING ABOVEGROUND STORAGE TANK LOCATION

0 150 300 Feet

GRAPHIC SCALE

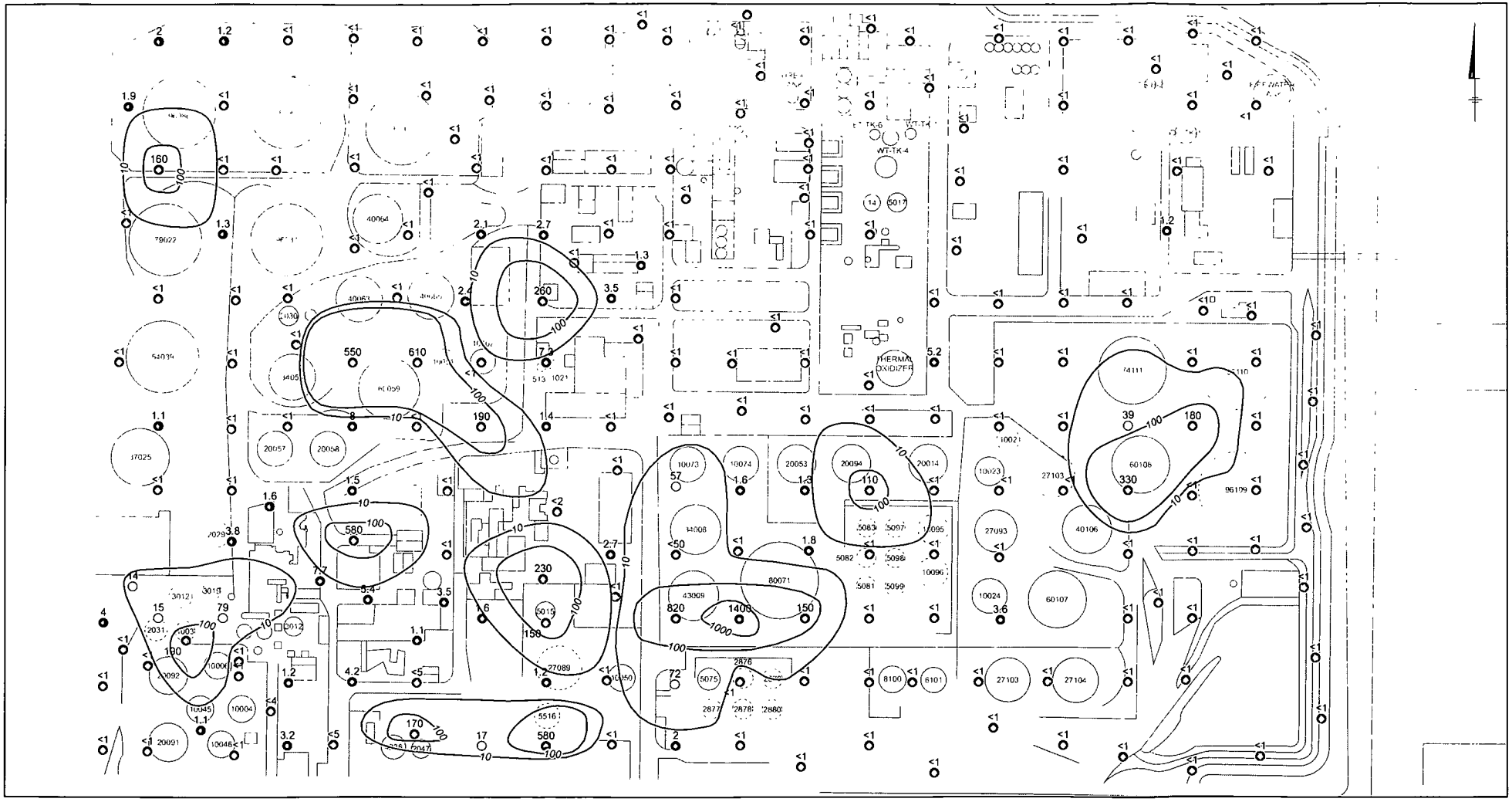
ISOLA AND ASSOCIATES LLP
FORMER CENCO REFINERY
SANATA FE SPRINGS, CALIFORNIA

SOIL VAPOR CONCENTRATION TOLUENE 5FT BGS

BBL an ARCADIS company

FIGURE **K-3**

8/10/06 ROCH-85 EAB
Isola & Associates
O:\Isolaand\Associates\SantaFeSprings\FormerCencoRefinery\Add\CENCOSiteInvestigationReport\mxd\Toluene5tBGS.mxd



LEGEND:

SOIL VAPOR SAMPLE LOCATIONS - 10ft BGS

TOLUENE CONCENTRATION (ug/L)

- 1
- 1 - 10
- 10 - 100
- 100 - 1000
- > 1000
- NON DETECT

—— TOLUENE ISOCONCENTRATION CONTOUR

FORMER ABOVEGROUND STORAGE TANK LOCATION

EXISTING ABOVEGROUND STORAGE TANK LOCATION

0 150 300 Feet

GRAPHIC SCALE

ISOLA AND ASSOCIATES LLP
FORMER CENCO REFINERY
SANATA FE SPRINGS, CALIFORNIA

SOIL VAPOR CONCENTRATION TOLUENE 10FT BGS

BBL an ARCADIS company

FIGURE **K-4**

8/10/06 ROCH-BS EAB
Isola & Associates
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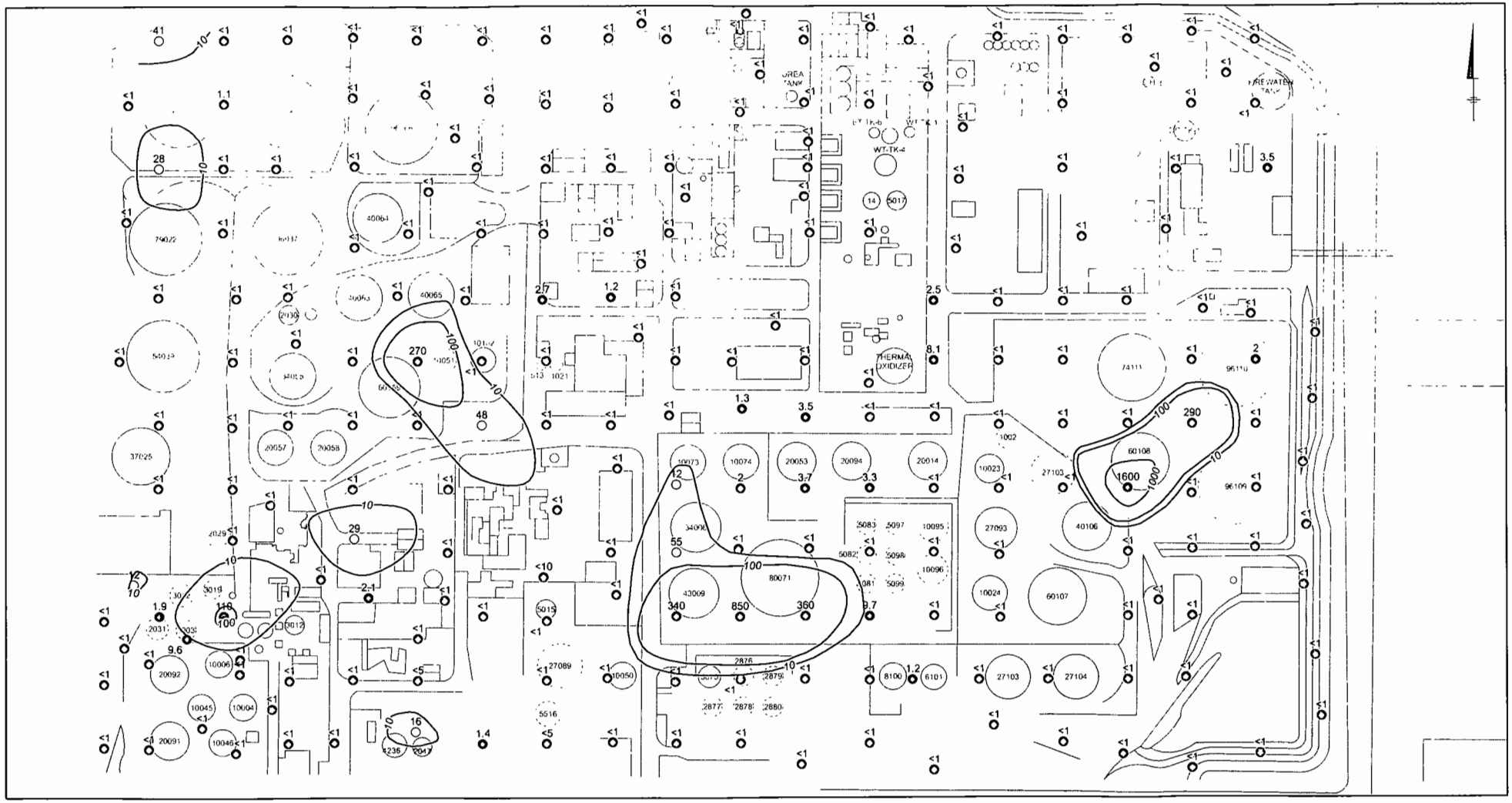

LEGEND:

SOIL VAPOR SAMPLE LOCATIONS (5ft BGS)

O-XYLENE ug/L

- 1.0
- 1 - 10
- 10 - 100
- 10 - 1000
- > 1000
- NON DETECT

—— O-XYLENE ISOCONCENTRATION CONTOUR

FORMER ABOVEGROUND STORAGE TANK LOCATION

EXISTING ABOVEGROUND STORAGE TANK LOCATION

0 150 300 Feet

GRAPHIC SCALE

ISOLA AND ASSOCIATES LLP
FORMER CENCO REFINERY
SANATA FE SPRINGS, CALIFORNIA

SOIL VAPOR CONCENTRATION
O-XYLENE 5FT BGS

BBL an ARCADIS company

FIGURE
K-5

8/10/06 ROCH-85 EAB
Isola & Associates
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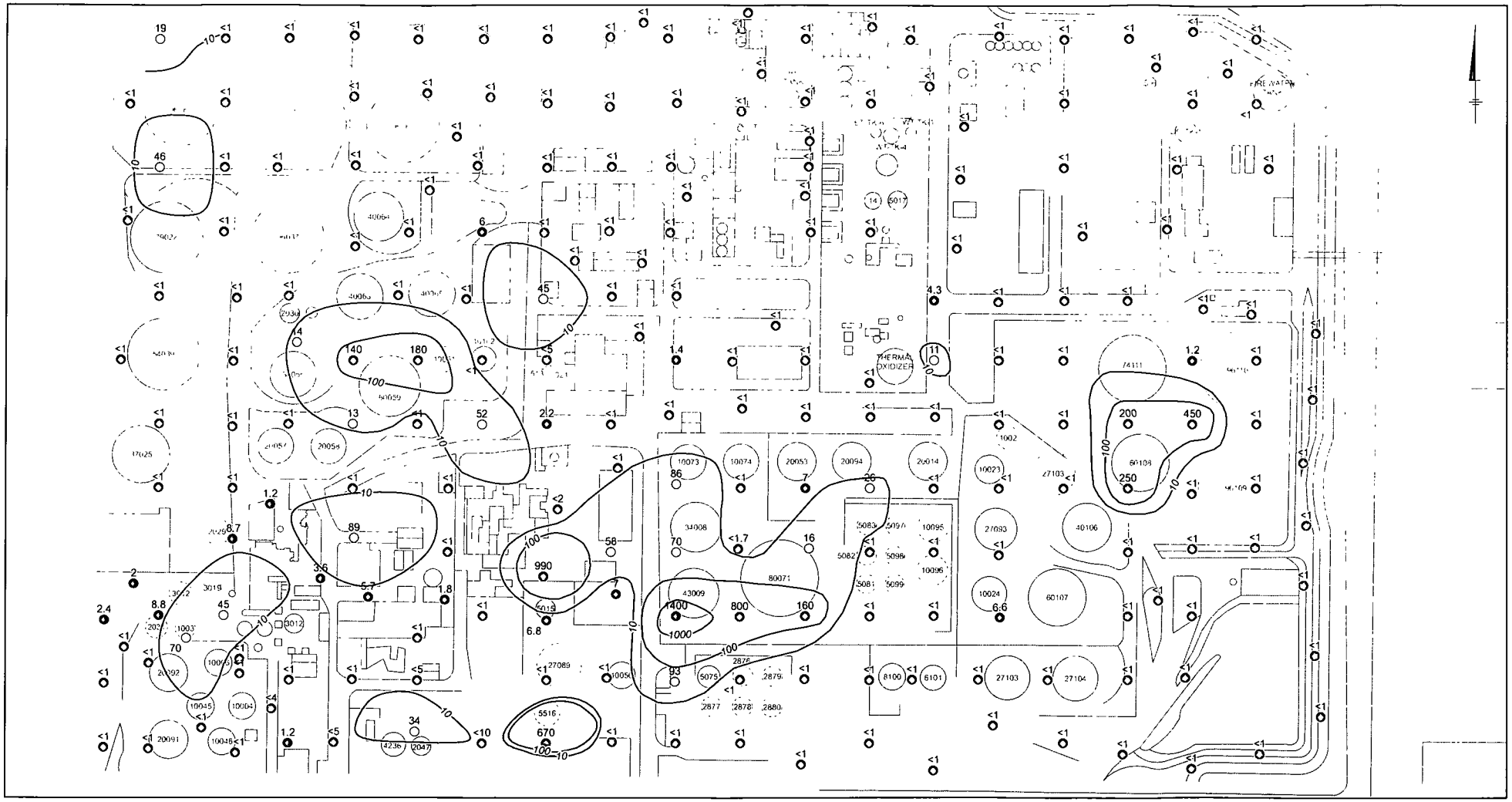

LEGEND:

SOIL VAPOR SAMPLE LOCATIONS - 10ft BGS

O-XYLENE CONCENTRATION (ug/L)

- 1
- 1 - 10
- 10 - 100
- 100 - 1000
- > 1000
- NON DETECT

—— O-XYLENE ISOCONCENTRATION CONTOUR

FORMER ABOVEGROUND STORAGE TANK LOCATION

EXISTING ABOVEGROUND STORAGE TANK LOCATION

0 150 300 Feet

GRAPHIC SCALE

ISOLA AND ASSOCIATES LLP
FORMER CENCO REFINERY
SANATA FE SPRINGS, CALIFORNIA

SOIL VAPOR CONCENTRATION
O-XYLENE 10FT BGS

BBL an ARCADIS company

FIGURE
K-6

8/10/06 ROCH-85 EAB
Isola & Associates
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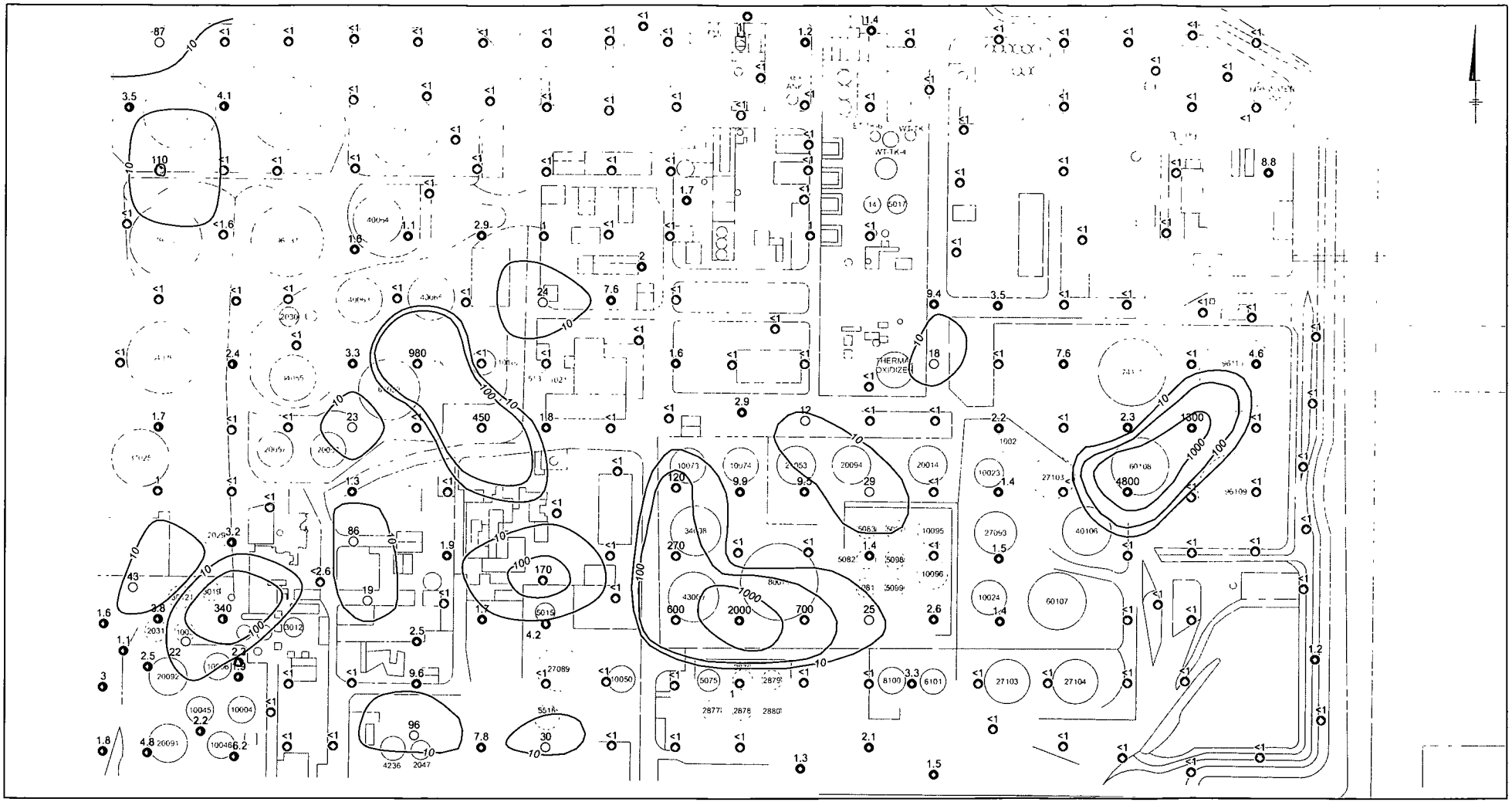


LEGEND:

SOIL VAPOR SAMPLE LOCATIONS (5ft BGS)

P/M-XYLENE ug/L

- 1
- 1 - 10
- 10 - 100
- 100 - 1000
- > 1000
- NON DETECT

P/M-XYLENE ISONCONCENTRATION CONTOUR

FORMER ABOVEGROUND STORAGE TANK LOCATION

EXISTING ABOVEGROUND STORAGE TANK LOCATION

0 150 300 Feet

GRAPHIC SCALE

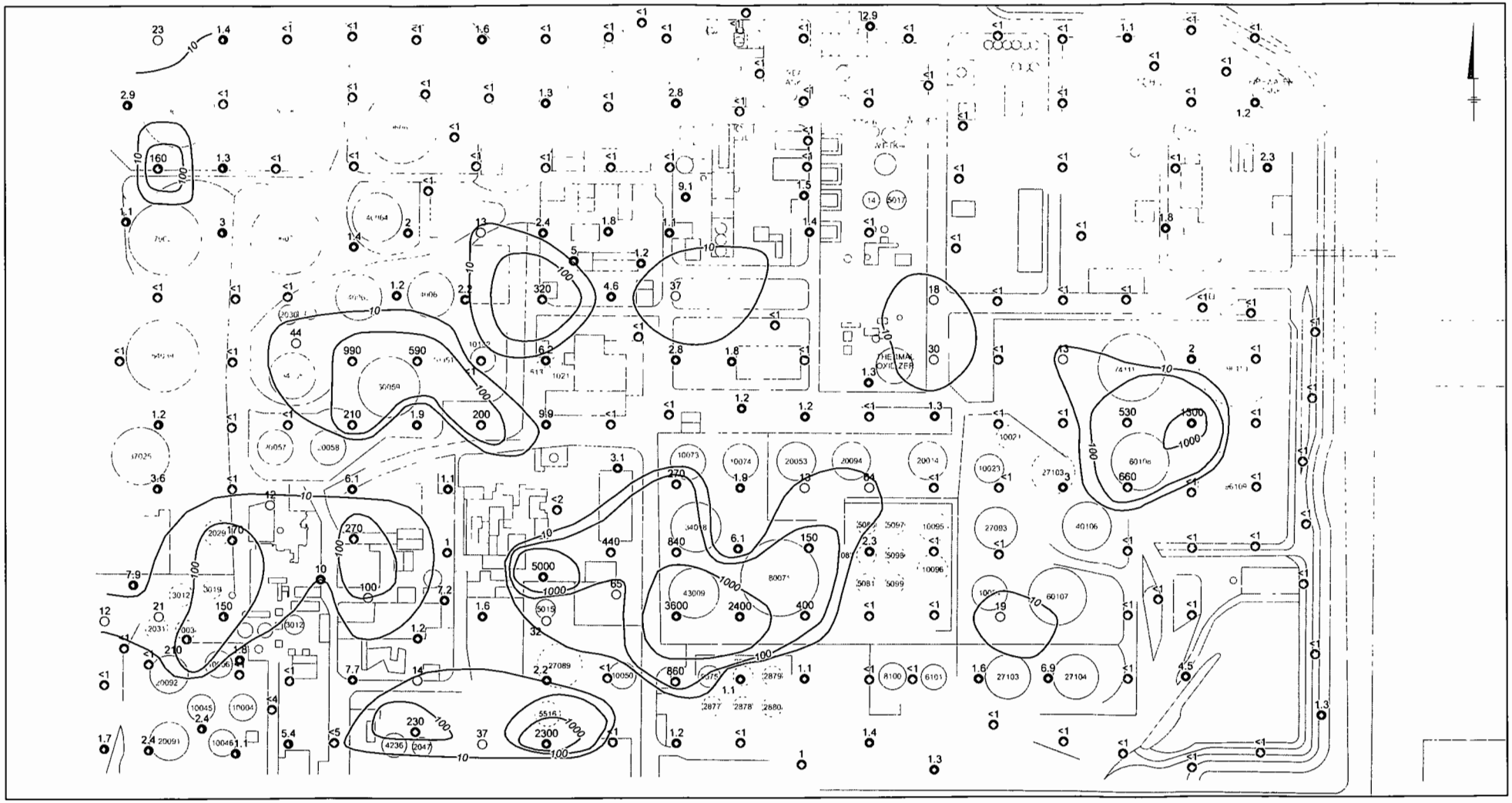
ISOLA AND ASSOCIATES LLP
FORMER CENCO REFINERY
SANATA FE SPRINGS, CALIFORNIA

SOIL VAPOR CONCENTRATION P/M-XYLENE 5FT BGS

BBL an ARCADIS company

FIGURE **K-7**

8/10/06 ROCH-83 EAB
Isola & Associates
O:\isoandAssociates\SantaFeSprings\FormerCencoRefinery\Add\CENCOSiteInvestigationReport\mxd\PMxylene5fBGS.mxd



LEGEND:

SOIL VAPOR SAMPLE LOCATIONS - 10ft BGS

P/M-XYLENE CONCENTRATION (ug/L

- 1
- 1 - 10
- 10 - 100
- 100 - 1000
- > 1000
- NON DETECT

P/M-XYLENE ISOCONCENTRATION CONTOUR

FORMER ABOVEGROUND STORAGE TANK LOCATION

EXISTING ABOVEGROUND STORAGE TANK LOCATION

0 150 300 Feet

GRAPHIC SCALE

ISOLA AND ASSOCIATES LLP
FORMER CENCO REFINERY
SANATA FE SPRINGS, CALIFORNIA

SOIL VAPOR CONCENTRATION
P/M-XYLENE 10FT BGS

BBL an ARCADIS company

FIGURE
K-8

8/10/06 ROCH-85 EAB
Isola & Associates
O:\IsolaandAssociates\SantaFeSprings\FormerCencoRefinery\Add\CENCOSiteInvestigationReport\md\pmxylene10ftBGS.mxd