FILE COPY

Mr. Barney Chan Alameda County Health Care Services Agency Department of Environmental Health 1131 Harbor Bay Parkway, Suite 250 Alameda, California 94502

RECEIVED

9:01 am, May 09, 2008

Alameda County
Environmental Health

Re:

Investigation Workplan

1137-1167 65th Street Oakland, California 94608 Case No.: RO0000082



Dear Mr. Chan:

On behalf of John Nady, Cambria Environmental Technology, Inc. (Cambria) is pleased to submit this *Investigation Work Plan* for the above-referenced property.

If you have any questions or comments regarding this report, please contact me at (510) 420-3338 or Bob Clark-Riddell at (510) 420-3303.

Sincerely,

Cambria Environmental Technology, Inc.

Jason D. Olson, E.I.T. Project Manager

Enclosure: August 26, 2003 Investigation Work Plan

cc: Mr. Frederic Schrag, 6701 Shellmound Street, Emeryville, California 94608

Cambria Environmental Technology, Inc.

5900 Hollis Street Suite A Emeryville, CA 94608 Tel (510) 420-0700 Fax (510) 420-9170

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INVESTIGATION WORK PLAN

1137-1167 65TH STREET **ALAMEDA, CALIFORNIA 94608** CASE NO.: RO0000082

AUGUST 26, 2003



Prepared for:

John Nady 6701 Shellmound Street Emeryville, California 94608

Prepared by:

Cambria Environmental Technology, Inc. 5900 Hollis Street, Suite A Emeryville, California 94608

Jason D. Olson, E.I.T.

Project Manager

Bob Clark-Riddell, P.E. Principal Engineer

INVESTIGATION WORK PLAN 1137-1167 65TH STREET ALAMEDA, CALIFORNIA 94608 CASE NO.: RO0000082

AUGUST 26, 2003

1.0 INTRODUCTION



On behalf of John Nady, Cambria Environmental Technology, Inc. (Cambria) has prepared this work plan for a subsurface investigation at the above-referenced site (Figure 1). In letters dated May 19 and June 30, 2003 the Alameda County Health Care Services Agency (ACHCSA) requested a work plan for additional assessment and further site characterization. The regulatory letters are included in Appendix A. The primary objective of the workplan scope of work is to determine the lateral and vertical extent of chemicals of concern (COCs) using a dynamic assessment technique. Cambria will install planned borings and wells, with additional step out borings to more fully delineate the extent of COCs based on field and laboratory data. Additional work will include a utility / conduit survey, sensitive receptor survey, and a shallow soil gas investigation. Discussed below are the regulatory requests, site background, previous investigations, data gap analysis, and proposed scope of work and schedule.

2.0 REGULATORY REQUESTS

2.1. May 19, 2003 ACHCSA Letter

In the May 19, 2003 letter, the ACHCSA requested that John Nady submit a work plan for the following scope of work:

- Determine the extent of total petroleum hydrocarbons (TPH) as motor oil, diesel, stoddard solvent
 or gasoline in groundwater in the areas of borings SB-1, SB-6, SB-7, and SB-8 and the extent of
 halogenated volatile organic compounds (HVOCs) in groundwater in the areas of borings SB-6,
 SB-7, and SB-10.
- Determine the extent of TPH and HVOCs in the areas of the former USTs.
- Determine of the extent of free product in the area of soil boring SB-4.
- Identify and appropriately sample possible source area locations (piping, tanks, dispensers, etc.).
- Determine the site-specific groundwater gradient through the installation of monitoring wells screened appropriately for the various perched groundwater lenses.

2.2. June 30, 2003 ACHCSA Letter

In the June 30, 2003 letter, the ACHCSA granted a work plan extension to allow for incorporation of geologic cross sections and the completion of a geophysical survey.

3.0 SITE BACKGROUND

3.1. Site Description



The site is currently comprised of a group of buildings separated by narrow walkways and occupying the addresses of 1137, 1145, 1147, and 1167, Oakland, California (Figure 2). The site topography is at an elevation of approximately 35 feet above mean sea level (ft msl). The site vicinity is of mixed residential, commercial, and light industrial use.

3.2. Hydrogeologic Cross Sections

Cambria prepared three hydrogeologic cross sections to facilitate future placement of boring and well screen intervals. The cross section locations are shown on Figure 2. The cross sections are included as Figures 3, 4, and 5. Boring logs are included in Appendix B.

3.3. Regional Geology and Setting

The site is located approximately ¾ miles east of the San Francisco Bay. The site is situated on alluvial fan deposits of the Temescal Formation, comprised of interfingering lenses of clayey gravel, sandy silt, clay, and sand-clay-silt mixtures (Radburch, D.H., 1957).

3.4. Site Geology

Based on previous investigations, the subsurface soils generally consist of interbedded layers of low permeability silts and clays and moderate permeability sandy silt and clay mixtures to a total explored depth of 36 ft bgs. Several discontinuous, 0.5-foot thick stringers of silty sand are present from 15 to 18 ft bgs in the southeastern portion of the site.

3.5. Site Hydrogeology

Several water-bearing zones have been identified beneath the site. A perched zone ranging in thickness from 1.5 to 2.0-feet is typically present at varying depths from approximately 3.5 to 6 feet bgs. A shallow water-bearing zone ranging in thickness from 1 to 8-feet is present at varying depths

chloroethane in groundwater at this location is defined to the east and northeast by groundwater samples collected from borings SB-6 and SB-10, respectively, and undefined in all other directions.

SB-8 – Analytical data for the groundwater sample exceeds the ESL for TPHg, TPHss, TPHd, TPHmo, and 1,2-dichlorobenzene (1,2-DCB) (14 ug/L). The lateral extent of TPHg, TPHss, TPHd, TPHmo, and 1,2-DCB in groundwater at this location is defined to the north, east, southeast, and south by groundwater samples collected from borings SB-1, SB-2, SB-9, and SB-10, respectively, and undefined to the west.



SB-10 – Analytical data for the groundwater sample exceeds the ESL for vinyl chloride (4.9 ug/L). The lateral extent of vinyl chloride in groundwater at this location is defined to the south, southwest, north, and east by groundwater samples collected from borings SB-6, SB-7, SB-8, and SB-9, respectively, and undefined to the west and northwest.

5.3. Potential Source Area Data Gaps

Product piping detected during the July 7, 2003 geophysical survey and a large floor drain in the 1167 65th Street Building may represent additional source areas (Figure 2). The product piping runs are defined by samples collected from borings SB-8 and SB-9 and from the former interior and exterior UST areas. The "T" junction of piping underneath the 1167 65th Street building (Figure 2) has not been adequately characterized for possible TPH and VOCs in soil and groundwater. No assessment of the floor drain area in the 1167 65th Street building has been conducted.

6.0 INVESTIGATION SCOPE OF WORK

Cambria has prepared a thorough investigation scope of work to facilitate comprehensive site characterization in a rapid and cost effective manner. Cambria will first complete a utility / conduit study and a sensitive receptor survey and, if merited, expand our subsurface investigation scope of work. Cambria will then conduct borings and monitoring well installation using a dynamic site assessment technique. After completing the planned borings, additional "step out" borings and / or wells will be installed based on field and available laboratory data to fully delineate the extent of COCs. During the final phase of investigation, Cambria will conduct a soil gas investigation to collect data regarding potential indoor air exposures. These tasks are describe below.

6.1. Task 1 - Sensitive Receptor Survey and Conduit Study

Cambria will conduct a sensitive receptor survey that includes a review of available well completion logs for wells located within 1,320 feet (1/4-mile) obtained from the California Department of Water

from approximately 6 to 12 ft bgs. In certain areas of the site, the perched and shallow water-bearing zones appear to be hydraulically connected. This perched and / or shallow water-bearing zone (present at approximately 3.5 to 12 ft bgs) has been designated water-bearing Zone A. A semi-confined or confined water-bearing zone is present in the southeastern portion of the site at approximately 15 to 18 ft bgs, and has been designated water-bearing Zone B. A deeper, confined or semi-confined water-bearing zone is present in the northeastern portion of the site (boring SB-2) at approximately 30 to 36 ft bgs, and has been designated water-bearing Zone C. The lower extent of water-bearing Zone C is not yet defined.



The groundwater gradients and flow directions for the various water-bearing zones cannot be determined due to an inadequate number of borings screened in each zone during the previous investigations. The inferred direction of groundwater flow for all water-bearing zones beneath the site is west towards the bay.

3.6. Site Groundwater Use

Cambria understands that groundwater in the East Bay plain beneath and adjacent to Emeryville, and therefore beneath the site, is not considered a potential drinking water resource.

4.0 PREVIOUS INVESTIGATIONS AND TANK REMOVAL

4.1. 1982 Tank Removal

One gasoline underground storage tank (UST) and associated gas pump was reportedly removed in 1982. Based on depressions in the site asphalt, the gasoline UST was most likely located beneath the former gasoline pump (Figure 2).

4.2. 1998 Tank Removal

In 1998, a 750-gallon heating oil underground storage tank (UST) was removed from beneath the sidewalk in front of 1167 65th Street (Figure 2). Approximately 18 cubic yards of impacted soil was removed from the UST cavity and transported under manifest for disposal. The former UST cavity was subsequently backfilled with clean fill and resurfaced. One confirmation soil sample was collected at a depth of 12 feet below ground surface (bgs) and analyzed for total petroleum hydrocarbons as diesel (TPHd) and benzene, toluene, ethylbenzene, and total xylenes (BTEX). The sample contained 14 micrograms per kilogram (µg/kg) TPHd and no detectable concentrations of BTEX constituents. Additional information is present in the December 24, 1998 *UST Removal Report* prepared by Artesian.

4.3. 2001 Product Removal

In November 2001, product containing total petroleum hydrocarbon (TPH) compounds with BTEX and volatile organic compounds (VOCs) including 1,2-dichloroethane were removed from six USTs located at the site. The removed product was transported under chain of custody for disposal as hazardous waste.

4.4. 2002 Tank Removal and Abandonments



In February 2002, five of the six USTs emptied in November 2001 were excavated and removed, and one tank was filled with cement slurry and abandoned in place. NorCal Geophysical Consultants (NorCal) conducted a limited geophysical survey to identify the location of the buried USTs. Analysis of soil and groundwater samples collected from the tank areas indicated elevated concentrations of TPH compounds including gasoline (TPHg), naphtha (TPHnap), Stoddard solvent (TPHss), and TPHd; BTEX; and VOCs. Soil removed from the former UST areas was transported under manifest for disposal. Additional information is present in the May 17, 2002 *UST Removal Report* prepared by SCI consultants.

4.5. 2002 Soil Boring and Geophysical Survey

In November 2002, Cambria advanced eleven soil borings (SB-1 through SB-11) to further define the extent of petroleum hydrocarbons and VOCs in soil and groundwater beneath the site (Figure 2). During the boring activities, Cambria installed temporary wells in each boring to assess groundwater elevation and to facilitate collection of groundwater samples. The eleven borings were located near the former USTs and associated piping, and upgradient, crossgradient and downgradient of the former UST/piping areas. ForeSite of Pleasant Hill, California conducted a brief geophysical survey to screen proposed boring locations prior to drilling. ForeSite was unable to locate piping emanating from the locations of USTs 1, 2, 3, & 4. Analysis of soil and groundwater samples detected TPH (predominantly derived from Stoddard solvent or mineral spirits) and VOCs. Separate phase hydrocarbon (i.e., free product) globules were observed in groundwater at the location of SB-4 (the former gasoline tank/pump location). The groundwater flow direction at the site could not be fully determined from the collected data.

4.6. July 2003 Geophysical Survey

On July 7, 2003, NorCal conducted a limited site geophysical survey to locate the former product piping. NorCal detected product piping connecting the former exterior and interior USTs, and additional piping north of the exterior UST location, presumably for supply of the former dry cleaning

machines (Figure 2). NorCal traced the extents of the pipe previously discovered by ForeSite back to a water box located in the sidewalk and to the bathroom. This pipe is likely a water supply line. NorCal conducted additional searches around the former product piping and have located the full extent of the former product piping. The NorCal geophysical survey map is included in Appendix C.

5.0 DATA GAP ANALYSIS



Cambria reviewed available data from the previous investigations to identify soil and groundwater data gaps for further investigation. This review encompassed the lateral and vertical extent of compounds of concern (COCs) in soil, and the location of possible source areas (e.g., product piping) discovered during geophysical surveying.

Previous soil and groundwater data were compared against the environmental screening levels (ESLs) established by the Regional Water Quality Control Board – San Francisco Bay Region (RWQCB-SFBR) in July 2003 for commercial/industrial property overlying a non-drinking water resource. Data gaps are defined as areas where soil and/or groundwater data exceeded the corresponding ESL and were not sufficiently defined below the ESL by nearby soil and/or groundwater data. Site soil and groundwater data from previous investigations is summarized in Tables 1 through 4. Site groundwater elevations and concentrations for TPH and VOCs are shown in Figures 6 and 7, respectively. Site soil concentrations for TPHg, TPHss, TPHd, and TPH as motor oil (TPHmo) are shown in Figures 8, 9, 10, and 11, respectively. The only VOC concentration in soil exceeding the ESLs was 310 micrograms per kilogram (ug/kg) in sample Tank 3, collected at 6 ft bgs.

5.1. Soil Data Gaps

Cambria identified the soil data gaps presented below.

SB-5 – Analytical data for the soil sample collected at 7.5 ft bgs exceeds the ESL for TPHg and TPHss of 400 mg/kg. The lateral extent of TPHg and TPHss in soil at this location is not defined by data from nearby soil borings. The vertical extent of TPHg and TPHss in soil at this location is defined by the soil sample collected at 11.5 ft bgs.

SB-7 – Analytical data for soil samples collected at 3.5 and 17.5 ft bgs exceed the ESL for TPHg and TPHss. The lateral extent of TPHg and TPHss in soil at this location is not defined by data from nearby soil borings. The vertical extent of TPHg and TPHss in soil at this location is not defined by vertical data but is bounded by groundwater.

SB-8 – Analytical data for the soil samples collected at 3.0 and 6.0 ft bgs exceed the ESL for TPHg and TPHss and the ESL for TPHd of 500 mg/kg. The lateral extent of TPHg, TPHss, and TPHd in soil at this location is not defined by data from nearby soil borings. The vertical extent of TPHg, TPHss, and TPHd in soil at this location is defined by data from the soil sample collected at 14.5 ft bgs.

Exterior UST Area – Analytical data for four of the six soil samples collected during UST removal at approximately 6 ft bgs exceed the ESL for TPHg and TPHss; and the ESL for Tetrachloroethene (PCE) of 0.250 mg/kg. The lateral extent of TPHg and TPHss in soil at this location is defined to the north by soil samples collected from borings SB-9 and SB-10 and undefined in all other directions.



Interior UST Area – Analytical data for samples Tank 5 E End and Tank 6 W End (located between the former USTs) collected during the UST removal / abandonment at approximately 6 ft bgs exceed the ESL for TPHg, TPHss, and TPHd. The lateral extent of TPHg, TPHss, and TPHd in soil at this location is defined to the west and east by soil samples collected from boring SB-9 and soil sample Tank 6 E End, respectively, and undefined in all other directions.

5.2. Groundwater Data Gaps

Cambria identified the groundwater data gaps presented below.

SB-1 (former heating oil UST location) – Analytical data for the groundwater sample exceeds the ESLs for TPHd and TPHmo of 640 micrograms per liter (ug/L). The lateral extent of TPHd and TPHmo at this location is undefined. The area of concern may be limited to the former UST pit location.

SB-4 (former gasoline UST location) – Free product globules were observed on groundwater sampling equipment used in boring SB-4. The lateral extent of the free product at this location is defined to the north by groundwater samples collected from boring SB-11 and undefined in all other directions. The area of concern may be limited to the former UST pit location.

SB-6 (former exterior UST location) – Analytical data for the groundwater sample exceeds the ESL for TPHg and TPHss of 400 ug/L, and for TPHd and TPHmo. The lateral extent of TPHg, TPHss, TPHd, and TPHmo in groundwater at this location is defined to the west, northeast, and north by groundwater samples collected from borings SB-7, SB-9, and SB-10, respectively, and undefined to the south and east.

SB-7 – Analytical data for the groundwater sample exceeds the ESL for TPHg, TPHss, TPHd, TPHmo, and chloroethane (12 ug/L). The lateral extent of TPHg, TPHss, TPHd, TPHmo, and

Resources to determine the presence of privately-owned water wells (including abandoned wells) that might be impacted or that might locally affect the migration of site COCs.

Cambria will conduct a survey of underground utilities that may serve as preferential pathways beneath 65th Street and Peabody Lane. To complete the conduit study, Cambria will request construction diagrams from the site owner, the City of Oakland Building Division, and/or the East Bay Municipal Utility District (EBMUD); and contract with a utility location company to conduct an offsite utility location survey.



6.2. Task 2 - Permitting and Prefield

6.2.1. Utility Location

The proposed drilling locations will be marked and Underground Service Alert will be notified of our site activities to identify utilities in the site vicinity. A private underground line locating service will survey the location of borings to clear buried utilities.

6.2.2. Site Health and Safety Plan

A comprehensive site safety plan will be prepared to protect site workers. The plan will be kept on site during field activities and signed by each site worker.

6.2.3. Permits

Drilling permits will be obtained as required from the Alameda County Public Works Agency (ACPWA). Excavation and encroachment permits will be obtained from the City of Oakland Building Division.

6.3. Task 3 - Soil Boring Investigation

To address identified data gaps, Cambria proposes the installation and sampling of 14 soil borings (Figure 12) by direct push in conjunction with the monitoring well installation and sampling proposed in Section 6.4. Borings will be installed using a Geoprobe or direct-push rig (see Appendix D). During direct push drilling, the soil will be field screened for hydrocarbons using visual observations and a portable volatile vapor analyzer. Soil and groundwater samples will be collected and analyzed as described below. Based on field observations and / or laboratory data, additional "step out" borings may be installed to fully delineate the extent of COCs in soil and groundwater (Figure 12). Upon completion of sampling activities, each boring will be sealed to the surface with bentonite-cement

grout and capped with concrete and/or asphalt as appropriate. The proposed direct push boring rationale, depths, and sampling schedule is summarized in Table 5.

6.3.1. Soil Data Gap Investigation

The identified soil data gaps will be investigated as described below.

- SB-5 (TPHg and TPHss in soil at 7.5 ft bgs) Three soil borings (SB-14, SB-15, and SB-26) will be located approximately 20 30 feet from boring SB-5. These borings will be advanced to groundwater (to investigate other data gaps) and soil samples will be collected from the 7.5 and 11.5 foot intervals in each boring.
- SB-7 (TPHg and TPHss in soil at 3.5 and 17.5 ft bgs) Three soil borings (SB-17, SB-18, and MW-6) will be located approximately 20-40 feet from boring SB-7. These borings will be advanced to groundwater and soil samples will be collected from the 3.5, 7.5, 11.5, 17.5 and 19.5 foot intervals in borings SB-17 and SB-18 and at five-foot intervals in boring MW-6.
- SB-8 (TPHg, TPHss, and TPHd in soil at 3.0 and 6.0 ft bgs) Three soil borings (SB-22, SB-23, and SB-24) will be located approximately 20 25 feet from boring SB-8. These borings will be advanced to 9.5 ft bgs and soil samples will be collected from the 3.0, 6.0, and 9.0 foot intervals in each boring.
- Exterior UST Area (TPHg, TPHss, and PCE at 6.0 ft bgs) Two soil borings (SB-16 and SB-17) will be installed and sampled to assess the Exterior UST Area: boring SB-16 located approximately 10 feet to the southeast and boring SB-17 located approximately 30 feet to the southwest. These borings will be advanced to a minimum of 12 ft bgs, and soil samples will be collected from the 7.5 and 11.5 foot intervals for assessment of this data gap.
- Interior UST Area (TPHg, TPHss, TPHd at 6.0 ft bgs) Two soil borings (SB-13 and SB-26) will be installed and sampled to further assess the Interior UST Area: boring SB-13 located approximately 15 feet to the north and boring SB-26 located approximately 20 feet to the south. These borings will be advanced to a minimum of 12 ft bgs, and soil samples will be collected from the 6.0 and 11.5 foot intervals for assessment of this data gap.
- **Product Piping "T" Joint (potential source area)** One soil boring (SB-24) will be advanced to 9.5 ft bgs and soil samples will be collected from the 3.0, 6.0, and 9.0 foot intervals.



• 1167 65th Street Building Floor Drain (potential source area) – One soil boring (SB-21) will be advanced by hand auger to 10 ft bgs and soil samples will be collected from the 3.0, 6.0, and 9.0 foot intervals.

6.3.2. Groundwater Data Gap Investigation

Groundwater data gaps will be investigated by advancing 8 borings to groundwater at approximate 60 foot intervals (Figure 12). Groundwater samples will be collected from each boring. Borings SB-17 and SB-18 will be screened in water-bearing Zone B, and all other borings will be screened within water-bearing Zone A. Temporary wells will be allowed to equilibrate prior to sampling due to the confined and semi-confined groundwater conditions at the site. SB-7. Cambria will contract with a licensed surveyor to survey boring locations and boring ground surface elevation.

The free product data gap (SB-4) will be delineated by proposed borings SB-12 and SB-14 (Figure 12), and existing data from boring SB-11 (installed and sampled during the November 2002 investigation). These three borings will be located approximately 20 - 30 feet from boring SB-4 and screened in water-bearing Zone A.

6.4. Task 4 - Monitoring Well Installation

After sufficiently defining the extent of COCs in soil and groundwater, Cambria will install and sample an estimated 15 groundwater monitoring wells (Figure 12) to assess the extent of COCs in water-bearing Zones A, B, and C. Clusters of 2-inch diameter monitoring wells will be installed in the locations shown on Figure 12. Wells will be screened in water-bearing Zones A, B, and / or C as detailed in Table 6. To facilitate free product recovery near SB-4 (former gasoline UST backfill), well MW-2A will be four inches in diameter.

For each monitoring well location, one soil boring will be drilled to the depth proposed in Table 6 using a drilling rig equipped with 8-inch hollow stem augers (10-inch hollow stem augers will be used for well MW-2A). Soil samples will be collected at five-foot intervals using a modified California split spoon sampler (see Appendix D). Field screening of hydrocarbons and volatile organic compounds will include visual or olfactory observations, and/or photo-ionization detector readings.

Each groundwater monitoring well boring will be converted into a 2-inch diameter monitoring well (except for the 4-inch diameter MW-2A). The well will be constructed of threaded PVC well casing; screened with 0.010-inch machined slot; and screened as listed in Table 6. The well depth and screen interval may vary based on field observations. A filter pack consisting of No. 2/12 sand will be installed to 6 inches above the top of the well screen, overlain by 1 ft of bentonite, and the remaining



annulus filled with bentonite-cement grout to the surface. Traffic-rated vault-boxes will be installed to protect the wells. See Appendix D for Cambria's standard well procedures.

Following installation, the new wells will be surveyed and developed. The wells will be vertically and horizontally surveyed by a professional surveyor. Wells will be developed by surging and purging approximately 10 casing volumes of water or until the groundwater becomes clear of suspended solids. Wells will be sampled a minimum of 72 hours after well development. See Appendix D for Cambria's standard well procedures.



6.5. Task 5 – Soil Gas Probe Installation and Sampling

After monitoring well installation, Cambria will install and sample at least five temporary soil gas probes (SGP). SGPs will be installed in representative areas of the site (Figure 12) in order to assess the potential for indoor air exposure to site COCs. SGPs will be installed and sampled in accordance with the joint Department of Toxic Substances (DTSC) / Los Angeles Regional Water Quality Control Board (LARWQCB) January 23, 2003 Active Soil Gas Investigations Advisory (Appendix E).

Soil vapor sampling will be performed a minimum of three days after any significant precipitation (more than 0.5 inch). Prior to collecting samples, the SGPs will be purged of three casing-and-sample-tubing volumes of vapors using a purge pump equipped with a flow measure capable of measuring flow rate. If no flow is obtained from the SGP due to impermeable soil, one or more additional "step out" SGP(s) will be installed to further assess the area. During purging, soil vapor readings will be taken using a photoionization detector, and, after purging, samples will be collected in one-liter Summa canisters using a flow control orifice to maintain a sampling rate of 100 to 200 milliliters per minute. All connections of the Teflon sample tubing to the valves, fittings, pump, etc. will consist of compression fittings. The Summa canister will have a vacuum gauge to calculate the volume of vapor sampled, and to ensure that the negative pressure recorded within the Summa canister is maintained during transport to the analytical laboratory. A soil vapor sampling apparatus diagram is presented as Figure 3. Between sample collections, the Teflon tubing will be replaced and all fittings and connectors decontaminated.

6.5.1. Leak Testing

Leaks in the soil vapor sampling apparatus may dilute the sample with ambient air that would produce underestimated concentrations of petroleum hydrocarbon constituents. To test for leaks in the soil vapor sampling apparatus, a vacuum will be applied to the apparatus by closing the appropriate valves and by using the purge pump or Summa canister. The vacuum will be monitored using the vacuum

gauge for approximately 5 minutes to assure that there is no change in the vacuum, thus indicating that there are no leaks in the system. As discussed in the joint DTSC / LARWQCB advisory, shaving cream containing propane, isopropanol and/or isobutene as propellants will be placed on all compressor fittings of the soil vapor sampling apparatus. The propellant(s) within the shaving cream will then be included in the suite of target analytes as tracer gases to determine if the sample has been compromised.

6.5.2. Sample Quality Assurance / Quality Control



In addition to soil vapor samples collected from the SGPs, quality control samples will be collected for laboratory analysis. A duplicate sample will be collected from one of the SGPs suspected to be impacted by petroleum hydrocarbons. Additionally, a soil vapor sampling equipment blank of ambient air will be collected through the sampling apparatus, with shaving cream applied as described below. The equipment blank will provide data on the adequacy of the decontamination procedures performed between the collection of soil vapor samples and, in the event that the shaving cream propellants are detected in soil vapor samples, whether they originated from the shaving cream or from petroleum hydrocarbons in the subsurface.

6.6. Task 6 - Chemical Analysis

Soil and groundwater samples collected during the investigation will be submitted to a California-certified analytical laboratory. Soil and groundwater samples collected from soil borings will be analyzed for TPHg, TPHss, TPHd and TPHmo by modified EPA Method 8015 and for VOCs by EPA Method 8260. To control costs, only soil samples collected during the installation of the deepest monitoring well in each cluster will be analyzed for TPHg, TPHss, TPHd and TPHmo by modified EPA Method 8015 and VOCs by EPA Method 8260. If free product is encountered in any of the borings, a product sample will be collected for possible analysis.

The soil vapor and quality control samples will be kept at ambient temperatures and submitted under chain of custody procedures to a California-certified laboratory for analysis. The samples will be analyzed for TPHg and TPHss using EPA Method TO-3, and VOCs using EPA Method TO-15 or an equivalent. The detection limits for the shaving cream propellants will be less than or equal to 10 micrograms per liter.

6.7. Task 7 – Soil Matrix Sampling and Analysis

Selected shallow soil samples will be analyzed by a geotechnical laboratory to determine physical soil properties for future risk assessment and/or remediation. Soil classification is required for proper

evaluation of shallow soil gas results, especially if low permeability materials prevent adequate vapor sample collection.

6.8. Task 8 - Investigation Derived Waste (IDW)

IDW produced during field activities will be temporarily stored onsite. Following review of analytical results, the IDW will be transported to an appropriate facility for disposal/recycling.

6.9. Task 9 - Reporting



Cambria will prepare and submit a *Site Characterization Report* to ACHCSA detailing the findings of the above investigation phases. At a minimum, this report will contain:

- The findings of the SRS and conduit study, including detailed maps;
- Descriptions of the soil boring, monitoring well, and SGP drilling / installation methods;
- Descriptions of the sampling methods used;
- Tabulated soil and groundwater analytical results;
- Boring logs and well construction diagrams for the soil borings, monitoring wells, and SGPs;
- Revised hydrogeological cross sections;
- Analytical reports and chain-of-custody forms; and
- Soil and water disposal methods;

7.0 SCHEDULE

Upon receiving written work plan approval from the ACHCSA, Cambria will coordinate the approved activities and seek cost pre-approval from the California UST Cleanup Fund. Cambria anticipates completing the planned investigation and report within approximately 12 to 14 weeks after client approval.

8.0 APPENDIXES

Figure 1 – Vicinity Map

Figure 2 – Site Plan

Figure 3 – Geologic Cross Section A – A'

Figure 4 – Geologic Cross Section B – B'

Figure 5 – Geologic Cross Section C – C'

Figure 6 – Groundwater Elevations with Petroleum Hydrocarbon Concentrations in Groundwater

Figure 7 - Volatile Organic Compound Concentrations in Groundwater

Figure 8 – TPHg Concentrations in Soil

Figure 9 – TPHss Concentrations in Soil

Figure 10 - TPHd Concentrations in Soil

Figure 11 – TPHmo Concentrations in Soil

Figure 12 - Proposed Boring Locations

Figure 13 - Soil Vapor Sampling Apparatus Diagram

Table 1 – Soil Analytical Data: Petroleum Hydrocarbons and Lead

Table 2 – Soil Analytical Data: Volatile Organic Compounds

Table 3 - Groundwater Analytical and Elevation Data: Petroleum Hydrocarbons

Table 4 - Groundwater Analytical and Elevation Data: Volatile Organic Compounds

Table 5 – Data Gap Investigation - Proposed Boring Locations, Boring Depth, Sampling Schedule, and Rationale

Table 6 - Proposed Monitoring Well Diameter and Screen Interval

Appendix A – ACHCSA Letters

Appendix B – Boring Logs

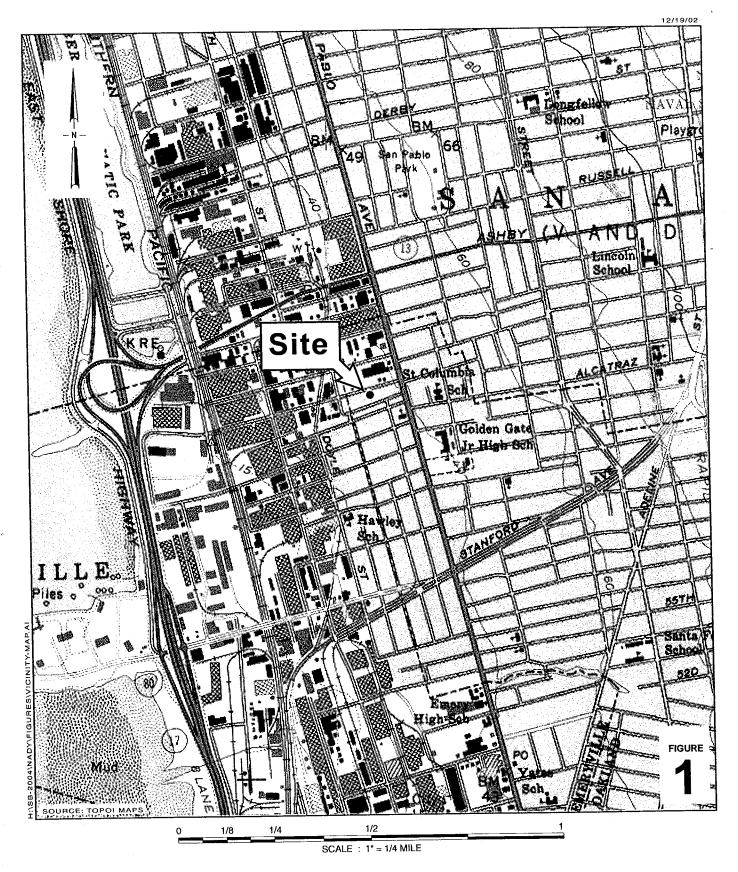
Appendix C - NorCal Geophysical Figure

Appendix D - Standard Field Procedures for Soil Borings and Monitoring Wells

Appendix E - DTSC / LARWQCB January 23, 2003 Active Soil Gas Investigations Advisory

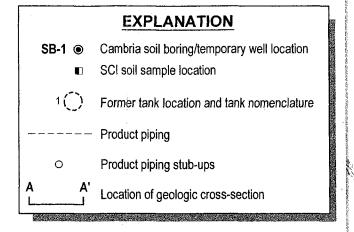
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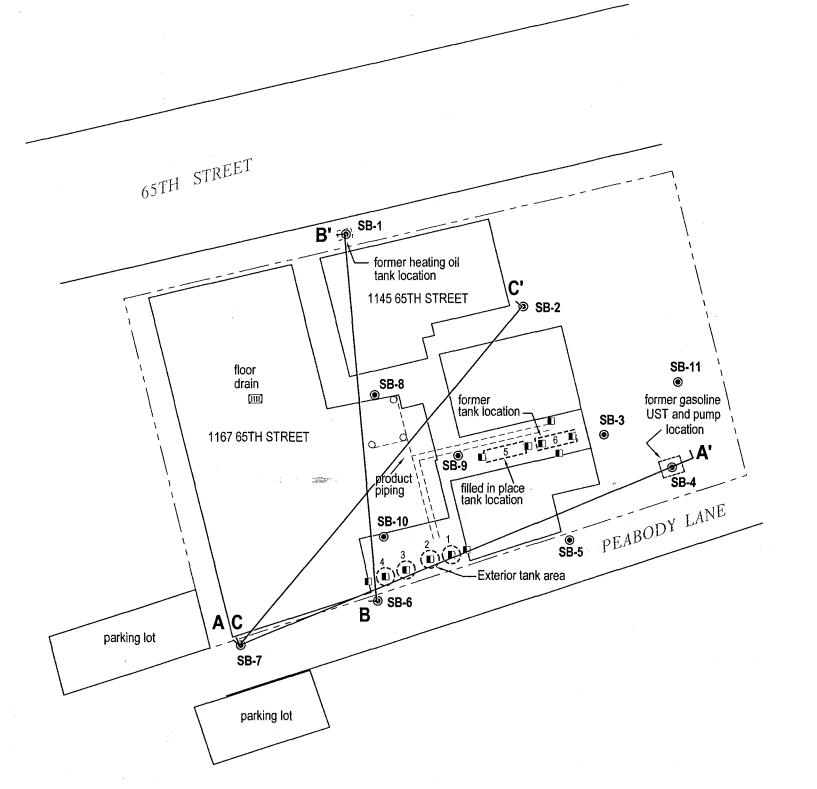


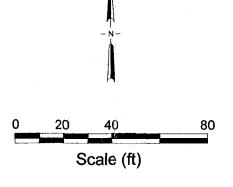


3

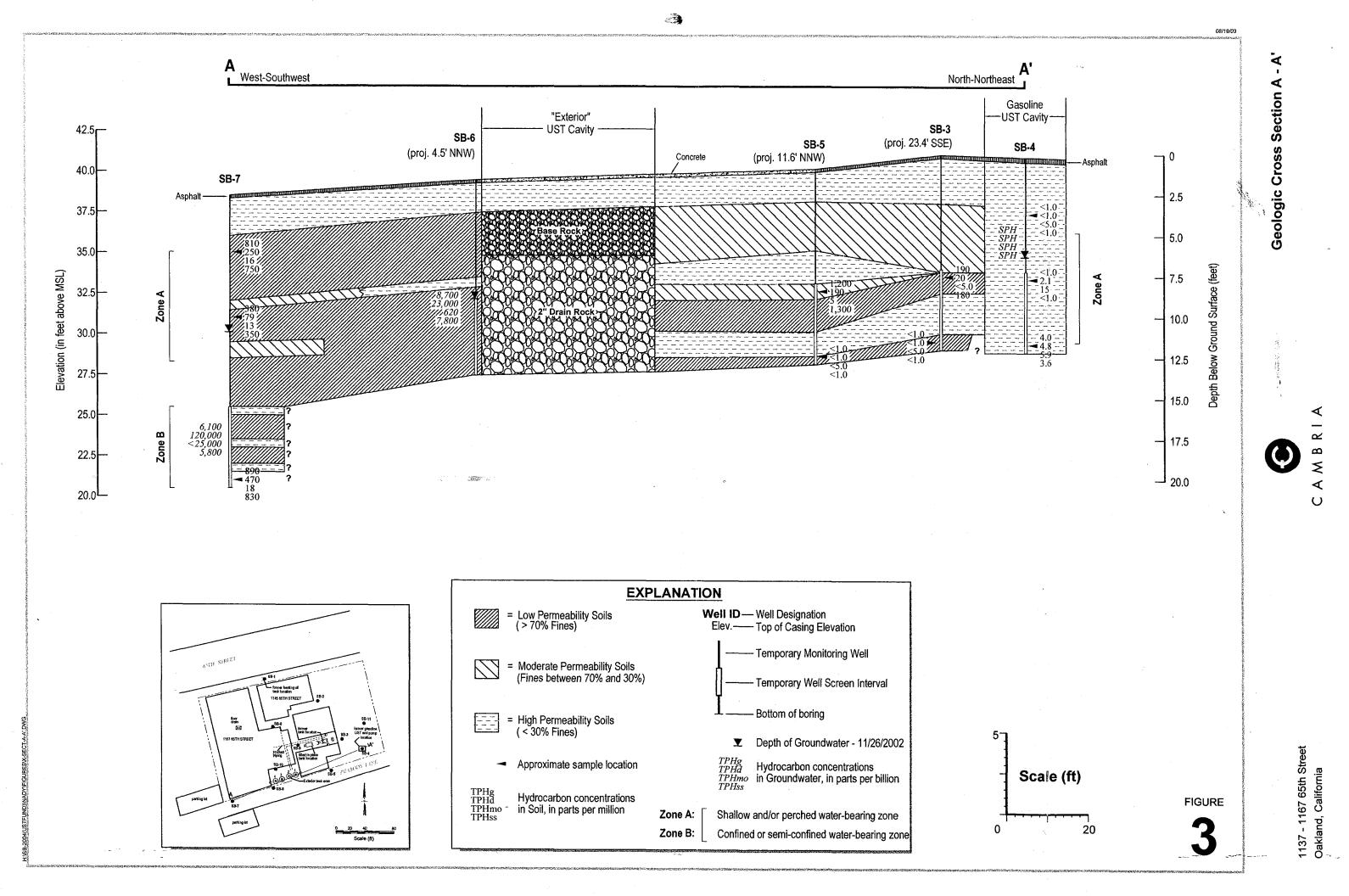
Vicinity Map

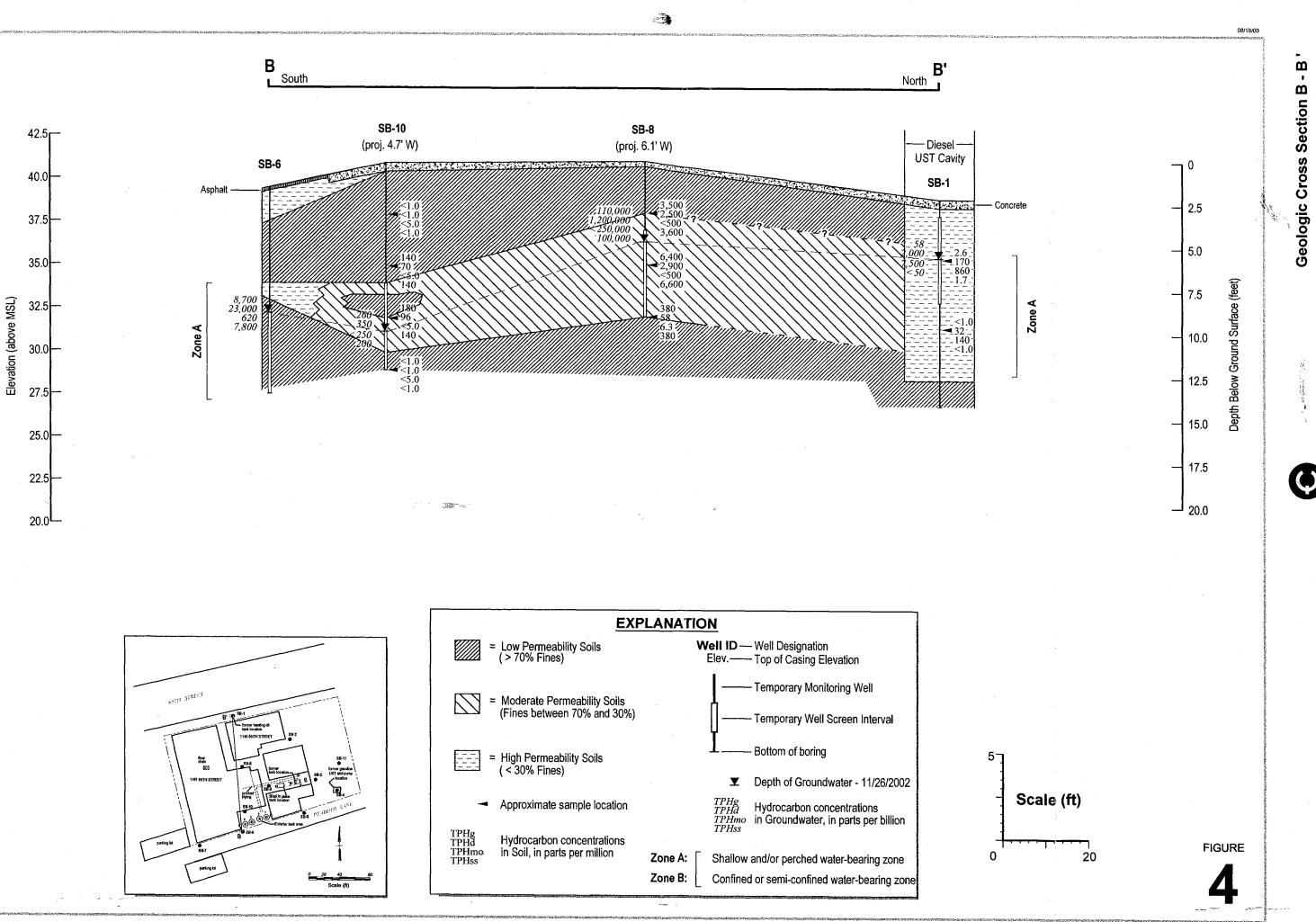




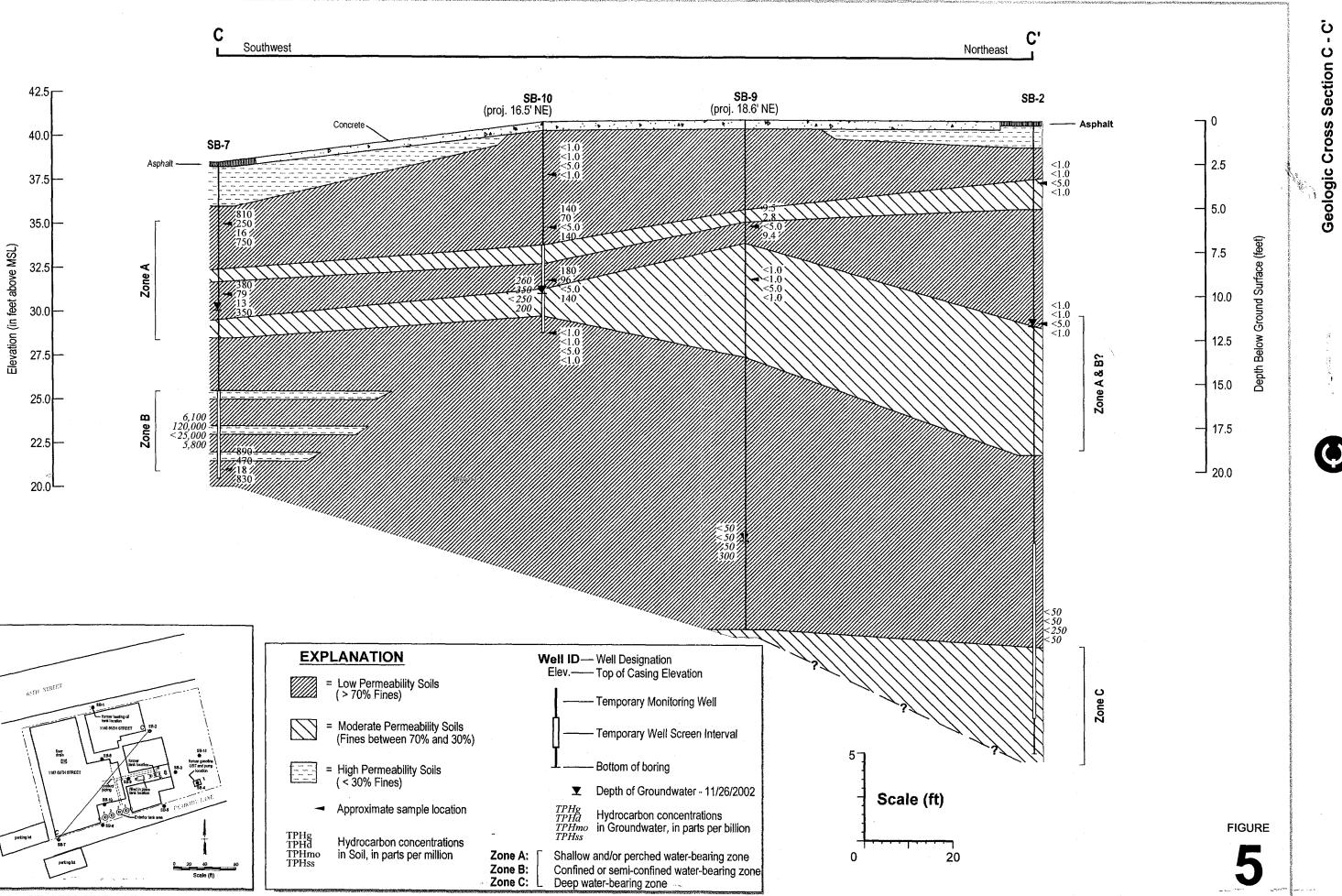


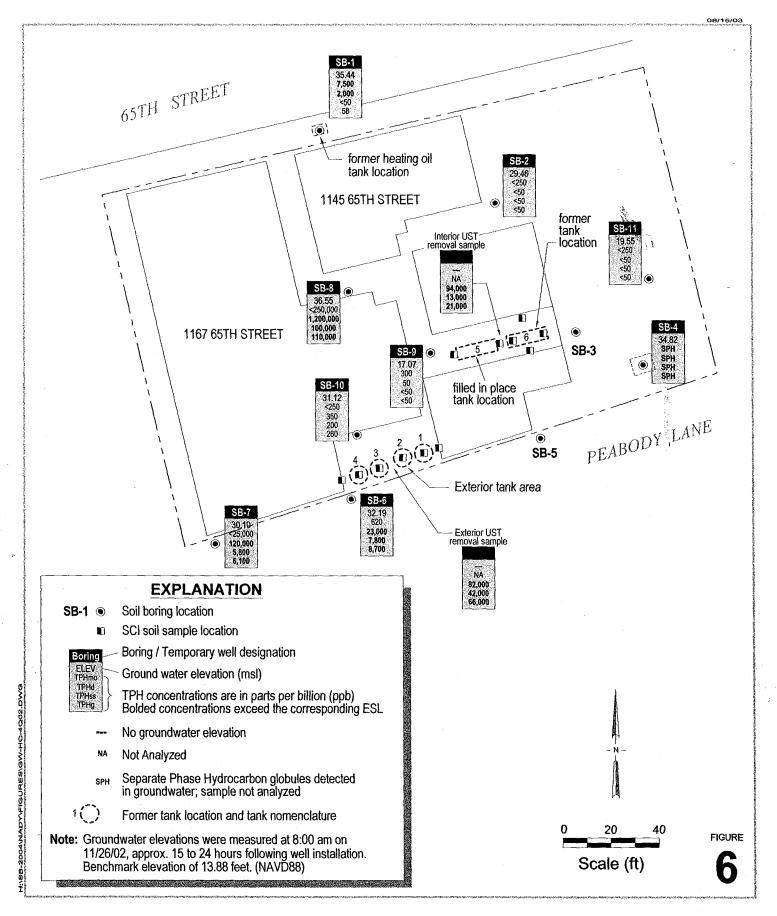
FIGURE



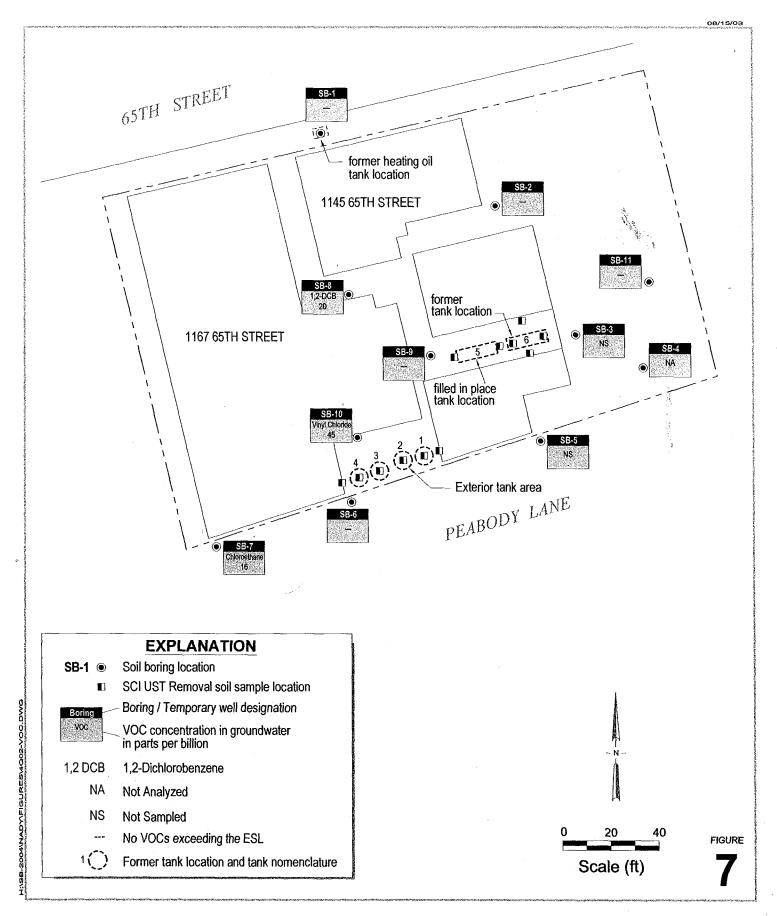


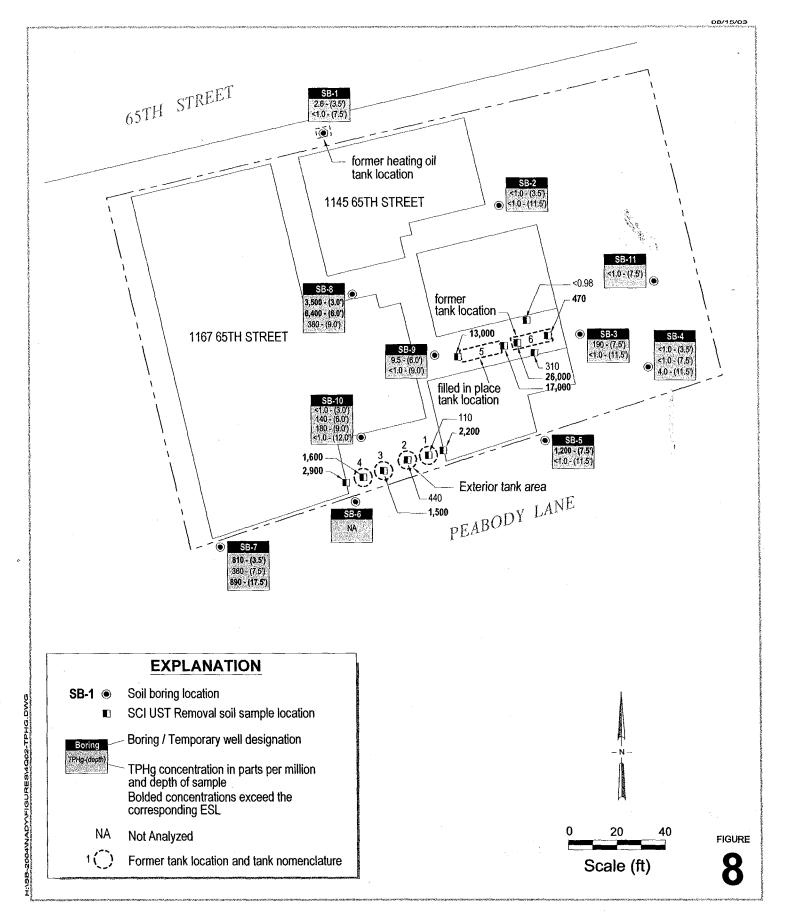
1137 - 1167 65th Street



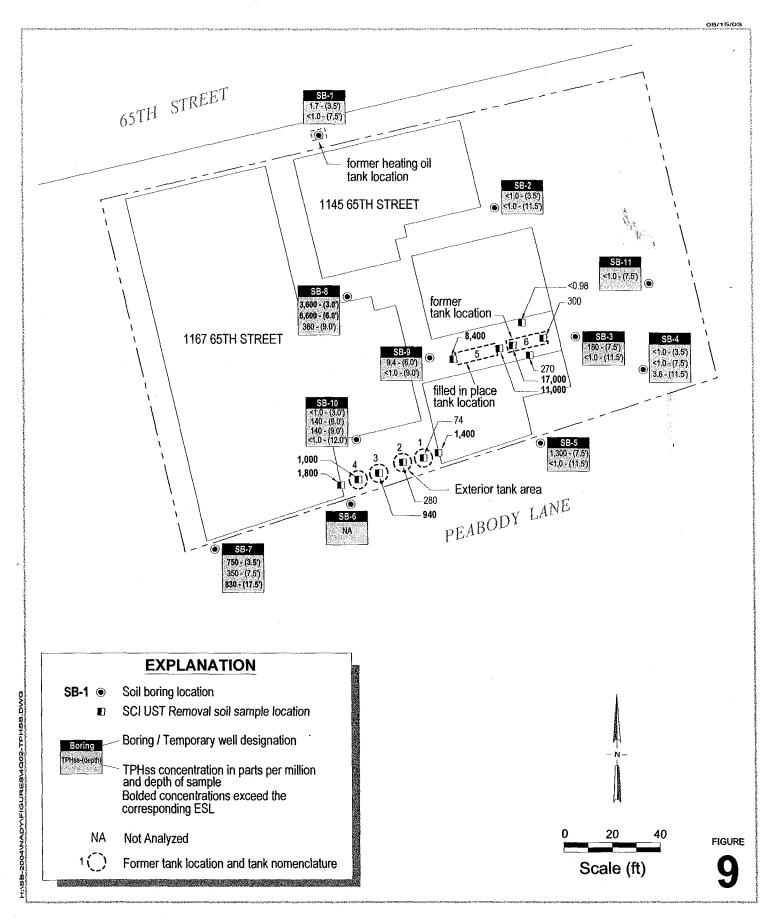




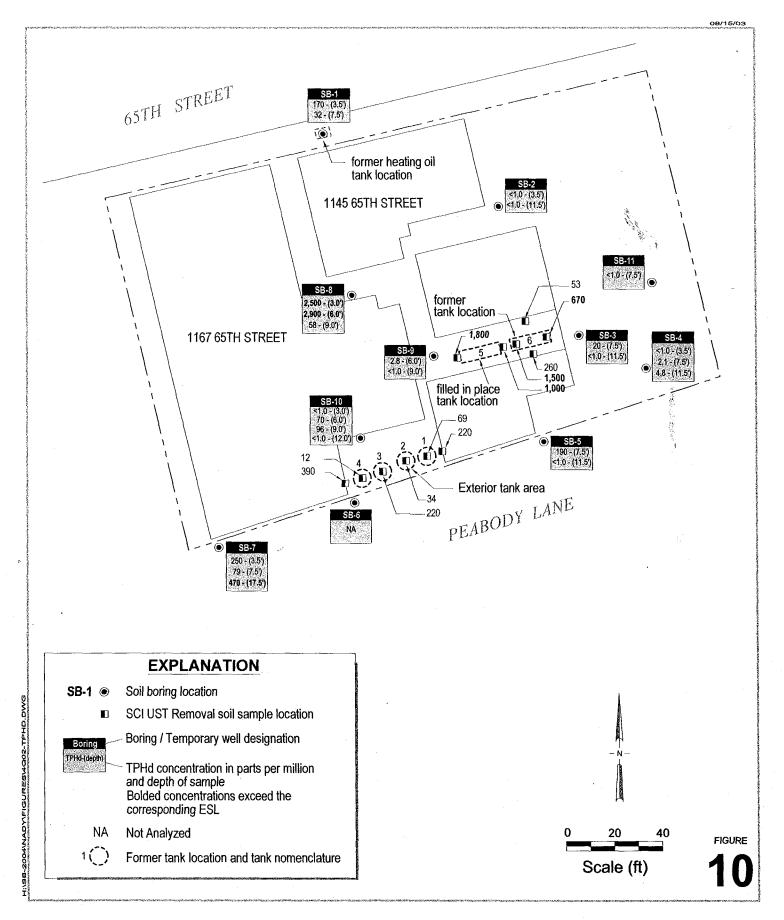




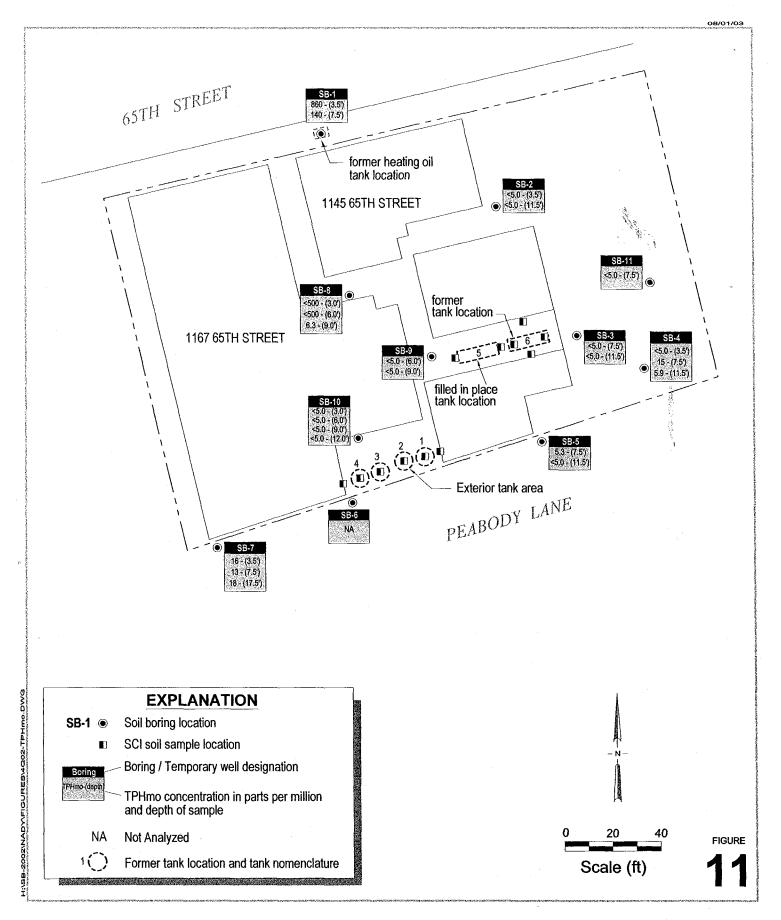






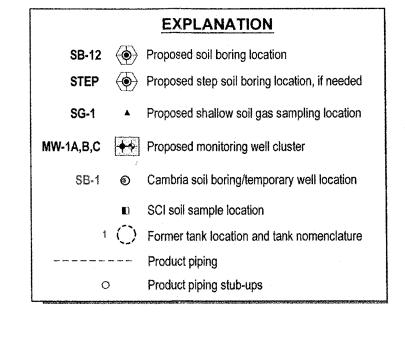


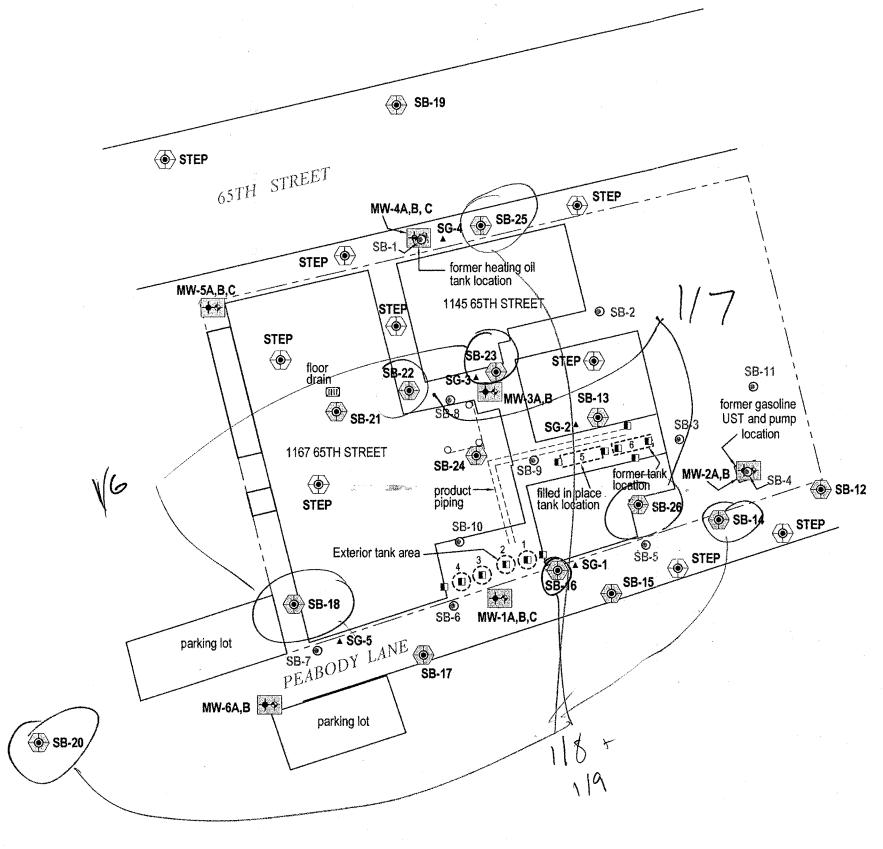






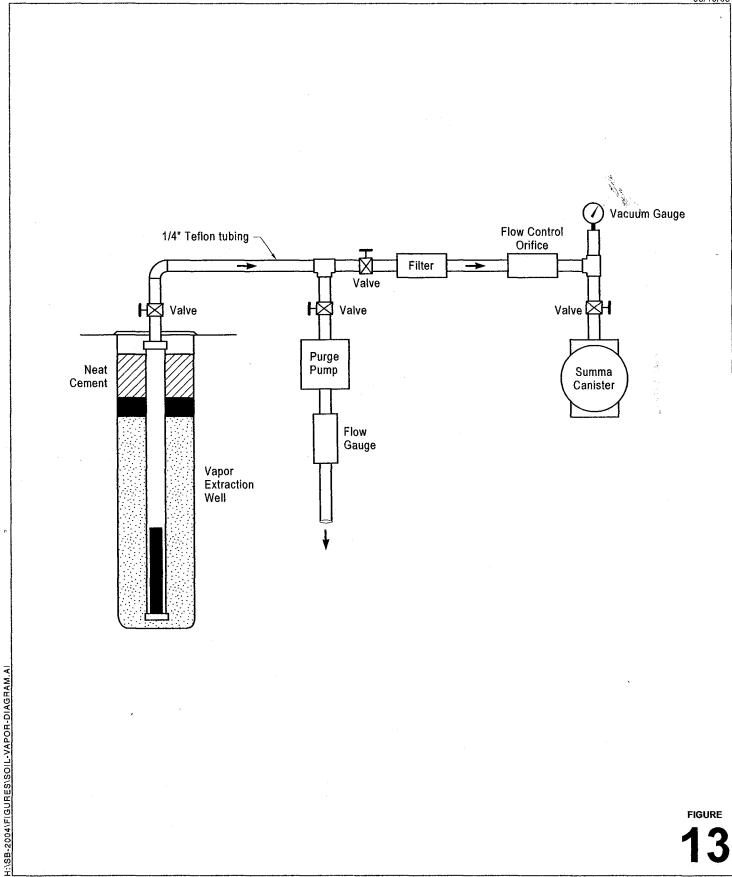






STEP

Scol-



1137-1167 65th Street Oakland, California



Soil Vapor Sampling **Apparatus Diagram**

Table 1. Soil Analytical Data: Petroleum Hydrocarbons and Lead - 1137-1167 65th Street, Oakland, California

	Date	Sample						
Sample ID	Sampled	Depth	TPHmo	TPHd	TPHss	TPHg	TPHnap	Lead
	····	(ft)	<u> </u>		mg/kg			\longrightarrow
Shallow Soil Com	mercial Non-Drinki	ng Water ESL	1000	500	400	400	400	750
(risk driver)			(soil leaching)					
-	rcial Non-Drinking	Water ESL	1000	500	400	400	400	750
(risk driver)			(soil leaching)	·				
Cambria Samples								
SB-1-3.5	11/25/2002	3.5	860	170	1.7	2.6a,b		37
SB-1-7.5	11/25/2002	7.5	140	32	<1.0	<1.0		5.8
SB-2-3.5	11/25/2002	3.5	<5.0	<1.0	<1.0	<1.0		3.9
SB-2-11.5	11/25/2002	11.5	<5.0	<1.0	<1.0	<1.0		6.8
SB-3-7.5	11/25/2002	7.5	<5.0	20	180	190a		<3.0
SB-3-11.5	11/25/2002	11.5	<5.0	<1.0	<1.0	<1.0		9.7
SB-4-3.5	11/25/2002	3.5	<5.0	<1.0	<1.0	<1.0		3.1
SB-4-7.5	11/25/2002	7.5	15	2.1	<1.0	<1.0	V=-	21
SB-4-11.5	11/25/2002	11.5	5.9	4.8	3.6	4.0		3.9
SB-5-7.5	11/25/2002	7.5	5	190	1,300	1,200a		4.2
SB-5-11.5	11/25/2002	11.5	<5.0	<1.0	<1.0	<1.0		<3.0
SB-7-3.5	11/25/2002	3.5	16	250	750	810a		8.5
SB-7-7.5	11/25/2002	7.5	13	79	350	380a		6.1
SB-7-17.5	11/25/2002	17.5	18	470	830	890a	**	6.6
SB-8-3	11/25/2002	3.0	<500	2,500	3,600	3,500a		6.1
SB-8-6	11/25/2002	6.0	<500	2,900	6,600	6,400a		7.5
SB-8-9	11/25/2002	9.0	6.3	58	380	380a		7.5
SB-9-6	11/25/2002	6.0	<5.0	2.8	9.4	9.5a		6.4
SB-9-9	11/25/2002	9.0	<5.0	<1.0	<1.0	<1.0		6.0
SB-10-3	11/25/2002	3.0	<5.0	<1.0	<1.0	<1.0		5.0
SB-10-6	11/25/2002	6.0	<5.0	70	140	140a	•	6.4
SB-10-9	11/25/2002	9.0	<5.0	96	140	180a		<3.0
SB-10-12	11/25/2002	12.0	<5.0	<1.0	<1.0	<1.0		<3.0
SB-11-7.5	11/25/2002	7.5	<5.0	<1.0	<1.0	<1.0	- 4 ⁷⁰	9.1
Previous SCI Samp	oles							
Tank I Bottom	2/25/2002			69	74_	110	58	
Tank 2 Bottom	2/25/2002			34	280	440	230	

Table 1. Soil Analytical Data: Petroleum Hydrocarbons and Lead - 1137-1167 65th Street, Oakland, California

	Date	Sample							
Sample ID	Sampled	Depth	TPHmo	TPHd	TPHss	TPHg	TPHnap	Lead	
•	•	(ft)			mg/	kg		→	
Shallow Soil Comr	nercial Non-Drinkir	ng Water ESL	1000	500	400	400	400	750	
(risk driver)			(soil leaching)	_					
Deep Soil Commercial Non-Drinking Water ESL			1000	500	400	400	400	750	
(risk driver)			(soil leaching)						
Tank 3 Bottom	2/25/2002			220	940	1,500	750		
Tank 4 Bottom	2/25/2002		, 	12	1,000	1,600	830		
E End @ 6'	2/26/2002	6.0		220	1,400	2,200	1,100		
W End @ 6'	2/26/2002	6.0		390	1,800	2,900	1,500		
Pipe #1	2/26/2002			68	< 0.99	< 0.99	< 0.99		
Pipe #2	2/26/2002			6.8	< 0.95	< 0.95	< 0.95		
Tank 5 E End	2/13/2002			1,000	11,000	17,000	8,400		
Tank 5 W End	2/13/2002			1,800	8,400	13,000	6,200		
Tank 6 N Wall	3/7/2002	2.0		53	< 0.98	<0.98	< 0.98		
Tank 6 S Wall	3/7/2002	5.0		260	270	310	140		
Tank 6 E End	2/13/2002			670	300	470	240		
Tank 6 W End	2/13/2002			1,500	17,000	26,000	12,000		

Abbreviations and Methods:

Concentrations exceeding ESLs shown in bold.

mg/kg = Milligrams per kilogram, equivalent to parts per million (ppm)

-- = Not available, not analyzed, or does not apply

<x = Not detected above laboratory reporting limit. Laboratory reporting limit = numerical value</p>

TPHmo = Total petroleum hydrocarbons as motor oil by EPA Method 8015C with silica gel cleanup

TPHd = Total petroleum hydrocarbons as diesel by EPA Method 8015C with silica gel cleanup

TPHss = Total petroleum hydrocarbons as Stoddard solvent by EPA Method 8021B/8015Cm

TPHg = Total petroleum hydrocarbons as gasoline by EPA Method 8021B/8015Cm

TPHnap = Total petroleum hydrocarbons as naphtha by EPA Method 8015m/8020

Lead by EPA Method 6010C

a = Laboratory note: TPH pattern that does not appear to be derived from gasoline (Stoddard solvent/mineral spirit?)

b = Laboratory note: heavier gasoline range compounds are significant (aged gasoline?)

Table 1. Soil Analytical Data: Petroleum Hydrocarbons and Lead - 1137-1167 65th Street, Oakland, California

	Date	Sample						
Sample ID	Sampled	Depth	TPHmo	TPHd	TPHss	TPHg	TPHnap	Lead
	· · · · · ·	(ft)			mg/	kg 		
Shallow Soil Com	mercial Non-Drinkir	ig Water ESL	1000	500	400	400	400	750
(risk driver)			(soil leaching)					
Deep Soil Comme	rcial Non-Drinking	Water ESL	1000	500	400	400	400	750
(risk driver)			(soil leaching)					

Commercial Non-Drinking Water ESL = Table B (Shallow Soil = 0 - 10 ft bgs) and Table D (Deep Soil = >10 ft bgs) - Environmental Screening Levels for Surface Soil (Groundwater is not a Current or Potential Source of Drinking Water) for commercial/industrial reuse for established by the SFBRWQCB, Interim Final July 2003.

(soil leaching) = ESL risk driver is shown in parentheses.

NE = not established

Table 2. Soil Analytical Data: Volatile Organic Compounds - 1137-1167 65th Street, Oakland, California

i able 2. So	oil Analytical E	Jata: Vola	tile Organ	nc Com	pounds	• 1137-	1167 65	th Street,	Oaklan	d, Califor	nia												
Sample ID	Date Sampled	Depth (ft)	A September 1	Toulon	Silving.	Sylver, Street, Street	Ternson,	of C. L. 2. A.	Tricky	The state of the s	Company (Company)	13.5.P.	neke	Secondary Second	The state of the s	P. W. Tollang		etal distribution of the state	, ,	Accop.		The Mark	Other VOCs
Shallow Non Dr	inking Water Comm	 	380	9,300	13,000	1,500	250	3,600	730	(520,000)	(550,000)		(170,000)	(410,000)		(550,000)	4,800	15,000	15,000	500	13,000	3,900	
(risk driver)	and the contra	202	(de)	(sl)	(iai)	(si)	(iai)	(iai)	(iai)	(000,000,	(000,000)	(,,	(,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	((,-//	(sl)	(sl)	(iai)	(sl)	(sl)	(sl)	
	ing Water Commerc	ial EST.	500	9,300	13,000	1,500	250	3,600	730	(520,000)	(550,000)	(70,000)	(170,000)	(410,000)		(550,000)	4,800	15,000	1,500	500	13,000	3,900	
(risk driver)	mig water continue	in Lon	(iai)	(sl)	(iai)	(sl)	(iai)	(iai)	(iai)	(300,000)	(300,000)	(/5,5000)	(2.0,000)	(,)		(000)	(s1)	(sl)	(iai)	(s1)	(sl)	(sl)	
Cambria Sample	25		(181)	(3.)	(lai)	(31)	(141)	(141)	(101)							· · · · · · · · · · · · · · · · · · ·	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	(***)	(/			<u></u>	
SB-1-3.5	11/25/2002	3.5	<5.0	37	16	120	44	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	9.6	. 36	<5.0	<5.0	<50	<10	<5.0	ND
SB-1-7.5	11/25/2002	7.5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	₹5.0	150	<5.0	<5.0	<50	<10	<5.0	ND
SB-2-3.5	11/25/2002	3.5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<50	<10	<5.0	ND
SB-2-3.5	11/25/2002	11.5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<50	<10	<5.0	ND
SB-3-7.5	11/25/2002	7.5	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<1,000	<200	<100	ND
SB-3-11.5	11/25/2002	11.5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<50	<10	<5.0	ND
SB-4-3.5	11/25/2002	3.5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<50	<10	<5.0	ND
SB-4-7.5	11/25/2002	7.5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	~5.0	<5.0	<5.0.		<5.0	<5.0	<5.0	<5.0	<5.0	<50	<10	<5.0	ND
SB-4-11.5	11/25/2002	11.5	<5.0	<5.0	7.4	11	<5.0	<5.0	<5.0	7.8	(33)	79	160	105	<50.	<5.0	1 59	<5.0	<5.0	<50	<10	<5.0	ND
SB-5-7.5	11/25/2002	7.5	<200	<200	<200	<200	<200	<200	<200	360	(970)	300	₹200	9.5 1.700	260	1,600	V200	<200	<200	<2,000	<400	<200	ND
SB-5-11.5	11/25/2002	11.5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0 <5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<50	<10	<5.0	ND
SB-7-3.5	11/25/2002	3.5	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	200	<100	<100	<1,000	<200	<100	ND
SB-7-7.5	11/25/2002	7.5	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	130	<100	<100	<100	<100	<1,000	<200	<100	ND
SB-7-17.5	11/25/2002	17.5	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	470_	<100	<100	<100	<100	<1,000	<200	<100	ND
SB-8-3	11/25/2002	3.0	<500	<500	<500	<500	<500	<500	<500	<500	<500	<500	<500	<500	<500	<500	<500	<500	<500	<5,000	<1,000	<500	ND
		6.0			<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<10,000	<2,000	<1,000	ND
SB-8-6	11/25/2002		<1,000	<1,000			<1000		<100	<100	<100	<1000	<100	<100	470	<100	<100	<1000	<100	<1,000	<200	<100	ND
SB-8-9	11/25/2002	9.0	<100	<100	<100	<100		<100					<100	<100	<rb>< ró</rb>	<100	<100	<10	<100	<100	<20	<100	ND
SB-9-6	11/25/2002	6.0	<10	<10	<10	<10	<10	<10	<10	<10 <5.0	<10 <5.0	<10 <5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<50	<10	<5.0	ND
SB-9-9	11/25/2002	9,0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0			<5.0	<5.0	<5.0	<5.0 <5.0		<5.0	<5.0	<5.0	<50	<10	<5.0	ND
SB-10-3	11/25/2002	3.0	<5.0	<5.0	<5.0	<5.0	56	<5.0	<5.0	<5.0	<5.0			260		260	<50	<50	<50	<500	<100	<50	ND
SB-10-6	11/25/2002	6.0	<50	<50	<50	<50	<50	<50	<50	<50	100 <500	<50	<50	<500	71 <500	<500	<500	<500	<500	<5,000	<1,000	<500	ND
SB-10-9	11/25/2002	9.0	<500	<500	<500	<500	<500	<500	<500	<500		<500	<500							<50	<10	<5.0	a
SB-10-12	11/25/2002	12.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<50	<10	<5.0	ND
SB-11-7.5	11/25/2002	7.5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<30	<10	<3.0	עא
Previous SCI Sar	•												1 200	120	.100	.110	.120	.120	-120	-120	-120	-110	
Tank 1 Bottom	2/25/2002	•-	<130	<130	<130	<130	<130	<130	<130	<130	<130	<130	230	<130	<130 370	<130	<130	<130	<130 <250	<130 <250	<130 <250	<130 <250	
Tank 2 Bottom	2/25/2002	••	<250	<250	<250	<250	<250	<250	<250	<250	<250 570	300	680	290		550	<250 ≤250	<250	<250	<250	<250	<250	
Tank 3 Bottom	2/25/2002		<250	<250	<250	<250	310	<250	<250	<250	570	680	1,600	960	930	1,500	660	<250	<250 <250	<250 <250	<250 <250	<250	
Tank 4 Bottom	2/25/2002		<250	<250	<250	<250	<250	<250	<250	740	1,700	<250	840	2,100	940	1,900		<250					
E End @ 6'	2/25/2002	6.0	<250	<250	<250	950	<250	<250	<250	1,300	3,200	<250	<250	1,700	920	2,400	<250	<250	<250	<250	<250	<250 <250	
W End @ 6'	2/25/2002	6.0	<250	<250	<250	<250	<250	<250	<250	520	1,300	1,100	<250	1,700	890	1,700	<250	<250	<250	<250 250	<250		
Pipe #1	2/25/2002		<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	₹5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	
Pipe #2	2/25/2002		<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<u> </u>		<u><4.9</u>	<4.9	<4.9	≪4.9	<4.9	<4.9	<4.9	
Tank 5 E End	3/7/2002		<2,000	<2,000	8,600	<2,000	<2,000	<2,000	<2,000	5,600	16,000	25,000	63.000	13,000	9,900	14,000	<2,000	<2,000	<2,000	<2,000	<2,000	<2,000	
Tank 5 W End	3/7/2002		<1,700	<1,700	5,900	<1,700	<1,700	<1,700	<1,700	4,100	11,000	17,000	47,000	9,600	8,500	1,000	<1,700	<1,700	<1,700	<1,700	<1,700	<1,700	
Tank 6 N Wali	3/7/2002	2.0	<4.7	<4.7	<4.7	<4.7	<4.7	<4.7	<4.7	<4.7	<4.7	<4.7	<4.7	<4.7	<4.7	<4.7	<4.7	<4.7	<4.7	<4.7	<4.7	<4.7	

Table 2. Soil Analytical Data: Volatile Organic Compounds - 1137-1167 65th Street, Oakland, California

Table 2. Solt Allalytical Data. Volum			•																		
Sample ID Date Sampled Depth	and the second s	Townson of the state of the sta	, light	dividual distribution of the second of the s	J. J	Civ.12.D	Picty.	Contraction (Spiritual Contraction)	The state of the s	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	CA THE STATE OF TH	O Paragraphic Control of the Control	Sample of the sa	Tangara Caranton			Menyille	Accione (Other VOCs
(ft) Shallow Non Drinking Water Commercial ESL	380	9,300	13,000	1,500	250	3,600	730	(520,000)	(550,000)		1g/kg (170,000)	(410,000)		(550,000)	4,800	15,000	15,000	500	13,000	3,900	
					(iai)	(iai)	(iai)								(sl)	(s!)	(iai)	(sl)	(sl)	(s!) ~	
(risk driver)	(de)	(sl)	(iat)	(sl)				(500,000)	(550,000)	(70,000)	(170,000)	(410,000)		(550,000)	4,800	15,000	1,500	500	13,000	3,900	
Deep Non Drinking Water Commercial ESL	500	9,300	13,000	1,500	250	3,600	730	(520,000)	(550,000)	(70,000)	(170,000)	(410,000)		(55,5,000)	(s1)	(sl)	(iai)	(sl)	(sl)	(sl)	
(risk driver)	(iai)	(sl)	(iai)	(sl)	(iai)	(iai)	(iai)										<4.8	<4.8	<4.8	<4.8	
Tank 6 S Wall 3/7/2002 5.0	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	≤4.8	£48.	<4.8	×4.8	<4.8	<4.8	<4.8					
Talla O D Train Striped	<420	<420	<420	<420	<420	<420	<420	<420	<420	(1,600)	2,100	<420	510	<420	<420	<420	<420	<420	<420	<420	
Tank 6 E End 3/7/2002							<3,100	(8,500)	24,000		100,000	30,000	27,000	<3,100	<3,100	<3,100	<3,100	<3,100	<3,100	<3,100	
Tank 6 W End 3/7/2002	<3,100	<3,100	<3,100	<3,100	<3,100	<3,100	<3,100	(0,,000	24,000	(40,000)	(,)			N							

Abbreviations and Methods:

ug/kg = Micrograms per kilogram, equivalent to parts per billion (ppb)

Volatile organic compounds by EPA Method 8260B

< n = Chemical not present at a concentration in excess of detection limit shown

ND = None detected above laboratory reporting limit, see laboratory report for individual reporting limits.

Commercial Non-Drinking Water ESL = Table B (Shallow Soil = 0 - 10 ft bgs) and Table D (Deep Soil = >10 ft bgs) - Environmental Screening Levels for Surface Soil (Groundwater is not a

Current or Potential Source of Drinking Water) for commercial/industrial reuse for established by the SFBRWQCB, Interim Final July 2003.

(soil leaching) = ESL risk driver is shown in parentheses.

NE = not established

(160,000) = No ESL published for component. The value presented is from EPA's Preliminary Remediation Goals (PRG), 2000.

--' = ESL or PRG not established

iai = indoor air impacts

sl = soil leaching

de = direct exposure

NE = not established

a = Vinyl Chloride: 18 ug/kg

L. 1954 1. 1994

Table 3. Groundwater Analytical and Elevation Data: Petroleum Hydrocarbons - 1137-1167 65th Street, Oakland, California

Boring ID	Date	Groundwater	Depth			ann r	TDII-	ТРНпар	Notes
TOC	Sampled	Elevation	to Water	TPHmo	TPHd	TPHss	TPHg	1 PAnap	140168
(fi*)		(ft)	(ft)			ug/L	500	500	
ESL - Not a Poter	ntial Drinking Wat	er Source		640	640	640		(aquatic life protection)	
(risk driver)				(aquatic life protection)	(aquatic life protection)	(aquatic life protection)	(aquatic life protection)	(aquatic tite protection)	
SB-1	11/25/2002	35.39	3.45				58		
(38.84)	11/26/2002	35.44	3.40	7,500	2,000	<50	38		
			20.50						
SB-2	11/25/2002	11.61	29.50	250	<50	<50	<50		
(41.11)	11/26/2002	29.46	11.65	<250	<30	\ 0	400		
SB-4	11/25/2002	34.02	6.90	where					
	11/26/2002	34.82	6.10						SPH
(40.92)	11/26/2002	34.62	0.10						
SB-6	11/25/2002	28.24	11.25	· 					
(39.49)	11/26/2002	32.19	7.30	620	23,000	7,800	8,700a,b,c		
SB-7	11/25/2002	28.20	10.30	25.000	120,000	5,800	6,100a,b,c		
(38.50)	11/26/2002	30.10	8.40	<25,000	120,000	5,000	3,2002,2,5		
SB-8	11/25/2002	36.30	4.70	-**					
(41.00)	11/26/2002	36.55	4.65	<250,000	1,200,000	100,000	110,000a,b,c		
(12.00)									
SB-9	11/25/2002	16.02	25.00						
(41.02)	11/26/2002	17.07	23.95	300	50	<50	<50c		
, ,									
SB-10	11/25/2002	29.27	11.60	·				~	
(40.87)	11/26/2002	31.12	9.75	<250	350	200	260a,c		
							-		
SB-11	11/25/2002	12.15	29.30				<50		
(41.45)	11/26/2002	19.55	21.90	<250	<50	<50	<30		

Table 3. Groundwater Analytical and Elevation Data: Petroleum Hydrocarbons - 1137-1167 65th Street, Oakland, California

Boring ID TOC	Date Sampled	Groundwater Elevation	Depth to Water	TPHmo	TPHd	TPHss ug/L	TPHg	TPHnap	Notes
(fi*) (ft) (ft) ESL - Not a Potential Drinking Water Source (risk driver)				640 (aquatic life protection)	640 (aquatic life protection)	640 (aquatic life protection)	500 (aquatic life protection)	500 (aquatic life protection)	
revious SCI Sam Interior Exterior	ples 2/20/2002 2/25/2002				94,000 82,000	13,000 42,000	21,000 66,000	11,000 34,000	

Abbreviations:

TOC Elev. (ft) = Top of casing elevation in feet above mean sea level

ug/L = micrograms per liter = parts per billion = ppb

TPHmo = Total petroleum hydrocarbons as motor oil by EPA Method 8015C with silica gel cleanup

TPHd = Total petroleum hydrocarbons as diesel by EPA Method 8015C with silica gel cleanup

TPHss = Total petroleum hydrocarbons as Stoddard solvent by EPA Method 8021B/8015Cm

TPHg = Total petroleum hydrocarbons as gasoline by EPA Method 8021B/8015Cm

TPHnap = Total petroleum hydrocarbons as naphtha by EPA Method 8015m/8020

ND = None detected above laboratory reporting limit, see laboratory report for individual reporting limits.

--- = Not available, not analyzed, or does not apply.

< n = Chemical not present at a concentration in excess of detection limit shown.

a = Laboratory note: TPH pattern that does not appear to be derived from gasoline (Stoddard solvent/mineral spirit?)

b = Laboratory note: lighter than water immiscible sheen/product is present

c = Laboratory note: liquid sample that contains greater than ~2 vol. % sediment

ESL - Not A Potential Drinking Water Source = Table F-2 - Components for Groundwater Screening Levels (Groundwater is not a Current or Potential Drinking Water Resource) established by the SFBRWQCB, Interim Final July 2003. (The risk driver is shown in parentheses.)

NE = not established

Notes:

SPH = Separate phase hydrocarbons detected in well; no groundwater collected.

2 of 2

Table 4. Groundwater Analytical and Elevation Data: Volatile Organic Compounds - 1137-1167 65th Street, Oakland, California

																								 ,
Boring ID (TOC)	Date Sampled	Groundwater Elevation	Depth to Water	Agus Garage	as John John John John John John John John	S. C.		S. John	Cie. C. J. J.	Trich, Dichlopoulene	on land	Postlonera (Came	Pythoniene "ee"	Timouty Westone	Pinnenyllomeone	Trop, top,	P. Burn	North	and the state of t	Weel,	Con Paris de Constante de Const	S. Ships	4 men,	Bully and a second seco
(ft*)	100	(ft)	(ft)	←										ug/L —									\rightarrow	Notes
	Potential Drinki	ing Water Sour	ce	46	130	290	13	120	590	360								24	100	2,200	1,500	14,000	170	
(risk driver)			··	(alp)	(alp)	(alp)	(alp)	(alp)	(alp)	(alp)								(alp)	(alp)	(alp)	(alp)	(alp)	(alp)	
SB-1 (38.84)	11/25/2002 11/26/2002	35.39 35.44	3.45 3.40	1.7	3.2	0.55	3.6	1.2	<0.5	<0.5	 <0.5	<0.5	<0.5	0.60	<0.5	 <0.5	 <0.5	13) <0.5	<0.5	(39)	6.8	2.7	a,b,c
SB-2	11/25/2002	11.61	29.50																					
(41.11)	11/26/2002	29.46	11.65	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<10	<1.0	<0.5	
SB-4	11/25/2002	34.02	6.90																					
(40.92)	11/26/2002	34.82	6.10																					SPH
SB-6	11/25/2002	28.24	11.25			,									(F)							(A)		
(39.49)	11/26/2002	32.19	7.30	2.1	1.2	<0.5	0.55	<0.5	1.2	<0.5	<0.5	<0.5	<0.5	<0.5		<0.5	4.9	5.3	<0.5	<0.5	14	4.4	<0.5	d,e,f,g,h
SB-7	11/25/2002	28.20	10.30								1			Ö		(-)		(-)			(4)	1-7/		
(38.50)	11/26/2002	30.10	8.40	<0.5	0.74	<0.5	3	<0.5	<0.5	<0.5	0.63	<0.5	2.1	(6.6	<0.5	24	<0.5	7.8	<0.5	<0.5	9.2	(1.5)	<0.5	i,,j,k,1,m,n
SB-8	11/25/2002	36.30	4.70													1								
(41.00)	11/26/2002	36.55	4.65	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	(20)	<10	<10	<10	<10	<200	<20	<10	0
SB-9	11/25/2002	16.02	25.00																			1		
(41.02)	11/26/2002	17.07	23.95	<0.5	0.88	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	$\binom{13}{}$	(1.4)	<0.5	
SB-10	11/25/2002	29.27	11.60																			~		
(40.87)	11/26/2002	31.12	9.75	<2.5	3.4	<2.5	<2.5	<2.5	170	<2.5	<2.5	<2.5	<2.5	(8.1)	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<25	(5.6)	<2.5	p,q,s
SB-11	11/25/2002	12.15	29.30																		,			
(41.45)	11/26/2002	19.55	21.90	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<10	<1.0	<0.5	t
Trip Blank	11/26/2002			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<10	<1.0	<0.5	

Table 4. Groundwater Analytical and Elevation Data: Volatile Organic Compounds - 1137-1167 65th Street, Oakland, California

Boring ID (TOC)	Date Sampled	Groundwater Elevation	Depth to Water	Bergan	J. Johnson	S. A.	Tion of the state	Ternach,	Cie. 12.	Pichlocellene Trichloc	July Michael Control		1.3.5.77.	on John Colors	Sec. Buly	4.60mm	R.Brung.	Nephy ,	or Care	Many Res	Acetone Amilia	Z. Shumon	Tonelly 2.	Jan Wandardan Market Ma
(ft*)		(ft)	(ft)								_		ug	g/L,							7-		->	Notes
ESL - Not a	Potential Drinkii	ng Water Source	e	46	130	290	13	120	590	360								24	100	2,200	1,500	14,000	170	
(risk driver)				(alp)	(alp)	(alp)	(alp)	(alp)	(alp)	(alp)								(alp)	(alp)	(alp)	(alp)	(alp)	(alp)	
Previous SC.	Samples										7										<u> </u>			
Interior	2/20/2002			47	<5.0	9.4	114	<5.0	<5.0	<5.0	44	91	180	330	44	40	40	<5.0	<5.0	<5.0	f 23	<5.0	<5.0	
Exterior	2/20/2002			<7.1	<7.1	<7.1	24	83	9.6	<7.1	10	29	62	150	26	36	41	<7.1	<7.1	<7.1	<7.1	<7.1	<7.1	
																	<i>^</i>							

Abbreviations:

TOC Elev. (ft) = Top of casing elevation in feet above mean sea level

ug/L = micrograms per liter = parts per billion = ppb

Volatile organic compounds by EPA Method 8260B

- --- = Not available, not analyzed, or does not apply
- < n = Chemical not present at a concentration in excess of detection limit shown

Notes:

- a = Carbon Disulfide: 0.64 ug/L
- a = 2-Hexanone: 0.58 ug/L
- b = Methyl tertiary-butyl ether (MTBE): 5.1 ug/L
- d = tert-Butylbenzene: 4.6 ug/L
- e = Chloroethane: 3.8 ug/L
- f = 1,1-Dichloroethene: 1.4 ug/L
- g = trans-1,2-Dichloroethene: 2.6 ug/L
- h = Vinyl Chloride: 0.90 ug/L
- i = tert-Butylbenzene: 7.3 ug/L
- j = Chloroethane: 16 ug/L

k = 1,I-Dichloroethene: 1.7 ug/L

- l = trans-1,2-Dichloroethene: 0.99 ug/L
- m = 1,1,2,2-Tetrachloroethane: 1,6 ug/L
- n = Vinyl Chloride: 1.3 ug/L
- o = 1,2-Dichlorobenzene: 20 ug/L)
- p = 1,1-Dichloroethene: 19 ug/L
- q = trans-1,2-Dichloroethene: 3.9 ug/L
- s = Vinyl Chloride: 45 ug/L
- t = Methyl tertiary-butyl ether (MTBE): 3.9 ug/L

ESL - Not A Potential Drinking Water Source = Table F-1b - Components for Groundwater Screening Levels (Groundwater is not a Current or Potential Drinking Water Resource) established by the SFBRWQCB, Interim Final July 2003. (The risk driver is shown in parentheses.)

(600) = No ESL published for component. The value presented is from EPA's Preliminary Remediation Goals (PRG), 2000, with tap water as the risk driver.

- cv = ceiling value (odors, etc,)
- ht = human toxicity
- alp = aquatic life protection

Table 5. Proposed Direct Push Boring Locations, Boring Depth, Sampling Schedule, and Rationale - 1137-1167 65th Street, Oakland, CA

			Proposed		
Proposed			Depth		GW
Boring ID	Soil Investigation Rationale	GW Investigation Rationale	(ft bgs)	Soil Samples	Samples
SB-12	None	FP extent (boring SB-4), GW Plume Extent	GW (A-Zone)	N	Υ
SB-13	Define TPHg and ss in soil (Interior Tank Area @ 6.0)	None	12	6.0, 11.5	N
SB-14	Define TPHg and ss in soil (boring SB-5 @ 7.5)	FP extent (boring SB-4), GW Plume Extent	GW (A-Zone)	7.5, 11.5	Υ
SB-15	Define TPHg and ss in soil (boring SB-5 @ 7.5);	GW Plume Extent	GW (A-Zone)	7.5, 11.5	Y
SB-16	Define TPHg, ss, d; & PCE in soil (Exterior Tank Area @ 6.0)	None	12	7.5, 11.5	N.
SB-17	Define TPHg and ss in soil (boring SB-7 to 17.5)	GW Plume Extent	GW (B-Zone)	3.5, 7.5, 11.5,	Y
	Define TPHg, ss, d; & PCE in soil (Exterior Tank Area @ 6.0)			17.5, 20.0	
SB-18	Define TPHg and ss in soil (boring SB-7 to 17.5)	GW Plume Extent	GW (B-Zone)	3.5, 7.5, 11.5,	Υ
				17.5, 20.0	
SB-19	None	GW Plume Extent	GW (A-Zone)	N	Υ
SB-20	None	GW Plume Extent	GW (B-Zone)	N	Υ
SB-21	1167 65th Street Building Floor Drain	None	10	3.0, 6.0, 9.0	Ν
SB-22	Define TPHg, ss, & d in soil (boring SB-8 @ 3.5 & 6.0)	None	9.5	3.0, 6.0, 9.0	N
SB-23	Define TPHg, ss, & d in soil (boring SB-8 @ 3.5 & 6.0)	None	9.5	3.0, 6.0, 9.0	N
SB-24	Define TPHg, ss, & d in soil (boring SB-8 @ 3.5 & 6.0);	None	9.5	3.0, 6.0, 9.0	Ν
	Sample at pipe junction (Tri-Regional Board Guidelines)				
SB-25	None	GW Plume Extent	GW (A-Zone)	N	Y
SB-26	Define TPHg and ss in soil (boring SB-5 @ 7.5);	None	12	7.5, 11.5	Υ
	Define TPHg and ss in soil (Interior Tank Area @ 6.0)				

Abbreviations and Notes:

TPHg = Total petroleum hydrocarbons as gasoline

TPHss = Total petroleum hydrocarbons as stoddard solvent

TPHd = Total petroleum hydrocarbons as diesel

TPHmo = Total petroleum hydrocarbons as motor oil

FP = Free Product

GW = Groundwater. Water bearing zone in parentheses.

ft bgs = feet below ground surface

Table 6. Proposed Monitoring Well Diameter and Screen Interval - 1137-1167 65th Street, Oakland, CA

Proposed	Proposed	Screened	
Boring ID	Diameter	Zone	Comments
MW-1A	2-inch	A-Zone	
MW-1B	2-inch	B-Zone	If encountered.
MW-1C	2-inch	C-Zone	Soil samples will be analyzed.
MW-2A	4-inch	A-Zone	Former gasoline UST backfill. Free product recovery well.
MW-2B	2-inch	B-Zone	Soil samples will be analyzed.
MW-3A	2-inch	A-Zone	
MW-3B	2-inch	B-Zone	If encountered. Soil samples will be analyzed.
MW-4A	2-inch	A-Zone	
MW-4B	2-inch	B-Zone	If encountered.
MW-4C	2-inch	C-Zone	Soil samples will be analyzed.
MW-5A	2-inch	A-Zone	े स्
MW-5B	2-inch	B-Zone	If encountered.
MW-5C	2-inch	C-Zone	Soil samples will be analyzed.
MW-6A	2-inch	A-Zone	L
MW-6B	2-inch	B-Zone	Soil samples will be analyzed.

Abbreviations and Notes: ft bgs = feet below ground surface

APPENDIX A

ACHCSA Letters

ALAMEDA COUNTY

HEALTH CARE SERVICES

AGENCY

DAVID J. KEARS, Agency Director



June 30, 2003

Mr. John Nady Nady Systems 6701 Shellmound St. Emeryville, CA 94608

Dear Mr. Nady:

Subject: Fuel Leak Case RO0000082, 1137-1167 65th Ave., Oakland, CA 94608

This letter confirms the receipt of the June 27, 2003 e mail from Cambria Environmental, your consultant, requesting an extension for the submittal of the work plan for additional soil and groundwater characterization at the referenced site. Our office approves the extension date of August 8, 2003. This will allow the completion of a geophysical survey and preparation of geologic cross sections, which are instrumental in determining the construction of future monitoring wells.

Please contact me at (\$10) 567-6765 if you have any questions.

Sincerely,

Barney M. Chan

Hazardous Materials Specialist

Kervez ar Che

C: B. Chan, D. Drogos

Mr. B. Clark-Riddell, Cambria Environmental, 5900 Hollis St., Suite A, Emeryville, 94608

1137-1167 65thwprqext

ENVIRONMENTAL HEALTH SERVICES
ENVIRONMENTAL PROTECTION
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577
(510) 567-6700
FAX (510) 337-9335

ALAMEDA COUNTY

HEALTH CARE SERVICES





DAVID J. KEARS, Agency Director

May 19, 2003

Mr. John Nady Nady Systems 6701 Shellmound St. Emeryville, CA 94608 ENVIRONMENTAL HEALTH SERVICES
ENVIRONMENTAL PROTECTION
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577
(510) 567-6700
FAX (510) 337-9335

Dear Mr. Nady:

Subject: Fuel Leak Case RO0000082, 1137-1167 65th Ave., Oakland, CA 94608

Alameda County Environmental Health, Local Oversight Program (LOP) staff has received and reviewed the February 13, 2003 Soil and Groundwater Investigation Report prepared by Cambria Environmental. We have also discussed the results with Mr. Clark-Riddell of Cambria. We have determined that additional information and investigation is needed to progress your site towards case closure. We request that you address the following technical comments and submit the technical report requested below.

Technical Comments

- Elevated total petroleum hydrocarbons (TPH) as motor oil, diesel, stoddard solvent or gasoline were observed in groundwater samples from borings SB-8, SB-6, SB-7 and SB-1. In addition, halogenated volatile organic compounds (HVOC) were detected in groundwater samples from SB-10, SB-6 and SB-7. The extent of this contamination should be determined.
- 2. Results from soil and groundwater samples taken from the former underground tank pits detected elevated TPH of various boiling point range and HVOCs. The extent of this contamination should be determined.
- 3. Free petroleum product was observed in soil boring SB-4. The extent of this free product should be determined and removed to the extent possible.
- 4. In addition to determining the extent of soil and groundwater contamination, the source area (piping, tanks, dispensers, etc) locations should be verified and sampled appropriately.
- 5. Site-specific groundwater gradient is needed for site characterization. Therefore, monitoring wells should be installed. Previous results indicate that groundwater may appear as lenses of perched water beneath the site, therefore, additional temporary borings may be necessary prior to permanent well installation. Specify the screen interval if both perched and deep groundwater is being investigated.

Technical Report Request

Please submit the following technical report to our office according to the following schedule:

• June 23, 2003- Work plan for the additional soil and groundwater characterization and monitoring well installation.

You may contact me at 510-567-6765 if you have any questions.

Mr. John Nady RO0000082 1137-1167 65th Ave., Oakland, CA 94608 May 19, 2003 Page 2

Sincerely,

Barnez M Chan Barney M. Chan

Hazardous Materials Specialist

C: B. Chan, D. Drogos

√Mr. B. Clark-Riddell, Cambria Environmental, 5900 Hollis St., Suite A, Emeryville, 94608

1137-1167 65thwprq

APPENDIX B

Boring Logs

PAGE 1 OF 1



CLIENT NAME Nady Syst JOB/SITE NAME Nady Syst LOCATION 1137-116/ PROJECT NUMBER 522-1000 DRILLER Vironex DRILLING METHOD Hydraulic BORING DIAMETER 2 inches LOGGED BY I. Young REVIEWED BY R. Clark-F	items 7 65th Street, Oaklan push	BORING/WELL NAME SB-1 DRILLING STARTED 25-Nov-02 DRILLING COMPLETED 26-Nov-02 WELL DEVELOPMENT DATE (YIELD) NA GROUND SURFACE ELEVATION 38.84 ft TOP OF CASING ELEVATION 38.84 ft SCREENED INTERVAL 1-6 ftbgs DEPTH TO WATER (First Encountered) 3.5 ft (25-Nov-02) DEPTH TO WATER (Static) 3.4 ft (26-Nov-02)	···
GRO (mg/kg) BLOW. COUNTS SAMPLE ID EXTENT DEPTH	(ff bgs) U.S.C.S. GRAPHIC LOG	CONTACT DESCRIPTION (If bgs)	WELL DIAGRAM
SB-1-3.5	5 — SP	CONCRETE Gravelly SAND (SP): Grey, dry, 10% silt, 60% medium- to coarse-grained sand, 30% fine to medium gravet; high estimated permeability. @ 3.0 ft: Brick fragments. @ 3.5 ft: Wet. Sandy GRAVEL (GP): 30% coarse-grained sand, 70% fine to medium gravet. Sandy SILT (ML): Orangish brown; damp; 5% day, 60% silt, 35% fine-grained sand; moderate estimated permeability. 10.5	Bottom of Boring @ 12 ft



Cambria Environmental Technology, Inc. 2680 Bishop Drive, Suite 290 San Ramon, CA 94583 Telephone: (925) 275-3200 Fax: (925) 275-3204

BORING/WELL LOG

35,0

PAGE 1 OF 2

		rax. (9.	23).	210-320	J 4						
PROJECT NUMBER 522-1000 DRILLER Vironex DRILLING METHOD Hydraulic push				s		and, California	BORING/WELL NAME DRILLING STARTED DRILLING COMPLETED WELL DEVELOPMENT DA		NA NA		
											A
							· · · · · · · · · · · · · · · · · · ·	GROUND SURFACE ELEV. TOP OF CASING ELEVATI		41.11	<u>n</u>
			-				· · · · · · · · · · · · · · · · · · ·				
								SCREENED INTERVAL DEPTH TO WATER (First E		AV.	
	_				al PF#	49629		DEPTH TO WATER (Static)	,		.7 ft (26-Nov-02)
REMAR								DEFITT O TIATER (Gude)	,		.7 ((20-1407-02)
No. of the second second	*	VARIANCES MONTANTON MINISTERNA (MARCE)	7	****		grander over the stage	and the state of t	ACCESSED AND ACCESSED AND ACCESSED ACCE	AND THE PROPERTY OF THE PROPER		and the second contract of the contract of the second and produced the contract of the contrac
GRO (mg/kg)	BLOW	SAMPLEID	EXTENT	DEPTH (ft bgs)	U.S.C.S.	GRAPHIC LOG	un-	IOLOGIC DESCRIPTION		CONTACT DEPTH (ft bgs)	WELL DIAGRAM
930			M		SP		ASPHALT Gravelly SAND: Bla	ck; dry; 10% silt, 70% sand, 20	% fine	0.2 1.5	
		SB-2- 3.5			ML		gravel; high estimated SILT with Sand (ML) fine-grained sand; low		_	5.0	
·			X		CL		fine-grained sand; low	wn; dry; 60% day, 35% silt, 5% plasticity; low estimated perme	ability.	7.0	
Contraction of the Contraction o	SB-2-7.5						fine-grained sand; low @ 8.5 ft: <u>Sandy Gra</u> day, 50% silt, 20% me moderate estimated p	: Light brown; dry; 10% clay, 70 estimated permeability. Novelly SILT (ML): Orangish browdium-grained sand, 20% fine greeneability. T (ML): Light brown; 20% clay,	wn; 10% ravel;		
Party particular in the first production of the first party control of the		SB-2- 11.5	X		ML		5% fine-grained sand. @ 9.5 ft: <u>Sandy SIL</u> 60% silt, 30% fine-grain @ 10.0 ft: <u>Clayey SI</u> 5% fine-grained sand;		% day, y, 75% silt,		
NCKAN MATERIAL STATES OF THE S		SB-2- 14.5 SB-2- 17.5	X	15 			silt, 30% fine- to mediu permeability @ 13 ft: Dark brown; low to moderate estim	<u>T</u> (ML): Orangish brown; 10% im-grained sand; moderate estir 5% day, 60% silt, 35% fine-grai ated permeability. Favelly SILT (ML): Orangish br	mated ined sand;		
20/8-10 - 109		36-2-17.5	X	- 20-			clay, 60% silt, 25% fin estimated permeability @ 14 ft: <u>Sandy SIL1</u> 60% silt, 35% fine-grai	e-grained sand, 10% fine grave y. f (ML): Orangish brown; dry; 5% ned sand; low to moderate estin	l; moderate % clay, nated	19.0	Portland Type I/II Cement
		SB-2-21.5	X				\@ 18.5 ft Brown. Silty CLAY (CL): Brown. medium plasticity; low	black sands observed in sample own; dry; 60% day, 40% silt; low estimated permeability.	- 1		
OKAN OKAN OKAN		SB-2-27.5		25 	CL		@ 24.0 ft: Moist.				
7 000 4 007-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0			X	- 30-	SM		sit, 30% fine- to medion permeability. @ 28.5 ft: Sitty CLA	ty CLAY (CL): Damp; 50% da um-grained sand; low to modera Y (CL): Dry; 80% day, 20% si	ite estimated	30.0 30.5	
ACCOUNTS OF THE PROPERTY OF TH		SB-2- 31.5			sc		to medium-grained sa Clayey Sand (SC):	y. own; damp; 5% day, 40% silt, 5 nd; moderate estimated permes Brown; dry; 40% day, 15% silt, nd; low estimated permeability.	ability.		

Continued Next Page



PAGE 2 OF 2

CLIENT NAME		ady Syst			BORING/WELL NAME	SB-2			
JOB/SITE NAM		ady Syst			DRILLING STARTED	25-Nov-02			
LOCATION	1	137-1167	7 65th Stree	t, Oakla	nd, California DRILLING COMPLETED	26-Nov-02			
					Continued from Previous Page				
GRO (mg/kg) BLOW COUNTS	SAMPLEID	EXTENT	(# bgs) U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	The communication of the commu	CONTACT DEPTH (ft bgs)	WELL	. DIAGRAM
	\$8-2-35.5		SM		Sitty SAND (SM): Brown; very damp; 15% day, 30% - fine_lo_medium_grained_sand; moderate_estimated_pe	6 sit, 55% rmeablity	36.0		Bottom of Boring @ 36 ft
LLOG (GRO) Hisbaroot (US) TONDING									



	(, -, -, -, -, -, -, -, -, -, -, -, -,		
CLIENT NAME	Nady Systems	BORING/WELL NAME SB-3	
JOB/SITE NAME	Nady Systems	DRILLING STARTED 25-Nov-02	
LOCATION _	1137-1167 65th Street, Oakland, California	DRILLING COMPLETED 26-Nov-02	
PROJECT NUMBER _	522-1000	WELL DEVELOPMENT DATE (YIELD) NA	
DRILLER	Vironex	GROUND SURFACE ELEVATION 41.09 ft	
DRILLING METHOD	Hydraulic push	TOP OF CASING ELEVATION 41.09 ft	
BORING DIAMETER _	2 inches	SCREENED INTERVAL 7-12 ft bgs	
LOGGED BY	f. Young	DEPTH TO WATER (First Encountered) NA	<u>Z</u>
REVIEWED BY	R. Clark-Riddell, PE# 49629	DEPTH TO WATER (Static) NA	<u>Ľ</u>
REMARKS			
mana ana managampan ana ang managampan ang managampan ana ang managampan ana ang managampan ana ang managampan			New years
g/kg)		T D T	

OGGED BY	1. I.	Your				DEPTH TO WATER (First Encountered)	NA	1	Δ
REVIEWED BY	R	R. Cla	rk-Ridde	il, PE#	49629	DEPTH TO WATER (Static)	N	·	Ā
EMARKS _									
GRO (mg/kg) BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (ft bgs)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (ft bgs)	WEL	L DIAGRAM
		Š V		SP		ASPHALT Gravelly SAND (SP): Black; dry, 10% silt, 70% sand, 20% fine gravel; high estimated permeability.	3.0		
	SB-3-3.5	M	- - 5	CL		Sandy Silty CLAY (CL): Dark brown; dry; 50% clay, 20% silt; 30% fine-grained sand; slight plasticity; low estimated permeability. Sandy SILT (ML): Very dark brown; very damp; 5% day, 55%	4.5		Š B
	SB-3-7.5	Λ		ML CL		silt, 40% fine-grained sand; moderate estimated permeability. @ 5.0 ft: Clayey SILT (ML): Dark brown; damp; 35% day, 55% silt, 10% fine-grained sand; low estimated permeability. CLAY (CL): Greenish grey; dry; 80% day, 15% silt, 5%	7.2		◆ Portland Type I/II Cement
		M	10	ML		fine-grained sand; low estimated permeability. Sandy Gravelly SILT (ML): Greenish grey; dry; 40% silt, 30% fine to coarse-grained sand, 30% fine gravel; moderate to high estimated permeability.	8.5		
	SB-3-11.5		<u> </u>	CL		Sandy CLAY (CL): Brown; dry; 70% day, 5% silt, 25% fine- to medium-grained sand; low estimated permeability.	11.0		Bottom of Bori @ 12 ft
	- Lance and the same of the sa)	12 22 00 00 00 00 00 00 00 00 00 00 00 00		mineria accessarie	all on a language and the language constraints	PAGE 1



Cambria Environmental Technology, Inc. 2680 Bishop Drive, Suite 290 San Ramon, CA 94583 Telephone: (925) 275-3200 Fax: (925) 275-3204

CLIENT NAME	Nady Systems	BORING/WELL NAME	SB-4		
JOB/SITE NAME _	Nady Systems	DRILLING STARTED	25-Nov-02		
LOCATION _	1137-1167 65th Street, Oakland, California	DRILLING COMPLETED _	26-Nov-02		
PROJECT NUMBER	522-1000	WELL DEVELOPMENT DA	TE (YIELD)	Ψ	
DRILLER	Vironex	GROUND SURFACE ELEV	ATION	10.92 ft	
DRILLING METHOD _	Hydraulic push	TOP OF CASING ELEVATI	ON 40.92 ft		
BORING DIAMETER _	2 inches	SCREENED INTERVAL	7-12 ft bgs		
LOGGED BY	ł. Young	DEPTH TO WATER (First B	Encountered)	9.0 ft (26-Nov-02)	$\bar{\Sigma}$
REVIEWED BY	R. Clark-Riddell, PE# 49629	DEPTH TO WATER (Static) _	6.1 ft (26-Nov-02)	Y
			_		

REMARKS CONTACT DEPTH (ft bgs) GRO (mg/kg) GRAPHIC LOG BLOW COUNTS SAMPLE ID U.S.C.S. DEPTH (ft bgs) EXTENT LITHOLOGIC DESCRIPTION WELL DIAGRAM ASPHALT
SAND (SP): Brown; dry, 100% medium- to coarse-grained sand; high estimated permeability. 0.3 SB-4- 3.5 <u>*</u> Portland Type SP I/II Cement Damp. SB-4-7.5 $\bar{\Delta}$ Black; wet; dark black staining visible in sample. 12.0 SB-4-11.5 Bottom of Boring @ 12 ft WELL LOG (GRO) HISB-2004 (UST FUND)INADYINADY.GPJ DEFAULT.GDT 8/19/03 PAGE 1 OF 1

PAGE 1 OF 1



CLIENT NAME JOB/SITE NAME LOCATION PROJECT NUMBI DRILLER DRILLING METHO BORING DIAMET LOGGED BY REVIEWED BY REMARKS	Na	37-1 2-10 onex (drau ndhe Your	00 (ulic pust :s	h Streel		nd, California	BORING/WELL NAME DRILLING STARTED DRILLING COMPLETED WELL DEVELOPMENT DA GROUND SURFACE ELEV TOP OF CASING ELEVATI SCREENED INTERVAL DEPTH TO WATER (First I DEPTH TO WATER (Static				
GRO (mg/kg) BLOW COUNTS	SAMPLEID	EXTENT	DEPTH (ft bgs)	U.S.C.S.	GRAPHIC LOG		HOLOGIC DESCRIPTION	она беждения общений в под том в под	CONTACT DEPTH (ft bgs)	WEL	L DIAGRAM
ELL LOG (GRO) HASB-2004 (UST FUND)MADYNADY.GPJ DEFAULT.GDT 8/20/03	SB-5- 7.5 SB-5- 11.5		- 5	GP ML GP SP SM CL SP CL		Sandy GRAVEL (GF coarse-grained sand, permeability. Clayey SILT (ML): 2 Sandy GRAVEL (GF coarse-grained sand, Gravelly SAND(SP) coarse-grained sand, low Silty CLAY (CL): Bliplasticity; low estimate (@ 8.5 ft: Silty CLAY Gravelly SAND (SF coarse-grained sand, permeability. Silty CLAY (CL): Bright SAND (SF coarse-grained sand, permeability.	: Mottled brown and green; 60% 40% fine gravel. reenish grey, dry; 10% clay, 30 to moderate estimated permea ack; dry; 65% clay, 35% siit, lo	med sand. 6 medium to % silt, 60% ability. w ay, 20% silt. 60% fine to	5.0 6.0 7.0 8.0 11.5 12.0		Portland Type I/II Cement Bottom of Boring @ 12 ft

PAGE 1 OF 1



CLIENT	NAME	N	ady Syst	ems			BORING/WELL NAME	SB-6			···-·
JOB/SIT	E NAME	N	ady Syst	tems			DRILLING STARTED	25-Nov-02			·
LOCATI	ON			7 65th Stree	et, Oakla	and, California	DRILLING COMPLETED				
PROJE	CT NUME	BER52	22-1000				WELL DEVELOPMENT D	ATE (YIELD) _	NA		-
DRILLE			ronex				GROUND SURFACE ELE		39.49	īt	
	IG METH	-	ydraulic	push			TOP OF CASING ELEVA	TION 39,49 ft		No.	
BORING	DIAME	TER2					SCREENED INTERVAL	7-12ftb		- 1	
LOGGE	-		Young				DEPTH TO WATER (First	Encountered)	11.3	3 ft (25-Nov-C)3) 👱
REVIEV	VED BY	R	. Clark-R	liddell, PE#	49629		DEPTH TO WATER (Stati	c)	7.3	ft (26-Nov-0	2) 🛂
REMAR	KS _	Li	ocated in	Peabody l	ane.		B.S. Carles in March 4000000 Adjusteracy of the State of	Angelen 12 10 10 10 10 10 10 10 10 10 10 10 10 10	200.00000000000000000000000000000000000		
GRO (mg/kg)	BLOW	SAMPLE ID	EXTENT	(ft bgs)	GRAPHIC LOG		IOLOGIC DESCRIPTION		CONTACT DEPTH (# bgs)	WELJ	L DIAGRAM
and distribution of the state o			NL	GP	577	ASPHALT	: Dark brown; dry; 40% mediu		0.2		
	'		IXL	ML		_ \ coarse-grained sand, €	60% fine gravel; high estimated	d /_	1.0 2.0		10 10 10 11
1	}		I/L	CL		\\permeability. \Clavey SILT(ML): 20	% day, 70% silt, 10% fine grai	ined sand.	3.0		
***************************************		SB-6- 3.5		ML	\prod	Silty CLAY (CL): Date	rk brown; dry; 60% clay, 35%	silt, 5%			
-	·		Μ,	.		\sand; low plasticity; low Clavey SILT (ML): G	w estimated permeability, reenish grey; damp; 35% clay	7. 50% silt. /	4.5		1
3	[, d cr		15% fine-grained sand	l; slight plasticity; low estimate	d /	6.0		- D - 1.T
***		•	I/I	SP	77777	\permeability. Silty CLAY (CL): Gre	eyish green; dry; 70% clay, 25	5% silt, 5%	6.5		■ Portland Type I/II Cement
]	SB-6- 7.5		1		\sand; low plasticity; lov	w estimated permeability.	/ #	-		
er e	İ	SB-0-1.3	\square	-{ CL			: Greyish green; dry, 10% silf ined sand, 40% fine gravel; hi				
			\mathbb{W}	1	144	permeability.	eenish grey; dry; 80% clay, 20	* I	9.5		
141 CAN				10-1 ML		medium plasticity: low	estimated permeability.	/			
No.			\Box	1		Clayey SILT (ML): G slight plasticity; low es	reyish green; damp; 40% day	v, 60% silt; <u> </u>	11.7		
enoonalista.		SB-6-11.5		-UE	12/2/2	\ Silty CLAY (CL): On	angish brown; dry, 80% clay, 2		12.0	(XXIIIXX	Bottom of Boring
and the state of t	}			1	1.		estimated permeability			1	@ 12 ft
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CLIENT NAME	Nady Systems	BORING/WELL NAME	SB-7		
JOB/SITE NAME	Nady Systems	DRILLING STARTED	25-Nov-02	·	
LOCATION	1137-1167 65th Street, Oakland, California	DRILLING COMPLETED _	26-Nov-02		
PROJECT NUMBER _	522-1000	WELL DEVELOPMENT DA	TE (YIELD)	NA	
DRILLER _	Vironex	GROUND SURFACE ELEV	ATION	38,50 ft	
DRILLING METHOD _	Hydraulic push	TOP OF CASING ELEVATION	ON 38.50 ft		
BORING DIAMETER _	2 inches	SCREENED INTERVAL	13 - 18 ft bo	8	
LOGGED BY	I. Young	DEPTH TO WATER (First E	ncountered)	18.0 ft (25-Nov-02)	$\overline{\Lambda}$
REVIEWED BY	R. Clark-Riddell, PE# 49629	DEPTH TO WATER (Static)		8.4 ft (26-Nov-02)	Ā

LOGGET	D BY	1ER	You				DEPTH TO WATER (First Encountered)		.0 ft (25-Nov-0:	2) \(\bar{\sqrt{2}}\)
	VED BY R. Clark-Riddell, PE# 49629			ell, PE#	49629	DEPTH TO WATER (Static)	8.4 ft (26-Nov-02)			
REMARI	ks _			 						
GRO (mg/kg)	BLOW	SAMPLE ID	EXTENT	DEPTH (ft bgs)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (ft bgs)	WELL	DIAGRAM
					GP	$\mathcal{Q}_{\mathcal{Q}}$	ASPHALT	0.2	KKKKA	
			IX.		ML		Sandy GRAVEL (GP): Dark brown; dry, 40% medium- to coarse-grained sand, 60% fine gravel; high estimated permeability.	1.0 2.5		
		SB-7-3.5 SB-7-7.5		- 5 - 5 	CL		Clayey SILT (ML): 20% clay, 70% silt, 10% fine-grained sand. Silty CLAY (CL): Dark grey; dry; 60% clay, 35% silt, 5% fine-grained sand; slight plasticity; low estimated permeability. @ 4.0 ft Grey @ 6.5 ft: Sandy Silty CLAY (CL): 50% clay, 20% silt, 30% fine-grained sand. @ 7.0 ft: Silty CLAY (CL): Grey; dry; 60% clay, 35% silt, 5%			ı
			X	- 10-	ML		fine-grained sand. Sandy SILT (ML): Grey, dry, 10% clay, 55% silt, 30% fine- to medium-grained sand, 5% fine gravel; low to moderate estimated	9.0		Portland Type I/II Cement
		SB-7-11.5			CL		permeability. <u>Silty CLAY</u> (CL): Grey; dry; 50% day, 35% silt, 15% fine-grained sand; slight plasticity; low estimated permeability.			
	:	SB-7-15.5 SB-7-17.5	X	- - 15- - -	SM CL SM ML SM CL		Silty SAND (SM): Grey, damp; 5% clay, 25% silt, 70% fine- to medium-grained sand; moderate estimated permeability. Silty CLAY (CL): Grey, damp; 55% clay, 35% silt, 10% fine-grained sand; slight plasticity, low estimated permeability. Silty SAND (SM): Grey, damp; 5% clay, 25% silt, 70% fine- to medium-grained sand; moderate estimated permeability. Clayey SILT (ML): Grey, damp; 30% clay, 65% silt, 5% fine-grained sand; slight plasticity; low estimated permeability. Silty SAND (SM): Grey, damp; 5% clay, 25% silt, 70% fine- to medium-grained sand; moderate estimated permeability.	13.0 13.5 15.0 15.5 16.5 17.0 7 18.0		Bottom of Borin @ 18 ft
							\Silty CLAY (CL): Grey, wet, 50% clay, 35% silt, 15% \fine-grained sand, slight plasticity; low estimated permeability.			
						-				



CLIEN	IT NAME	N	ady S	Systems	<u> </u>			BORING/WELL NAME	SB-8			
JOB/S	SITE NAME	. <u>N</u>	lady S	Systems	<u> </u>			DRILLING STARTED	25-Nov-02			
LOCA	OCATION 1137-1167 65th Street, Oakland, California DRILLING COMPLETED 26-Nov-							26-Nov-02				
PROJ	ECT NUME		22-10					WELL DEVELOPMENT D	ATE (YIELD)	NA		·
DRILL	_ER	V	irone)	Κ				GROUND SURFACE ELE	VATION	41.00	<u>ft</u>	
DRILL	ING METH	OD D	PT-E	3adger				TOP OF CASING ELEVAT	TION 41.00 ft		À	
	NG DIAME		inche	es				SCREENED INTERVAL	4-9ftbq	3	1/2	
	SED BY		1. Me		_			DEPTH TO WATER (First			ft (25-Nov-0	2) 💆
	EWED BY			rk-Ridde	41, PE#	49629		DEPTH TO WATER (Station		•	ft (26-Nov-0	
REMA	-							•	,			7
greeners with the con-	-	and the second s			Que este obsorbator por							Approximation and constitution of the second
GRO (mg/kg)	BLOW	SAMPLE ID	EXTENT	DEPTH (ft bgs)	U.S.C.S.	GRAPHIC LOG	ш⊦	OLOGIC DESCRIPTION		CONTACT DEPTH (ft bgs)	WEL	L DIAGRAM
PROXIMATELY DESCRIPTION OF STREET, STR	-	SB-8-3		- -	CL		CONCRETE Silty CLAY (CL): Dar plasticity; low estimate	k brown; moist; 70% clay, 30° d permeability.	% silt; high	0.3 3.0		Sammanare sa and described and
desperience of the control of the co		SB-8-6	X	- 5	SC		60% fine- to coarse-grestimated permeability Clayey Gravelly SA 60% medium- to coars	Medium grey, moist; 20% clay sined sand, 5% fine gravel; m blue staining observed in sar ND (SC): Blue grey; moist; 2 e-grained sand, 20% fine to m	oderate nple. <u> </u>			Portland Type I/II Cement
deleterative and the second se		SB-8-9		-			@ 7.5 ft: Wet.			9.0		Bottom of Boring @ 9 ft
an social designation of the second designat												
O/33	:											
FAULT.GDT 8/20/03												
ANADY.GPJ DE												
ST FUND)(NAD												
H. M. S. B 2004 (U.												
WELL LOG (GRO), HASB-2004 (UST FUND)INADYNADY, GRJ, DEFAULT GDT												
												PAGE 1 O





CLIENT	NAME		lady	System	s			BORING/WELL NAME	SB-9	<u>.</u>		
JOB/SIT	TE NAME		l ady	System	s			DRILLING STARTED 25-Nov-02				
LOCATI	ON	1	137-	1167 65	th Stree	et, Oakla	ınd, California	DRILLING COMPLETED	26-Nov-02			
PROJE	CT NUME	BER5	22-10	000				WELL DEVELOPMENT DA	ATE (YIELD)	NA		. <u></u>
DRILLE			/irone	X				GROUND SURFACE ELE	VATION _	41.021	ft	
DRILLIN	IG METH	do)PT-1	Badger			·	TOP OF CASING ELEVAT	TION41.02 ft		 	
BORING	G DIAME	TER2					·	SCREENED INTERVAL	Unknown	1		
LOGGE	_			eyers				DEPTH TO WATER (First	Encountered)	NA		<u> </u>
REVIEV	VED BY _	F	R. Cla	ark-Ridde	ell, PE#	49629		DEPTH TO WATER (Statio	c)	24.	0 ft (26-Nov-0	02) 👢
REMAR	KS _										 	
<u> </u>	polytoning kannon salt ühneden eles S			Marie Action Continues	Anna Carrier Carrier en	T	CONTRACTOR OF THE CONTRACTOR CONT	но на применя в на постоя и постоя на постоя на постоя на постоя на постоя на постоя на постоя на постоя на по Постоя на постоя на п	(Andrew Colonial Print, Street, Street, St. or Wildle (And Colonial Street, Street, Street, Street, Street, St)s)		en en en en en en en en en en en en en e
GRO (mg/kg)	BLOW	<u>⊓</u>	뉟	표 🔅	S)	GRAPHIC LOG				CONTACT)EPTH (ft bgs)		****
E)		SAMPLE	EXTENT	DEPTH (ft bgs)	U.S.C.S.	[₹S]	LM+	OLOGIC DESCRIPTION		LY E	WELL	_ DIAGRAM
SRC	m ⊖	SAN	Û	ت ت	- j	15				응답		esta esta esta esta esta esta esta esta
<u> </u>			╂		ļ	22737	CONCRETE	,		-0.5	Y//XY//	
				-			Silty CLAY (CL): Dar	k brown; moist; 70% clay, 30%	% silt; high	10.5		Complete
					1		plasticity; low estimate	d permeability,				
			1	L .								acceptance of the control of the con
					CL							7
				L	_							
		SB-9-6	\times	J - J -			@55ft Sandy CLA	Y (CL): Medium brown; wet;	60% ctay			- Inches
(chartest			\mathcal{M}	1			10% silt; 30% fine-grai	ned sand; low plasticity; mode	erate	7.0		Хриван со го
s)mitteritte			ΙX	·			estimated permeability	/. (CL): Medium brown; damp; 6	5% day	1		romaterica
Taken and the same		ćn o o			1		\20% silt, 10% fine- to r	nedium-grained sand, 5% fine	angular /			***************************************
urtauria.	ļ	SB-9-9	17	-	1		\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	ow estimated permeability, ght brown, damp, 10% day, 50)% sitt 35%	1		a parte part
.co.co.co.co.co.co.co.co.co.co.co.co.co.	ľ		ΙX	10-	ML		fine-grained sand, 5%	fine gravel; moderate estimate	ed			*****
Ì	ļ		\triangle	├ .	1		permeability. @ 9.0 ft. Orangish bro	****				ET.
Licenses		SB-9-12	(7	├ .	1		W 3.0 IL Clarganore	799) L				CCGCPAHADAN
	ļ		Ŋ		┨					13.5		***************************************
			M	├ .	1		Silty CLAY (CL): Oli	ve grey; damp; 50% day, 40%	6 silt, 10%	1		
		SB-9- 15		- 15-	CL		fine-grained sand; low permeability.	plasticity, low to moderate est	imated	15.5		■ Portland Type I/II Cement
			IV	ʹͰ.	-	11111	Clayey SiLT (ML): C	rangish brown; damp; 30% da	ay, 60% silt;	10.0		bii Comork
			IΛ	L .	1		10% fine-grained sand	ts; low to moderate estimated	permeability.			-
		SB-9-18		L.	ML							
200	1	•	- [//	Ĺ.	_					1		
6	Į.		١X		}		Silbrel AV (CL): On	angish brown; moist, 50% clay	Mis 2001	19.5		
9		SB-9-21		<u>20-</u>	1		10% fine-grained sand	d; moderate plasticity; low to m	oderate	ŀ		
		30-5-21		7	1.		estimated permeabilit	у.				2
L L	İ		IX	†	1					Ì		·
2				፟	1				_	_		1
2.		SB-9-24		-	CL				7	2		100 A
Z			ΙV	25-	-							
Y I			M	\vdash	-					1		
		SB-9-27		,	-					Į		
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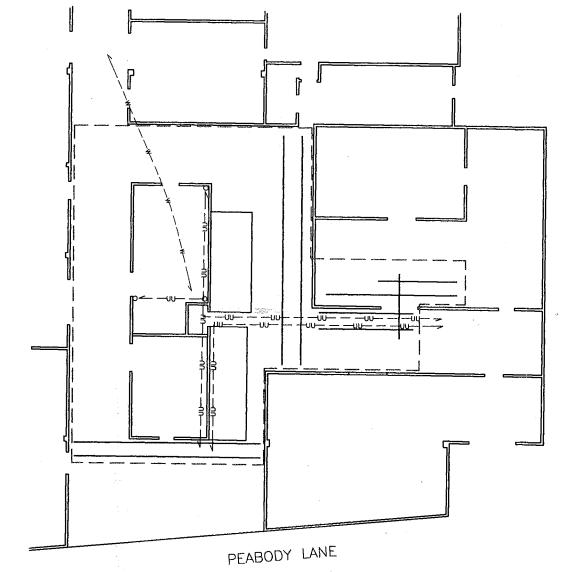
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JOB/SITE NAME Nady Systems								DRILLING STARTED 25-Nov-02				
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APPENDIX C

NorCal Geophysical Figure







	LEGEND
democratic transform distribution	APPROXIMATE LIMITS OF GEOPHYSICAL SURVEY (EQUIPMENT AND OTHER ABOVE GROUND OBJECTS LIMITED ACCESS WITHIN THIS AREA)
	GPR TRAVERSE
— — —	UNDIFFERENTIATED UTILITY LINE REPRESENTING POSSIBLE UST-ASSOCIATED PIPING
	WATER LINE

NOTE: BASE MAP DIGITIZED FROM SITE MAP PROVIDED BY CAMBRIA



GEOPHYSICAL SURVEY MAP 1137-1167 65TH STREET

LOCATION:	:EMERYV	ILLE,	CALIFORNIA

NORCAL	CLIENT: CAMBRIA	PLATE
JOB #: 03-462.15	NORCAL GEOPHYSICAL CONSULTANTS INC.	1

DATE: JUL. 2003 DRAWN BY: G.RANDALL APPROVED BY: DJK

APPENDIX D

Standard Field Procedures for Soil Borings and Monitoring Wells

STANDARD FIELD PROCEDURES FOR SOIL BORINGS

This document describes Cambria Environmental Technology's standard field methods for drilling and sampling soil borings. These procedures are designed to comply with Federal, State and local regulatory guidelines. Specific field procedures are summarized below.

Objectives

Soil samples are collected to characterize subsurface lithology, assess whether the soils exhibit obvious hydrocarbon or other compound vapor odor or staining, estimate ground water depth and quality and to submit samples for chemical analysis.

Soil Classification/Logging

All soil samples are classified according to the Unified Soil Classification System by a trained geologist or engineer working under the supervision of a California Registered Geologist (RG) or a Certified Engineering Geologist (CEG). The following soil properties are noted for each soil sample:

- X Principal and secondary grain size category (i.e. sand, silt, clay or gravel)
- X Approximate percentage of each grain size category,
- X Color,
- X Approximate water or product saturation percentage,
- X Observed odor and/or discoloration,
- X Other significant observations (i.e. cementation, presence of marker horizons, mineralogy),
- X Estimated permeability.

Soil Boring and Sampling

Soil borings are typically drilled using hollow-stem augers or hydraulic push technologies. At least one and one half ft of the soil column is collected for every five ft of drilled depth. Additional soil samples are collected near the water table and at lithologic changes. Samples are collected using lined split-barrel or equivalent samplers driven into undisturbed sediments beyond the bottom of the borehole. The vertical location of each soil sample is determined by measuring the distance from the middle of the soil sample tube to the end of the drive rod used to advance the split barrel sampler. All sample depths use the ground surface immediately adjacent to the boring as a datum. The horizontal location of each boring is measured in the field from an onsite permanent reference using a measuring wheel or tape measure.

Drilling and sampling equipment is steam-cleaned prior to drilling and between borings to prevent cross-contamination. Sampling equipment is washed between samples with trisodium phosphate or an equivalent EPA-approved detergent.

Sample Storage, Handling and Transport

Sampling tubes chosen for analysis are trimmed of excess soil and capped with Teflon tape and plastic end caps. Soil samples are labeled and stored at or below 4°C on either crushed or dry ice, depending upon local regulations. Samples are transported under chain-of-custody to a State-certified analytic laboratory.

Field Screening

One of the remaining tubes is partially emptied leaving about one-third of the soil in the tube. The tube is capped with plastic end caps and set aside to allow hydrocarbons to volatilize from the soil. After ten to fifteen minutes, a portable photoionization detector (PID) measures volatile hydrocarbon vapor concentrations in the tube headspace, extracting the vapor through a slit in the cap. PID measurements are used along with the field observations, odors, stratigraphy and ground water depth to select soil samples for analysis.

Water Sampling

Water samples, if they are collected from the boring, are either collected using a driven Hydropunch type sampler or are collected from the open borehole using bailers. The ground water samples are decanted into the appropriate containers supplied by the analytic laboratory. Samples are labeled, placed in protective foam sleeves, stored on crushed ice at or below 4°C, and transported under chain-of-custody to the laboratory.

Duplicates and Blanks

Blind duplicate water samples are collected usually collected only for monitoring well sampling programs, at a rate of one blind sample for every 10 wells sampled. Laboratory-supplied trip blanks accompany samples collected for all sampling programs to check for cross-contamination caused by sample handling and transport. These trip blanks are analyzed if the internal laboratory QA/QC blanks contain the suspected field contaminants. An equipment blank may also be analyzed if non-dedicated sampling equipment is used.

Grouting

If the borings are not completed as wells, the borings are filled to the ground surface with cement grout poured or pumped through a tremie pipe.

Waste Handling and Disposal

Soil cuttings from drilling activities are usually stockpiled onsite on top of and covered by plastic sheeting. At least four individual soil samples are collected from the stockpiles for later compositing at the analytic laboratory. The composite sample is analyzed for the same constituents analyzed in the borehole samples. Soil cuttings are transported by licensed waste haulers and disposed in secure, licensed facilities based on the composite analytic results.

Ground water removed during sampling and/or rinsate generated during decontamination procedures are stored onsite in sealed 55 gallon drums. Each drum is labeled with the drum number, date of generation, suspected contents, generator identification and consultant contact. Disposal of the water is based on the analytic results for the well samples. The water is either pumped out using a vacuum truck for transport to a licensed waste treatment/disposal facility or the individual drums are picked up and transported to the waste facility where the drum contents are removed and appropriately disposed.

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STANDARD FIELD PROCEDURES FOR MONITORING WELL INSTALLATION

This document presents standard field methods for drilling and sampling soil borings and installing, developing and sampling groundwater monitoring wells. These procedures are designed to comply with Federal, State and local regulatory guidelines. Specific field procedures are summarized below.

SOIL BORINGS

Objectives

Soil samples are collected to characterize subsurface lithology, assess whether the soils exhibit obvious hydrocarbon or other compound vapor or staining, and to collect samples for analysis at a State-certified laboratory. All borings are logged using the Unified Soil Classification System by a trained geologist working under the supervision of a California Registered Geologist (RG).

Soil Boring and Sampling

Soil borings are typically drilled using hollow-stem augers or direct-push technologies such as the Geoprobe®. Soil samples are collected at least every five ft to characterize the subsurface sediments and for possible chemical analysis. Additional soil samples are collected near the water table and at lithologic changes. Samples are collected using lined split-barrel or equivalent samplers driven into undisturbed sediments at the bottom of the borehole.

Drilling and sampling equipment is steam-cleaned prior to drilling and between borings to prevent cross-contamination. Sampling equipment is washed between samples with trisodium phosphate or an equivalent EPA-approved detergent.

Sample Analysis

Sampling tubes chosen for analysis are trimmed of excess soil and capped with Teflon tape and plastic end caps. Soil samples are labeled and stored at or below 4° C on either crushed or dry ice, depending upon local regulations. Samples are transported under chain-of-custody to a Statecertified analytic laboratory.

Field Screening

One of the remaining tubes is partially emptied leaving about one-third of the soil in the tube. The tube is capped with plastic end caps and set aside to allow hydrocarbons to volatilize from the soil. After ten to fifteen minutes, a portable volatile vapor analyzer measures volatile hydrocarbon vapor concentrations in the tube headspace, extracting the vapor through a slit in the cap. Volatile vapor analyzer measurements are used along with the field observations, odors, stratigraphy and groundwater depth to select soil samples for analysis.

Water Sampling

Water samples, if they are collected from the boring, are either collected using a driven Hydropunch® type sampler or are collected from the open borehole using bailers. The groundwater samples are decanted into the appropriate containers supplied by the analytic laboratory. Samples are labeled, placed in protective foam sleeves, stored on crushed ice at or below 4°C, and transported under chain-of-custody to the laboratory. Laboratory-supplied trip blanks accompany the samples and are analyzed to check for cross-contamination. An equipment blank may be analyzed if non-dedicated sampling equipment is used.

Grouting

If the borings are not completed as wells, the borings are filled to the ground surface with cement grout poured or pumped through a tremie pipe.

MONITORING WELL INSTALLATION, DEVELOPMENT AND SAMPLING

Well Construction and Surveying

Groundwater monitoring wells are installed to monitor groundwater quality and determine the groundwater elevation, flow direction and gradient. Well depths and screen lengths are based on groundwater depth, occurrence of hydrocarbons or other compounds in the borehole, stratigraphy and State and local regulatory guidelines. Well screens typically extend 10 to 15 fee below and 5 feet above the static water level at the time of drilling. However, the well screen will generally not extend into or through a clay layer that is at least three feet thick.

Well casing and screen are flush-threaded, Schedule 40 PVC. Screen slot size varies according to the sediments screened, but slots are generally 0.010 or 0.020 inches wide. A rinsed and graded sand occupies the annular space between the boring and the well screen to about one to two feet above the well screen. A two feet thick hydrated bentonite seal separates the sand from the overlying sanitary surface seal composed of Portland type I,II cement.

Well-heads are secured by locking well-caps inside traffic-rated vaults finished flush with the ground surface. A stovepipe may be installed between the well-head and the vault cap for additional security.

The well top-of-casing elevation is surveyed with respect to mean sea level and the well is surveyed for horizontal location with respect to an onsite or nearby offsite landmark.

Well Development

Wells are generally developed using a combination of groundwater surging and extraction. Surging agitates the groundwater and dislodges fine sediments from the sand pack. After about ten minutes of surging, groundwater is extracted from the well using bailing, pumping and/or reverse air-lifting through an eductor pipe to remove the sediments from the well. Surging and extraction continue until at least ten well-casing volumes of groundwater are extracted and the sediment volume in the groundwater is negligible. This process usually occurs prior to installing the sanitary surface seal to ensure sand pack stabilization. If development occurs after surface seal installation, then development occurs 24 to 72 hours after seal installation to ensure that the Portland cement has set up correctly.

All equipment is steam-cleaned prior to use and air used for air-lifting is filtered to prevent oil entrained in the compressed air from entering the well. Wells that are developed using air-lift evacuation are not sampled until at least 24 hours after they are developed.

Groundwater Sampling

Depending on local regulatory guidelines, three to four well-casing volumes of groundwater are purged prior to sampling. Purging continues until groundwater pH, conductivity, and temperature have stabilized. Groundwater samples are collected using bailers or pumps and are decanted into the appropriate containers supplied by the analytic laboratory. Samples are labeled, placed in protective foam sleeves, stored on crushed ice at or below 4°C, and transported under chain-of-custody to the laboratory. Laboratory-supplied trip blanks accompany the samples and are analyzed to check for cross-contamination. An equipment blank may be analyzed if non-dedicated sampling equipment is used.

Waste Handling and Disposal

Soil cuttings from drilling activities are usually stockpiled onsite and covered by plastic sheeting. At least three individual soil samples are collected from the stockpiles and composited at the analytic laboratory. The composite sample is analyzed for the same constituents analyzed in the borehole samples in addition to any analytes required by the receiving disposal facility. Soil cuttings are transported by licensed waste haulers and disposed in secure, licensed facilities based on the composite analytic results.

Groundwater removed during development and sampling is typically stored onsite in sealed 55-gallon drums. Each drum is labeled with the drum number, date of generation, suspected contents, generator identification and consultant contact. Upon receipt of analytic results, the water is either pumped out using a vacuum truck for transport to a licensed waste treatment/disposal facility or the individual drums are picked up and transported to the waste facility where the drum contents are removed and appropriately disposed.

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APPENDIX E

DTSC / LARWQCB January 23, 2003 Active Soil Gas Investigations Advisory



Gray Davis, Governor Winston H. Hickox, Agency Secretary California Environmental Protection Agency



Department of Toxic Substances Control

Edwin F. Lowry, Director 1011 N. Grandview Avenue Glendale, California 91201 Phone (818) 551-2800 FAX (818) 551-2832 www.dtsc.ca.gov California Regional Water Quality Control Board Los Angeles Region

> 320 W. 4th Street, Suite 200 Los Angeles, California 90013 Phone (213) 576-6600 FAX (213) 576-6640 www.swrcb.ca.gov/rwqcb4

January 28, 2003

To:

Interested Parties

ADVISORY - ACTIVE SOIL GAS INVESTIGATIONS

In a coordinated effort, the Department of Toxic Substances Control (DTSC) and the California Regional Water Quality Control Board – Los Angeles Region (LARWQCB) have jointly developed the "Advisory – Active Soil Gas Investigations" (see the attached). This document is to ensure that consistent methodologies are applied during active soil gas investigations to produce high quality data for regulatory decision-making. The document has been reviewed by other government organizations and by the soil gas consulting community. Their comments have been considered and, where appropriate, incorporated in the document. This is an on-going effort to streamline the characterization of gas phase contaminant sites. As additional knowledge and experience are obtained, this Advisory may be modified as appropriate.

This document is issued by DTSC and LARWQCB as an Advisory subject to review and revision as necessary. The information in this Advisory should not be considered as regulations. Mention of trade names or commercial products does not constitute the Agency's endorsement or recommendation.

If you have any questions regarding this document, please contact the joint-agency project coordinator Mr. Joe Hwong, of DTSC, at (714) 484-5406.

Sincerely,

Edwin F. Lowry

Director

Department of Toxic Substances Control

Dennis A. Dickerson Executive Officer

California Regional Water Quality Control Board

Los Angeles Region

Enclosure

The energy challenge facing California is real. Every Californian needs to take immediate action to reduce energy consumption. For a list of simple ways you can reduce demand and cut your energy costs, see our Web-site at www.disc.ca.gov.

ADVISORY - ACTIVE SOIL GAS INVESTIGATIONS

As a coordinated effort, this document is issued by the California Regional Water Quality Control Board – Los Angeles Region (LARWQCB) and Department of Toxic Substances Control (DTSC) as an Advisory subject to review and revision as necessary. Mention of trade names or commercial products does not constitute the Agency's endorsement or recommendation. The information in this Advisory should not be considered as regulations. In this Advisory, "Agency" should mean LARWQCB and/or DTSC.

1.0 INTRODUCTION

Active soil gas investigations are useful to obtain vapor phase data at sites potentially affected by volatile organic compounds (VOCs), including chlorinated and aromatic hydrocarbons. Active soil gas investigations may also be used to investigate sites potentially affected by methane and hydrogen sulfide, and to measure fixed and biogenic gasses (e.g., oxygen, carbon dioxide, or carbon monoxide). Among other things, the data can be used to identify the source and determine the spatial distribution of VOC contamination at a site, or to estimate indoor air concentrations for risk assessment purposes.

For site characterization, the Agency encourages both soil gas and soil matrix sampling. Typically, soil gas data are more representative of actual site conditions in coarse-grained soil formations while soil matrix data are more representative of actual site conditions in fine-grained soil formations. For evaluating the risk associated with vapor intrusion to indoor air, soil gas data are the preferred contaminant data set, where practicable. Flux chamber and passive sampling methods are not discussed in this Advisory. Any sites where such sampling methods are necessary will be addressed separately.

On February 25, 1997, LARWQCB re-issued the "Interim Guidance for Active Soil Gas Investigation" (ASGI) as guidance for investigating sites with potential VOC contamination. Unless otherwise noted in this Advisory, the active soil gas investigation should be performed in accordance with the most current ASGI

2.0 SUPPLEMENTAL RECOMMENDATIONS

The following sections supplement the ASGI in an effort to ensure that consistent methodologies are applied during soil gas investigations to produce reliable and defensible data of high quality. All sampling probe installation, sampling, and analytical procedures, whether or not discussed below, are subject to Agency review and approval.

- 2.1 Project Management
- 2.2 Soil Gas Sampling Probe Installation
- 2.3 Purge Volume Test
- 2.4 Leak Test
- 2.5 Purge/Sample Flow Rate
- 2.6 Soil Gas Sampling
- 2.7 Analysis of Soil Gas Samples

2.1 Project Management

2.1.1 Workplan: An appropriate workplan should be prepared and submitted to the Agency for review and approval at least 30 days prior to its implementation. Any variations or deviations from this Advisory should be specified in the workplan. The soil gas workplan can either be incorporated as part of a comprehensive site investigation workplan or as a stand-alone document, depending on site-specific circumstances.

2.1.2 Field Activities

- A The Agency should be notified 10 working days prior to implementation of field activities. All necessary permits and utility clearance(s) should be obtained prior to conducting any investigations described in this Advisory.
- B. All engineering or geologic work (e.g., logging continuous soil cores, soil description) should be performed or supervised by a California Registered Professional in accordance with the Business and Professions Code, Chapters 7 and 12.5, and the California Code of Regulations, Title 16, Chapters 5 and 29.

In addition, for proposed school sites, all work performed should be under the direction and supervision of a project coordinator experienced in soil gas investigations [e.g., an Environmental Assessor as defined in Education Code Section 17210(b)].

- C. Evaluation of raw data by Agency staff may occur either in the field or in the office.
 - 1. Hard copies of the complete raw laboratory data, including handwritten data and field notes, should be provided to the Agency staff upon request.
 - 2. Adjustments or modifications to the sampling program may be required by Agency staff to accommodate changes mandated by evaluation of the data set or unforeseen site conditions.
- D. Investigation derived wastes (IDWs) should be managed as hazardous waste until proven otherwise or until specifically approved by the Agency as being non-hazardous waste. IDWs should be handled and disposed in accordance with federal, state and local requirements.

E. Field Variations

- To expedite the completion of field activities and avoid potential project delays, contingencies should be proposed and included in the project workplan (e.g., soil matrix samples will also be collected if clayey soils [as defined in the Unified Soil Classification System (USCS)] are encountered during the proposed soil gas investigation).
- The Agency field staff should be informed of any problems, unforeseen site conditions, or deviations from the approved workplan. When it becomes necessary to implement modifications to the approved workplan, the Agency should be notified and a verbal approval should be obtained before implementing changes.
- F. <u>Soil Matrix Sampling Requirements</u>: Companion soil matrix sampling may be conducted concurrently with a soil gas investigation (in accordance with the ASGI, Section 5.0), except where extremely coarse-grained soils (as defined in USCS) are encountered or when specifically excluded by the Agency.
- 2.1.3 Soil Gas Investigation Reports: A soil gas investigation report including a discussion of field operations, deviations from the approved workplan, data inconsistencies, and other significant operational details should be prepared. The report may either be a stand-alone document in a format recommended by the Agency or be included within a site-specific assessment report. At a minimum, the report should contain the following:
 - A Site plan map and probe location map at an appropriate scale as specified in the workplan (e.g., scale: one inch = 40 feet);
 - B. Final soil gas iso-concentration maps for contaminants of concern at the same scale as the site plan map;
 - C. Summary tables for analytical data, in micrograms per liter (μg/L), in accordance with the ASGI;
 - D. Legible copies of field and laboratory notes or logs;
 - E. All analytical results and Quality Assurance/Quality Control (QA/QC) information including tables and explanations of procedures, results, corrective actions and effect on the data, in the format specified by the Agency; and
 - F. Upon request, all raw data including chromatograms and calibration data should be submitted to the Agency.

2.2 Soil Gas Sampling Probe Installation

- 2.2.1 <u>Lithology</u>: Site soil or lithologic information should be used to select appropriate locations and depths for soil gas probes. If on-site lithologic information is not available prior to conducting the soil gas investigation, at least one (1) continuously cored boring to the proposed greatest depth of the soil gas investigation should be installed at the first sampling location, unless specifically waived or deferred by Agency. Depending on site conditions, additional continuously cored borings may be necessary.
 - A Lithologic logs should be prepared for all borings (e.g., continuously cored borings, soil matrix sampling, geotechnical sampling, etc.). Note: This does not apply to direct-push soil gas probe installations.
 - B. Information gathered from the continuously cored borings may include soil physical parameters, geotechnical data and contaminant data.
 - C. If low-flow or no-flow conditions (e.g., fine-grained soil, clay, soil with vacuum readings that exceed approximately 10 inches of mercury or 136 inches of water) are encountered, soil matrix sampling using EPA Method 5035A should be conducted in these specific areas. Also see Section 4 of LARWQCB's "General Laboratory Testing Requirements for Petroleum Hydrocarbon Impacted Sites" on use of EPA Method 5035A.
 - D. If the bottom five (5) feet of a continuously cored boring is composed of clay or soil with a vacuum exceeding approximately 10 inches of mercury or 136 inches of water, the continuously cored boring should be extended an additional five (5) feet to identify permeable zones. If the extended boring is also composed entirely of clay, the boring may be terminated. Special consideration should always be given to advancing borings and ensuring that a contaminant pathway is not being created through a low permeability zone.
- 2.2.2 Sample Spacing: A scaled site plan depicting potential or known areas of concern (e.g., existing or former sumps, trenches, drains, sewer lines, clarifiers, septic systems, piping, underground storage tanks [USTs], chemical or waste management units) should be provided in the project workplan. Sample spacing should be in accordance with the most current ASGI and may be modified based on site-specific conditions with Agency approval. To optimize detecting and delineating VOCs, the grid spacing should be modified to include biased sampling locations.

- 2.2.3 <u>Sample Depth</u>: Sample depths should be chosen to minimize the effects of changes in barometric pressure, temperature, or breakthrough of ambient air from the surface; and to ensure that representative samples are collected. Consideration should be given to the types of chemicals of concern and the lithology encountered.
 - A teach sample location, soil gas probes should be installed at a minimum of one sample depth, generally at five (5) feet below ground surface (bgs), in accordance with the most current ASGI.
 - B. Samples should be collected near lithologic interfaces or based on field instrument readings (e.g., Flame Ionization Detector [FID], Photo Ionization Detector [PID]) from soil cuttings and/or cores to determine the location of maximum analyte concentrations at the top or bottom of the interface depending upon the analyte.
 - C. Multi-depth sampling is appropriate for any of the following locations:
 - 1. Sites identified with subsurface structures (e.g., USTs, sumps, clarifiers, waste or chemical management units), subsurface sources (e.g., oil fields, artificial fill, buried animal waste), changes in lithology, and/or contaminated groundwater. Soil gas probes should be emplaced below the base of any subsurface structures, sources or backfilled materials in the vadose zone. Collection of deeper samples should be done in consultation with Agency staff;
 - 2. Areas with significantly elevated VOC concentrations detected during shallow or previous vapor sampling;
 - 3. Areas where elevated field instrument readings are encountered from soil matrix cuttings, cores or samples; or
 - 4. In the annular space of groundwater monitoring wells during construction, where an assessment of the vertical extent of soil gas contamination is necessary.
 - D. If no lithologic change or contamination is observed, default sampling depths may be selected for multi-depth sampling. For example, soil gas samples may be collected at 5, 15, 25, 40 feet bgs, etc., until either the groundwater is encountered or VOCs are not detected, whichever comes first
 - 1. Additional samples may be necessary based on site conditions.
 - 2. For Preliminary Endangerment Assessments: When 40 feet bgs is reached, collection of deeper samples may be waived.

However, assessment and/or characterization of the deeper vadose zone may be required in the future to protect groundwater resources.

- 2.2.4 <u>Sampling Tubes</u>: Sampling tubes should be of a small diameter (1/8 to 1/4 inch) and made of material (e.g., nylon, polyethylene, copper or stainless steel) which will not react or interact with site contaminants. For example, metal tubes should not be used for collection of hydrogen sulfide samples.
 - A. Clean, dry tubing should be utilized at all times. If moisture, water, or an unknown material is present in the probe prior to insertion, the tubing should be decontaminated or replaced.
 - B. After use at each location:
 - 1. Non-reusable (e.g., nylon or polyethylene) sampling tubes should be discarded; or
 - 2. Reusable sampling tubes should be properly decontaminated as specified in Section 2.2.7.
 - C. A drawing of the proposed probe tip design and construction should be included in the project workplan.

2.2.5 Soil Gas Probe Emplacement Methods

- A Permanent or Semi-permanent Soil Gas Probe Methods:
 Permanent or semi-permanent soil gas probes may be installed, using a variety of drilling methods. Please note that the mud rotary drilling method is not acceptable for soil gas probe emplacement. Other drilling methods such as air rotary and rotosonic can adversely affect soil gas data during and after drilling and will require extensive equilibration times. Therefore, they are not recommended. Other soil gas probe designs and construction (e.g., soil gas wells or nested wells) may be appropriate and should be discussed with Agency staff prior to emplacement. When additional sampling is not anticipated per consultation with the Agency, such probes may be properly removed or decommissioned after completion of the soil gas investigation.
 - 1. The probe tip should be emplaced midway within a minimum of one (1) foot of sand pack. The sand pack should be appropriately sized (e.g., no smaller than the adjacent formation) and installed to minimize disruption of airflow to the sampling tip. See Figure 1 for more information.
 - At least one (1) foot of dry granular bentonite should be emplaced on top of each sand pack to preclude the infiltration

of hydrated bentonite grout. The borehole should be grouted to the surface with hydrated bentonite. With respect to deep probe construction with multiple probe depths, the borehole should be grouted between probes. One (1) foot of dry granular bentonite should be emplaced between the filter pack and the grout at each probe location. See Figure 2 for more information.

- 3. The use of a downhole probe support may be required for deep probe construction (e.g., 40 feet bgs for direct push probes).
 - a. Such probe support may be constructed from a one-inch diameter bentonite/cement grouted PVC pipe or other solid rod, or equivalent, allowing probes to be positioned at measured intervals.
 - The support should be properly sealed or solid (internally or externally) to avoid possible cross-contamination or ambient air intrusion.
 - c. The probes should be properly attached to the exterior of the support prior to placement downhole.
 - d. Alternative probe support designs should be described in the project workplan. If probe support will not be used for deep probes, justification should be included in the project workplan.
- 4. Tubing should be properly marked at the surface to identify the probe location and depth.
- 5. As-built diagrams for probes or wells should be submitted with the soil gas investigation report detailing the well identification and corresponding probe depths. A typical probe construction diagram may be submitted for probes with common design and installation.
- 6. Unless soil gas probes are removed or decommissioned, probes should be properly secured, capped and completed to prevent infiltration of water or ambient air into the subsurface and to prevent accidental damage or vandalism. For surface completions, the following components may be installed:
 - a. Gas-tight valve or fitting for capping the sampling tube;
 - b. Utility vault or meter box with ventilation holes and lock;
 - c. Surface seal; and
 - d. Guard posts.

- B. <u>Temporary Soil Gas Probe Emplacement Method</u>: In general, the drive rod is driven to a predetermined depth and then pulled back to expose the inlets of the soil gas probe. After sample collection, both the drive rod and tubing are removed.
 - 1. During installation of the probe, hydrated bentonite should be used to seal around the drive rod at ground surface to prevent ambient air intrusion from occurring.
 - 2. The inner soil gas pathway from probe tip to the surface should be continuously sealed (e.g., a sampling tube attached to a screw adapter fitted with an o-ring and connected to the probe tip) to prevent infiltration.
- 2.2.6 <u>Equilibration Time</u>: During probe emplacement, subsurface conditions are disturbed. To allow for subsurface conditions to equilibrate, the following equilibration times are recommended:
 - A For probes installed with the direct push method where the drive rod remains in the ground, purge volume test, leak test, and soil gas sampling should not be conducted for at least 20 minutes following probe installation.
 - B. For probes installed with the direct push method where the drive rod does not remain in the ground, purge volume test, leak test, and soil gas sampling should not be conducted for at least 30 minutes following probe installation.
 - C. For probes installed with hollow stem drilling methods, purge volume test, leak test, and soil gas sampling should not be conducted for at least 48 hours (depending on site lithologic or drilling conditions) after the soil gas probe installation.
 - D. Probe installation time should be recorded in the field log book.
- 2.2.7 <u>Decontamination</u>: After each use, drive rods and other reusable components should be properly decontaminated to prevent cross contamination. These methods include:
 - A 3-stage wash and rinse (e.g., wash equipment with a nonphosphate detergent, rinse with tap water, and finally rinse with distilled water); and/or
 - B. Steam cleaning process.

2.3 Purge Volume Test

To ensure stagnant or ambient air is removed from the sampling system and to assure samples collected are representative of subsurface conditions, a

purge volume versus contaminant concentration test should be conducted as the first soil gas sampling activity at the selected purge test point. The purge volume test is conducted by collecting and analyzing a sample for target compounds after the removal of appropriate purge volumes.

- 2.3.1 Purge Test Locations: The purge test location should be selected as near as possible to the anticipated or confirmed contaminant source, and in an area where soil gas concentrations are expected to be greatest based on lithology (e.g., coarse-grained sediments). The first purge test location should be selected through the workplan approval process or as a field decision in conjunction with Agency staff.
- 2.3.2 Purge Volume: The purge volume or "dead space volume" can be estimated based on a summation of the volume of the sample container (e.g., glass bulbs), internal volume of tubing used, and annular space around the probe tip. Summa™ canisters, syringe, and Tedlar™ bags are not included in the dead space volume calculation. The Agency recommends step purge tests of one (1), three (3), and seven (7) purge volumes be conducted as a means to determine the purge volume to be applied at all sampling points.
 - A. The appropriate purge volume should be selected based on the highest concentration for the compound(s) of concern detected during the step purge tests. The purge volume should be optimized for the compound(s) of greatest concern in accordance with Section 2.2 of the ASGI.
 - B. If VOCs are not detected in any of the step purge tests, a default of three (3) purge volumes should be extracted prior to sampling.
 - C. The step purge tests and purging should be conducted at the same rate soil gas is to be sampled (see Section 2.5).
 - D. The purge test data (e.g., calculated purge volume, rate and duration of each purge step) should be included in the report to support the purge volume selection.

2.3.3 Additional Purge Volume Test

- A Additional purge volume tests should be performed to ensure appropriate purge volumes are extracted if:
 - 1. Widely variable or different site soils are encountered; or
 - 2. The default purge volume is used and a VOC is newly detected.

- B. If a new purge volume is selected after additional step purge tests are conducted, the soil gas investigation should be continued as follows:
 - 1. In areas of the same or similar lithologic conditions:
 - a. Re-sample 20 percent of the previously completed probes. This re-sampling requirement may be reduced or waived in consultation with Agency staff, depending on site conditions. If re-sampling indicates higher detections (e.g., more than 50 percent difference in samples detected at greater than or equal to 10 μg/L), all other previous probes should be re-sampled using the new purge volume.
 - b. Continue the soil gas investigation with the newly selected purge volume in the remaining areas.
 - 2. In areas of different lithologic conditions: Continue the soil gas investigation with the newly selected purge volume in the remaining areas.

2.4 Leak Test

Leakage during soil gas sampling may dilute samples with ambient air and produce results that underestimate actual site concentrations or contaminate the sample with external contaminants. Leak tests should be conducted to determine whether leakage is present (e.g., the leak check compound is detected and confirmed in the test sample after its application).

- 2.4.1 Leak tests should be conducted at every soil gas probe.
- 2.4.2 <u>Leak Check Compounds</u>: Tracer compounds, such as pentane, isopropanol, isobutene, propane, and butane, may be used as leak check compounds, if a detection limit (DL) of 10 μg/L or less can be achieved. These compounds may be contained in common products such as shaving cream.
- 2.4.3 A leak check compound should be placed at any location where ambient air could enter the sampling system or where cross contamination may occur, immediately before sampling. Locations of potential ambient air intrusion include:
 - A Sample system connections;
 - B. Surface bentonite seals (e.g., around rods and tubing); or
 - C. Top of the Temporary Soil Gas Probe (see Section 2.2.5.B).

- 2.4.4 The leak test should include an analysis of the leak check compound. If a leak check compound is detected in the sample, the following actions should be followed:
 - A The cause of the leak should be evaluated, determined and corrected through confirmation sampling;
 - B. If the leak check compound is suspected or detected as a sitespecific contaminant, a new leak check compound should be used;
 - C. If leakage is confirmed and the problem can not be corrected, the soil gas probe should be properly decommissioned;
 - D. A replacement probe should be installed at least five (5) feet from the original probe decommissioned due to confirmed leakage, or consult with Agency staff; and
 - E. The leak check compound concentration detected in the soil gas sample should be included and discussed in the report.

2.5 Purge/Sample Flow Rate

Sampling and purging flow rates should not enhance compound partitioning during soil gas sampling. Samples should not be collected if field conditions as specified in Section 2.6.4 exist.

- 2.5.1 The purging or sampling flow rate should be attainable in the lithology adjacent to the soil gas probe.
 - A. To evaluate lithologic conditions adjacent to the soil gas probe (e.g., where no-flow or low-flow conditions), a vacuum gauge or similar device should be used between the soil gas sample tubing and the soil gas extraction devices (e.g., vacuum pump, Summa™ canister).
 - B. Gas tight syringes may also be used to qualitatively determine if a high vacuum soil condition (e.g., suction is felt while the plunger is being withdrawn) is present.
- 2.5.2 The Agency recommends purging or sampling at rates between 100 to 200 milliliters per minute (ml/min) to limit stripping, prevent ambient air from diluting the soil gas samples, and to reduce the variability of purging rates. The low flow purge rate increases the likelihood that representative samples may be collected. The purge/sample rate may be modified based on conditions encountered in individual soil gas probes. These modified rates should be documented in the soil gas report.

2.6 Soil Gas Sampling

After the soil gas probe is adequately purged, samples should be collected by appropriate methodologies.

- 2.6.1 <u>Sample Container</u>: Samples should be collected in gas-tight, opaque/dark containers (e.g., syringes, glass bulbs wrapped in aluminum foil, Summa[™] canisters), so that light-sensitive or halogenated VOCs (e.g., vinyl chloride) will not degrade.
 - A If a syringe is used, it should be leak-checked before each use by closing the exit valve and attempting to force ambient air through the needle.
 - B. If syringe samples are analyzed within five (5) minutes of collection, aluminum foil wrapping may not be necessary.
 - C. EPA Method TO-14A, TO-15, or an equivalent air analysis method, requires samples be collected in Summa™ canisters.
 - D. If a Summa[™] canister is used, a flow regulator should be placed between the probe and the Summa[™] canister to ensure the Summa[™] canister is filled at the flow rate as specified in Section 2.5.2.
 - E. Tedlar™ bags should not be used to collect VOC samples.
 - F. Specific requirements for methane and hydrogen sulfide sample containers are specified in Section 2.7.9.

2.6.2 Sample Collection

- A <u>Vacuum Pump</u>: When a vacuum pump is used, samples should be collected on the intake side of the vacuum pump to prevent potential contamination from the pump. Vacuum readings or qualitative evidence of a vacuum should be recorded on field data sheets for each sample.
- B. <u>Shallow Samples</u>: Care needs to be observed when collecting shallow soil gas samples to avoid sample breakthrough from the surface. Extensive purging or use of large volume sample containers (e.g., Summa[™] canisters) should be avoided for collection of near-surface samples [e.g., shallower than five (5) feet bgs].

2.6.3 Sample Container Cleanliness and Decontamination

- A Prior to its first use at a site, each sample container should be assured clean by the analytical laboratory as follows:
 - New containers should be determined to be free of contaminants (e.g., lubricants) by either the supplier or the analytical laboratory; and
 - 2. Reused/recycled containers: Method blank(s), as specified in Section 2.7.1.A, should be used to verify sample containers cleanliness.
- B. After each use, reusable sample containers should be properly decontaminated.
 - Glass syringes or bulbs should be disassembled and baked at 240° C for a minimum of 15 minutes or at 120° C for a minimum of 30 minutes, or be decontaminated by an equivalent method.
 - 2. Summa[™] canisters should be properly decontaminated as specified by appropriate EPA analytical methods.
 - 3. During sampling activities using reused/recycled sampling containers (e.g., glass syringes, glass bulbs), at a minimum one (1) decontaminated sample container per 20 samples or per every 12 hours, whichever is more often, should be used as a method blank (as specified in Section 2.7.1.A) to verify and evaluate the effectiveness of decontamination procedures.
- C. Plastic syringes should be used only once and then properly discarded.
- 2.6.4 <u>Field Conditions</u>: Field conditions, such as rainfall, irrigation, finegrained sediments, or drilling conditions may affect the ability to collect soil gas samples.
 - A <u>Wet Conditions</u>: If no-flow or low-flow conditions are caused by wet soils, the soil gas sampling should cease. In addition, the Agency recommends that the soil gas sampling should not be conducted during or immediately after a significant rain event (e.g., 1/2 inch or greater) or onsite watering.
 - B. If low flow conditions are determined to be from a specific lithology, a new probe should be installed at a greater depth or a new lateral location should be selected after evaluation of the site lithologic logs (See Section 2.2.1) or in consultation with Agency staff.

- C. If moisture or unknown material is observed in the glass bulb or syringe, soil gas sampling should cease until the cause of the problem is determined and corrected.
- D. If refusal occurs during drilling, soil gas samples should be collected as follows or in consultation with Agency staff.
 - 1. For sample depths less than five feet, collect a soil gas sample following the precautions outlined in Section 2.6.2.B.
 - 2. For sample depths greater than five feet, collect a soil gas sample at the depth of refusal.
 - 3. A replacement probe should be installed within five (5) feet laterally from the original probe decommissioned due to refusal. If refusal still occurs after three tries, the sampling location may be abandoned.
- 2.6.5 Chain of Custody Records: A chain of custody form should be completed to maintain the custodial integrity of a sample. Probe installation times and sample collection times should be included in the soil gas report.

2.7 Analysis of Soil Gas Samples

2.7.1 Quality Assurance/Quality Control (QA/QC): The soil gas analytical laboratory should comply with the project Quality Assurance Project Plan (QAPP) and follow the QA/QC requirements of the most current ASGI and the employed EPA Method. If there is any inconsistency, the most restrictive and specific requirements should prevail. The analytical data should be consistent with the Data Quality Objectives (DQOs) established for the project. The Agency staff may inspect the field and/or laboratory QA/QC procedures. Copies of the QA/QC plan and laboratory calibration data should be presented to the Agency field staff upon request.

Field QC samples should be collected, stored, transported and analyzed in a manner consistent with site samples. The following QC samples should be collected to support the sampling activity:

A Sample Blanks

- Method Blanks: Method blanks should be used to verify the effectiveness of decontamination procedures as specified in Section 2.6.3.B.3 and to detect any possible interference from ambient air.
- 2. <u>Trip Blanks for Off-site Shipments</u>: Whenever VOC samples are shipped offsite for analysis, a minimum of one (1) trip blank

per day should be collected and analyzed for the target compounds. Trip blanks, consisting of laboratory grade ultra pure air, are prepared to evaluate if the shipping and handling procedures are introducing contaminants into the samples, and if cross contamination in the form of VOC migration has occurred between the collected VOC samples. Trip blank containers and media should be the same as site samples.

- B. <u>Duplicate Samples</u>: At least one (1) duplicate sample per laboratory per day should be field duplicate(s). Duplicate samples should be collected from areas of concern.
 - 1. Duplicate samples should be collected in separate sample containers, at the same location and depth.
 - 2. Duplicate samples should be collected immediately after the original sample.
- C. <u>Laboratory Control Samples and Dilution Procedure Duplicates</u>: Laboratory Control Samples (LCS) and Dilution Procedure Duplicates (DPD) should be done in accordance with the most recent ASGI (Sections 3.5.0 and 3.12.4, respectively).
- D. <u>Split Samples</u>: The Agency staff may request that split samples be collected and analyzed by a separate laboratory.
- 2.7.2 <u>Laboratory Certification</u>: Although the California Department of Health Services, Environmental Laboratory Accreditation Program (ELAP) does not currently require certification for soil gas analytical laboratories, the Agency recommends laboratories utilizing EPA Methods 8260B, 8021B, and 8015B for analyses of soil gas samples obtain ELAP certifications for such EPA analytical methods accordingly. The Agency or DTSC's Hazardous Materials Laboratory (HML) staff may inspect the laboratory.
- 2.7.3 <u>Detection Limits for Target Compounds</u>: Analytical equipment calibration should be in accordance with the most current ASGI. Consideration and determination of appropriate DLs should be based on the DQOs of the investigation.
 - A The DL for leak check compounds should be $10 \mu g/L$ or less (see Section 2.4.2). The DL for oxygen (O₂) and carbon dioxide (CO₂) should be one (1) percent or less. The DLs for methane and hydrogen sulfide are specified in Section 2.7.9.
 - B. If the investigation is being conducted to delineate the extent of contamination, a DL of 1 μ g/L is appropriate for all targeted VOCs.

- C. If the soil gas data are to be used to support risk assessment activities, a DL of 1 µg/L may be appropriate for the initial screening when evaluating all targeted VOCs. If the data are non-detect for all targeted VOCs, additional sampling with lower DLs is not required. If VOCs are detected, additional sampling, using a DL of 0.1 µg/L, may be required to confirm the non-detection of carcinogenic VOCs [see the Toxicity Criteria Database of the California Environmental Protection Agency, Office of Environmental Health Hazard (OEHHA), or the Integrated Risk Information System (IRIS) Database of the United States Environmental Protection Agency]. A DL of 0.1 µg/L may be proposed and used for all carcinogenic target VOCs from the beginning of the investigation.
- D. Based on site-specific DQO needs, lower DLs may be required. Examples of sites requiring site-specifc DQO needs include, but are not limited to, chlorinated solvents sites, former industrial facilities and landfills. Several less common VOCs, not included on the ASGI-targeted compound list, may require lower detection limits [e.g., bis(chloromethyl)ether, DBCP (1,2-dibromo-3-chloropropane), or ethylene dibromide] when they are known or suspected to be present.
- E. If the required DLs cannot be achieved by the proposed analytical method, additional sample analysis by a method achieving these DLs [e.g., EPA Method 8260B with selective ion method (SIM), TO-14A, TO-15] may be required. Use of these methods should comply with the QA/QC requirements as specified in Section 2.7.1.
- F. For results with a high DL reported (e.g., due to matrix interference or dilution), the laboratory should provide a written explanation. Re-sampling and analyses may be required at the appropriate DL for a specific compound.
- 2.7.4 <u>Sample Handling</u>: Exposure to light, changes in temperature and pressure will accelerate sample degradation. To protect sample integrity:
 - A Soil gas samples should not be chilled;
 - B. Soil gas samples should not be subjected to changes in ambient pressure. Shipping of sample containers by air should be avoided; and
 - C. If condensation is observed in the sample container, the sample should be discarded and a new sample should be collected.

- 2.7.5 <u>Holding Time</u>: All soil gas samples (e.g., samples of VOCs, methane, fixed gases, or biogenic gases), with the exception of hydrogen sulfide samples, should be analyzed within 30 minutes by an on-site mobile laboratory. Hydrogen sulfide samples should be analyzed as specified in Section 2.7.9.B.2. Under the following conditions, holding times may be extended and analyses performed off-site:
 - A. Soil gas samples collected in glass bulbs with surrogates added within 15 minutes of collection may be analyzed within 4 hours after collection;
 - B. Soil gas samples collected in Summa[™] canisters may be analyzed within 72 hours after collection; and
 - C. Methane samples may be analyzed as specified in Section 2.7.9.A.2.

2.7.6 Analytical Methods

A VOC Samples: All VOC samples should be analyzed using only a Gas Chromatograph/Mass Spectrometer (GC/MS) method (e.g., EPA Method 8260B, used for analysis of soil gas samples, EPA Method TO-14A or TO-15, or equivalent), except at well-characterized sites (e.g., VOCs are known to be present and confirmed based on previous GC/MS analyses). A non-GC/MS method (e.g., EPA Method 8021B, used for analysis of soil gas samples) may be used only for routine monitoring of VOC contamination at well-characterized sites.

If during routine monitoring, new VOC(s) were detected by a non-GC/MS method, then at least 10 percent of the samples with each newly identified VOC should be confirmed by a GC/MS method. Thereafter, routine monitoring can resume with the non-GC/MS method, including the new analyte(s).

- B. <u>Methane and Hydrogen Sulfide Samples</u>: These gas samples should be analyzed using methods specified in Section 2.7.9.
- 2.7.7 Auto samplers may be used if:
 - A. One (1) sample is introduced at a time;
 - B. The sample vials are gas-tight and never opened after the sample is added;
 - C. Proper holding times are maintained (see Section 2.7.5); and
 - D. All samples are secured and under proper custody.

2.7.8 Target Compounds

A <u>VOCs</u>

- ASGI-Targeted Compounds: The ASGI (dated February 25, 1997) includes 23 primary and four (4) other target VOCs. All quantifiable results should be reported.
- 2. Others: The estimated results of all Tentatively Identified Compounds [TICs]) or non-AGSI-targeted compounds detected should be included in the report. If TICs or non-ASGItargeted compounds are identified, contact the Agency to determine whether additional action is required (e.g., running additional standards to quantify TICs or non-ASGI compounds) and whether the use of these estimated data for risk evaluation is appropriate.
- B. <u>Leak Check Compounds</u>: All quantifiable results should be reported as specified in Section 2.4.4.E.
- C. <u>Specific Compounds</u>: Based on the site history and conditions, analyses for specific compounds may be required by the Agency staff. Examples include:
 - In areas where USTs or fuel pipelines are identified, soil gas samples should be analyzed for oxygenated compounds [e.g., methyl tertiary butyl ether (MTBE), ethyl tertiary butyl ether (ETBE), di-isopropyl ether (DIPE), tertiary amyl methyl ether (TAME), tertiary butyl alcohol (TBA), and ethanol];
 - 2. At oilfield sites where semi-VOCs or Total Petroleum Hydrocarbons (TPHs) are detected in the soil gas samples, fixed and biogenic gas (O₂, CO₂, and CH₄) data should be obtained using a Thermal-Conductivity Detector (TCD) or a hand-held instrument;
 - At petroleum contaminated sites (including oilfields), dairies, wetlands, landfills or other sites where the presence of methane and/or hydrogen sulfide is suspected, soil gas samples should be analyzed for methane and/or hydrogen sulfide;
 - 4. At sites where use of chlorinated solvents with 1,4-dioxane is suspected or known to exist, soil gas samples may be analyzed for 1,4-dioxane with a detection limit of 1 μg/L; or
 - 5. See Section 2.7.9.A.4 below.

- 2.7.9 <u>Methane and Hydrogen Sulfide Sampling Programs</u>: If the presence of methane and/or hydrogen sulfide is suspected, they should also be included in the analytical plan. After evaluating the initial soil gas data, the Agency may recommend that testing for methane or hydrogen sulfide cease.
 - A <u>Methane Sampling Program</u>: Methane samples may be analyzed by a GC using modified EPA Method 8015B, EPA Method TO-3, or ASTM 3416M (EPA 3C), or by an appropriate hand-held instrument (e.g., Land Tech Gas Analyzer GA-90, Gas Emissions Monitor GEM-500, GEM-2000).
 - 1. <u>Detection Limit</u>: The DL for methane analysis should not exceed 500 parts per million by volume (ppmv).
 - Methane Sample Containers: In addition to the gas-tight sample containers previously specified in Section 2.6.1, Tedlar™ bags may be used for collection of methane samples with a holding time of no more than 24 hours.
 - 3. <u>Methane Screening Level</u>: When methane is detected at 1,000 ppmv or more, additional sampling and/or further investigation is recommended to identify the source(s).
 - 4. At sites where methane is investigated and detected at a level of 5,000 ppmv or more, fixed and biogenic gas (O₂, CO₂, and CH₄) data should be obtained using a Thermal-Conductivity Detector (TCD) or a hand-held instrument.
 - 5. To determine that the area is pressurized by migration of gases, pressure readings of each sampling tube system should be recorded in the field logs and reported along with the methane concentration.
 - 6. <u>Special GC Requirements</u>: The GC method requires calibration curves for analytes such as methane since it is not a normal target analyte for such an analytical method.
 - 7. Special Hand-Held Instruments Requirements: Hand-held instruments should be calibrated in accordance with the manufacture's instructions. When a hand-held instrument is used to analyze methane samples, the Agency recommends that at least 10 percent of all positive methane samples (e.g., more than 5,000 ppmv), rounded to the nearest whole number, be confirmed by another hand-held instrument (different unit or brand) or by a GC method.
 - B. <u>Hydrogen Sulfide Sampling Program</u>: Hydrogen sulfide may be analyzed by a GC using the South Coast Air Quality Management District (SCAQMD) Method 307-91 or EPA Method 16, or by an

appropriate hand-held instrument (e.g., LTX-310 calibrated for hydrogen sulfide or Jerome 631-X).

- 1. <u>Detection Limit</u>: The DL should be equal to or less than 0.5 ppmv or be sensitive enough to allow for a modeled ambient air concentration (at least one microgram per cubic meter) at the soil surface.
- 2. <u>Holding Time</u>: Hydrogen sulfide samples should be extracted directly into a hand-held analyzer within 30 minutes of collection to minimize the risk of losing the hydrogen sulfide due to reaction with active surfaces. If a hand-held instrument is not used, hydrogen sulfide samples should be analyzed as below:
 - a. Within 30 minutes of collection, using the GC procedures; or
 - b. Within 24 hours of collection, if a surrogate is added to the samples, or 100 percent duplicate samples are collected.
- 3. <u>Sample Containers</u>: The following sample containers are recommended:
 - a. Minimum one (1) liter black Tedlar™ bag fitted with polypropylene valves or the equivalent;
 - b. 100-ml gas-tight syringe fitted with an inert valve and wrapped in aluminum foil;
 - c. Gas-tight glass bulb wrapped in aluminum foil; or
 - d. Glass-lined or silicon coated Summa™ canister.

4. Precautions

- a. Since hydrogen sulfide is extremely unstable in the presence of oxygen and moisture, contact of hydrogen sulfide samples with them should be avoided.
- b. Due to the high reactivity of hydrogen sulfide gas, contact of hydrogen sulfide samples with metallic or other non-passive surfaces should be avoided during sample collection, storage and analysis.
- c. Care must be taken so that GC components do not react with the sample. Typically glass-lined injection ports and TeflonTM tube packed columns are used to avoid loss of hydrogen sulfide due to reaction with active surfaces.

3.0 SOIL PARAMETERS

If the soil gas data will be used in a health risk assessment, an estimation of the indoor air concentration should be performed using soil gas data with an Agency approved or modified predictable indoor air model. Default values of input parameters may be used in accordance with the approved indoor air modeling guidance and in consultation with Agency staff. If default values are not used, site-specific soil parameters should be obtained as discussed below.

To assess health risk, indoor air quality, the threat of groundwater contamination from VOCs, or to evaluate the effectiveness of a proposed remedial technology, the following soil matrix parameters should be obtained from a minimum of three (3) sample locations (at depths* corresponding to or associated with the detected VOCs) for each soil type in association with the soil gas investigation:

- 3.1 Soil description performed and presented in accordance with the Unified Soil Classification System (USCS);
- 3.2 Density;
- 3.3 Organic carbon content of the soil** (by the Walkee Black Method);
- 3.4 Soil moisture;
- 3.5 Effective permeability***;
- 3.6 Porosity; and
- 3.7 Grain size distribution analysis (curve) and evaluation of fine-grained soil content (by wet sieve analysis and any supplementary methods as necessary) to determine the percent clay, silt and sand. (The grain size distribution analysis will be used to classify the soil in accordance with the U. S. Soil Conservation Service [SCS] soil type, which is the same as the U. S. Department of Agriculture soil type.)
- * Samples may be collected from proposed depths at the continuously cored boring.
- ** This input parameter is required for soil matrix VOC samples only. This parameter sample should not be collected from an impacted area.
- *** As an alternative, the measurements of saturated hydraulic conductivity may be used to estimate vapor permeability.

4.0 REFERENCES

Additional information may be found in the following documents:

American Society for Testing and Materials (ASTM), "Standard Guide for Soil Gas Monitoring in the Vadose Zone, ASTM Standard D 5314-92," January 1993; Reapproved 2001; website http://www.astm.org

California Regional Water Quality Control Board, Los Angeles Region, "Interim Guidance for Active Soil Gas Investigation," February 25, 1997

California Regional Water Quality Control Board, Los Angeles Region, "General Laboratory Testing Requirements for Petroleum Hydrocarbon Impacted Sites," June 22, 2000

- U.S. Environmental Protection Agency, "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, EPA Publication SW-846, Third Edition," November 1986, as amended by Updates I (Jul. 1992), II (Sep. 1994), IIA (August 1993), IIB (Jan. 1995), III (Dec. 1996), IIIA (Apr. 1998), IVA (Jan. 1998) and IVB (Nov. 2000), website http://www.epa.gov/SW-846/main.html
- U.S. Environmental Protection Agency, "U.S. EPA Contract Laboratory Program National Functional Guidelines for Organic Data Review, EPA 540/R-94/012," February 1994; website http://www.epa.gov/region09/qa/superfundclp.html
- U.S. Environmental Protection Agency, "Soil Gas Sampling, SOP#: 2042, Revision #: 0.0," June 1, 1996; website http://www.ert.org/respns_resrcs/sops.asp
- U.S. Environmental Protection Agency, "Summa Canister Cleaning Procedures, SOP #1703, Rev. #: 0.0," 09/01/94; website http://www.ert.org/respns_resrcs/sops.asp

California Environmental Protection Agency (Cal/EPA), Office of Environmental Health Hazard (OEHHA), Toxicity Criteria Database; website http://www.oehha.ca.gov/risk/ChemicalDB/index.asp

United States Environmental Protection Agency, Integrated Risk Information System (IRIS) Database; website http://www.epa.gov/iris/

ACKNOWLEDGEMENTS

This Advisory was prepared under the direction of Sharon Fair, Branch Chief of DTSC's School Property Evaluation and Cleanup Division. Many Agency project supervisors, engineers, geologists, toxicologists, industrial hygienists, legal advisors, and Hazardous Material Laboratory staff provided support and consultation. In addition, the contents of this Advisory were greatly improved through discussions and comments received from consultants, school districts and numerous soil gas companies.

FOR MORE INFORMATION

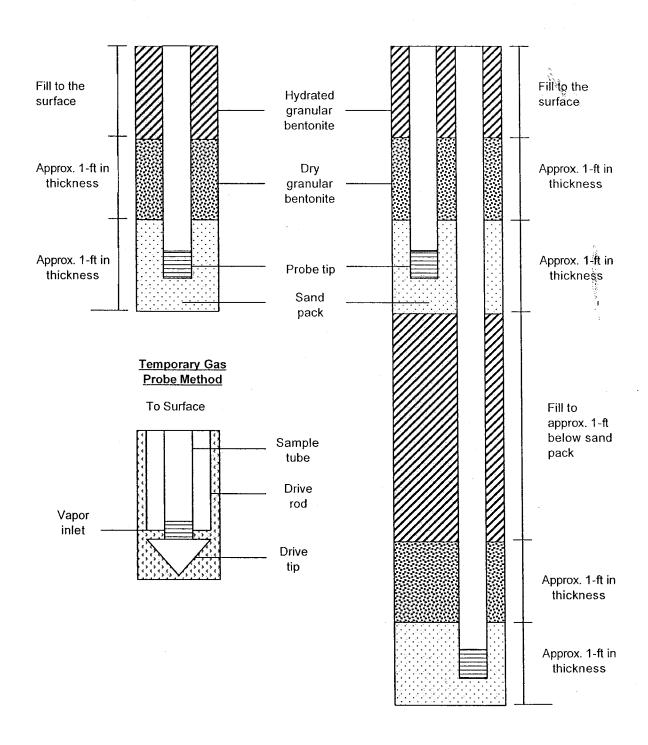
Please contact the following person if you need additional information or if you have comments:

Mr. Joe Hwong, RG, CHG
Department of Toxic Substances Control
Schools Unit – Cypress
5796 Corporate Avenue
Cypress, California 90630
(714) 484-5406
jhwong@dtsc.ca.gov

Figures - Soil Gas Probe Emplacement Methods

<u>Figure 1 – Permanent/Semi-permanent Gas</u>
<u>Probe Construction Diagram</u>

<u>Figure 2 – Multi-depth Gas Probe</u> <u>Construction Diagram</u>



APPENDIX A

Agency Correspondence

ALAMEDA COUNTY

HEALTH CARE SERVICES





September 17, 2003

Mr. John Nady 6701 Shellmound St. Emeryville, CA 94608 ENVIRONMENTAL HEALTH SERVICES ENVIRONMENTAL PROTECTION 1131 Harbor Bay Parkway, Suite 250 Alameda, CA 94502-6577 (510) 567-6700 FAX (510) 337-9335

Dear Mr. Nady:

Subject: Fuel Leak Case RO0000082, 1137-1167 65th St., Oakland, CA 94608

Alameda County Environmental Health, Local Oversight Program (LOP), staff has reviewed the August 26, 2003 Cambria Environmental Technology, Inc. (Cambria) *Investigation Work Plan* and met with your consultant, Cambria on September 11, 2003. The referenced work plan provides an interpretation of previous geologic data and proposes a comprehensive approach to determine the lateral and vertical extent of soil and groundwater contamination at this site. Based upon our discussion with your consultant, our office approves the investigation work plan with the following technical comments and conditions.

TECHNICAL COMMENTS

- Our office concurs with the proposal to perform a sensitive receptor survey and an underground utilities survey.
- Our office concurs in performing a soil and groundwater investigation to fill in data gaps. The proposed locations of soil borings and monitoring wells are acceptable. Additional step out borings may be warranted depending on the investigation results. However, specific changes and amendments to the work plan shall include the following:
 - 1. The borings identified in the Cambria work plan as SB-14, SB-16, SB-18, SB-20, SB-23 and SB-25 shall be advanced to the C zone. These deep borings shall be completed first and, based on their results, will dictate whether other planned borings will also be advanced to the C zone. Soil and groundwater, if encountered, should be collected for chemical analysis from each discrete horizon and water-bearing zone, as appropriate.
 - 2. Based upon the results of these initial borings, the final, multi-level monitoring plan shall be modified, as appropriate. Our office will be informed for concurrence prior to well installations, the locations and configurations of which will be proposed at a later date. Final configurations of well clusters, i.e., the zones across which the individual screens will be constructed, will be based on the outcome of this current phase of the investigation.
 - 3. Drilling will be performed in such a manner to prevent the potential for cross contamination while advancing borings through water bearing units.

September 17, 2003 Mr. John Nady Fuel Leak Case RO0000082 1137-1167 65th St., Oakland, CA 94608 Page 2

- The proposed soil gas probe installation and sampling plan is not approved at this time. Additional research into the appropriate clean-up levels for the contaminants of concern should be done to verify the need for such sampling. Once the data from this investigation is received we will be meet with the RWQCB to discuss whether the site-specific conditions warrant this type of evaluation.
- Our office concurs with the cost control recommendation to analyze soil samples from only the deepest well of any well cluster. We also concur that free product, if encountered, should be sampled and analyzed for identification.
- Soil samples are proposed for collection for physical property analyses. In accordance with the DTSC/LARWQCB January 23, 2003 *Active Soil Gas Investigations Advisory*, samples should be collected from a minimum of 3 locations in non-impacted areas and at depths corresponding to detected VOCs and for each soil type within this depth.

You may contact me at (510) 567-6765 if you have any questions.

Sincerely,

Barney M. Chan

Hazardous Materials Specialist

Barrer M Cha

C: B. Chan, D. Drogos, S. Seery

Mr. Bob Clark-Riddell, Cambria Environmental, 5900 Hollis St., Suite A, Emeryville, 94608

Wpap1137 65th

Olson, Jason

From:

Chan, Barney, Env. Health [BChan@co.alameda.ca.us]

Sent:

Monday, October 20, 2003 4:07 PM

To:

'iolson@cambria-env.com'

Subject:

RE: Case No. RO0000082 - 1137-1167 65th St, Oakland - Analytical

Concurrence

Jason:

After speaking with you, the modifications in the analysis rationale and methodology is approved by our office. As you noted there is no compromise in detection limits going from EPA 8260 to 8020 and although you do not plan to analyze all soil samples, soil samples will be collected approximately every 5 feet and screened with a PID and those samples detecting significant readings (>100ppm ?) will be analyzed.

Please let me know if this is not consistent with your understanding.

Barney Chan ACEH 510-567-6765

----Original Message----

From: Jason Olson [mailto:jolson@cambria-env.com]

Sent: Friday, October 17, 2003 1:09 PM To: 'Barney Chan (ACHCSA) (E-mail)'

Cc: Bob Clark-Riddell (E-mail)

Subject: Case No. RO0000082 - 1137-1167 65th St, Oakland - Analytical

Concurrence

Barney,

I'm preparing the Cost Pre-Approval for the UST Fund and trying to trim some costs while still achieving our data quality objectives. I have reviewed the VOCs detected at the site above the RWQCB ESLs, and determined that we can analyze for all the site COCs with an 8010 analysis rather than an 8260, which costs twice as much. Also, since we're sampling several groundwater zones, there really isn't any need to analyze soil below 15 feet in most areas of the site (exceptions are data gaps near boring SB-7 and the Exterior Tank Area).

Thus, I propose the following:

- 1. Change all 8260 analyses to 8010.
- 2. Collect and analyze soil samples at the discrete depths proposed in Table 5 of the workplan (this only affects the borings you have requested to get deeper groundwater samples at).
- 3. Analyze soil in the proposed monitoring well clusters MW-1 and MW-6 to a maximum depth of 20 ft bgs, and 15 ft bgs in all other well clusters (maximum sample analysis depth for the wells is unclear in the workplan).

This will give us the data we're looking for, and trim around \$20,000 off the analytical bill, making it much more cost effective (and palatable to the UST Fund).

Please respond as soon as possible. I'm hoping to get this Cost Pre-Approval out today to get the ball rolling. If you have any questions, please call me.

Thanks,

Jason D. Olson, EIT Project Manager

Cambria Environmental Technology, Inc. (510) 420-3338 (direct) (510) 420-0700 (general office) (510) 420-9170 (fax)

ALAMEDA COUNTY

HEALTH CARE SERVICES

AGENCY



DAVID J. KEARS, Agency Director

ENVIRONMENTAL HEALTH SERVICES

ENVIRONMENTAL PROTECTION 1131 Harbor Bay Parkway, Suite 250 Alameda, CA 94502-6577 (510) 567-6700 FAX (510) 337-9335

March 26, 2004

Mr. John Nady Nady Systems 6701 Shellmound St. Emeryville, CA 94608

Dear Mr. Nady:

Subject: Fuel Leak Case RO0000082, 1137-1167 65th Ave., Oakland, CA 94608

Alameda County Environmental Health staff has received and reviewed the March 17, 2004 Well Installation Work Plan Addendum from Cambria Environmental. The work plan responds to prior County comments and proposes the installation of two additional shallow screened wells, MW-7A and MW-8A to further investigate the area near and down-gradient of boring SB-8. These wells are approved as are the six wells previously proposed and described in Cambria August 26, 2003 Investigation Workplan.

The soil gas probe sampling and soil matrix sampling portion of the investigation workplan shall be temporarily placed on-hold until groundwater sampling data is evaluated.

You may contact me at (510) 567-6765 if you any questions.

Sincerely,

Barney M. Chan

Hazardous Materials Specialist

C: B. Chan, D. Drogos

Ganezar Chi

Mr. Bob Clark-Riddell, Cambria Environmental, 5900 Hollis St., Suite A, Emeryville,

CA 94608

Wellwpaddn113711167 65thAve

Olson, Jason

From:

Olson, Jason [jolson@cambria-env.com]

Sent:

Tuesday, April 27, 2004 1:15 PM

To:

'Chan, Barney, Env. Health'

Cc:

Bob Clark-Riddell (E-mail); Frederic D. Schrag (E-mail)

Subject: RE: Nady site, 1137-1167 65th St., Oakland, RO82

Barney,

As we discussed today, there is sufficient overhead clearance to install a well in the area of former boring SB-8 (the breezeway). As you recall, when we thought there was insufficient overhead clearance to install a well at this location, we proposed installing two wells located on either side of the boring (MW-3A to the east and MW-7A to the west). The installation of one well at SB-8 now eliminates the need for two wells in the breezeway.

Based on our conversation today, Cambria will change our scope of work as follows:

- 1. Install well MW-3A at the location of former boring SB-8.
- 2. Eliminate the well location designated MW-7A in our Workplan Addendum
- 3. Re-designate well MW-8A as MW-7A

We currently have the drilling in this area scheduled for Friday, May 7, 2004. Please issue your concurrence via email. If you have any questions, please call me.

Sincerely,

Jason D. Olson, EIT Project Manager

Cambria Environmental Technology, Inc.

(510) 420-3338 (direct)

(510) 420-0700 (general office)

(510) 420-9170 (fax)

On Wednesday, March 10, 2004 3:33 PM, Chan, Barney, Env. Health [SMTP:barney.chan@acgov.org] wrote: | Jason: I reviewed your Interim Investigation report. I've got a couple of | questions/comments

- * Is there possible source near SB-21 and the floor drain? GW concentrations were high. Would it be possible to add a well near SB-21 or near the STEP boring just sw of SB-21?
- * Is it possible/reasonable to have a mw near the inner tanks 5&6 since we know there is high residual soil contamination left in place.
- * Could the location of proposed well MW3 be moved west, near SB-8 which exhibited very high soil and gw concentrations?

Sincerely,

Barney M. Chan Hazardous Materials Specialist Alameda County Environmental Health 510-567-6765

<< File: ATT00002.html >>

Olson, Jason

From:

Chan, Barney, Env. Health [barney.chan@acgov.org]

Sent:

Monday, May 17, 2004 1:33 PM 'iolson@cambria-env.com'

To: Subject:

RE: 1137-1167 65th Street, Oakland - Request to install additiona

I well

Jason:

Based upon your field observations when installing the wells in the proposed location of MW-4, our office approves of the installation of a B-zone well in addition to the previously approved A and C zone wells.

Barney Chan ACEH, Hazardous Materials Specialist 510-567-6765

----Original Message-----

From: Olson, Jason [mailto:jolson@cambria-env.com]

Sent: Monday, May 17, 2004 11:31 AM To: 'Barney Chan (ACHCSA) (E-mail)' Cc: Frederic D. Schrag (E-mail)

Subject: 1137-1167 65th Street, Oakland - Request to install additional

well

Barney,

As we discussed today, Cambria will install a "B-zone" well at the location of MW-4. During well installation activities for the "C-zone" well MW-4C, our field geologist observed a saturated zone within the same interval as the "B-zone" (17-21 ft bgs). This additional well will give us 3 wells in the "B-zone" and will allow us to triangulate the groundwater flow. The "B-zone" well at this location will be designated MW-4B.

As we are currently drilling at the site, please issue your concurrence as soon as possible.

Thank you,

Jason D. Olson, EIT Project Manager

Cambria Environmental Technology, Inc.

(510) 420-3338 (direct)

(510) 420-0700 (general office)

(510) 420-9170 (fax)

APPENDIX B

Field Activities Description

FIELD ACTIVITIES DESCRIPTION

Monitoring Well Installations and Sampling Activities

Personnel Present: Cambria's Senior Staff Geologist Matthew Meyers performed the well

installation activities and Staff Scientist Sanjiv Gill performed the well sampling activities, which were overseen by Cambria's Senior Geologist Ron

Scheele, a California Registered Geologist.

Number of Wells: Thirteen monitoring wells (MW-1A,B,C; MW-2A; MW-3A; MW-4A,B,C;

MW-5B; MW-6A,B,C; and MW-7A) were installed on- and offsite.

Well Locations: Monitoring wells MW-1A,B,C were installed in the vicinity of previous

boring SB-6 and near the exterior tank area. Monitoring well MW-2A was installed in the vicinity of previous boring SB-4 and near the former gasoline

UST and pump location. Monitoring well MW-3A was installed in the vicinity of previous boring SB-8. Monitoring wells MW-4A,B,C were

installed in the vicinity of previous boring SB-1 and near the former heating oil tank location. Monitoring well MW-5B was installed in the vicinity of

previous boring SB-4 and near the former gasoline UST and pump location.

Monitoring well MW-5B was installed in the northwest corner of the property. Monitoring wells MW-6A,B,C were installed in Peabody Lane near

the southwest property corner. Monitoring well MW-7A was installed in the

vicinity of previous boring SB-21 (Figure 2).

Permits: Alameda County Public Works Agency issued drilling permits for the

installation of the thirteen wells. The permits are included in Appendix F.

Contractor: Precision Drilling Corporation of Richmond, California performed the well

installation and development activities.

Well Install Date: Drilling activities began on May 7, and were completed on May 18, 2004.

Well Installation Method: The borings for wells MW-1A,B,C; MW-3A; MW-4A,B,C; MW-5B; and

MW-6A,B,C were drilled with 8-inch diameter hollow stem augers to total depth. A 2-inch diameter screened well casing was then installed in the

borehole.

The boring for well MW-2A was drilled with 10-inch diameter hollow stem augers to total depth. A 4-inch diameter screened well casing was then

installed in the borehole.

The boring for well MW-7A was drilled with a hand auger to total depth. A 1-inch diameter, screened, and pre-packed well casing was then installed.

Soil Sampling Method:

Soil samples were collected continuously using a Macrocore[™] sampler.

Total Depths Drilled:

Borings MW-1A, MW-2A, MW-3A, MW-4A, MW-6A, and MW-7A were advanced to 14.5, 12.0, 16.0, 16.0, 14.5 and 10.0 ft bgs, respectively. Borings MW-1B, MW-4B, MW-5B, and MW-6B were advanced to 20.0, 24.0, 24.0, and 24.5 ft bgs, respectively. Borings MW-1C, MW-4C, and MW-6C were advanced to 40.0, 40.0, and 39.5 ft bgs, respectively.

Groundwater Depth:

Saturated soil was encountered from 3.5 to 15.5 ft bgs.

Well Development:

On May 24, 2004, Precision Drilling Corporation developed the wells by surging and purging between 6 to 30 gallons of groundwater.

Groundwater Sampling:

On June 3, 2004, Cambria gauged and collected groundwater samples from the monitoring wells. The groundwater samples were collected using a disposable bailer following the removal of between 2 and 13 gallons of groundwater with a disposable bailer. Samples were transported under chainof-custody procedures to McCampbell Analytical of Pacheco, California for analysis. Groundwater samples were analyzed for TPHg, TPHd, TPH as stoddard solvent (TPHss), and TPH as motor oil (TPHmo) by modified EPA Method 8015C; BTEX and MTBE by EPA Method 8021B; and halogenated volatile organic compounds (HVOCs) by EPA Method 8260B.

Soil Sampling:

Cambria collected soil samples from the soil borings. Samples were transported under chain-of-custody procedures to McCampbell Analytical of Pacheco, California for analysis. Select samples were analyzed for TPHg, TPHd, TPHss, and TPHmo by modified EPA Method 8015C; BTEX and MTBE by EPA Method 8021B; and HVOCs by EPA Method 8260B.

Soil Types Encountered: Soils encountered during drilling consisted of interbedded layers of silty clays, clayey silts, sandy silts, and silty sands to the total depth drilled. The boring logs are included in Appendix C.

Well Survey Information: On June 2, 2004, Virgil Chavez Land Surveying of Vallejo, California surveyed the well location and elevation. The well survey information is included in Appendix F.

APPENDIX C

Boring Logs

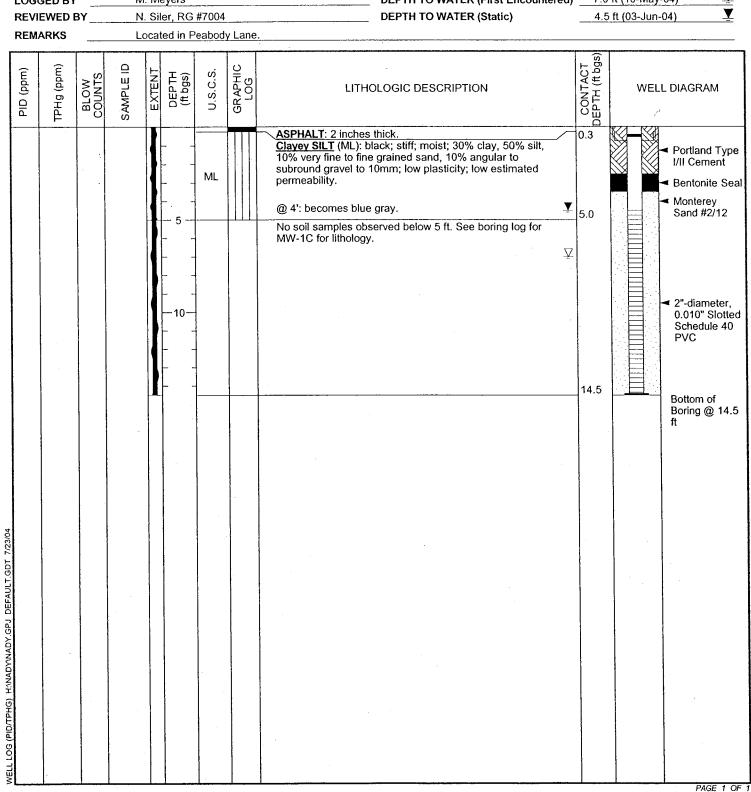


Cambria Environmental Technology, Inc.

BORING/WELL LOG

5900 Hollis Street, Suite A Emeryville, California 94608 Telephone: (510) 420-0700 Fax: (510) 420-9170

CLIENT NAME	John Nady	BORING/WELL NAME MW-1A
JOB/SITE NAME	65th Street	DRILLING STARTED 10-May-04
LOCATION _	1137-1167 65th Street, Oakland, California	DRILLING COMPLETED 10-May-04
PROJECT NUMBER	522-1000	WELL DEVELOPMENT DATE (YIELD) 24-May-04 (19 gallons)
DRILLER _	Precision	GROUND SURFACE ELEVATION 39.95
DRILLING METHOD _	Hollow-stem auger	TOP OF CASING ELEVATION 39.64 ft
BORING DIAMETER _	8 inches	SCREENED INTERVAL 4.5 to 14.5 ft bgs
LOGGED BY	M. Meyers	DEPTH TO WATER (First Encountered) 7.0 ft (10-May-04)
REVIEWED BY	N. Siler, RG #7004	DEPTH TO WATER (Static) 4.5 ft (03-Jun-04)
REMARKS	Located in Peabody Lane.	

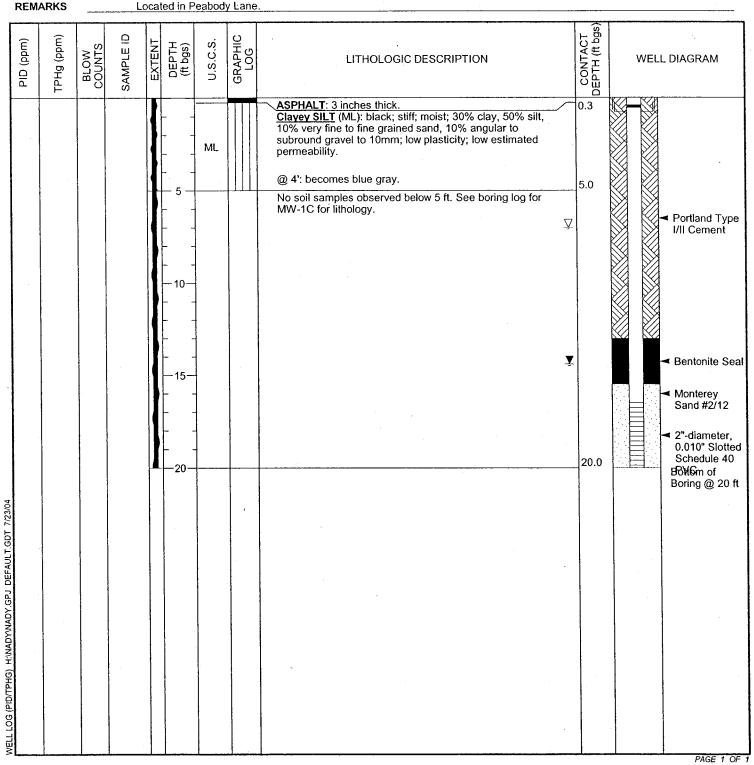


BORING/WELL LOG



Cambria Environmental Technology, Inc. 5900 Hollis Street, Suite A Emeryville, California 94608 Telephone: (510) 420-0700 Fax: (510) 420-9170

CLIENT NAME _	John Nady ,	BORING/WELL NAME MW-1B
JOB/SITE NAME _	65th Street	DRILLING STARTED 12-May-04
LOCATION	1137-1167 65th Street, Oakland, California	DRILLING COMPLETED 12-May-04
PROJECT NUMBER _	522-1000	WELL DEVELOPMENT DATE (YIELD) 24-May-04 (19 gailons)
DRILLER	Precision	GROUND SURFACE ELEVATION 39.88
DRILLING METHOD _	Hollow-stem auger	TOP OF CASING ELEVATION 39.50 ft
BORING DIAMETER	8 inches	SCREENED INTERVAL 16.5 to 20 ft bgs
LOGGED BY	M. Meyers	DEPTH TO WATER (First Encountered) 7.0 ft (12-May-04)
REVIEWED BY	N. Siler, RG #7004	DEPTH TO WATER (Static) 14.4 ft (03-Jun-04)
	I	





LOGGED BY

REVIEWED BY

Cambria Environmental Technology, Inc. 5900 Hollis Street, Suite A Emeryville, California 94608 Telephone: (510) 420-0700

BORING/WELL LOG

Fax: (510) 420-9170 **CLIENT NAME** John Nady JOB/SITE NAME 65th Street 1137-1167 65th Street, Oakland, California LOCATION PROJECT NUMBER 522-1000 Precision DRILLER DRILLING METHOD ___ Hollow-stem auger

MW-1C BORING/WELL NAME **DRILLING STARTED** 10-May-04 DRILLING COMPLETED 10-May-04

WELL DEVELOPMENT DATE (YIELD) 24-May-04 (25 gallons)

39.91 **GROUND SURFACE ELEVATION** TOP OF CASING ELEVATION 39.49 ft

25 to 34 ft bgs SCREENED INTERVAL

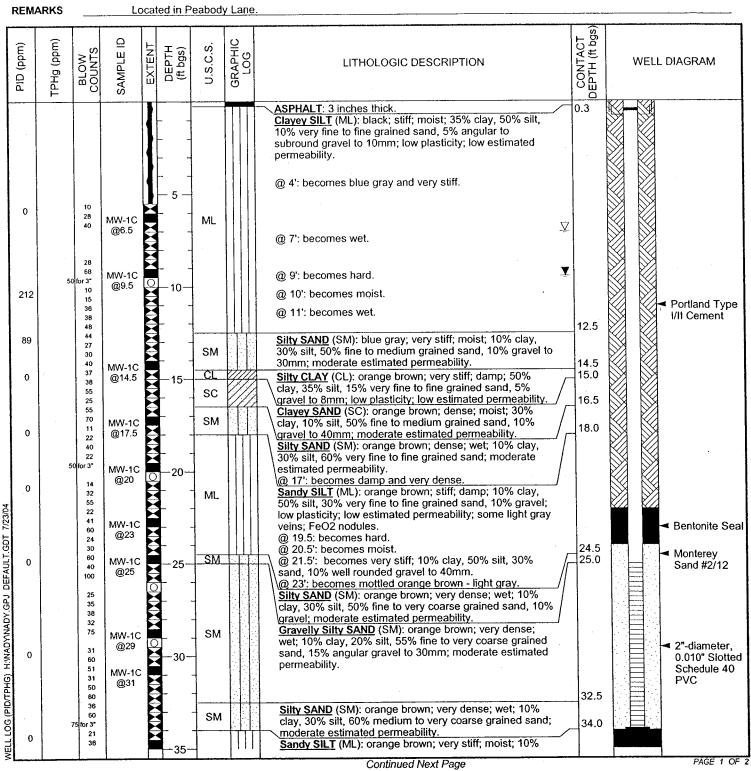
DEPTH TO WATER (First Encountered) 7.0 ft (10-May-04) **DEPTH TO WATER (Static)**

9.4 ft (03-Jun-04)

M. Meyers

N. Siler, RG #7004

BORING DIAMETER 8 inches





Cambria Environmental Technology, Inc. 5900 Hollis Street, Suite A Emeryville, California 94608 Telephone: (510) 420-0700 Fax: (510) 420-9170

BORING/WELL LOG

PAGE 2 OF 2

CLIENT NAME	John Nady	BORING/WELL NAME	MW-1C
JOB/SITE NAME	65th Street	DRILLING STARTED	10-May-04
LOCATION	1137-1167 65th Street, Oakland, California	DRILLING COMPLETED	10-May-04

Continued from Previous Page CONTACT DEPTH (ft bgs) GRAPHIC LOG TPHg (ppm) DEPTH (ft bgs) U.S.C.S. PID (ppm) BLOW COUNTS EXTENT SAMPLE LITHOLOGIC DESCRIPTION WELL DIAGRAM 62 100 for 6" MW-1C @35 clay, 60% silt, 30% very fine to medium grained sand; low ML plasticity; low estimated permeability. @ 35': becomes hard. 37.0 Bentonite Plug Gravelly Silty SAND (SM): light gray; medium dense; wet; 10% clay, 25% silt, 50% very fine to very coarse grained sand, 15% well rounded gravel to 30mm; 0 18 23 27 28 35 MW-1C @38 SM moderate estimated permeability.

@ 39': as above with angular gravel to 10mm. MW-1C 40.0 @39.5 Bottom of Boring @ 40 ft WELL LOG (PID/TPHG) HANADYNADY.GPJ DEFAULT.GDT 7/23/04





Cambria Environmental Technology, Inc. 5900 Hollis Street, Suite A Emeryville, California 94608 Telephone: (510) 420-0700 Fax: (510) 420-9170

CLIENT NAME	John Nady	BORING/WELL NAME MW-2A	
JOB/SITE NAME	65th Street	DRILLING STARTED 11-May-04	
LOCATION	1137-1167 65th Street, Oakland, California	DRILLING COMPLETED 11-May-04	
PROJECT NUMBER	522-1000	WELL DEVELOPMENT DATE (YIELD) 2	4-May-04 (20 gallons)
DRILLER	Precision	GROUND SURFACE ELEVATION 4	0.99
DRILLING METHOD	Hollow-stem auger	TOP OF CASING ELEVATION 40.72 ft	
BORING DIAMETER	10 inches	SCREENED INTERVAL 3 to 12 ft t	ogs
LOGGED BY	M. Meyers	DEPTH TO WATER (First Encountered)	4.5 ft (11-May-04)
REVIEWED BY	N. Siler, RG #7004	DEPTH TO WATER (Static)	4.2 ft (03-Jun-04)
	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	· · ·	

REMARKS Located in parking lot. Former UST cavity well. CONTACT DEPTH (ft bgs) GRAPHIC LOG SAMPLE ID PID (ppm) TPHg (ppm) DEPTH (ft bgs) EXTENT U.S.C.S. BLOW COUNTS LITHOLOGIC DESCRIPTION WELL DIAGRAM ASPHALT: 2 inches thick.
SAND (SW): light brown; medium dense; moist; 100% 0.2 ▼ Portland Type I/II Cement fine grained sand; high estimated permeability. Bentonite Seal Monterey Sand #3 Ā @ 4.5': becomes green gray and wet. @ 5': as above with some clayey silt chunks. SW 0 4"-diam., 0.020" Slotted Schedule 40 PVC 5 25 11.5 0 Silty CLAY (CL): light brown; very stiff; damp; 60% clay, 40% silt; low plasticity; low estimated permeability. 12.0 Bottom of Boring @ 12 ft WELL LOG (PID/TPHG) HANADYANADY.GPJ DEFAULT.GDT 7/23/04



Cambria Environmental Technology, Inc.

BORING/WELL LOG

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CLIENT NAME	John Nady	BORING/WELL NAME MW-3A
JOB/SITE NAME _	65th Street	DRILLING STARTED 07-May-04
LOCATION _	1137-1167 65th Street, Oakland, California	DRILLING COMPLETED 07-May-04
PROJECT NUMBER _	522-1000	WELL DEVELOPMENT DATE (YIELD) 24-May-04 (30 gallons)
DRILLER	Precision	GROUND SURFACE ELEVATION 41.05
DRILLING METHOD _	Hollow-stem auger/Direct Push	TOP OF CASING ELEVATION 40.88 ft
BORING DIAMETER _	8 inches	SCREENED INTERVAL 3.5 to 14 ft bgs
LOGGED BY	M. Meyers	DEPTH TO WATER (First Encountered) 4.0 ft (07-May-04)
REVIEWED BY	N. Siler, RG #7004	DEPTH TO WATER (Static) 4.3 ft (03-Jun-04) ▼
DEMARKO	1 4 . 4	

REMARKS Located in breezeway area. CONTACT DEPTH (ft bgs) GRAPHIC LOG SAMPLE ID PID (ppm) TPHg (ppm) DEPTH (ft bgs) U.S.C.S. BLOW COUNTS EXTENT LITHOLOGIC DESCRIPTION WELL DIAGRAM CONCRETE: 3 inches thick.

Silty CLAY (CL): medium brown; soft; moist; 60% clay, 0.3 11,8 Portland Type 30% silt, 10% very fine grained sand; medium plasticity; I/II Cement CL low estimated permeability. Bentonite Seal Monterey @ 3': becomes light brown. 4.0 Sand #2/12 Clayey SAND (SC): green gray; soft; wet; 30% clay, 10% silt, 60% fine to medium grained sand; moderate MW-3A estimated permeability. @5.5 584 @ 5': becomes dark gray; 20% clay, 80% fine to very coarse grained sand; high estimated permeability. SC 230 2"-diameter, 0.010" Slotted Schedule 40 MW-3A @ 10': becomes green gray. PVC 11.0 @10.5 Silty CLAY (CL): light brown; very stiff; damp; 60% clay, 40% silt; low plasticity; low estimated permeability. 86 CL 14.0 Sandy Silty CLAY (CL): orange brown; very stiff; damp; 40% clay, 30% silt, 20% medium grained sand, 10% well Slough from 11 MW-3A CL Caving @15 rounded gravel to 40mm; low plasticity; low estimated 16.0 Bottom of permeability. Boring @ 16 ft WELL LOG (PID/TPHG) HANADYANADY.GPJ DEFAULT.GDT 7/23/04 PAGE 1 OF





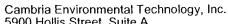
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CLIENT NAME _	John Nady	BORING/WELL NAME MW-4A		
JOB/SITE NAME	65th Street	DRILLING STARTED 17-May-04		
LOCATION	1137-1167 65th Street, Oakland, California	DRILLING COMPLETED18-May-04		
PROJECT NUMBER _	522-1000	WELL DEVELOPMENT DATE (YIELD)	24-May-04 (18 gallons)	
DRILLER	Precision	GROUND SURFACE ELEVATION	38.89	
DRILLING METHOD _	Hollow-stem auger/Direct Push	TOP OF CASING ELEVATION 38.71 ft		
BORING DIAMETER _	8 Inches	SCREENED INTERVAL 3 to 13 ft	bgs	
LOGGED BY	M. Meyers	DEPTH TO WATER (First Encountered)	NA	∇
REVIEWED BY	N. Siler, RG #7004	DEPTH TO WATER (Static)	2.5 ft (03-Jun-04)	Ţ

REMARKS Located in sidewalk on 65th Street CONTACT DEPTH (ft bgs) GRAPHIC LOG TPHg (ppm) U.S.C.S. DEPTH (ft bgs) PID (ppm) BLOW COUNTS EXTENT SAMPLE LITHOLOGIC DESCRIPTION WELL DIAGRAM CONCRETE: 4 inches thick. 0.3 Portland Type Gravelly SAND (SP): dark gray; dense; moist; 75% fine to coarse grained sand, 25% gravel to 30mm; high I/II Cement Bentonite Seal Ţ estimated permeability. Monterey @ 3': difficulty hand augering. Sand #2/12 SP 8.0 2"-diameter, Silty SAND and Gravelly Sandy SILT (SM-ML): orange brown/olive gray; medium dense; moist; moderate estimated permeability; mottled materials. 0 0.010" Slotted Schedule 40 PVC SM 0 13.0 Clayey SILT (ML): light gray; very stiff; moist; 30% clay, 70% silt; low plasticity; low estimated permeability. ML 14.0 SM ■ Bentonite Plug Silty SAND (SM): light brown; dense; moist; 40% silt, 15.0 60% fine grained sand; moderate estimated permeability.

Clayey SILT (ML): olive gray; very stiff; moist; 30% clay,

70% silt; low plasticity; low estimated permeability. ML 16.0 Bottom of Boring @ 16 ft WELL LOG (PID/TPHG) H:WADYWADY,GPJ DEFAULT.GDT 7/23/04



5900 Hollis Street, Suite A Emeryville, California 94608 Telephone: (510) 420-0700

Fax: (510) 420-9170

BORING/WELL NAME MW-4B **CLIENT NAME** John Nady DRILLING STARTED 18-May-04 65th Street JOB/SITE NAME DRILLING COMPLETED 18-May-04 1137-1167 65th Street, Oakland, California LOCATION WELL DEVELOPMENT DATE (YIELD) 24-May-04 (22 gallons) PROJECT NUMBER 522-1000 **GROUND SURFACE ELEVATION** Precision DRILLER TOP OF CASING ELEVATION 38.54 ft Hollow-stem auger/Direct Push DRILLING METHOD _ SCREENED INTERVAL 17 to 21 ft bgs BORING DIAMETER 8 Inches DEPTH TO WATER (First Encountered) 3.5 ft (18-May-04) M. Meyers LOGGED BY 5.0 ft (03-Jun-04) N. Siler, RG #7004 **DEPTH TO WATER (Static)** REVIEWED BY

BORING/WELL LOG

Located in sidewalk along 65th Street. REMARKS CONTACT DEPTH (ft bgs) TPHg (ppm) U.S.C.S. (mdd) EXTENT DEPTH (ft bgs) BLOW GRAPHI LOG SAMPLE LITHOLOGIC DESCRIPTION WELL DIAGRAM PID (CONCRETE: 3 inches thick.

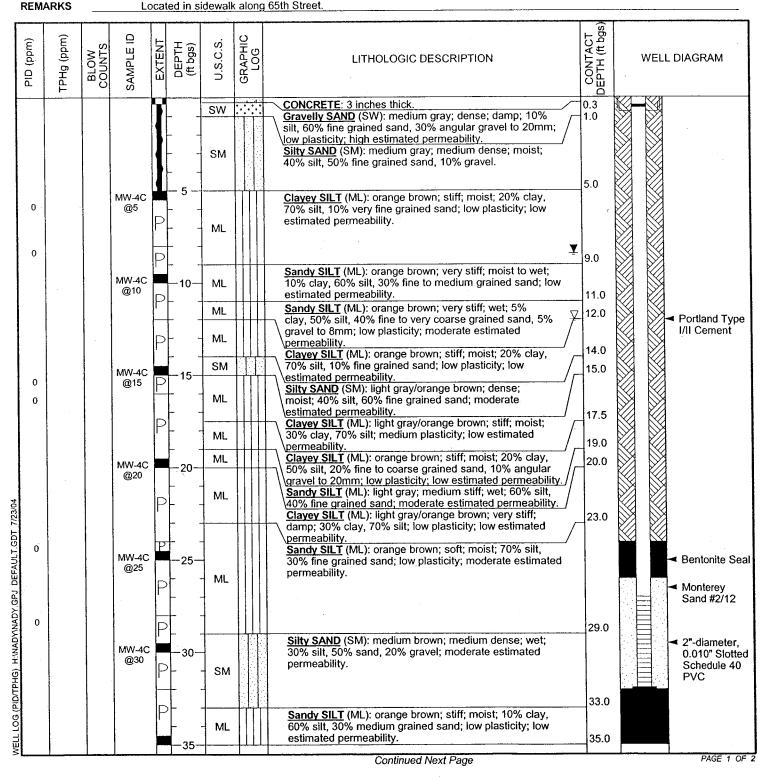
Gravelly SAND (SW): medium gray; dense; damp; 10% 0.3 sw 1.0 silt, 60% fine grained sand, 30% angular gravel to 20mm; high estimated permeability. Silty SAND (SM): medium gray; medium dense; moist; SM ∇ 40% silt, 50% fine grained sand, 10% gravel; moderate estimated permeability. ▼ 5.0 No soil samples observed 5 to 16 ft bgs. See boring log for MW-4C for lithology. Portland Type I/II Cement Bentonite Seal Slough from 16.0 Caving Sandy SILT (ML): light gray; stiff; moist; 10% clay, 50% silt, 30% fine grained sand, 10% gravel to 20mm; low Monterey Sand #2/12 ML plasticity; moderate estimated permeability. 19.0 2"-diameter, Clayey SILT (ML): light brown; very stiff; moist; 30% ML 0.010" Slotted 20.0 clay, 70% silt; low plasticity; low estimated permeability 20 Schedule 40 SM Silty SAND (SM): light brown; medium dense; wet; 40% 21.0 PVC silt, 60% fine grained sand; moderate estimated \\ \text{permeability.} \\ \text{Clayey SILT} \text{(ML): light brown; very stiff; moist; 30% clay, 70% silt; low plasticity; low estimated permeability.} \\ \text{clayey SiLT} ML ■ Bentonite Plug WELL LOG (PID/TPHG) HANADYANADY.GPJ DEFAULT.GDT 24.0 @ 22': becomes damp. Bottom of Boring @ 24 ft PAGE 1 OF





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CLIENT NAME	John Nady	BORING/WELL NAME MW-4C
JOB/SITE NAME	65th Street	DRILLING STARTED 17-May-04
LOCATION	1137-1167 65th Street, Oakland, California	DRILLING COMPLETED 17-May-04
PROJECT NUMBER	522-1000	WELL DEVELOPMENT DATE (YIELD) 24-May-04 (19 gallons)
DRILLER	Precision	GROUND SURFACE ELEVATION 39.00
DRILLING METHOD	Hollow-stem auger/Direct Push	TOP OF CASING ELEVATION 38.50 ft
BORING DIAMETER	8 inches	SCREENED INTERVAL 27 to 32 ft bgs
LOGGED BY	M. Meyers	DEPTH TO WATER (First Encountered) 12.0 ft (17-May-04)
REVIEWED BY	N. Siler, RG #7004	DEPTH TO WATER (Static) 8.4 ft (03-Jun-04)





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BORING/WELL LOG

PAGE 2 OF 2

CLIENT NAME	John Nady	BORING/WELL NAME	MW-4C
JOB/SITE NAME	65th Street	DRILLING STARTED	17-May-04
LOCATION	1137-1167 65th Street, Oakland, California	DRILLING COMPLETED	17-May-04

	SITE NA	ME			Street			DRILLING STARTED 17-May-0 akland, California DRILLING COMPLETED 17-May-0			
LOCA	ATION		1137-1167 65th Street, Oakland, California		eet, Oa						
								Continued from Previous Page			
PID (ppm)	TPHg (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (ft bgs)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION .	CONTACT DEPTH (ft bgs)	WEL	L DIAGRAM
0			MW-4C @35	P P		ML ML ML		Clayey SILT (ML): orange brown; very stiff; moist; 30% clay, 70% silt; low plasticity; low estimated permeability. Sandy SILT (ML): brown; medium stiff; moist; 60% silt, 40% fine grained sand; low plasticity; medium estimated permeability. Clayey SILT (ML): orange brown; very stiff; damp; 20% clay, 70% silt, 10% very fine grained sand; low plasticity;	36.0		◀ Bentonite Plug
0			MW-4C @40		-40-			low estimated permeability.	40.0		Bottom of Boring @ 40 ft

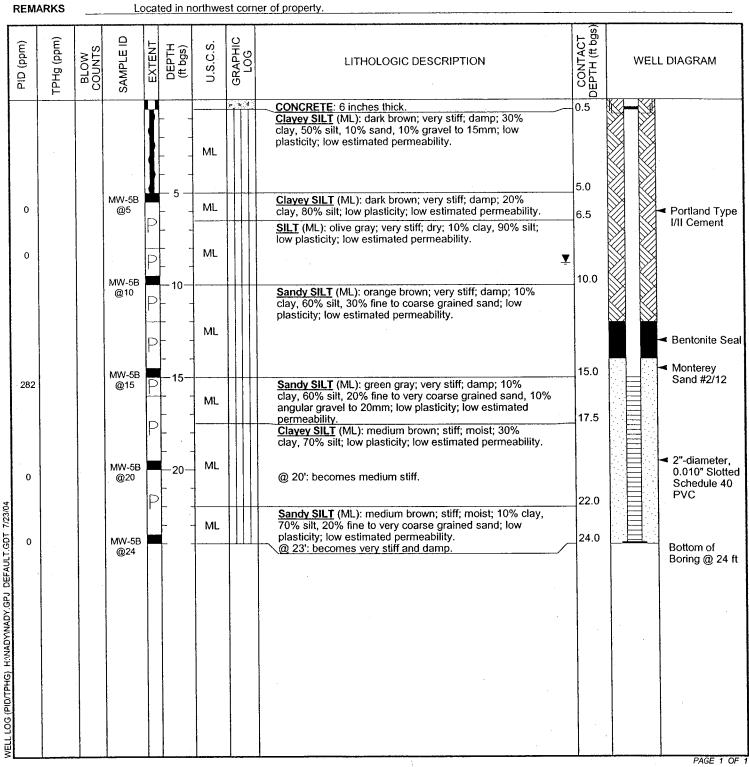




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CLIENT NAME	John Nady	BORING/WELL NAME MW-5B		
JOB/SITE NAME	65th Street	DRILLING STARTED 18-May-04		
LOCATION	1137-1167 65th Street, Oakland, California	DRILLING COMPLETED 18-May-04		
PROJECT NUMBER _	522-1000	WELL DEVELOPMENT DATE (YIELD)	24-May-04 (19 gallons)	
DRILLER	Precision	GROUND SURFACE ELEVATION	39.45	
DRILLING METHOD	Hollow-stem auger/Direct Push	TOP OF CASING ELEVATION38.98 ft		
BORING DIAMETER	8 Inches	SCREENED INTERVAL 15 to 24	ft bgs	
LOGGED BY	M. Meyers	DEPTH TO WATER (First Encountered)	NA	$\overline{\Delta}$
REVIEWED BY	N. Siler, RG #7004	DEPTH TO WATER (Static)	8.8 ft (03-Jun-04)	<u> </u>



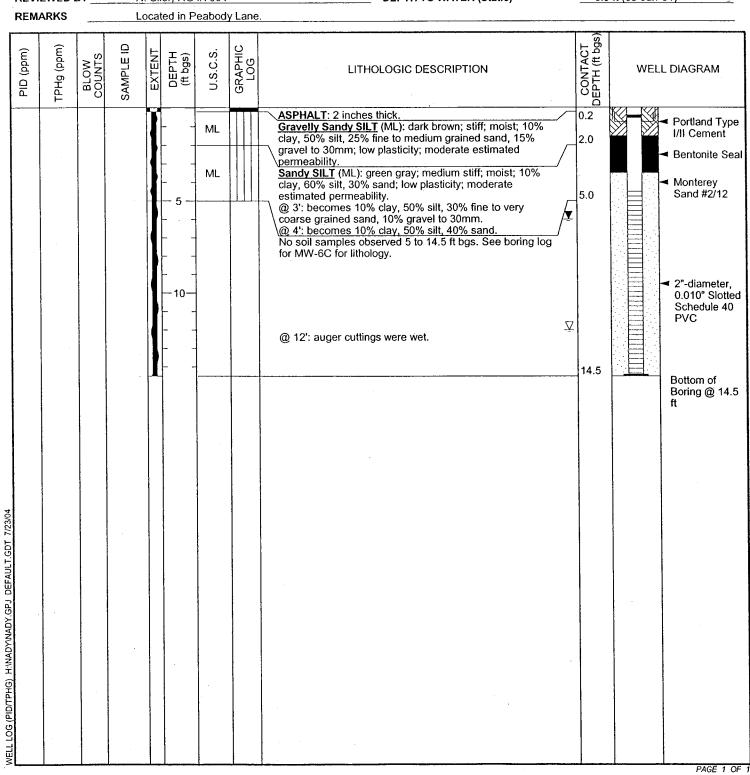




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CLIENT NAME _	John Nady	BORING/WELL NAME MW-6A	
JOB/SITE NAME _	65th Street	DRILLING STARTED 11-May-04	_
LOCATION _	1137-1167 65th Street, Oakland, California	DRILLING COMPLETED 11-May-04	_
PROJECT NUMBER _	522-1000	WELL DEVELOPMENT DATE (YIELD) 24-May-04 (19 gallons)	_
DRILLER	Precision	GROUND SURFACE ELEVATION 38.29	
DRILLING METHOD _	Hollow-stem auger	TOP OF CASING ELEVATION 37.98 ft	
BORING DIAMETER	8 inches	SCREENED INTERVAL 4.5 to 14.5 ft bgs	_
LOGGED BY	M. Meyers	DEPTH TO WATER (First Encountered) 12.0 ft (11-May-04)	Z
REVIEWED BY	N. Siler, RG #7004	DEPTH TO WATER (Static) 6.0 ft (03-Jun-04)	Ţ
DEMARKS	Loopted in Doobedy Long		







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Fax: (510) 420-9170

			· ·	
CLIENT NAME	John Nady	BORING/WELL NAME MW-6B		
JOB/SITE NAME	65th Street	DRILLING STARTED 12-May-04		
LOCATION _	1137-1167 65th Street, Oakland, California	DRILLING COMPLETED 12-May-04		
PROJECT NUMBER	522-1000	WELL DEVELOPMENT DATE (YIELD)	24-May-04 (20 gailons)	
DRILLER _	Precision	GROUND SURFACE ELEVATION	38.16	
DRILLING METHOD _	Hollow-stem auger	TOP OF CASING ELEVATION 37.66 ft		
BORING DIAMETER	8 inches	SCREENED INTERVAL 17 to 22	ft bgs	
LOGGED BY	M. Meyers	DEPTH TO WATER (First Encountered)	15.5 ft (12-May-04)	Ā
REVIEWED BY	N. Siler, RG #7004	DEPTH TO WATER (Static)	8.3 ft (03-Jun-04)	Ã
DEMADIC	Located in Paghody Lane			

Located in Peabody Lane. CONTACT DEPTH (ft bgs GRAPHIC LOG U.S.C.S. (mdd) TPHg (ppm BLOW DEPTH (ft bgs) EXTENT SAMPLE LITHOLOGIC DESCRIPTION WELL DIAGRAM PID (ASPHALT: 2.5 inches thick. 0.2 Gravelly Clayey SILT (ML): dark brown; stiff; moist; 30% ML clay, 55% silt, 5% fine to medium grained sand, 10% gravel to 30mm; low plasticity; low estimated permeability. 2.0 Sandy SILT (ML): green gray; medium stiff; moist; 10% clay, 60% silt, 30% sand; low plasticity; moderate ML estimated permeability. @ 3': becomes 10% clay, 50% silt, 30% fine to very 5.0 coarse grained sand, 10% gravel to 30mm. @ 4': becomes 10% clay, 50% silt, 40% sand No soil samples collected 5 to 14 ft bgs. See boring log for Portland Type MW-6C for lithology. I/II Cement Ţ @ 10': Auger cuttings become wet. 14.0 Clayey SILT (ML): light brown; stiff; moist; 30% clay, 33 ML 70% silt; low plasticity; low estimated permeability; some Bentonite Seal 15.5 13 blue gray staining. 16 Silty SAND (SM): medium green gray; medium dense; 3160 Monterey 22 26 38 wet; 10% clay, 30% silt, 60% fine to medium grained SM Sand #2/12 sand; moderate estimated permeability. 18.0 42 Sandy SILT (ML): orange brown; very stiff; moist; 60% 16 20 32 silt, 40% fine grained sand; moderate plasticity; moderate 2"-diameter, ML 30 estimated permeability. 0.010" Slotted 15 @ 19': No recovery. 17 21.0 Schedule 40 21 17 Gravelly Sandy SILT (ML): orange brown; stiff; moist; PVC ML 22.0 50% silt, 25% very fine to medium grained sand, 25% WELL LOG (PID/TPHG) HANADYANADY.GPJ DEFAULT.GDT 7/23/04 gravel to 20mm; low plasticity; moderate estimated 26 ML permeability; mottled. Bentonite Plug 11 Clayey SILT (ML): orange brown; stiff; moist; 30% clay, 24.5 21 70% silt; low plasticity; low estimated permeability. Bottom of Boring @ 24.5 PAGE 1 OF

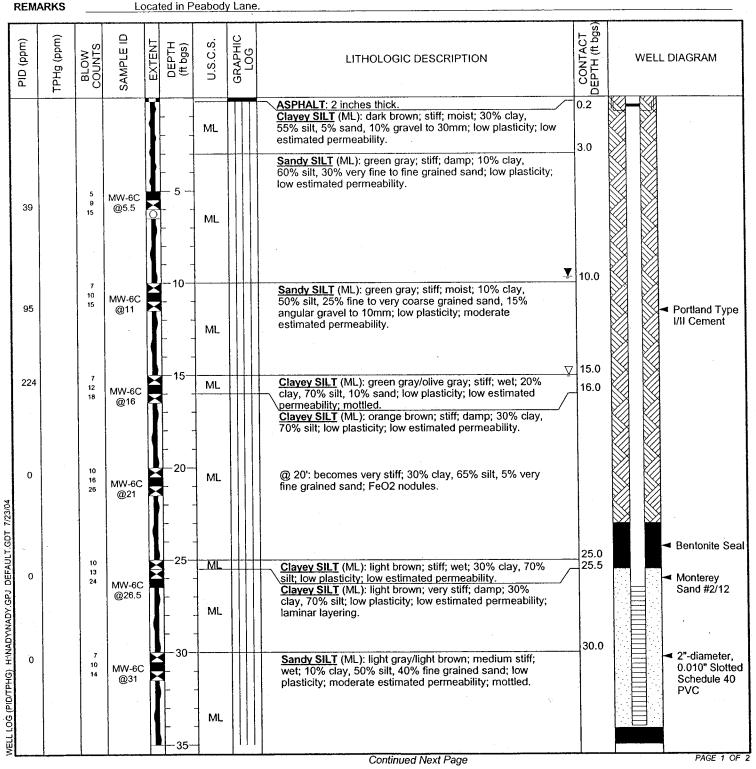




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CLIENT NAME _	John Nady	BORING/WELL NAME MW-6C
JOB/SITE NAME	65th Street	DRILLING STARTED11-May-04
LOCATION	1137-1167 65th Street, Oakland, California	DRILLING COMPLETED 11-May-04
PROJECT NUMBER	522-1000	WELL DEVELOPMENT DATE (YIELD) 24-May-04 (28 gallons)
DRILLER	Precision	GROUND SURFACE ELEVATION 38.07
DRILLING METHOD	Hollow-stem auger	TOP OF CASING ELEVATION 37.59 ft
BORING DIAMETER	8 inches	SCREENED INTERVAL 26.5 to 34 ft bgs
LOGGED BY	M. Meyers	DEPTH TO WATER (First Encountered) 15.0 ft (11-May-04)
REVIEWED BY	N. Siler, RG #7004	DEPTH TO WATER (Static) 9.7 ft (03-Jun-04)





Cambria Environmental Technology, Inc.

BORING/WELL LOG

PAGE 2 OF

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TCICPHONO. (01.0) 120 01 00	

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CLIENT NAME	John Nady	BORING/WELL NAME	MW-6C
JOB/SITE NAME	65th Street	DRILLING STARTED	11-May-04
OCATION	1137-1167 65th Street, Oakland, California	DRILLING COMPLETED	11-May-04

Continued from Previous Page CONTACT DEPTH (ft bgs) GRAPHIC LOG TPHg (ppm) SAMPLE ID U.S.C.S. PID (ppm) EXTENT DEPTH (ft bgs) BLOW WELL DIAGRAM LITHOLOGIC DESCRIPTION @ 35': becomes very stiff; damp; 10% clay, 70% silt, 20% very fine grained sand, low estimated permeability. 16 22 30 22 36 28 16 26 0 MW-6C @36.5 MW-6C @37.5 37.0 ■ Bentonite Plug Gravelly SILT (ML): light brown; very stiff; wet; 10% clay, 60% silt, 10% sand, 20% gravel to 30mm; low plasticity; moderate estimated permeability. ML 0 39.5 MW-6C @39.5 Bottom of Boring @ 39.5 WELL LOG (PID/TPHG) HANADY/APJ GPJ DEFAULT GDT 7/23/04



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BORING/WELL LOG

PAGE 1 OF

CLIENT NAME _	John Nady	BORING/WELL NAME MW-7A	
JOB/SITE NAME _	65th Street	DRILLING STARTED 07-May-04	
LOCATION	1137-1167 65th Street, Oakland, California	DRILLING COMPLETED 07-May-04	
PROJECT NUMBER	522-1000	WELL DEVELOPMENT DATE (YIELD) 24-May-04 (6 gallons)	·
DRILLER _	Precision	GROUND SURFACE ELEVATION 40.74	
DRILLING METHOD	Hand Auger	TOP OF CASING ELEVATION 40.58 ft	
BORING DIAMETER	6 inches to 6 ft, 4 inches to 10 ft	SCREENED INTERVAL 5 to 8 ft bgs	
LOGGED BY	M. Meyers	DEPTH TO WATER (First Encountered) 6.0 ft (07-May-04)	Ž
REVIEWED BY	N. Siler, RG #7004	DEPTH TO WATER (Static) 4.5 ft (03-Jun-04)	Ţ

REMARKS Located inside Berkeley Architectural Salvage building CONTACT DEPTH (ft bgs) GRAPHIC LOG TPHg (ppm) U.S.C.S. PID (ppm) EXTENT DEPTH (ft bgs) BLOW COUNTS SAMPLE LITHOLOGIC DESCRIPTION WELL DIAGRAM CONCRETE: 4 inches thick.
Clayey SILT (ML): dark brown; stiff; damp; 30% clay, 0.3 Portland Type 60% silt, 10% fine grained sand; low plasticity; low estimated permeability. I/II Cement ML @ 3': becomes soft; 30% clay; 50% silt, 10% fine grained sand, 10% well rounded gravel to 20mm.

Silty CLAY (CH): green gray; soft; moist; 60% clay, 40% 0 ■ Bentonite Seal Monterey 5.0 27 Sand #2/12 silt; high plasticity; low estimated permeability. СН ∇ 555 @ 6': becomes olive gray. 1"-diam., 7.0 691 0.010" Slotted Clayey SILT (ML): olive gray; stiff; moist; 40% clay, 60% silt; low plasticity; low estimated permeability; strong ML 8.0 Schedule 40 594 PVC ML 9.0 Gravelly Sandy SILT (ML): olive gray; stiff; wet; 50% silt, 30% fine to coarse grained sand, 20% gravel to 40mm; low plasticity; moderate estimated permeability. Gravelly SAND (SP): olive gray; medium dense; wet; 726 SP 10.0 Bottom of Boring @ 10 ft 20% silt, 50% medium to very coarse grained sand, 30% gravel to 40mm; high estimated permeability. WELL LOG (PID/TPHG) HANADYANADY.GPJ DEFAULT.GDT 7/23/04

APPENDIX D

Field Data Sheets

DAILY FIELD REPORT

Project Name: NADY

Cambria Mgr: JD0

Field Person: MM

Project Number: 522-1000

Date: 5-12-04

Site Address:

1167 65 TO STD STT

OAILLAND, CA

Time	Activity/Comments	Code	Hour
10:70 AM	PRECISION SAMPLING DRILLING W/ HOLLOW STEM AUGERS (B" \$)		
	GW = 12' A.T.D> DrILLER - "THIS WELL HAS A LOT MORE H20 THAN		
	THE OTHER WELLS"		
	SAMPLES - COLLECTED IN STEEL LINEDS (2"). 140 165/30" DROP		
	· MEDITISD CALIFORNIA SAMPLER -> 2.5" O.D.		
	· CONTINUOUS SAMPLES -> IDSNITTY HO. BZAFING ZONES 15'-Z5		
	· 21.5-23.0 - MOIST : WET ON OUTSIDE . SAMPLES LOOK SLIGHTLY D.	нр	
	CLAYEY TO SANDY SIY (22') V. STIFF (LOW PEPMZABILITY)		ļ
	BCA = "STODDARD" SOLVENT 17" JANO JUSTICO		
11:10	BOTTOM OF HOLE @ 246 : Prue 243 - 22 22 17	ļ	
	· SCREEN (PAR-SLOTTERD) 2"1.D. > 17'-22' 23 / BENTONITE		
	. O. 010 - SLOT SIZE (FINER = FINER GAPINED SOLL)		
	· *Z/12 -> MONTEREY SAND 24.5 BETTON		
	- SAMO -> 22' - BENTONIES ~ 14'-16'		
	· Gpo VT/(SMENT * 0'-14'	ļ	
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	· PID = DETSCT VOCS IN VAPOR PHASE	ļ. -	
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WELL DE	VELOPMEN	T FORM				DATE:	5-24	1-04	 -		
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PROJECT	NO.					INITIAL DI		. /			
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	Farnand		nbin	<u> </u>	·		TED WELL	VOLUME			
)	MENT MET	•	WORL IZ			TOTAL W			6		
	OD-INCH):	3/4	1	2					[
Gallons / L		(0.02)	(0.04)	(0.17	(0.66)	4.5 (0.83)	(1.5)	(2.8)			
TIME	Cum. Vol.	рН	COND	TURB	DO	TEMP	SAL		Appearance	/ Comment	5
	Rmvd. (G)		(mS/cm)		(mg/)L	(Deg C)	(%)	() (,		
1200	0	7726	1001	882	9,80	19.5	,06	Cist	Kawa		
1210	3.	7.28	1/10	020	9.82	18/7	117	16ry	light	Brown	E
1216	4	7.30	1112	480	9.80	19.0	-06				
1720	6	7.28 B	1,14	320	9,79	18,9	106	Cin	a		
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WELL DE	VELOPMEN	FORM				DATE:	5 - Z4	-04			
PRECISIO	N SAMPLIN	GINC		.			MW		4		
						DEPTH / C	DIAMETER:	141	. 2%		
PROJECT	NO			····		INITIAL DI					.
SITE LOCA	ATION: 113	7 65 14	St (Jak lone		FINAL DT	W:				
	mando					CALCULA	TED WELL	VOLUME	:		
DEVELOP	MENT METH	IOD:	•			TOTAL W	ATER REM	OVED			
Well Dia. (1	OD-INCH):	3/4	1	2	4	4.5	_ 6	8			
Gallons / L		(0.02)	(0.04)	(0.17	(0.66)	(0.83)	(1.5)	(2.6)	•		
TIME	Cum. Vol Rmvd. (G)	рΗ	COND (mS/cm)	TURB	DO (mg/)L	TEMP (Deg C)	SAL (%)		Appearance	/ Comment	IS .
11:20	0	6.59	1.08		9,69	17.1	, छ भ	Pa	K GV	64	
11:25	_ 8	6.48	1.13		9.68	17.1	.05	н		ч 	·
11:30	_11	6042		890	9.62	17.0	•04	Gri	<u>y</u>		
11:36	15	6.41	1.03	686	9.61	17.0	.e04	452	1 Bru	/	
1''લ્લા	20	6-37	1.02	561	9,50	17.0	004	Vicy	Lishi	- Bray	-
11:50	30	6.34	1.01	320	9.41	17/1	204	<u> </u>	ora_		
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WELL DEV	ELOPMENT	FORM_				DATE:	9-24				
RECISIO	N SAMPLING	INC				NELL#:	mw.	-5B		<u> </u>	
					!	DEPTH / D	IAMETER:	23	r Z		
PROJECT	NO:						w. 13				
SITE LOCA	TION: [137	65H	St	Oallan	1	FINAL DTV	۷:				
NAME: F	amando	Ambr	14			CALCULAT	ED WELL	VOLUME			
	MENT METH		,			TOTAL WA	TER REM	OVED	19	Bad	
	OD-INCH):	3/4	11	2	4	4.5	В	8	ļ		
Gallons / L	inear FT:	(0.02)	(0.04)	(0.17	(0.66)	(0.83)	(1.5)	(2.6)	Annor	ance / Corr	ments
TIME	Curn. Vol. Rmvd. (G)	рН	COND (mS/cm)	TURB	DO (mg/)L	TEMP (Deg C)	5AL (%)		Appear	ance / Con	
10:23		6.76	1.65		9.83	17.4	.07		wn		
10:27	5	6.64	1.44	840	9.62	17.5	€06		S.F.B	rown	
10:34	16	6.46	1.50	620	9.60	17.5	006	H 1/4			
10:41	15	6.42		450	9-61	17.4	606	Vory	· · · · · · · · · · · · · · · · · · ·		
10150	19	6.44	1.43	286	9.64	04	.06	CI	tru		
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VELI DEV	ELOPMENT	FORM				DATE:	5 - 2	4-0	34		
	SAMPLING				,	WELL #	Mu	1-4	<u>B</u>		
RECISION	SAMPENIC	7.110	A		-	DEPTH / D	AMETER:	21	2	<u>-</u>	
						INITIAL DT		3'			·
ROJECT	NO: TION:1137	C ~ 11.	91 (2 Klas		FINAL DTV					
SITE LOCA	Feman	1. 14.		<u> </u>		CALCULAT		VOLUME	:		
			OVI			TOTAL WA			22	641	
	MENT METH		1	2	4	4.5	в	8			
Well Dia (C Sallons / Li	DD-INCH):	(0.02)	(0.04)	(0.17	(0.66)	(0.83)	(1.5)	(2.6)			
TIME	Cum. Vol. Rmvd. (G)	рН	COND (mS/cm)	TURB	DO (mg/)L	TEMP (Deg C)	SAL (%)		Appea	rance / Comfi	nents
9:30	0	7.64	1.85		9.50	17.3	108	PX	rak_	Boom	
9:38		7:30		890	9.03	18.6	.00		roun		
9:44	12		2.08	809	9.01	18.8	.10			Broken	
9:50	15		2.01	620	9-10	18-8	.10	1/64 4			
9'59	22	7,30	2.06	320	9.13	18.6	-11	C	1000	<u> </u>	
								 			
					 			 			
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WELL DEV	ELOPMENT	FORM				DATE: 5	- 24	04			
	SAMPLING		*.		1	VELL#:	MW-	4 A			
RECISION	COMM LINE					DEPTH / DI	AMETER:	13	2"		
PROJECT	NO NO					NITIAL DT					
	TION: 113	7 65 +	1 5+	Oakla	nd	FINAL DTV	V:				
SITE LOCA	mand	o Am	لمكنا			CALCULAT	ED WELL	VOLUME:		<u> </u>	
	MENT METH		,			TOTAL WA	TER REM	OVED	18	Ga/	
Well Dia. (3/4	1	2	4	4.5	В	8			
Gallons / Li		(0.02)	(0.04)	(0.17	(0.66)	(68.0)	(1.5)	(28)		16	
TIME	Cum. Vol. Rmvd. (G)	рH	COND (mS/cm)	TURB	DO (mg/)L	TEMP (Deg C)	SAL (%)		• •	ce / Commen	
855	0	9.56	.750		8.60	19.8	.03	D	rak	Brier	
859	8		,765	780	8.67	19.2	,03	Lig	LI B	Brann ramh (+ Brox	
904	12		-656		8.91	18.7	.02	Ke x	y ligh	4 Broi	ur
909	15	10,07	-652		8.90	18.4	102	1,	1		-
914	18	10.09	1650	210	8-43	18:2	102		14Vh		
											
		 		 							
								 			
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	ELOPMEN'									
PRECISIO	N SAMPLIN	G INC		i:i		WELL #:			, 2'	
						DEPTH / C			, 4	
PROJECT		-				INITIAL DT	w: Z			
SITE LOCA	TION: 113	7 651	X St	Oall	ad	FINAL DT	N:			
NAME:	Ferna	ndo	Ambri	Z		CALCULA	TED WELL	VOLUME	: 19	Ged
DEVELOP	MENT METH	HOD: S	mifa	re P	hmp	TOTAL W	ATER REM	OVED		
	OD-INCH)	3/4	1	2	4	4.5	6	8		
Gallons / Li	near FT:	(0.02)	(0.04)	(0.17	(0.66)	(0.83)	(1.5)	(2.6)		
TIME	Cum. Vol. Rmvd. (G)	рН	COND (mS/cm)	TURB	DO (mg/)L	TEMP (Deg C)	SAL (%)		Арреагатк	e / Comments
8:25	0	9.11	1.86		843	18.1	.08	BY	2Wh	·
8:34	6	9.62	1.46	773	8.26	19.8	106	Ligh	H Br	owh
8:40	12	9.15	1.44	419	8 04	206	106	Venz	Cight	Brown
8:49	19	8.74	1.40	230	7.94	71.1	106	Clay	3	
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VELL DEV	ELOPMENT	FORM					- 74				
	SAMPLING			·	\	WELL#:	MW-	- ZA			
						DEPTH / DI	AMETER:	13	, 4"		
PROJECT	NO:					NITIAL DT	N: 11	2			
	TION: 113	654	St C	AKLAnd		FINAL DTV	<i>l</i> :				
NAME F	mando	Ambr	17.			CALCULAT	ED WELL	VOLUME		·	
	MENT METH		,			TOTAL WA	TER REM	OVED	20	Cal_	
	OD-INCH):	3/4	1	2	4	4.5	6	8			<b></b>
Gallons / L		(0.02)	(0.04)	(0.17	(0.66)	(0.83)	(1.5)	(2.6)			
TIME	Cum. Vol. Rmvd. (G)	рН	COND (mS/cm)	TURB	DO (mg/)L	TEMP (Deg C)	SAL (%)		Appearant	ce / Commen	15
12,40	0	8.73	.528		9.14	19.5	.07		ick Br	rey	
12:49	8	7.85	-657	840	8-79	19.3	٠٥3	G,	chy		
1257	14	7.63		624	8.78	19.2	.02	lig	LF B.	,	
1:09	15	7,40	1686	460	8/80	19.5	102	Very		t Gray	· · · · · · · · · · · · · · · · · · ·
1:15	20	7.20	-661	3 40	8-62	19.7	102	- (	4CK		<del></del>
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	VELOPMEN					DATE:		4-00			
PRECISIO	N SAMPLIN	G INC		1			mw			· ·	
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PROJECT	NO.					INITIAL D	rw: 2	4			
SITE LOC	ATION: 11	37 6	ርሕቲያቱ	OW	uland_	FINAL DT	W:	<del></del>			
NAME:	- exage	Jo	Imbria			CALCULA	TED WELL	VOLUME	· 	· · · · · · · · · · · · · · · · · · ·	
DEVELOP	MENT MET	IOD: .		,		TOTAL W	ATER REM	OVED	75_	<b></b>	
Well Dia. (	OD-INCH):	3/4	1	2	4	4.5	6	8			
Gallons / L	inear FT:	(0.02)	(0.04)	(0.17	(0.66)	(0.83)	(1.5)	(2.6)			
TIME	Cum. Vol. Rmvd. (G)	рН	COND (mS/cm)	TURB	DO (mg/)L	TEMP (Deg C)	SAL (%)		Appearance	/ Comment	<b>S</b>
130	0	736	1.72		8.33	20.5	108		Dru	L Pro	V4
136	8	7.15	131		8.87	19.3	105		Draw	Brin	1h
141	10	6.53	176	-	9.03	19.2	105		1310	un	
145	12	6,77	1.25	770	8.91	19.3	105	4	Lish	Brown	·
152	15	6.83	170	624	8.97	18-9	105	C	isht	Brunn	
154	20	6.78	1.22	460	8.95	18.9	.05		C1514		
206	25	6-70	1/21	300	9.00	18.8	105	Cla			
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WELL DE	VELOPMEN	T FORM		,		DATE:	5- 24-	- 04	<del></del>		
	N SAMPLIN					WELL#:		. –			
<u>KEGIOIO</u>	V O All En	<u> </u>	<u>`</u>	<u> </u>		DEPTH / D				11	
PROJECT	NO:					INITIAL DT				<del></del>	
	ATION: 113	7.6514		Oakla		FINAL DTV					
	arrendo					CALCULA		VOLUME		***************************************	
	MENT MET		St. Z	· · · · · ·			ATER REM		19	<u></u>	
	OD-INCH):	3/4	1	2	4	4.5	8	8		T	
Gallons / L		(0.02)	(0.04)	(0.17	(0.66)	(0.83)	(1.5)	(2.6)	<u> </u>		
TIME	Cum. Val. Rmvd. (G)	рН	COND (mS/cm)	TURB	DO (mg/)L	TEMP (Deg C)	SAL (%)		Арреегаг	ice / Comments	
2:20	0	7.26	242		8.41	19.2	-11		ouk	Brug	
2:29	5	720	2.40	810	8.83	14.3	•10		Gran		
2:36	12		2,38		8.78	19.2	.08	<u> </u>	34	Bray	
2:41		7.78	2.35	432	8.76	19.2		Vary	<u> Cış</u> +	L Gray	
2:49	19	7.27	2.31	306	8.76	14.3	108	<u>C</u>	las		
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ELL DEV	ELOPMENT	FORM					5-24				·
	SAMPLING			·	\	WELL#:	Mw.	-18	A		<del></del>
7,20,000						DEPTH / D	AMETER:	13	1		
ROJECT	NO.	-				NITIAL DT		3 10			
	TION: 113	7 65 64	- PJ- (	Oction	el	FINAL DTV	V:				
AME E	amend o	iA.a.b	λ_			CALCULAT	ED WELL	VOLUME:		·	
	MENT METH		,			TOTAL WA	TER REM	OVED	19	Gel	<del>,</del>
		3/4	1	2	4	4.5	6	8		J	
Well Dia. (C Sallons / Li	DD-INCH): near FT:	(0.02)	(0.04)	(0.17	(0.66)	(0.83)	(1.5)	(2.6)	•		
TIME	Cum. Vol. Rmvd. (G)	pH	COND (mS/cm)	TURB	DO (mg/)L	TEMP (Deg C)	SAL (%)	,,, <u></u>		e / Commen	
3.00	0	8.68	.652	736	8.50	20.5	202		5 ht	Graf	
3,08	10	8.12	1,44		81.78	19.7	.06				
3:15	15	8.26	1540	384	8.98	19.8	102		1 ere		
3: 25	19	8.10	1.54	248	8.28	21.6	107	11			
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WELL DE	ELOPMEN	TFORM				DATE:	3 - 2	4-04
PRECISIO	N SAMPLIN	G INC	···	<u>.                                    </u>		WELL#;	mw.	- 6 A
		<u> </u>	·			DEPTH / C	NAMETER:	15',2"
PROJECT	NO:	·				INITIAL DI	w: 9	1
SITE LOCA	ATION: 11	37 (	35 th	3+ (	Duklow	FINAL DT	<b>N</b> :	
NAME:	Franci	Jo A	nhrin			CALCULA	TED WELL	VOLUME:
DEVELOP	MENT METH	HOD.				TOTAL W	ATER REM	OVED 19 GM
Well Dia.	OD-INCH):	3/4	11	2	4	4.5	8	8
Gallons / L		(0.02)	(0.04)	(0.17	(0.68)	(0.83)	(1.5)	(2.6)
TIME	Cum. Vol. Rmvd. (G)	рH	COND (mS/cm)	TURB	DO (mg/)L	TEMP (Deg C)	SAL (%)	Appearance / Comments
3:45	O	7,30	1,82		8.28	195	(07	Drot Brown
3.70	5	7126	1.90		8,31	19.8	106	
736	11	7.28	1,91	860	8,34	15.0	.06	Godt Brown
3:59	17	7.24	1.87	621	8.50	19.4		Litht Brown
4:12	14	7.20	1.86	309		18-9	706	Vary loglof Brown
	19	7.27	(100	304	8.92	18.9	106	Class
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VELL DEV	ELOPMENT	FORM				DATE: 5	- 24-	04			
PRECISION SAMPLING INC					DATE: 5-24-04 WELL#: MW-6B						
PRECISION Stall ENOVIE						DEPTH / DIAMETER: 23 - 2					
PROJECT	NO.				INITIAL DTW. 13						
	TION: // 3	7 654	1 84 0	Alano		FINAL DTV					
SHELOCA	Prnonce	6 B	1	••••		CALCULAT	ED WELL	VOLUME	<u> </u>		
•			1271				TER REM		20		
	MENT METH	1	1	2	4	4.5	8	В			
Well Dis. (C		3/4 (D.02)	(0.04)	(0.17	(0.66)	(0.83)	(1.5)	(2.6)	•		
TIME	Cum. Vol. Rmvd. (G)	ρΗ	COND (mS/cm)	TURB	DO (mg/)L	TEMP (Deg C)	SAL (%)		Appearance	: / Comment	.5
4'20	3	6.81	1.75		8121	19.1	106	$\mathcal{P}$	rack	Brown	
4:26	5	6.84	1,76	870	8130	190	104		your_		
4:29	78	6.78	1,80	620	8,74	19,2	105		77 F G		
4:35	12	6.76	1.78	510	8.28	19.3	.D4		456	L Brin	<u> </u>
4:40	16	6.82	1,79	420	8.26	19.4	106		orx		<del></del> ,
4: 45	70	680	1,79	310	8-50	19.6	106	Cla	<u> </u>		
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WELL DEVELOPMENT FORM						DATE:	M		: 5-i	24-0i	
PRECISION SAMPLING INC						WELL #:	MO	<u>v - 6</u>	5 6		
						DEPTH / DIAMETER: 35 / 2"					
PROJECT	NO					INITIAL DI	w: 2	<u> </u>	· · · · · · · · · · · · · · · · · · ·		
SITE LOC	ATION: 113	7 65	HL 84	Oakle	und	FINAL DT	N:			·	
NAME:	mind	2 Ax	nbriz			CALCULA	TED WELL	VOLUME	: ::		
	MENT MET		ı	ŗ		TOTAL W	ATER REM	IOVED	28		
Well Dia. (	OD-INCH):	3/4	1	2	4	4.5	6	8			
Gations / L		(0.02)	(0.04)	(0.17	(0,68)	(0.83)	(1.5)	(2.6)			
TIME	Cum. Vol. Rmvd. (G)	На	COND (mS/cm)	TURB	DO (mg/)L	TEMP (Deg C)	\$AL (%)		Appearan	ce / Comme	nts
5100	0	7.10	1.82		8,10	2011	102		Bro		
5:08	7	7,08	1.84	870	8,16	70.0	102		icht	Brim	
5516	11	7.11	479	614	8-11	70.2	.03			Brown	<u> </u>
5:20	16	7.08	1.76	6420						Brown	<del></del> -
x:25	20	7,10	1,80		3.10		102	1	/9a		
5:31	28	7,09	08 مرا	230	8.12	70-0	102	C	larn_		
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## **Groundwater Monitoring Field Sheet**

Well ID	Time	DTP	DTW	Depth to Bottom	Product Thickness	Amount of Product Removed	Casing Diam.	Comments
MW-IA	5:15		4.50	14.07				
MW-1B			14.40	19.53				
MW-16	! !		9.42	34.40			·	
M W-2A			4.24	10.82				4"
MU-3A			4.32	13.40				
MW-4A			2.45	12.40				
MW-48	ŀ		5.02	20.61		·		
MW-4C	5:45		840	31.85				
MN-5B	5:00		8.82	2 <b>2</b> .75				
M W-6A	,		6.00	1425			·	
MW-68	1		8.30	21-80	•			
MW-6C		· · · · · · · · · · · · · · · · · · ·	9.70	33.70	•			
M W-7A	1		4.50	9.85	·			100

Project Name: Name:	Project Number/Task: 522-1000 /027
Technician:	Date: 6-3-04

Project Name: Nady	Cambria Mgr: 50	Well ID: MW-1A
Project Number: 522-1000	Date: 6-3-04	Well Yield:
Site Address: 1137-1167 65th St.	Sampling Method:	Well Diameter: 2 [] pvc
Oakland, (A	disposable bailer	Technician(s):
Initial Depth to Water: 4-5 D	Total Well Depth: 14.0 7	Water Column Height: 9.57
Volume/ft: 0.16	1 Casing Volume: 1.53	3 Casing Volumes: 4.59
Purging Device: disposable bailer	Did Well Dewater?:	Total Gallons Purged: 4
Start Purge Time: 10:00	Stop Purge Time: 10:14	Total Time: / 4 mins

 Well Diam.
 Volume/ft (gallons)

 1 Casing Volume = Water column height x Volume/ ft.
 2" 0.16

 4" 0.65

 6" 1.47

Time	Casing Volume	Temp. (°C)	pН	Cond. (uS)	Comments
10:05	1.5	18.7	7.13	1510	
/0:/0	3	18.6	7.08	1690	
10:15	<u> </u>	18.6	7.05	1582	
			-		· · · · · · · · · · · · · · · · · · ·

Fe =	m	g/L	ORP =	mV	DO =	mg/L
Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method
MN-1A	6-3-04	/0:20	4voa 1Amb	Mel		
				·		
	<u></u>	·				

Project Name: Nady	Cambria Mgr: 50	Well ID: MW-1B	
Project Number: 522-1000	Date: 6-3-04	Well Yield:	
Site Address: 1137-1167 65th St.	Sampling Method:	Well Diameter: 2 1 pvc	
Oakland, CA	disposable baile	Technician(s):	
Initial Depth to Water: 14.40	Total Well Depth: 19.53	Water Column Height: 5./3	
Volume/ft: 0.16	1 Casing Volume: 0.37	3 Casing Volumes: 2.96	
Purging Device: disposable haile	Did Well Dewater?: No	Total Gallons Purged: 2	
Start Purge Time: 9:30	Stop Purge Time:	Total Time:	

1 Casing Volume = Water column height x Volume/ ft.

Volume/ft (gallons)
0.16
0.65
1.47

Time	Casing Volume	Temp. (°C)	рН	Cond. (uS)	Comments
9:35	1	18.8	7.04	620	
9:4p	1.5	18.7	7.01	1013	
9:45	2	18.8	6.99	970	
,				·	
				,	
	1				

Fe =	m	g/L	ORP =	mV	DO =	mg/L
Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method
MU-IR	6-3-04	9:50	4voa 1Amb	MCI	-	
	-					

Project Name: Nady	Cambria Mgr: 50	Well ID: MW-1C	
Project Number: 522-1000	Date: 6-3-04	Well Yield:	
Site Address: 1137 - 1167 65th St.	Sampling Method:	Well Diameter: [] pvc	
Oakland, CA	disposable bailer	Technician(s):	
Initial Depth to Water: 9.47	Total Well Depth: 34.40	Water Column Height: 24.98	
Volume/ft: 0.16	1 Casing Volume: 3.99	3 Casing Volumes: /1.99	
Purging Device: disposable haile	Did Well Dewater?:	Total Gallons Purged: /2	
Start Purge Time: 8:45	Stop Purge Time: q:14	Total Time: 29 mins	

 1 Casing Volume = Water column height x Volume/ft.
 Well Diam.
 Volume/ft (gallons)

 2"
 0.16

 4"
 0.65

 6"
 1.47

Time	Casing Volume	Temp. (°C)	рН	Cond. (uS)	Comments
8:55	LI	18.8	7.03	703	
9:35	8	18-6	697	820	
9:15	12	18.7	6.99	857	
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			<u> </u>		

Fe =	m	g/L	ORP =	mV	DO =	mg/L
Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method
			4000	Mel		
MN-tc	6-3-04	4:20	IAmb			
					· · · · · · · · · · · · · · · · · · ·	
	<u> </u>	<u> </u>				

Project Name: Nady	Cambria Mgr: $50$	Well ID: MW-2A
Project Number: 522-1000	Date: 6-3-04	Well Yield:
Site Address:	Sampling Method:	Well Diameter: [] pvc
1137-1167 65th St. Dakland (A	disposable bailer	Technician(s): SG
Initial Depth to Water: 4.24	Total Well Depth: 10.82	Water Column Height: 6.58
Volume/ft:	1 Casing Volume: 4.77	3 Casing Volumes: /2.83
Purging Device: 4" pe bailer	Did Well Dewater?: no	Total Gallons Purged: / 3
Start Purge Time: 3:05	Stop Purge Time: 3:19	Total Time: /4mins

1 Casing Volume = Water column height x Volume/ ft.

Well Diam.	Volume/ft (gallons
2"	0.16
4"	0.65
6"	1.47

Time	Casing Volume	Temp. (°C)	рН	Cond. (uS)	Comments
3:10	5	19.1	7.00	1295	
3:15	10	19.1	6.95	1439	
3:20	13	19.1	6.97	1604	
					<u> </u>
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Fe =	m	g/L	ORP =	mV	DO =	mg/L
Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method
			4000	Mel		
MN-2A	6-3-04	3:25	IAmb			
						·

Project Name: Nady	Cambria Mgr: 50	Well ID: MW-3A
Project Number: 522-1000	Date: 6-3-04	Well Yield:
Site Address: 1137 - 1167 65th St.	Sampling Method:	Well Diameter: 2 🛭 pvc
Oakland, (A	disposable bailer	Technician(s):
Initial Depth to Water: 4.32	Total Well Depth: 13.40	Water Column Height: 9.08
Volume/ft:	1 Casing Volume: 1.45	3 Casing Volumes: 4.35
Purging Device: disposable Sailer	Did Well Dewater?:	Total Gallons Purged: 4
Start Purge Time: 7:40	Stop Purge Time: 7:54	Total Time: /4min.s

Well Diam. Volume/ft (gallons) 1 Casing Volume = Water column height x Volume/ ft.

2"	0.16
4"	0.65
6 <b>"</b>	1.47

Time	Casing Volume	Temp. (°C)	рН	Cond. (uS)	Comments
2:45	1.5	19.2	7.01	6/0	
2:50	3	19.1	7.04	631	
7:55	4	19.0	7.07	650	
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<b>Fe</b> =	m	g/L	ORP =	mV	DO =	mg/L
Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method
MU-3A	6-3-04	3:00	4voa 1Amb	Mel		
						·
					·	

Project Name: Nady	Cambria Mgr: 50	Well ID: MW-4A
Project Number: 522-1000	Date: 6-3-04	Well Yield:
Site Address: 1137-1167 65th St.	Sampling Method:	Well Diameter: 2 Dpvc
Oakland (A	disposable bailer	Technician(s):
Initial Depth to Water: 2-45	Total Well Depth: /2.40	Water Column Height: 9.95
Volume/ft: 0.16	1 Casing Volume: 1.59	3 Casing Volumes: 4.77
Purging Device: disposable bailer	Did Well Dewater?:	Total Gallons Purged: 5
Start Purge Time: 1:50	Stop Purge Time: 2:04	Total Time: 14mis

1 Casing Volume = Water column height x Volume/ ft.

Well Diam.	Volume/ft (gallons
2"	0.16
4"	0.65
6"	1.47

Time	Casing Volume	Temp. (°C)	рН	Cond. (uS)	Comments
1:55	1.5	19.0	7.00	/391	
2:00	3	18.9	6.99	1105	
1:55 2:00 2:05	5	19.1	698	1239	
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		,			
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Fe =	m	g/L	ORP =	mV	DO =	mg/L
Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method
MW-4A	6-3-04	2:10	4voa 1Amb	Mel		

Project Name: Nady	Cambria Mgr: 30	Well ID: MW-4B
Project Number: 522-1000	Date: 6-3-04	Well Yield:
Site Address: 1137-1167 65th St.	Sampling Method:	Well Diameter: 2 [] pvc
Oakland, CA	disposable baile	Technician(s):
Initial Depth to Water: 5.0 2	Total Well Depth: 20.61	Water Column Height: 15.59
Volume/ft: 0.16	1 Casing Volume: 2.49	3 Casing Volumes: 7.48
Purging Device: disposal/e bail.	Did Well Dewater?:	Total Gallons Purged: 7
Start Purge Time: 1.25	Stop Purge Time: /:39	Total Time: /4mins

1 Casing Volume = Water column height x Volume/ ft.

Well Diam.	Volume/ft (gallons)
2"	0.16
4"	0.65
6"	1.47

Time	Casing Volume	Temp. (°C)	рН	Cond. (uS)	Comments
1:30	2. \$	19.1	7.05	830	
1:35	5	19.3	7.01	651	
1:40	7	19.3	7.02	693	
		<u> </u>			

Fe =	m	g/L	ORP =	$\mathbf{mV}$	DO =	mg/L
Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method
			4000	Mel		
MN-4B	6-3-04	1:45	IAmb		•	
	· ·					

Project Name: Nady	Cambria Mgr: 30	Well ID: MW-4C
Project Number: 522-1000	Date: 6-3-04	Well Yield:
Site Address: 1137-1167 65th St.	Sampling Method:	Well Diameter: 7 [] pvc
Oakland (A	disposable bailer	Technician(s): SG
Initial Depth to Water: 8.40	Total Well Depth: 31.85	Water Column Height: 23.45
Volume/ft: 0./6	1 Casing Volume: 3.75	3 Casing Volumes: //.25
Purging Device: disposable loike	Did Well Dewater?:	Total Gallons Purged: //
Start Purge Time: 12:45	Stop Purge Time: /:/4	Total Time: 29 mins

1 Casing Volume = Water column height x Volume/ft.

Well Diam.	Volume/ft (gallons)
2"	0.16
4"	0.65
6°	1.47

Time	Casing Volume	Temp. (°C)	рН	Cond. (uS)	Comments
12:55	4	19.1	7.02	/325	
12:55 /:05	8	189	6.95	/325	
1:15	11	19.0	6.99	921	
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Fe =	m	g/L	ORP =	mV	DO =	mg/L
Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method
MU-46	6-3-04	1:20	4voa 1Amb	Mel		
		ļ				

Project Name: Nady	Cambria Mgr: 30	Well ID: MW-[B
Project Number: 522-1000	Date: 6-3-04	Well Yield:
Site Address: 1137-1167 65th St.	Sampling Method:	Well Diameter: 2 [] pvc
Oakland, CA	discosable bailer	Technician(s):
Initial Depth to Water: 8.82	Total Well Depth: 22.75	Water Column Height: /3.93
Volume/ft: 0./6	1 Casing Volume: Z.7 7	3 Casing Volumes: 6.66
Purging Device: disposable bale.	Did Well Dewater?: 10	Total Gallons Purged: 6
Start Purge Time: /0:35	Stop Purge Time: 10: 49	Total Time: /4 min

1 Casing Volume = Water column height x Volume/ ft.

Well Diam.

2"

4"

6"

<u>Volume/ft (gallons)</u>
0.16
0.65
1.47

Time	Casing Volume	Temp. (°C)	рН	Cond. (uS)	Comments
10:40	2	18.5	7.02	7.12	
10:45	ч	18.7	6.99	7./0	
10:50	Ь	18.8	6.98	7.09	
		·			<u> </u>

Fe =	mg/L		ORP =	mV	DO =	mg/L
Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method
MU-5B	6-3-04	10:55	4voa 1Amb	Mel		
	:					
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Project Name: Nody	Cambria Mgr: 50	Well ID: MW-6A
Project Number: 522-1000	Date: 6-3-04	Well Yield:
Site Address: 1137-1167 65th St.	Sampling Method:	Well Diameter: 2   pvc
Oakland, (A	disposable bailer	Technician(s): SG
Initial Depth to Water: 6.00	Total Well Depth: 14.75	Water Column Height: 8.25
Volume/ft: 0./b	1 Casing Volume: /. 32	3 Casing Volumes: 3.96
Purging Device: disposable bailer	Did Well Dewater?:	Total Gallons Purged: 4
Start Purge Time: 8:10	Stop Purge Time: 8:24	Total Time: Juning

1 Casing Volume = Water column height x Volume/ ft.

Well Diam.	Volume/ft (gallons)
2"	0.16
4"	0.65
6"	1.47

Time	Casing Volume	Temp. (°C)	рН	Cond. (uS)	Comments
8:15	1.5	18.9	7.07	870	
8:15 8:20	3	18.7	7.05	635	
8:75	4	13.8	7.02	792	

Fe =	m	g/L	ORP =	mV	DO =	mg/L
Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method
MN-6A	6-3-04	8:30	4voa 1Amb	Mel	. ,	

Project Name: Nady	Cambria Mgr: 50	Well ID: MW-6B
Project Number: 522-1000	Date: 6-3-04	Well Yield:
Site Address: 1137-1167 65th St.	Sampling Method:	Well Diameter: 2 Dpvc
Oakland (A	disposable bailer	Technician(s): SG
Initial Depth to Water: 8.3 D	Total Well Depth: 21.80	Water Column Height: /3.5
Volume/ft: 0.16	1 Casing Volume: 2.16	3 Casing Volumes: 4.48
Purging Device: disposable Laile	Did Well Dewater?:	Total Gallons Purged: 6
Start Purge Time: 7:40	Stop Purge Time: 7:54	Total Time: 755 14mins

Well Diam. 1 Casing Volume = Water column height x Volume/ ft. 2" 4"

Volume/ft (gallons) 0.16 0.65 1.47 6"

Time	Casing Volume	Temp. (°C)	рН	Cond. (uS)	Comments
7:4S	2	18.5	7. 15	1041	
7:45 7:50	4	18.5	7.19	728	
7:55	6	18.5	7.19	850	
					· · · · · · · · · · · · · · · · · · ·
					:

Fe =	m	g/L	ORP =	mV	DO =	mg/L
Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method
			4000	Mel	,	
MN-6B	6-3-04	8:00	IAmb			
i.			,			
		1	<u> </u>			

Project Name: Nady	Cambria Mgr: 50	Well ID: MW-6C
Project Number: 522-1000	Date: 6-3-04	Well Yield:
Site Address: 137-1167 65th St.	Sampling Method:	Well Diameter: 2 🛭 pvc
Oakland (A	disposable bailer	Technician(s):
Initial Depth to Water: 9. 70	Total Well Depth: 33.70	Water Column Height: 24.00
Volume/ft: 0.16	1 Casing Volume: 3.84	3 Casing Volumes: /1.52
Purging Device: disposable bailer	Did Well Dewater?:	Total Gallons Purged: //
Start Purge Time: 7:00	Stop Purge Time: 7:79	Total Time: 29 mins

 Well Diam.
 Volume/ft (gallons)

 1 Casing Volume = Water column height x Volume/ ft.
 2" 0.16

 4" 0.65

 6" 1.47

Time	Casing Volume	Temp. (°C)	рН	Cond. (uS)	Comments
7:10	4	18.7	7.03	690	
7:20	8	18.5	7.12	410	
7:30	11	18.8	208	451	
					·

Fe =	m	g/L	ORP =	mV	DO =	mg/L
Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method
MN-6C	6-3-04	7:35	4voa 1Amb	MCI		
		·				

Project Name: Nody	Cambria Mgr: 50	Well ID: MW-7A
Project Number: 522-1000	Date: 6-3-04	Well Yield:
Cita Address:	Sampling Method:	Well Diameter:   [] pvc
Dakland, (A	disposable bailer	Technician(s):
Initial Depth to Water: 450	Total Well Depth: 985	Water Column Height: 5.35
Volume/ft: 0.0055	1 Casing Volume: $\mathcal{O} \bullet \mathcal{O} \ \mathcal{F}$	3 Casing Volumes: . O 88
Purging Device:	Did Well Dewater?: /es	Total Gallons Purged:
Start Purge Time: 7:20	Stop Purge Time:	Total Time:

 Well Diam.
 Volume/ft (gallons)

 1 Casing Volume = Water column height x Volume/ ft.
 2" 0.16

 4" 0.65

 6" 1.47

Time	Casing Volume	Temp.	pН	Cond. (uS)	Comments
7:71		dewate	ref		

Fe =	m	g/L	ORP =	mV	DO =	mg/L
Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method
			4voa	Mel	•	
MN-7A	6-3-04	2:35	4voa 44mb			
	1					
	<u> </u>					

#### McCAMPBELL ANALYTICAL RELE COPY 110 2rd AVENUE SOUTH, #D7 PACHECO, CA 94553-5560 (925) 708 1520 CHAIN OF CUSTODY RECORD × JRN AROUND TIME: RUSH 24 HOUR 48 HOUR 5 DAY EDF Required? Tyes No Fax: (925) 798-1622 Telephone: (925) 798-1620 Other Comments Analysis Request Bill To: Cambria Report To: Matt Meyers Company: Cambria Environmental Technology, Inc. 5900 Hollis Street, Suite A BTEX & TPH as Gas & Swddard Solvent (602/8020 801 5y MTBE Emeryville, Ca 94608 E-mail: mmeyers@cambria-env.com Fax: (510) 420-9170 Tele: (510) 420-3314 Project Name: John Nady TPH as Diesel & Motor Oil (8015) Project #: 522-1000-027 Project Location: 1167 65th Street, Oakland Sampler Signature: METHOD MATRIX SAMPLING PRESERVED Type Containers HVOCs (8010) # Containers SAMPLE ID LOCATION (Field Point Name) Air Sludge Date Time Water Other HNO, Other Soil HCI ce 5 Ans X 6-3-04/0:20 MW-IA MW-13 9:20 MU-IC 2:25 3:00 2:10 1:45 10:55 VOC Received By: Time: Date: secure location Lowest possible detection limits. 4:00 43-04 Please email results. Received By: Date: Relinquished By: Received By: Time: Date: Relinquished By:

### **APPENDIX E**

Standard Field Procedures

#### STANDARD FIELD PROCEDURES FOR MONITORING WELL INSTALLATION

This document presents standard field methods for drilling and sampling soil borings and installing, developing and sampling groundwater monitoring wells. These procedures are designed to comply with Federal, State and local regulatory guidelines. Specific field procedures are summarized below.

#### DRILLING AND SAMPLING

#### **Objectives**

Soil samples are collected to characterize subsurface lithology, assess whether the soils exhibit obvious hydrocarbon or other compound vapor or staining, and to collect samples for analysis at a State-certified laboratory. All borings are logged using the Unified Soil Classification System by a trained geologist working under the supervision of a California Registered Geologist (RG).

#### Soil Boring and Sampling

Soil borings are typically drilled using hollow-stem augers or direct-push technologies such as the Geoprobe®. Prior to drilling, the first 8 ft of the boring are cleared using an air or water knife and vacuum extraction. This minimizes the potential for impacting utilities.

Soil samples are collected at least every five ft to characterize the subsurface sediments and for possible chemical analysis. Additional soil samples are collected near the water table and at lithologic changes. Samples are collected using lined split-barrel or equivalent samplers driven into undisturbed sediments at the bottom of the borehole.

Drilling and sampling equipment is steam-cleaned prior to drilling and between borings to prevent cross-contamination. Sampling equipment is washed between samples with trisodium phosphate or an equivalent EPA-approved detergent.

#### Sample Analysis

Sampling tubes chosen for analysis are trimmed of excess soil and capped with Teflon tape and plastic end caps. Soil samples are labeled and stored at or below 40 C on either crushed or dry ice, depending upon local regulations. Samples are transported under chain-of-custody to a Statecertified analytic laboratory.

#### Field Screening

One of the remaining tubes is partially emptied leaving about one-third of the soil in the tube. The tube is capped with plastic end caps and set aside to allow hydrocarbons to volatilize from the soil. After ten to fifteen minutes, a portable volatile vapor analyzer measures volatile hydrocarbon vapor concentrations in the tube headspace, extracting the vapor through a slit in the cap. Volatile vapor analyzer measurements are used along with the field observations, odors, stratigraphy and groundwater depth to select soil samples for analysis.

#### Water Sampling

Water samples, if they are collected from the boring, are either collected using a driven Hydropunch® type sampler or are collected from the open borehole using bailers. The groundwater samples are decanted into the appropriate containers supplied by the analytic laboratory. Samples are labeled, placed in protective foam sleeves, stored on crushed ice at or below 4oC, and transported under chain-of-custody to the laboratory. Laboratory-supplied trip blanks accompany the samples and are analyzed to check for cross-contamination. An equipment blank may be analyzed if non-dedicated sampling equipment is used.

#### MONITORING WELL INSTALLATION, DEVELOPMENT AND SAMPLING

#### Well Construction and Surveying

Groundwater monitoring wells are installed to monitor groundwater quality and determine the groundwater elevation, flow direction and gradient. Well depths and screen lengths are based on groundwater depth, occurrence of hydrocarbons or other compounds in the borehole, stratigraphy and State and local regulatory guidelines. Well screens typically extend 10 to 15 fee below and 5 feet above the static water level at the time of drilling. However, the well screen will generally not extend into or through a clay layer that is at least three feet thick.

Well casing and screen are flush-threaded, Schedule 40 PVC. Screen slot size varies according to the sediments screened, but slots are generally 0.010 or 0.020 inches wide. A rinsed and graded sand occupies the annular space between the boring and the well screen to about one to two feet above the well screen. A two feet thick hydrated bentonite seal separates the sand from the overlying sanitary surface seal composed of Portland type I,II cement.

Well-heads are secured by locking well-caps inside traffic-rated vaults finished flush with the ground surface. A stovepipe may be installed between the well-head and the vault cap for additional security.

The well top-of-casing elevation is surveyed with respect to mean sea level and the well is surveyed for horizontal location with respect to an onsite or nearby offsite landmark.

#### **Well Development**

Wells are generally developed using a combination of groundwater surging and extraction. Surging agitates the groundwater and dislodges fine sediments from the sand pack. After about ten minutes of surging, groundwater is extracted from the well using bailing, pumping and/or reverse air-lifting through an eductor pipe to remove the sediments from the well. Surging and extraction continue until at least ten well-casing volumes of groundwater are extracted and the sediment volume in the groundwater is negligible. This process usually occurs prior to installing the sanitary surface seal to ensure sand pack stabilization. If development occurs after surface seal installation, then development occurs 24 to 72 hours after seal installation to ensure that the Portland cement has set up correctly.

All equipment is steam-cleaned prior to use and air used for air-lifting is filtered to prevent oil entrained in the compressed air from entering the well. Wells that are developed using air-lift evacuation are not sampled until at least 24 hours after they are developed.

#### **Groundwater Sampling**

Depending on local regulatory guidelines, three to four well-casing volumes of groundwater are purged prior to sampling. Purging continues until groundwater pH, conductivity, and temperature have stabilized. Groundwater samples are collected using bailers or pumps and are decanted into the appropriate containers supplied by the analytic laboratory. Samples are labeled, placed in protective foam sleeves, stored on crushed ice at or below 4oC, and transported under chain-of-custody to the laboratory. Laboratory-supplied trip blanks accompany the samples and are analyzed to check for cross-contamination. An equipment blank may be analyzed if non-dedicated sampling equipment is used.

#### Waste Handling and Disposal

Soil cuttings from drilling activities are usually stockpiled onsite and covered by plastic sheeting. At least three individual soil samples are collected from the stockpiles and composited at the analytic laboratory. The composite sample is analyzed for the same constituents analyzed in the borehole samples in addition to any analytes required by the receiving disposal facility. Soil cuttings are transported by licensed waste haulers and disposed in secure, licensed facilities based on the composite analytic results.

Groundwater removed during development and sampling is typically stored onsite in sealed 55-gallon drums. Each drum is labeled with the drum number, date of generation, suspected contents, generator identification and consultant contact. Upon receipt of analytic results, the water is either pumped out using a vacuum truck for transport to a licensed waste treatment/disposal facility or the individual drums are picked up and transported to the waste facility where the drum contents are removed and appropriately disposed.

F:\TEMPLATE\SOPs\Monitoring Well Installation with Air Knife.doc

## **APPENDIX F**

Well Permits and Well Survey Report

STATE OF CALIFORNIA DWR WELL COMPLETION REPORT (WELL LOGS)

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DRILLING PERMIT APPLICATION

WATER RESOURCES SECTION
399 ELMHURST ST. MAYWARD CA. 94644-1305
FRIONE (\$10) 678-6633 James You

PAX (318)782-1939
APPLICATION OF WELLS OVER 45 PEET REQUIRES A SKEARATE PREMIT APPLICATION
DISTINUTION OF WELLS OVER 45 PEET REQUIRES A SKEARATE PREMIT APPLICATION

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DRILLING PERMIT APPLICATION

Water resources section 399 ELMHURST ET. HAYWARD CA. 94544-1395 PHONE (510) 670-6633 James Yoo

DAX (510)782-1939
APPLICATES PLACE ATTACH A SITE MAY FOR ALL DRIFLING PERMIT APPLICATIONS
DESTRUCTION OF WELLS OVER 46 PRET REQUIRES A SKEARATE PERMIT APPLICATION

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WATER RESOURCES SECTION 399 PLMHURST ST. MAYWARD CA. 94644-1395 PHONE (910) 670-4633 James You

BAX (\$10)762-1939 APPLICATION STURBLE ATTACH A SITE MAP FOR ALL DRIVILING FERMIT APPLICATIONS DESTRUCTION OF WELLS OVER 45 PEET REQUIRES A SEPARATE PERMIT APPLICATION

FOR APPLICANT TO COMPLETE	FOR OFFICE UNE
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WATER RESOURCES SECTION
399 ELMHURST ST. WAYWARD CA. 94544-1395
PHONE (E10) 670-6633 James You
DAX (2101782-1939)

PAX (\$10)762-1937 APPLICANTS: PLEASE ATTACH A SITE MAP FOR ALL DENILING PERMIT APPLICATIONS DESTRUCTION OF WELLS OVER 45 FEET REQUIRES A BEPARATE PERMIT APPLICATION

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Name Fredric Schrag St. Phone 510-652-2411 City Emery I He. 71p 94608	GENERAL  1. A permit application should be submitted so as to annive as the ACPWA office five days prior to propused stating date.  2. Submit to ACPWA within 60 days after completion of
Name Campria Environmental Technology, nc.	Well Completion Report.
APPLICANT Name Campria Environmental Technology, nr. Afin: Matt Mexecs Advana 500 Hollis St. Suite A Phone Filo-420-1314 (iy Emeryville 710 94100	3. Period is void if project not degun within 90 days of
Civ Emercial 71 94498	SILL lavorage
	B, WATER SÚPPLY WELLS 1. Minimum sunger paa) thickness is two inchos of
TYPE OF PROJECT	commit mout placed by tremit.
Well Construction Geoleghnical Invostigation	2. Minimum seal depth is 50 feet for municipal and
Cathodic Protoction :   General	Industrial wells of 20 feet for domostic and inigation wells unjest a losses depth is specially approved.
Water Supply  11 Containing to Well Description	C. GROUNDWATER MONTORING WELLS
Medicaling A control Agency	INCLUDING PIEZOMETKIS
PROPOSED WATER SUPPLY WILL USK	1. Minimum surface seal thickness is two inches of commit grout plucod by training.
New Donustic 11 Roplesment Donustic ' Musicipal 11 Urigation '11	2. Minimum scal dopth for monitoring wolls in the
Industrial II OtherIr	maximum depth practicable at 20 foot
	p. CEOTECHNICAL Haskell boys hold by trends with content grout of commit
DRILLANG METIOD:  Mud Ratery 1: Air Retay 1: Augus X	gravizand infature. Upper two-three feet replaced in kind
Mud Rotory 11 Air Rotory 15 Augor X Childs 11 Other 11	or with rongressed cultimes.
	E. CATHODIC  Pill hole anode time with concrots placed by trainfu.
DRILLBER'S NAME Precision Drilling	F. WELL, DESTRUCTION
Driller's Licensuno. <u>636387</u>	limitipas el timora atavaçõe Acule Asow de gem e bao2
	CONTRIBUTED THAT 45 FOUR.  CONDITIONS
WELL PROJECTS	
Extil Hole Diameter 10 in Maximum 5 n. Cauling Diameter 4 in. Depth 5 n. Owner's Well Number MW - ZA	NOTE: One application must be submitted for each well of well desquerion. Multiple burings on one application are ucceptable for geologistical and contamination investigations.
Henterinical from the light from the light from the light from the light from the light from the light from the light from the light from the light from the light from the light from the light from the light from the light from the light from the light from the light from the light from the light from the light from the light from the light from the light from the light from the light from the light from the light from the light from the light from the light from the light from the light from the light from the light from the light from the light from the light from the light from the light from the light from the light from the light from the light from the light from the light from the light from the light from the light from the light from the light from the light from the light from the light from the light from the light from the light from the light from the light from the light from the light from the light from the light from the light from the light from the light from the light from the light from the light from the light from the light from the light from the light from the light from the light from the light from the light from the light from the light from the light from the light from the light from the light from the light from the light from the light from the light from the light from the light from the light from the light from the light from the light from the light from the light from the light from the light from the light from the light from the light from the light from the light from the light from the light from the light from the light from the light from the light from the light from the light from the light from the light from the light from the light from the light from the light from the light from the light from the light from the light from the light from the light from the light from the light from the light from the light from the light from the light from the light from the light from the light from the light from the light from the light from the light from the light from the	1 m more
ESTIMATED STARTING DATE 4/30/04 ESTIMATED COMPLETION DATE 5/8/04	APPROVED UNTE
I howhy agree to comply with all requirements of this permit and Alameda County Orth	
APPIJCANT'S SIGNATURE OATE 4	[22/04 / \ \ \ ]
At wat U	3-04-02
of Cambria Environment	al Technology Inc
of Cambrid Environments	-1 This of Li



WATER RESOURCES SECTION 399 ELMHURST ST. WAYWARD CA. 94544-1398 MIONE (510) 670-6633 James You

PAX (518)7EZ-1937
APPLICANTÉ: PLRABE ATTACIS A BITE MAP FOR ALL DIBILING PERMIT APPLICATIONS
DESTAUCTION OF WELLS OVER 45 FEET REQUIRES A SEPARATE PERMIT APPLICATION

LOCATION OF PRUMATE 1137-1167 65th Street	PERMIT NUMBER  WILL NUMBER  APN
	PERMIT CONTATIONS Citaled Fermit Requirements Apply
CLIENT Name Exclusic Schrag Address LID Shellmound St. Phone 510-152-24 11 City Emecycille 7519 94108  APPLICANT Name CAMBrig Environmental Technology, nc. Attn: Matt Mexics Furte A Phone 510-420-41 70 Address 5700 Hollis St. Swite A Phone 510-420-1314 City Ethocyculic 7519 94108  TYPE OF PROJECT	A. GPNERAL  1. A permit application should be submitted so as to shrive at the ACPWA office five days prior to proposed starting date.  2. Submit to ACPWA within 60 days after completion of permitted eriginal Lapsatment of Water Resources.  Well Completion Report.  1. Permit is void if invited not begun within 90 days of approval date  D. WATER SUPPLY WELLS  1. Minimum sunface scal thickness is two inches of central grout placed by transc.
Will Construction	2. Minimum seed depth is 50 feet for municipal and industrial wells or 20 feet for domente and irrigation wells unless a bester depth is specially approved.  C. THOURDWATER MONITORING WELLS
PROPERSED WATER SUPPLY WRLL USK New Denouatio 11 Replacement Domestic Municipal 11 Indigation 11 Industrial 11 Other 11	INCLUDING PLEZOMETERS  1. Minimum suffece neal thickness is two inches of persons grout placed by ironio.  2. Minimum and dopth for monitoring wells in the maximum dopth providends or 20 feet.  D. GEOTECHNICAL
DRILLING METHOD:  MUI ROTATY !: AIT ROTATY !: AUGOT X  Cable !! Other !!  DRILLING'S NAME PROGSION Drilling  DRILLING'S LICENSE NO. U3 43 87	Haskfill bore hold by tremie with content grout or cement grout and minure. Upper two-three Ret replaced in kind or with compacted cuttings.  E. CATHODIC  Fill hold anode zame with concrete placed by tromic.  P. WELL DESERUCTION  Sond a map of work situ. A separate permit is required for wolls desper than 45 feet.
WRILL PROJECTS  Drill Note District In.	MOTE: One application must be submitted for each well or well destruction. Multiple business on one application are acceptable for goods which and contamination investigations.
Number of Horings in tepth it.	Jun 9-18-04
ESTIMATED STARTING DATE 4/30/04 USTIMATED COMPLETION DATE 5/8/04	APPROVID DATE
of Cambria Environmenta	2/04



WATER RESOURCES SECTION 399 ELMHURST ST. HAYWARD CA. 94844-1395 PIIONE (518) 670-6633 James Yee

PAX (510)782-1939 Applicants please attactica site map for all defiling primit applications destruction of wells over 45 feet requires a beparate permit application

FOR APPLICANTI TO COMPLETE	FISH OPTICE USE
LOCATION OF PRUNCT 1137-1167 65th Street	PERMIT MUMIDIR W4 VT
in_Oakland, Ca	APN
The state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the s	WALTE FOR MINING AND
No. 10-70-70-10-10-10-10-10-10-10-10-10-10-10-10-10	PRIMMET CEMBETTONS Circled Pennix Requirements Apply
CLIENT School Schools	(A. GENERAL
CLIENT Produce Schrage St. Phone 510-652-24 11 Chy Empore 142 210 94608	3. A point application should be infimilial so as to arrive at the ACPWA office live days prior to
	proposed starting time.
APPLICANT Name Campera & Environmental Technology, nc. Atta: Matt Mexecs Adams 5700 Units St. Sinte A Phone 610-420-1314 No Emocyville Tip 74100	2/Submit to ACPWA within 60 days after completion of hermitud esterior Department of Water Resources.
Name Mark Marie C Fax 800-9100	Well Complusion Report
Addres 5704 Hollis St. Swite A Phone 510 - 420-1314	3. Permit is void if project not begun within 90 days of
Hw Ethoryville	approval data D. Water Supply Wells
,	1. Minimum surface soal shicklines is two inches of
TYPR OF PROJECT	commit grout placed by tramic.
Well Construction & Geolechnical Investigation	2. Minimum real depth is 50 feet for municipal and
Cathodia Protection : 1 Ocneral	industrial wells or 20 feet for domanic and irrigation
Water Supply 11 Contamination 1'  Monitorine W Will Destruction 1	c. Knoundwa'ter montroring wrills
Moritoring Well Destruction 1	NCLUDING PIEZOMETERS
PROPORED WATER SUPPLY WALL USE	i. Minimum surface and thickness is two inches of
New Donnesse 11 Replacement Donnessie	occuent than binead by hamin.
Municipal II Irrigation	2. Minimum seal depth for manitaring wells is the maximum depth procleable or 20 feet.
Inchatrial 11 (Wher	b. Grotechnical
DRIELANG METISODI	Rackfill boro hale by tramic with content grout or coment
Mud Rothry ' Air Rutary : Augus X	grouphing mixture. Upper two-throu feet replaced in kind
Cable 11 Other II	ar with compacted cuttings.
DAILLER'S NAME PRECISION Drilling	R. CATHODIC  Fill hole anode zone with concrub placed by tremit.
	P. WELL, DESCRIPTION
Driclar's Lichnsh No. <u>U3U387</u>	fund a mon of works shake A nest show he more built will
	COTHECENE CONDITIONS
While trojects	Mile T
	NOTE: One spiliculum nature of seven makes loge and estimated
Claim Diamold Z. III. Depth 15 IL A.A. LA	desgreedon. Molifple havings on one application are receptable
Swince Scal Depth 5 n. Owner's Well Number MW [A	by geolocianical and contamination investigations.
GEOTROUNICAL PROJECTS	
Number of Rosines Maximum	
Namber of Borings basinum   Nepth R.	1300
ESTIMATED & FARTING DATE 4/30/04	MM
ESTIMATED COMPLETION DATE B/8/04	APPROVED DATE
, ,	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \
I hopeby agree to comply with all requirements of this permit and Alameda County Ordin	
APPLICANT'S SIGNATURE DATE 4/	22/04
PLEASE PRINT NAME MOST Meyers BOVJ	10402
of Cambria Environmenta	1 Technology, the.
OF CAMPAIA E HAMANIA	7. 1. 2. 1. 1.



DRILLING PERMIT APPLICATION

WATER RESOURCES SECTION 399 ELMHURST ST. HAYWARI) CA, 94844-1395 HIONE (516) 670-4633 James Yes

CHMBRIA

PAX (310)782-1939 Application of wells over 45 peet requires a befarate permit application

LOCATION OF PROJECT 1137-1167 65th Street	PERMIT NUMBER
Married Speciments   processed in the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of th	PERMIT CONDITIONS Citaled Permit Requirements Apply
CLIENT Hamb Freduit Schrag St. Phone 510-152-24 11 Address 1201 Shekkmand St. Phone 510-152-24 11 Chy Emerycille Tip 94108  APPLICANT Name Campria Environmental Technology nc. Address 5700 Holly 54 Surke A Phone 520-420-1314 City Emerycille The Yello Tip 94108  TYPE OF PROJECT  Well Consequence Geographical Investigation Cuthodio Protection  Water Supply  11 Contambation  Water Supply  Monitoring  Well Destruction  Water Supply  12 Contambation  13 Contambation  14 Contambation  15 Contambation  Water Supply  Monitoring  Well Destruction  16 Contambation  17 Contambation  18 Contambation  19 Contambation  10 Contambation  10 Contambation  11 Contambation  12 Contambation  13 Contambation  14 Contambation  15 Contambation  16 Contambation  17 Contambation  18 Contambation  19 Contambation  10 Contambation  10 Contambation  10 Contambation  11 Contambation  11 Contambation  12 Contambation  13 Contambation  14 Contambation  15 Contambation  16 Contambation  17 Contambation  18 Contambation  19 Contambation  19 Contambation  10 Contambation  10 Contambation  10 Contambation  10 Contambation  10 Contambation  11 Contambation  12 Contambation  13 Contambation  14 Contambation  15 Contambation  16 Contambation  17 Contambation  18 Contambation  19 Contambation  19 Contambation  10 Contambation  10 Contambation  10 Contambation  10 Contambation  10 Contambation  10 Contambation  10 Contambation  10 Contambation  10 Contambation  11 Contambation  12 Contambation  13 Contambation  14 Contambation  15 Contambation  16 Contambation  17 Contambation  18 Contambation  19 Contambation  19 Contambation  10 Contambation  10 Contambation  10 Contambation  10 Contambation  10 Contambation  10 Contambation  10 Contambation  10 Contambation  10 Contambation  10 Contambation  10 Contambation  10 Contambation  10 Contambation  10 Contambation  10 Contambation  10 Contambation  10 Contambation  10 Contambation  10 Contambation  10 Contambation  10 Contambation  10 Contambation  10 Contambation  10 Contambation  10 Contambation  10 Co	GENERAL  1. A point application should be submitted to as to arrive at the ACPWA office five days prior to proposed starting date.  2. Submit to ACPWA within 60 days after completion of perindical original Dependent of Waler Resources.  Well Completion Report.  3. Permit is void if imajust not begun within 90 days of approval date.  D. WATER SUPPLY WELLS  1. Minimum surface seal thickness is two inches of cernoni grout placed by tremic.  2. Minimum seal depth is 50 feet for municipal and industrial wells or 20 feet for domestic and infigation wells unice; a loster depth is appealably upproved.  C. VIROUNDWATER MONIFORING WELLS  1. Minimum surface seal thickness is two inches of
PROPURED WATER SUPPLY WELL USE  New Dromerlie 11 Replacement Dornestic  Mundenpal 11 Intigation 11  Intigation 11  Other 11  DRILLING METHODS:  Mud Romy 11 Air Rutary 1. Augor X  Cable 11 Other 11  DRILLER'S NAMI! PRECISION DY MING  DRILLER'S LICITISH NO. 436387	connect grout placed by partic.  2. Minimum scal depth for monitoring walls in the maximum depth for monitoring walls in the maximum depth practicable at 20 feet.  D. GEOTECHNICAL  Hapialli dope hale by trapic with connect grout or commit groutered mixture. Upper two-than feet replaced in kind or with compacted cuttings.  R. CATHODIC  Pill hale anode zone with concrete placed by hornic.  P. WELL, trestruction  Sand a map of work site. A separate pormit is required for wells decopy than 45 feet.  G. Apperent, Conditions  M. M. J.
WELL PROJECTS  Deli Holo Diameter 8 in Maximum Chaling Diameter 2 in Depth 40 r. Surface Foal Republ 28 r. Owner's Well Number MW-4C	NOTE: One application must be ruimfilled for each well or well desquested. Multiple burings on our application are acceptable for gauteclastest and contamination investigations.
SECTICANICAL PROJECTS  Number of Radings Im	ansoy
ESTIMATUD COMPLETION DATE B/8/04  I hurshy agree is sumply with all requirements of this permit and Alamoda County Ordinal APPINCANT'S EIGHATURE DATE 4/2  PLEASIS PRINT NAMIS MOST MEYERS ROYJO  OF COMBRIG Environmental	APPROVED  ALE No. 73-68.  2/04



WATER RESOURCES SECTION
199 ELMHURST ST. HAYWARD CA. 34544-1395
PHONE (\$10) 679-6633 James Yoo
PAX ESISTER-1339

PACTOR (SIGNATURE ATTACH A SITE MAP FOR ALL DRITTING PRAMIT APPLICATIONS DESIRUCTION OF WELLS OVER 45 PRET REQUIRES A BEFARATE PERMIT APPLICATION

FOR APPLICANT TO COMPLETE  LOCATION OF PRIJECT 1137-1167 65th Street  12 Oakland, Ca	PIRMIT NUMINIA WH-0474 WILL NUMBER APN
The property of the same of the property of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same o	PERMIT CONDITIONS Citaled Permit Requirements Apply
CLIENT Nome Fredric Schrag Addrew 6701 Shehmand 5t Phone 510-452-2411 Chy Energille 21p 94608  APPLICANT Name Climbria Environmental Technology, nc Ath: Matt Mexics Addrew 5700 Hollis St. Sinte A Phane 510-420-1314 Civ EmeryVIIIs 21 Sinte A Phane 510-420-1314	A. GENRICAL  1. A posmit application should be submitted to as to serve at the ACTWA office five days prior to propuled starting date.  2. Submit to ACTWA within 60 days after completion of posmitude original Eupantment of Water Resources.  Well Completion Report  3. Formit is void if project not began within 90 days of approval date  D. WATER SUPPLY WELLS
TYPR OF PROJECT  Wall Construction  Calpodio Protection  Water Supply  Monitoring  PROPERSED WATER SUPPLY WELL USE  Professed WATER SUPPLY WELL USE  Professed II Replacement Duricatio  Municipal II Infigation  II	1. Minimum surface seal thickness is two inches of common grout placed by trance.  2. Minimum stal dopul is 50 fect for musicipal and industrial wells of 20 fect for domestic and influsion wells unicat a lesser dopul is specially approved-wells unicat a lesser dopul is specially approved-theology of the MONTORING WELLS in Catalogues of the Montorians will be seal thickness is two inches of communicating grout placed by framiu.  2. Minimum seal depth for monitoring wells is the maximum depth practicable of 20 feet.
Industrial 11 Other 11  DRILLING METHODS:  Mud Robery 11 Air Robery 1. Augor X  Cubic 11 Other 11  DRILLING NAME PCCISION Dri Ving  DRILLING NAME PCCISION Dri Ving  DRILLING NAME VICTORIE NO. U3U387	P. CEOTECINICAL  Rackfill bore hole by bomble with across grout or centent groutized mixture. Upper two-three feet replaced in kind or with correspond cultives.  P. CATHODIC  Fill hole anodo some with concrete placed by travia.  F. WELL DESTRUCTION  Sond a map of work size. A separme parmit is required for wolly dauper than 45 feet.  SEBCIAL CONDITIONS  MW#1
WELL PROJECTS  Drill Note Districtor 8 in. Maximum Chains Districtor 8 in. Dorth 15 h. Surface York Depth 15 h. Optic Well Number MW - SA	DOTE: One application must be submitted for each well or well destruction. Multiple hurilist on one application are acceptable for gentrelinkel and contamination investigations.
Number of American In Death R	MANY 1,0 V-O4
ESTIMATED STARTING DATE 4/30/04 LISTIMATED COMPLETION DATE: 6/8/04.	APPROVED DATE
Thereby agree to comply with all requirements of this permit and Alamada County Ordham  APPLICIANT'S SICHATURE DATE 4/2;  PLICASH PRINT NAME Matt Meyers Ravidous Arvidous 4 (	

APR-22-2004 16:31

CAMBRIA



### ALAMEDA COUNTY PUBLIC WORKS AGENCY

WATER RESOURCES SECTION
399 ELMHURET ET. HAYWARD CA. 94644-1395
PHONE (510) 670-4633 James Yee
PAX (310)782-1939

PAX (310)782-1939 APPLICATION FERALE ATTACH A SITE MAP FOR ALL DRILLING FERMIT APPLICATIONS DESTRUCTION OF WELLS OVER 45 PRET REQUIRES A SEPARATE PERMIT APPLICATION

DRILLING PERMIT	APPLICATION
FOR APPLICANT TO COMPLETE LOCATION OF PRINCIPLE 1137-1167 65th Street 10. Oakland, Ca	PERMIT NUMBER
	PREMIT CONDITIONS Citated Ferrals Requirements Apply
CELICHT  Name Fredric Schrad  Adilians 101 Shellmond St. Phona 510-162-24 11  City Emperatile 21 94108  APPLICANT  Name Cambria Environmental Technology, 100.  Attn: Matt Meners  Pas 510-410-1314  Phone 310-410-1314  Phy 541008	CRNERAL  1. A permit application should be entimitted so at to arrive at the ACPWA office five days prior to properly stating date.  2. Bubmit to ACPWA within 60 days after rempletion of permitted existing languages of Waler Resources.  Well Completion Report.  3. Permit is yold if project not begun within 90 days of approval date  D. WATER SUPPLY WELLS
TYPE OF PROJECT  Well Construction  Cathodia Protection  If General  Contemporaries  Walt Supply  Monitoring  Walt Destruction  I	1. Minimum surface scal shickness is two faction of content grout placed by trombe.  2. Minimum seal depth is 50 feet for musicipal and industrial wells of 20 feet for domentic and infiguity molls uniters a losses depth is specially approved.  C. GROUNDWATER MONITORING WELLS  INCLUDING TEXAMPTERS
PROPOSED WATER SUPPLY WELF, USE  New Domestic 11 Replacement Domestic 1  Municipal 11 Regulors 11  Industrial 11 Other 11  DRILLING METHOD:	I. Minimum surface seal thickness is two inches of comant frout placed by transa.  2. Minimum stal double for monitoring wells in the musinum depth practicable of 20 feet.  D. GEOTFCINICAL Hackfill bare hold by transactioning grout or coment
Mud Rotory   Air Rotory : Allger X Cable   Other   I  DRILLAR'S NAME Precision Drilling	granthend minum. Upper two-three feet replaced in kind or with compacted entlines.  E. CATHODIC  Fill hole anode some with concrete placed by fremie.  P. WELL, DESTRUCTION
WELL PROJECTS Dell Hole Discovery 8. In. Maximum Chaing Diameter 12. In. Depth 12. A.	Sond a map of work stand separate permit is required for wells despect than 45 fout.  G. STECLAR CONDITIONS
Chaing Diamond 2 in. Depth 12 a. Surper Seal Depth 52 a. Owner's Well Number MW - LeA  GEOTRETINIENT FROJECTS  Number of Novings	for goolechnical and contamination investigations.
INTIMATED STARTING DATE 4/30/04 INTIMATED COMPLETION PATE: 8/8/04	APPROVED WATE 498 OF
PLEASH PRINT NAME: Math Meyers Roy-3-0  COLLAND TO REVISE PRINT NAME: Math Meyers Roy-3-0	2/04 ( )

P.11/14



### ALAMEDA COUNTY PUBLIC WORKS AGENCY

WATER RESOURCES SECTION
199 ELMHURST ST. HAYWARD CA. 94544-1395
FILONE (S10) 670-6633 Jumm You
FAX (S10)743-1999

PAX (510)783-1939
APPLICANTS: PLEASE ATTACH A SITE MAP FOR ALL DRIFLING PERMIT APPLICATIONS DESTRUCTION OF WELLS OVER 45 REET REQUIRES A SEFABATE PREMIT APPLICATION

LOCATION CIT PRIMITY 1137-1167 65th Street	PERMIT NUMBER
	PERMIT CONDITIONS Circled Fermit Requirements Apply
CLIENT NAME Fredric Schran St. Phone 510-652-24 // Androw Live Shellmand St. Phone 510-652-24 // City Emery ille Zip 94608	A. GENERAL  1. A permit application should be submitted so as to arrive at the ACPWA office five days prior to proposed starting date.  2. Submit to ACPWA within 60 days after completion of permitted original Department of Water Resources.
APPLICANT Name Cambria Environments L. Technology, Inc. Name Most Meyers Not the St. Suite A Phone F10-420-1314 No theoryville No 1410-1314	Well Completion Report  1. Fermit is void if project not begun within 90 days of approval data  1. WATER SUPPLY WELLS  1. Minimum surface seed chickwers is two inches of
TYPE OF PROJECT  Well Construction Cathodic Protection Water Supply Monthwing  Well Destruction  Well Destruction	central group placed by trende.  2. Minimum seal depth is 30 feet for municipal and industrial walls of 20 feat for the municipal and industrial walls of 20 feat for the approved.  C. GROUNDWATER MONITORING WELLS  INCLUDING PIEZOMPTIMS
PROPERTY WATER SUPPLY WILL USE: New Domestic 11 Replacement Domestic 11 Integrition 11 Industrial 11 Other 11	1. Minimum out free seal thickness is two inches of cercent group placed by trumic.  2. Minimum seal dapth for manifesting wells is the maximum depth practicable of 20 feel.  D. GEOTECHNICAL
DRILLING METHODS  MED ROSSIN 1. AIR ROSSIN : Auger X Cable 11 Other 11  DRILLER'S NAME PCRCISION DVI VING	Booksil bore hole by trends with content grout of central grouts and mixture. Upper two-three feet repliced in kind or with compacted cuttings.  E. CATHODIC  Fill hole and o some with contract placed by trems.
DRULLIFR'S LICENSR NO. 436387	P. WELL DESTRUCTION  Sond a map of work steen separate paradic is required  for woils desport than 45 foot.  APRILAB-CONDITIONS
Drill Hole Districted 8 in Maximum Casing Diameter 2 in Depth 22 in Surface Seal Depth 114 in Owner's Well Number 118	NOTE: One application must be submitted for each well or well described in Multiple burings on one application are acceptable for souterholes and contamination investigations.
Number of Borings Meximum    Number of Borings   Meximum   Depth   Depth   Depth   Depth   Depth   Depth   Depth   Depth   Depth   Depth   Depth   Depth   Depth   Depth   Depth   Depth   Depth   Depth   Depth   Depth   Depth   Depth   Depth   Depth   Depth   Depth   Depth   Depth   Depth   Depth   Depth   Depth   Depth   Depth   Depth   Depth   Depth   Depth   Depth   Depth   Depth   Depth   Depth   Depth   Depth   Depth   Depth   Depth   Depth   Depth   Depth   Depth   Depth   Depth   Depth   Depth   Depth   Depth   Depth   Depth   Depth   Depth   Depth   Depth   Depth   Depth   Depth   Depth   Depth   Depth   Depth   Depth   Depth   Depth   Depth   Depth   Depth   Depth   Depth   Depth   Depth   Depth   Depth   Depth   Depth   Depth   Depth   Depth   Depth   Depth   Depth   Depth   Depth   Depth   Depth	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
ENTIMATED NEARTING DATE 4/30/04 ENTIMATED COMPLETION DATE 5/8/04	APPROVED DATE A TO
APPLICANT'S SIGNATURE.	2/04
of Cambria Environmental	Technology, Inc.



DRILLING PERMIT APPLICATION

WATER RESOURCES SECTION
199 ELMHURST ST. HAYWARD CA. 94544-1395
FUONE (319) 670-4633 James Yeo
BAX (519)782-1939

PAX (519)752-1939
APPLICANTS: PLRASE ATTACTI A SITE MAP FOR ALL UDITLING PERMIT APPLICATIONS DESTRUCTION OF WELLS OVER 45 FEET REQUIRES A SEPARATE PERMIT APPLICATION

OCATION OF PRINCIP 1137-1167 65th Street	PERMIT NUMBER WOLL NUMBER
The state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the s	PLEMIT CONDITIONS Circled Perfait Regulterments Apply
THENT  Norma Fredric Schron  Address 6701 Shellengerd St. Phone 510-652-24 11  Thy Energy: He 219 94608  APPLICANT  Name Camber a Environmental Technology, 10.  Atta: Math Meyers Van 510-420-9170  Address 5700 Hollis St., Suite A Phone 510-420-1314  Thy Emeryville 75p 94608	A. GENERAL  1. A permit application should be submitted to as to arrive at the ACPWA office five days prior to propuled evening date.  2. Submit to ACPWA within 60 days after completion of permitted original Department of Water Resources.  Well Completion Report.  3. Permit is void if project not began within 90 days of approval date  to WATER SUPPLY WELLS
FYPR OR PROJECT  Well Construction  Chalcolle Protection  Under Supply  Honority  Well Destruction  Well Destruction	1. Minimum authoo seal thickness is two inches of coment grout placed by trainic.  2. Minimum seal depth is 50 feet for municipal and industrial wells or 20 feet for domestic and intestion wells unless a lesser depth in specially approved.  C. CHOUNDWATER MONTFORING WELLS INCLUDING PLEZOMETERS
PROPOSED WAYER SUPPLY WILL USE  New Donnestic 11 Replacement Domestic '   Municipal 11 Intigation '11     Industrial 41 Other 11	1. Minimum surface such thickness is two inches of commit grout pluced by fromis. 2. Minimum seed depth for transitoring wells is the fractioning depth practicable or 20 feel.  D. GEOTECHNICAL
NRILLING METITOD:  Mud Rothry ロ Air Rotary : Augus メ  Cable ロ Other II	Packsil boro hold by bounds with current grout or remont grout and mixture. Upper two-three Rot replaced in kind or with compacted cultings.  CATHODIC
DRILLER'S NAMI PRECISION DECLING	Fill hale anode zone with concrute placed by trombe.  P. WELL DESTRUCTION  Sand a map of work size. A reparate permit is required
WILL PROJECTS  Drill Hold Distractor  Casing Distractor  Surface Scal Depth 40 R  Owner's Well Number MW-6	for we'll doupor than 45 feet.  MOTR: One application must be submitted for each we'll at woll destruction. Maltiple burings on one application are acceptable for geotuchnical and contamination investigations.
GEOTECHNICAL PROJECTS  Number of florings hi tepth ft.	(1-0.57)
ESTIMATED STARTING DATE 4/30/04  ISTIMATED COMPLETION DATE: 5/3/04	APPROVED WATE MORTON
Thereby agree is comply with all requirements of this permit and Alameda County Profin  APPLICIANT'S RICHATURM  DATE 4/:  PLEASIS PRINT NAME Matt Meyers  Ray,3.  OF Cambria Environmenta	27/04 04-02



CAMBRIA .....

WATER RESOURCES SECTION 399 ELMHURST ST. HAYWARD CA. 94544-1395 FILONE (510) 670-6433 James Yoo

PAX (RIGITER-1999)
APPLICATION OF WELLS OVER 45 RET REQUIRES A SEPARATE PEXMIT APPLICATIONS
DESTRUCTION OF WELLS OVER 45 RET REQUIRES A SEPARATE PEXMIT APPLICATION

OCATION OF PRIMITY 1137-1167 65th Street	PERMIT NUMBER WILL NUMBER
History of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the contro	PERMIT CONDITIONS Circled Found Requirements Apply
Address [1] Shellemend St. Phone 510-162-24 11  Thy Emery INC. 2p 94608  APPLICANT  Name Campria Environmental Technology 10.  Atta: Matt Mayers For 190-190  Address 500 Hollis St. Suite A Phone 510-470-1314  The Emery VIII. 21p 941000	GRNERAL  I. A permit application should be submitted as as in arrive at the ACPWA office five days prior to proposed starting date.  2. Submit to ACPWA within 60 days after completed of Acronical original Department of Water Resources.  Well Completion Report.  Permit is void if project not begun within 90 days of approved date.  D. WATER SUPPLY WELLS
TYPR OF PROSECT  Well Construction	1. Minimum surfect foal thickness is two inches of certail grout placed by fromic.  2. Minimum seal depth it 50 feet for municipal and industrial wells of 20 feet for domache and irrigation wells unless a baser depth is specially approved.  C. CROUNDWATER MONITORING WELLS INCLUDING PREZOMETERS
PROPERTY WATER SUPPLY WELL USE: New Domestic II Replacement Domestic III Replacement Domestic III Infestion III Infestion III Infestion III Infestion III Infestion III Infestion III Infestion III Infestion III Infestion III Infestion III Infestion III Infestion III Infestion III Infestion III Infestion III Infestion III Infestion III Infestion III Infestion III Infestion III Infestion III Infestion III Infestion III Infestion III Infestion III Infestion III Infestion III Infestion III Infestion III Infestion III Infestion III Infestion III Infestion III Infestion III Infestion III Infestion III Infestion III Infestion III Infestion III Infestion III Infestion III Infestion III Infestion III Infestion III Infestion III Infestion III Infestion III Infestion III Infestion III Infestion III Infestion III Infestion III Infestion III Infestion III Infestion III Infestion III Infestion III Infestion III Infestion III Infestion III Infestion III Infestion III Infestion III Infestion III Infestion III Infestion III Infestion III Infestion III Infestion III Infestion III Infestion III Infestion III Infestion III Infestion III Infestion III Infestion III Infestion III Infestion III Infestion III Infestion III Infestion III Infestion III Infestion III Infestion III Infestion III Infestion III Infestion III Infestion III Infestion III Infestion III Infestion III Infestion III Infestion III Infestion III Infestion III Infestion III Infestion III Infestion III Infestion III Infestion III Infestion III Infestion III Infestion III Infestion III Infestion III Infestion III Infestion III Infestion III Infestion III Infestion III Infestion III Infestion III Infestion III Infestion III Infestion III Infestion III Infestion III Infestion III Infestion III Infestion III Infestion III Infestion III Infestion III Infestion III Infestion III Infestion III Infestion III Infestion III Infestion III Infestion III Infestion III Infestion III Infestion III Infestion III Infestion III Infestion III Infestion III Infestion III Infestion III In	1. Minimum surface and thickness is two inotes of condut grout placed by frontie. 2. Minimum soal depth for mentiuring wells is the manimum depth practicable or 20 feet.  D. CROTECHNICAL
INNICANCE METHODS  Mul Rotary 1 Air Rotary 5 August X  Cable 11 Other 11	thanklif bore hold by points with united grout of oursell grout and inkind grout and inkind or with composed cultings.  E. CATHODIC
DRILLER'S LICTUSE NO. USUS 87	Fin hule anode some with concrumplated by trumin.  P. WELL DESTRUCTION  Soul a map of work size, A separate permit is required for wolk-decorated and 5 first.
WEEL PROJECTS  Dill Hole Dierreter 8 in. Maximum Chaing Diamotel 4 m. Depth 15 a Surface Scal Depth 10 n. Owner's Well Number MW-7A	MOTE: One application must be submitted for each well or well described, Multiple burings on one application are acceptable for geologistical and contamination investigations.
HEUTRETHINGAL PROJECTS  Number of Advings Maximum  Hole Discreter III Lepth R	1/20 -
ENTIMATED STARTING DATE 4/30/04 LENTIMATED COMPLETION DATE 5/8/04	APPROVED DATE DATE
I hereby agree is sumply with all requirements of this permit and Alameda County Ordina	, , , , , , , , , , , , , , , , , , ,
PLEASH PRINT NAMIS 114H Meyers ROVJA  of Cambria Environmenta	12/04 1 Technology Inc.
APPINANT'S RIGHATURE ,OATE 4/2	-
PLEASHPRINT NAME Not Meyers Royal  OF Combrid Environmental	



### ALAMEDA COUNTY PUBLIC WORKS AGENCY WATER RESOURCES SECTION 399 ELMHURST ST. HAYWARD, CA. 94544-1395 PHONE (510) 670-6633 James Yoo FAX (510) 782-1939

PERMIT NO. W04-0467-0478

## WATER RESOURCES SECTION GROUNDWATER PROTECTION ORDINANCE MW#I-GENERAL CONDITIONS; MONITIORING WELL

- 1. Prior to installation of any monitoring wells into any public right-of-ways, it shall be the applicants responsibilities to contact and coordinate a Underground Service Alert (USA), obtain encroachment permit(s), excavation permit(s) or any other permits required for that City or to the County and follow all City or County Ordinances. It shall also be the applicants responsibilities to provide to the Cities or to Alameda County a Traffic Safety Plan for any lane closures or detours planned. No work shall begin until all the permits and requirements have been approved or obtained.
- 2. The minimum surface seal thickness two inches of cement grout placed by tremic.
- 3. All monitoring wells shall have a minimum surface cement seal depth of five (5) feet or the maximum depth practicable or twenty (20) feet.
- 4. Wells shall have a Christy box or similar structure with a locking cap or cover. Well(s) shall be kept locked at all times. Well(s) that become damaged by traffic or construction shall be repaired in a timely manner or destroyed immediately (through permit process). No well(s) shall be left in a manner to act as a conduit at any time.
- 5. Permitte, permittee's, contractors, consultants or agents shall be responsible to assure that all material or waters generated during drilling, boring destruction, and/or other activities associated with this Permit will be safely handled, properly managed, and disposed of according to all applicable federal, state, and local statues regulating such. In no case shall these materials and/or waters be allowed to enter, or potentially enter, on-or off site storm sewers, dry wells, or waterways or be allowed to move off the property where work is being completed.
- 6. No changes in construction procedures or well type shall change, as described on this permit application. This permit may be voided if it contains incorrect information.
- 7. Drilling Permit(s) can be voided/ canceled only in writing. It is the applicants responsibilities to notify Alameda County Public Works Agency, Water Resources Section in writing for an extension or to cancel the drilling permit application. No drilling permit application(s) shall be extended beyond ninety (90) days from the original start date. Permit is valid from April 30 to May 8, 2004. Applicants may not cancel a drilling permit application after the completion date of the permit issued has passed.
- 8. Compliance with the above well-sealing specifications shall not exempt the well-scaling contractor from complying with appropriate State reporting-requirements related to well destruction (Sections 13750 through 13755 (Division 7, Chapter 10, Article 3) of the California Water Code). Contractor must complete State DWR Form 188 and mail original to the Alameda County Public Works Agency, Water Resources Section, within 60 days. Including: permit number and site map.
- 9. Permittee shall assume entire responsibility for all activities and uses under this permit and shall indenuify, defend and save the Alameda County Public Works Agency, its officers, agents, and employees free and harmless from any and all expense, cost, liability in connection with or resulting from the exercise of this Permit including, but not limited to, properly damage, personal injury and wrongful death.





### ALAMEDA COUNTY PUBLIC WORKS AGENCY

WATER RESOURCES SECTION
399 ELMHURST ST. HAYWARD CA. 94544-1395
PHONE (510) 670-6633 James You

FAX (\$10) 782-1939

WWW,acfewed.byg

APPLICANTS: PLEASE ATTACH A SITE MAP FOR ALL DRILLING PERMIT APPLICATIONS

DESTRUCTION OF WELLS OVER 45 FEET REQUIRES A SEPARATE PERMIT APPLICATION

DRILLING PERM	AT APPLICATION
FOR APPLICANT TO COMPLETE  OCATION OF PROJECT 137-1167 65 5+	PERMIT NUMBER WELL NUMBER APN
CLIENT Juhn Mady Address 167 GFB 157 Phone 5(2-420-3338)  City Oakland Zip 34603  APPLICANT ASON CICEN  Fax 510-420-9170  Address 5300 1611.5, SEC Phone 511-420-3338  City Endergravitly, C14 Zip 94603	PERMIT CONDITIONS  Circled Fermit Requirements Apply  A. GENERAL.  1. A parmit application should be submitted so as to arrive at the ACPWA office five days prior to proposed starting date.  2. Fubmit to ACPWA within 60 days after completion of germitted original Department of Water Resources—Well Completion Report.  3. Permit is void if project not begun within 90 days of approval date.  B. WATER SUPPLY WELLS
TYPE OF PROJECT  Well Construction  Cathodic Protection  Water Supply  Munitoring  General  Well Destruction  Well Destruction	I. Minimum surface scal thickness is two inches of cement grout placed by tremie.  2. Minimum seal depth is 50 feet for municipal and industrial wells or 20 feet for domestic and irrigation wells unless a lesser depth is specially approved.  C. CROUNDWATER MONITORING WELLS
PROPOSED WATER SUPPLY WELL USE  Now Donnestic Replacement Domestic  Municipal Infigation  Other  ORHLING METHOD:  Mud Rotary Air Rotary  Cablo Other  ORHLIER'S NAME Place's Sion Sampling  ORHLIER'S LICENSE NO. C57-636387	INCLUDING PIEZOMETERS  1. Minimum surface seal thickness is two inches of coment grout placed by tremis.  2. Minimum seal depth for monitoring wells is the maximum depth practicable or 20 feet.  D. GEOTECHNICAL/CONTAMINATION  Backfill bore hole by tremie with cement grout or cement grout/sand mixture. Upper two-three feet replaced in kind or with compacted cuttings.  E. CATHODIC  Fill hole unode zone with concrete placed by tremic.  P. WELL DESTRUCTION
WELL PROJECTS  Drill Hole Diameter  Casing Diameter  Depth  Depth  Depth  Number  MW-48	Send a map of work site A saparate permit is required for wells deeper than 45 feet.  Special-Conditions  NOTE: One application must be submitted for each well or well destruction. Multiple borings on one application are acceptable for geotechnical and contamination investigations.
Number of Borings Maximum Hole Diameter In. Depth h.	
hereby agree to comply with all requirements of this permit and Alameda County Ordin	DATEDATE
APPLICANT'S BIONATURE DATE 5	

#### CITY OF OAKLAND . Community and Economic Development Agency 250 Frank H. Ogawa Plaza, 2nd Floor, Oakland, CA 94612 • Phone (510) 238-3443 • FAX (510) 238-2263

Job Site 1167 65TH ST

Parcel# 016 -1505-011-03

Appl# X0401968

Descr install 6 wells on Peabody Lane all monitoring wells

Permit Issued 05/05/04

Work Type EXCAVATION-PRIVATE P

USA #

Util Co. Job # Util Fund #:

Acctq#:

Applent

Lic# --License Classes--

Owner JOHN NADY

Contractor

Arch/Engr PRECISION SAMPLING TOWN MEVERS

Phone#

\$291.84 TOTAL FEES PAID AT ISSUANCE \$51.00 Applic \$205.00 Permit \$.00 Process \$23.04 Rec Mgmt

\$.00 Gen Plan

\$.00 Invstq

\$.00 Other

\$12.80 Tech Enh

CITY OF OAKLAND Community & Economic Development Agency 250 Frank H. Ogawa Pl, Oakland CA, 34612 Phone: (510)238-3587 FAX: (510)238-2263

### PAYMENT RECEIPT

======================================	114
Application#: XB4B1968 APPLICATION FEE EXCAVATION PERMIT RECORDS MANAGEMENT FEE ( TECHNOLOGY EMHANCEMENT FE Subtotal:	Payment#: 861 \$51.00 \$205.00 \$23.04 \$12.80 \$291.84

Sales Tax: ***** TOTAL PAID: \$.00 ************************************

Check Payment:

\$291.84

. ayor: CAMBRIA ENVIRON CK3822 CK 302 Date: 95/05/04 Time: 15:10:59

By: ANL Register R03 Receipt# 087982 ORIGINAL RECEIPT REQUIRED FOR REFUND



# **EXCAVATION PERMIT**

CIVIL ENGINEERING

TO EXCAVATE IN STREETS OR OTHER SPECIFIED WORK

APPROX. START DATE  5   21   0 4   26   5   24   0 4   3   5   24   0 4   5   24   0 4   5   24   0 4   5   24   0 4   5   24   0 4   5   24   0 4   5   24   0 4   5   24   0 4   5   24   0 4   5   24   0 4   5   24   0 4   5   24   0 4   5   24   0 4   24   1   0 4   24   1   0 4   24   1   0 4   24   1   0 4   24   1   0 4   24   1   0 4   24   1   0 4   24   1   0 4   24   1   0 4   24   1   0 4   24   1   0 4   24   1   0 4   24   1   0 4   24   1   0 4   24   1   0 4   24   1   0 4   24   1   0 4   24   1   0 4   24   1   0 4   24   1   0 4   24   1   0 4   24   1   0 4   24   24   24   24   24   24   2	APPROX. START DATE APPROX. END DATE 74-HOUR EMERGENCY PHONE NUMBER  5/7/04 5/21/04 (Permit and valid without 24-Hour emember) 1-888-881-4367  CONTRACTOR'S LICENSE # AND CLASS  CITY BUFFLEES TAX #	
CONTENDED DEPOSE # AND CLASS  CTY BUBDLESS TAX # 559 Lo28  ATIENTICH:  Shed per requires that the conferenteriower call Underground Service, short (1554) two working days before near raine. This permit is not valid unless applicant has received the projective that the conferenteriower call Underground Service, short (1554) two working days before near raine. This permit is not valid unless applicant has received by USA. The USA telephone number in 1500; 642-2444. UNDERGROUND SERVICE ALERT (1556) F. L500/GT.  All hours prior to starting work, YOU MUST CALL (510) 238-3651 TO SCHEDULE AN INSPECTION.  OWNERPOULDER  Inserting there is a support, because the Competitor's License Law for the Addressing times for the Addressing times and productions Code. Any thy or commy which, requires a point in the support, demanding the permit to the provision of the Conference of the property, or an expert prior to the Inserting the permit to the provision of the Conference of the property, or an expert prior to the conference of the prior to the Addressing the Addressing the Addressing the Addressing the Addressing the Addressing the Addressing the Addressing the Addressing the Addressing the Addressing the Addressing the Addressing the Addressing the Addressing the Addressing the Addressing the Addressing the Addressing the Addressing the Addressing the Addressing the Addressing the Addressing the Addressing the Addressing the Addressing the Addressing the Addressing the Addressing the Addressing the Addressing the Addressing the Addressing the Addressing the Addressing the Addressing the Addressing the Addressing the Addressing the Addressing the Addressing the Addressing the Addressing the Addressing the Addressing the Addressing the Addressing the Addressing the Addressing the Addressing the Addressing the Addressing the Addressing the Addressing the Addressing the Addressing the Addressing the Addressing the Addressing the Addressing the Addressing the Addressing the Addressing the Addressing the Addressing the Addressing t	5/7/04 5/21/04 (Permit and valid without 24-Hour number) 1-888-881-4367  CONTRACTOR'S LICENSB # AND CLASS  CITY HUEDNESS TAX #	•
C57 U3URS7  ATTENTION:  D. Sans law requires that the contemendation are call Underground Lecture Asies (USL) was swriting days before concreting. This perma is not valid unions applicant has accounted in inquiry identification number is smoot by USA. The USA Indeplace number is 1 (800) 647-264. UNDERGROUND HERVICE ALERT (USA) &IS_OC/GT.  T. 48 Incurs prior to Starting work, YOU MUST CALL (510) 238-3651 TO SCHEDULE AN INSPECTION.  OWNER/BUILDER  Incrity aftern that I am example from the Concessor's Licrose Lew for the following reason (Sec., 7031.5 Basinose and Professionae Code: Any slay or county which requires a permit is construct, when, improve, seasoning with Sec., 7000 of Deriving of the Desires and Professional Code. The business that he is incomed pursuant is to be provided and the Confessional Code. The Desires and Professional Code. The business are all references and the business of the business are distributed from the construct, when improve the Confessional Code. The Contractive I Licrose Lew does not construct the property of the Confessional and Professional Code. The Contractive I Licrose Lew does not complete the options of the property, or any complete and the Code of the Professional Code. The Contractive I Licrose Lew does not complete the upplication to a graph code of the property. The the business are constructed to the complete the professional Code. The Contractive I Licrose Lew does not apply to an error code of the property, or any complete and apply to an error code of property who has been improved as a professional Code. The Contractive I Licrose Lew does not apply to an error of property who has been improved to the profession of the property. The property of the code of the profession of the profession of the profession of the profession of the profession of the profession of the profession of the profession of the profession of the profession of the profession of the profession of the profession of the profession of the profession of the profession of the profession of the		
The Date propries that the nonthwarberlowner call Underground Service Asier (UAS) was warting days before excersing. This permit is not vided unless applicant has accounted an experity detailed action analysis (UAS). The USA indephone number is 1 (803) 647-264. UNDERGIOUND BRUVEC ALERT (USA) is _15-QOGGT	C51 636387 559 628	
DATE TREET LAST  NORKETS COMPLEXION.  In the construct, above, insperve, denoted, or repart any structure, prior to the heumens, above requires the synthesis for such persists of the original standards that he is from the pursuant to the reactions, above, insperve, denoted, or repart any structure, prior to the heumens, above requires the synthesis for such persists of file or rigard standards that he is from any structure to the reaction of the content of the content to the realized canagetes. Any violation of Society (731.5 by any applicant for a permit miligrant to a civil penalty of not more than to compute the realized canagetes. Any violation of Society (731.5 by any applicant for a permit miligrant to a civil penalty of not more than 2500):  It is no common of the priority or any complyous with wages as their society color compositions, will do the vorte, and the structure is not similared or offered for sule. If a boverow, the building or improvements is not visible, the conversibility will have the provinced than another improvements are not intended or offered for sule. If aboverow, the building or improvements is not visible, the conversibility will have the priority of the priority and priority of the priority will have the priority of the priority of the priority of the priority of the priority of the priority of the priority of the priority of the priority of the priority of the priority of the priority of the priority of the priority of the priority of the priority of the priority of the priority of the priority of the priority of the priority of the priority of the priority of the priority of the priority of the priority of the priority of the priority of the priority of the priority of the priority of the priority of the priority of the priority of the priority of the priority of the priority of the priority of the priority of the priority of the priority of the priority of the priority of the priority of the priority of the priority of the priority of the priority of the priority of the priori	1) State law requires that the contractor/owner call Underground Service Alert (USA) two provine days before averaging. This named is not will allow and	cured as
I hereby aftern dust I am excerpt from the Contractor's Licease Law for the following reased (dec. 7031.5 Business and Profusions Code: Any oby or comply which requires a permit to construct, abort, improve, demodian, or spair any absolutor, prior to lik becomes, also requires the speciate for one by permit to five a right of the contract, abort, improve, demodian, or spair any absolutor, prior to lik becomes, also requires the speciate for the permit and permit to contract the Contractor's Licease law of his Sec. TOO of Philado 3 of the Businesse and Profusion Code, or the he is Computation to the business of the permit to the increase therefore, and the busin for the Too of the Contractor's Herman Code.  I I as an invent of the property, or my complyous are any insteaded or offered for abo. If however, the building of improvers theretoes, and who does not happed to an overex of property debt do its profusion as the one of the purpose of a subclade or offered for abo. If however, the building of improvers theretoes, and who does not represent the analysis on the new of the purpose of the purpose of the purpose of the purpose of the purpose of the purpose of the purpose of the purpose of the purpose of the purpose of the purpose of the purpose of the permits of the work, and of the work, and (4) I line to not claimed to complicate on the work, and (4) I line to not claimed to completion on the permits of the permits of the purpose of the profuser of purpose of the permits of the purpose of the profuser of the purpose of the work, and (4) I line to not claimed to completion on the work, and the strain on the purpose of the profuser of the profuser of the purpose of the profuser of the profuser of the purpose of the profuser of the profuser of the profuser of the purpose of the profuser of the profuser of the profuser of the profuser of the profuser of the profuser of the profuser of the profuser of the profuser of the profuser of the profuser of the profuser of the profuser of the profuser of the profuser of the	7) 48 hours prior to starting work, YOU MUST CALL (510) 238-3651 TO SCHEDULE AN INSPECTION.	
It benefit after that I have a certificate of consent to salf-insure, or a cordificate of Worker's Compensation Insurance, or a certified copy thereof (Sec. 1700, Laker Code).  Policy & WCL B7   0.7 2.3 39 613 Company Name Livery Mrtual Fire Insurance Compliance of California (not required for work without this parasit is insued, I shall not compley may person in any granted to as to bestome subject to the Worker's Compensation Laws of California (not required for work valued at one hundred dollars (\$100) or loss).  NOTICE TO APPLICANT: If, after making this Confidence of Exemption, you should become subject to the Worker's Compensation provisions of the Labor Code, you must forthwith comply with such provisions or this permit shall be deemed revoked. This permit is issued pursuance to all provisions of Tate 12 Chapter 12.12 of the Oakland Municipal Code. It is greated upon the express condition that the possessive shall be responsible for all claims and liabilities arising out of work performed under the permit or arising out of promittees the Code, industry, sere and hold harmless the Code, in officers and exployers, from and against any and all suits, claims, or actions brought by any person for on account at fam by holding injuries, discuss or illuses or the anguage to persons and/on property sustained or arising in the conservation of the work performed under the permit is work performed under the permit under the permit is permit by unit 90 days from the thing them the of issuance makes an expension is granted by the Directory of the Office of Planning and Building.  Thereby affirm that I am Recused under provisions of Chapter 9 of Division 3 of the Business and Professions Code and my Decase is in full force and effort (if contention), that I have read this permit but I am Recused under provisions of Chapter 9 of Division 3 of the Business and Professions Code and my Decase is in full force and effort (if contention), that I have read this permit and under the permit in order of the Decase of the Content	construct, seed, improve, account, of repair any streature, prior to the festimen, also requires the explicant for such perguit to file a rigned attenues that he is fromed pursuant to provisions of the Contractor's License law Chapter 9 (commencing with Sec. 7000) of Division 3 of the Business and Professions Code, or that he is fromed pursuant to a single armystem. Any violation of Section 7031.5 by any applicant for a permit midject; the applicant to a civil penalty of not more than \$5007;  It is an owner of the property, or my employees with wages as their sole coopenastion, will do the work, and the structure is not inheaded or offered for sale (Sec. 7044, Busin Professions Code: The Contractor's License Law does not apply to us owner of property who builds or improvement is said within one year of completion, the owner-builder will have the order of proving that he did not build or improve for the purpose of sale).  If it is owner of the property, an except from the sale requirements of the above due to: (1) I am improving my principal piace of residence or apparentees thereto, (2) the we be performed prior to sale, (3) I have resided in the residence for the 12 months prior to completion of the work, and (4) I have not claimed examption on this subdivision on more supertures users than once during any three-year period, (Sec. 7044 Business and Professions Code).  The Contractor's License does apply to as owner of property who builds or improves thereon, and who opening arise to construct the project, (Sec. 7044, Business and Professions Code): The Contractor's License does not apply to as owner of property who builds or improves thereon, and who opening arise to construct the project, the contractor's License does not apply to as owner of property who builds or improves thereon, and who opening a for not construct the project, the contractor's License does not apply to an owner of property who builds or improves thereon, and who opening a contractor with a contractor of property who builds or improves the	the store the cross ployees, the criss than two
Expected upon the experies conficient that the permittee shall be responsible for all chims and limitifies arising out of work performed under the permit or arising out of permittee's failure to perform the obligations with respect to street enaishmance. The permittee shall, and by acceptance of the permittee to defend, indemnity, are and hold harmless the City, its officers and employees, from and against any and all suits, claims, or actions brought by any person for or on account of any bodity injuries, discass or illness or damage to persons said or property sustained or arising in the consequenced of the work performed under the permit or in consequence of permittee's failure to perform the obligations with respect to arrest nosintenance. This permit is void 90 days from the state of ismanoce makes as concession is granted by the Director of the Office of Planning and Building.  I hereby affirm that I am licensed under provincions of Chapter 9 of Division 3 of the Business and Professions Code and my license is in full force and effect (if contractor), that I have read this permit and agree to its requirements, and that the above information is true and correct under penalty of law.  Common of the City of the City of the City of the City of the City of the City of the City of the City of the City of the City of the City of the City of the City of the City of the City of the City of the City of the City of the City of the City of the City of the City of the City of the City of the City of the City of the City of the City of the City of the City of the City of the City of the City of the City of the City of the City of the City of the City of the City of the City of the City of the City of the City of the City of the City of the City of the City of the City of the City of the City of the City of the City of the City of the City of the City of the City of the City of the City of the City of the City of the City of the City of the City of the City of the City of the City of the City of the City of the City of	M. I banks of Control bear a sail rate of control by	7.
Spentage LAST  DATE STREET LAST  SPECIAL PAVING DETAIL  HOLDAY RESTRICTION  LIMITED OPERATION AREAS	I cortify that in the performance of the work for which this permit is insued, I shall not coupley my person in any manager so as to become attrict to the Worker's Connection	Limi
RESURPACED: GYBS: JONO GAMESAWA 4PM-SPM) DYES ONE	I cortify that in the performance of the work for which this permit is issued, I shall not compley any person in any manner so as to become subject to the Worker's Compensation of California (not required for work valued at one hundred dollars (\$100) or loss).  NOTICE TO APPLICANT: If, after making this Cartifleste of Exemption, you should become subject to the Worker's Compensation provisions of the Labor Cools, you must forten comply with such provisions or this permit shall be decared revulent. This permit is issued pursuant to all provisions of Title 12 Chapter 12.12 of the Oakland Municipal Code. It granted upon the express condition that the permittee shall be responsible for all chims and liabilities arising out of work performed under the permit or srising out of permittee's far perform the obligations with respect to street existent success. The permittee shall, and by acceptance of the permit of the work performs or illness or discuss or indensity, are and hold harmless the City, its or said employees, from and against any and all swint, claims, or actions brought by any person for or on account of any bodily injuries, discuss or illness or drange to persons substanced or arising in the consequence of the work performed under the permit respect to other substance of the work performed under the permit or in consequence of permittee's failure to perform the politications with respect to attent ministered.	Laws  with  in  ilura to  ficers

#### CITY OF OAKLAND . Community and Economic Development Agency

250 Frank H. Ogawa Plaza, 2nd Floor, Oakland, CA 94612 • Phone (510) 238-3443 • FAX (510) 238-2263

Job Site 1167 65TH ST

Parcel# 016 -1505-011-03

Appl# X0401967

Descr install 2 wells on 65th street

Permit Issued 05/05/04

all monitoring wells

Work Type EXCAVATION-PRIVATE P

USA #

Util Co. Job #
Util Fund #:

Acctg#:

Phone#

Lic# License Classes--

Owner JOHN NADY

Contractor

Arch/Engr PRECISION SAMPLING INC

X

Applent:

(510) 237-4575 636387

Agent MATT MEYERS

ELCHMOND, CA 394804

291.84 TOTAL FEES PAID AT ISSUANCE

\$51.00 Applic

\$205.00 Permit \$23.04 Rec Mgmt

\$.00 Process \$.00 Gen Plan

\$.00 Invstg

\$.00 Other

\$12.80 Tech Enh

ITE

CITY OF OAKLAND mmumity & Economic Development Agency & Frank H. Ogawa Pl, Oakland CA, 94612 one: (510)238-3587 FAX: (510)238-2263

#### PAYMENT RECEIPT

plication#: X0401967 Payment#: 001
PLICATION FEE \$51.00
CAVATION PERNIT \$205.00
CORDS MANAGEMENT FEE (\$23.04
CHNOLOGY ENHANCEMENT FE \$12.80
Subtotal: \$291.84

***** TOTAL PAID: \$291.84

Check Payment: \$291.84

yor: CAMBRIA ENVIRON #3622 ate: 05/05/04 Time: 15:09:57



rollers hold in

## **EXCAVATION PERMIT**

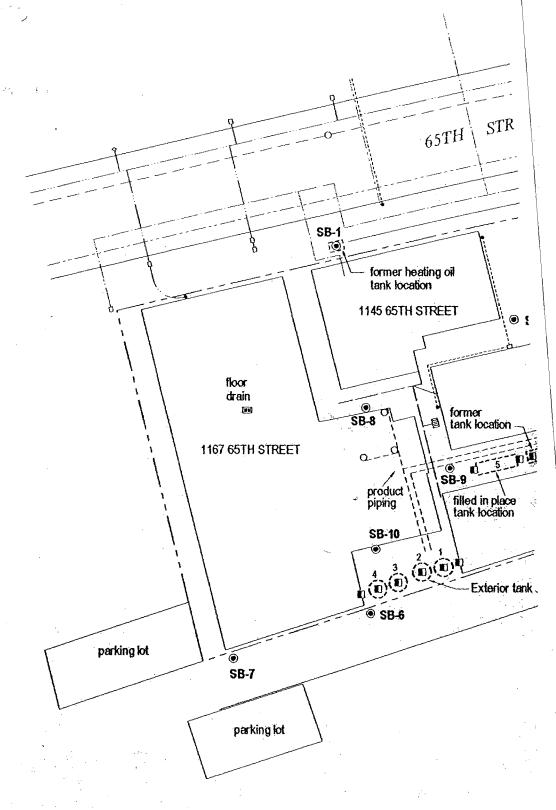
TO EXCAVATE IN STREETS OR OTHER SPECIFIED WORK

ENGINEERING

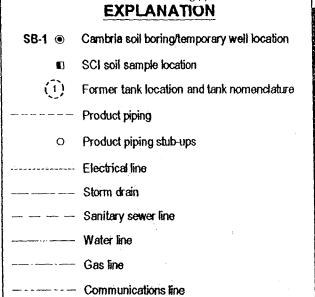
PAGE 2 of 2

ON 65+ ST

	0P 03 31
remain MUNABER X 0 4 0 1967	SITE ADDRESULOCATION 1167 65th Street, Oakland
APPROX. START DATE APPROX. END DATE	24-HOUR PMERGENCY PHONE NUMBER
5/7/04   5/21/04	(Permit and valid without 24-Hour mamber) 1-888-881-4367
CONTRACTOR'S LICENSB # AND CLASS  CTY BUSINESS TAX 1  C57 63687  ATTENTION:  State law requires that the contractor/owner call Underground Service Alert (USA) two working days before excavating. This points is not valid unless applicant has accurred an inquiry identification number is need by USA. The USA telephone number is 1 (800) 647-2444. UNDERGROUND SERVICE ALERT (USA) #: 150067	
ATTENTION:	
<ol> <li>State law requires that the contractor/owner call Underground Sen inquiry identification number issued by USA. The USA telephone</li> </ol>	where Alert (USA) two working days before excavating. This permit is not valid unless applicant has occurred an a number in 1 (800) 642-2444. UNDERGROUND SERVICE ALERT (USA) #: 150067
z) 48 hours prior to starting work, YOU MU	ST CALL (510) 238-3651 TO SCHEDULE AN INSPECTION.
OWNER/BUILDER	
provisions of the Contrastor's Licenso law Chapter 9 (commencing with Sec. alleged examption. Act violation of Section 7031.5 by any applicant for a per II as an owner of the property, or my employees with wages as their sole of Professions Code: The Contractor's License Law does not apply to us owner provided that such improvements are not intended or offered for sele. If howe borden of proving that he did not build or improve for the purpose of zelo. I i, as owner of the property, an exampt from the sale requirements of the a be performed prior to sale, (3) I have resided in the residence for the 12 month supertures more than ence during any three-year period, (Sec. 7044 Business at II, I, as owner of the property, an exclusively contracting with Researd contri	coopensation, will do the work, and the structure is not intraded or offered for sale (Sec. 7044, Basiness of property who builds or improves thereon, and who does such work himself or through his own employees, ever, the building or improvement is sold within one year of completion, the owner-builder will have the bowe due to: (1) I am improving my principal piece of residence or appartmented therein, (2) the work will be prior to completion of the work, and (4) I have not claimed examption on this subdivision on more than two
WORKER'S COMPENSATION	<b>*</b>
I bereby affirms that I have a curiliment of consent to self-insure, or a coral	iceta of Worker's Compensation Insurance, or a certified copy thereof (Sec. 3700, Labor Code).
Noticy 1 WCZ B71071339 613 Company Name	Ciserty Mutual Fire Insurane Company
	I I shall not complay any person in any manner so as to besome subject to the Worker's Compensation Laws
comply with such provisions or this permit shall be decared revalued. This per granted upon the express condition that the permittee shall be responsible for a perform the obligations with respect to street maintenance. The permittee shall and employees, from and against any and all suits, ottains, or actions brought?	at should become subject to the Worker's Compensation provisions of the Labor Code, you must forthwith that is issued pursuant to all provisions of Tabe 12 Chapter 12,12 of the Oakland Municipal Code. It is a lickness and liabilities arising out of work performed under the permit or critical out of permitted to failure to I, and by acceptance of the permit agrees to defend, indemnify, save and hold harmless the City, its officers by any persons for or on account of any bodily injuries, discuss or illness or damage to persons and/or property to ris consequence of permittee's failure to perform the obligations with respect to street mointenance. This by the Director of the Office of Planning and Building.
I hereby affirm that I am Leenard under provisions of Chapter 9 of Division 3 this permit and agree to its requirements, and that the above information is true  Multi-Meyers  Squature of Permittee  DATE STREET LAST  SPECIAL PAVING DETAIL:	Cambria 573/09 ecision Smpling 5/3/04
RESURPACED: REQUIRED? OYBS: 1000	(NOV 1-JAN 1) O'YES ALLO (TAMPANIA APMIOPM) DYES YELD
ISSUED BY	DATE ISSUED



CAND, DAND.



SB-11

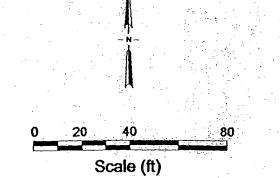
former gasoline UST and pump

location

PEABODY LANE

SB-3

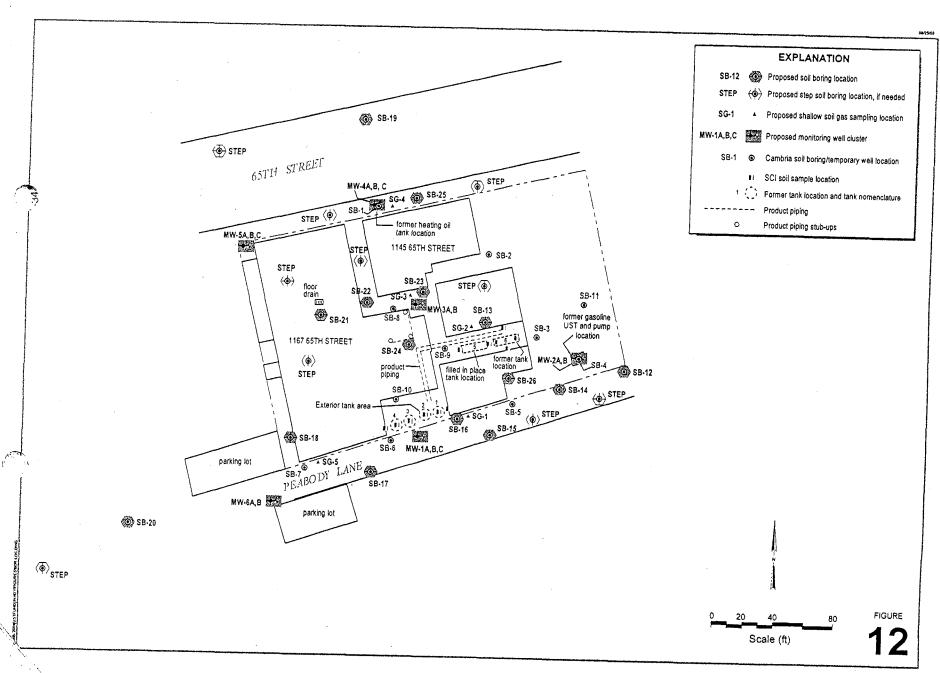
sewer laterals were unable to be located



1137 - 1167 65thStreet

**FIGURE** 





1137 - 1167 65thStreet Oakland, California

(LAND • Community and Economic Development Agency 250 Frank H. Ogawa Plaza, 2nd Floor, Oakland, CA 94612 • Phone (510) 238-3443 • FAX (510) 238-2263

Job Site 1137 65TH ST

Parcel# 016 -1505-011-03

Appl# X0301

Descr soil boring on 65th St

Permit Issued 12/31/03

Work Type EXCAVATION-PRIVATE P

USA #

Util Co. Ĵob #

Util Fund #:

Acctg#:

Applent

Lic# --License Classes--

Owner NADY JOHN TRe Contractor PRECISION SAMPLING, INC

Arch/Engr

Agent MATT MEYERS

pplic Addr 1400 SOUTH

256.00 TOTAL FEBS PAID AT ISSUANCE

\$205.00 Permit \$.00 Rec Mgmt

\$.00 Gen Plan

\$.00 Invstq

\$.00 Other



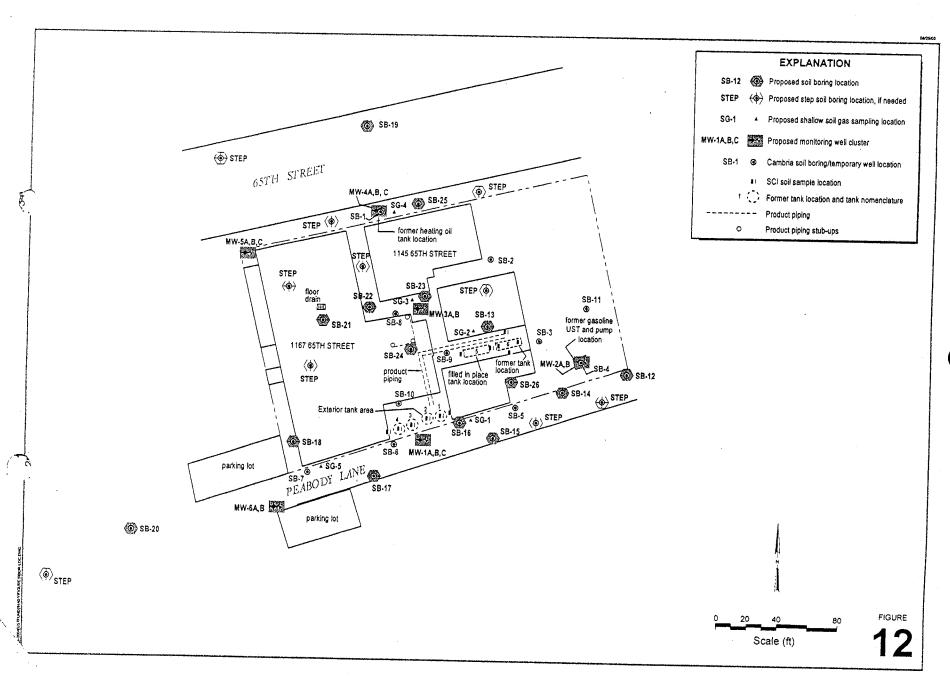
# **EXCAVATION PERMIT**

VII

TO EXCAVATE IN STREETS OR OTHER SPECIFIED WORK

CIVIL ENGINEERING

AGE 2 01 2		8N 65°5T
PERMIT NUMBER	0 > 0 1 0 11	
	0301216	Street and Alley bordering 1137-1167 65th St., Oakland
APPROX. START DATE	APPROX. END DATE	24-HOUR EMERGENCY PHONE NUMBER
1/5/04	1/20/04	(Permit not valid without 24-Hour number) 1-888 - 881 - 4367
ONTRACTOR'S LICENSE # A	ND CLASS	CITY BUSINESS TAX #
<u>C57</u> # 636	387	559628
.TTENTION:		331620
		Service Alert (USA) two working days before excavating. This permit is not valid unless applicant has secured a one number is 1 (800) 642-2444. UNDERGROUND SERVICE ALERT (USA) #: 445055
40 Hours prior	to starting work, YOU M	TUST CALL (510) 238-3651 TO SCHEDULE AN INSPECTION.
WNER/BUILDER		following reason (Sec. 7031.5 Business and Professions Code: Any city or county which requires a permit to ance, also requires the applicant for such permit to file a signed statement that he will be a signed statement that he will be a signed statement that he will be a signed statement that he will be a signed statement that he will be a signed statement that he will be a signed statement that he will be a signed statement that he will be a signed statement that he will be a signed statement that he will be a signed statement that he will be a signed statement that he will be a signed statement that he will be a signed statement that he will be a signed statement that he will be a signed statement that he will be a signed statement that he will be a signed statement that he will be a signed statement that he will be a signed statement that he will be a signed statement that he will be a signed statement that he will be a signed statement that he will be a signed statement that he will be a signed statement that he will be a signed statement that he will be a signed statement that he will be a signed statement that he will be a signed statement that he will be a signed statement that he will be a signed statement that he will be a signed statement that he will be a signed statement that he will be a signed statement that he will be a signed statement that he will be a signed statement that he will be a signed statement that he will be a signed statement that he will be a signed statement that he will be a signed statement that he will be a signed statement that he will be a signed statement that he will be a signed statement that he will be a signed statement that he will be a signed statement that he will be a signed statement that he will be a signed statement that he will be a signed statement that he will be a signed statement that he will be a signed statement that he will be a signed statement that he will be a signed statement that he will be a signed statement that he will be a signed statement that he
I, as owner of the property, am of not apply to an owner of prope I am exempt under Sec.  ORKER'S COMPENSATION	exclusively contracting with licensed contracting with licensed contract who builds or improves thereon, and  , B&PC for this reason	tractors to construct the project, (Sec. 7044, Business and Professions Code: The Contractor's License Law who contracts for such projects with a contractor(s) licensed pursuant to the Contractor's License law).
	Company Nam	ificate of Worker's Compensation Insurance, or a certified copy thereof (Sec. 3700, Labor Code).  See Liberty Mutual
alifornia (not required for work	of the work for which this permit is issue valued at one hundred dollars (\$100) or !	ed, I shall not employ any person in any manner so as to become subject to the Worker's Compensation Laws
orm the obligations with respect temployees, from and against any ined or arising in the construction it is void 90 days from the date of the construction it is void 90 days from the date of the construction it is void 90 days from the date of the construction it is void 90 days from the date of the construction in the construction in the construction in the construction in the construction in the construction in the construction in the construction in the construction in the construction in the construction in the construction in the construction in the construction in the construction in the construction in the construction in the construction in the construction in the construction in the construction in the construction in the construction in the construction in the construction in the construction in the construction in the construction in the construction in the construction in the construction in the construction in the construction in the construction in the construction in the construction in the construction in the construction in the construction in the construction in the construction in the construction in the construction in the construction in the construction in the construction in the construction in the construction in the construction in the construction in the construction in the construction in the construction in the construction in the construction in the construction in the construction in the construction in the construction in the construction in the construction in the construction in the construction in the construction in the construction in the construction in the construction in the construction in the construction in the construction in the construction in the construction in the construction in the construction in the construction in the construction in the construction in the construction in the construction in the construction in the construction in the construction in the construction in the construction in the construction in the construction in the construction in the const	o street maintenance. The permittee shal and all suits, claims, or actions brought in a of the work performed under the permit of issuance unless an extension is granted	ou should become subject to the Worker's Compensation provisions of the Labor Code, you must forthwith smit is issued pursuant to all provisions of Title 12 Chapter 12.12 of the Oakland Municipal Code. It is all claims and liabilities arising out of work performed under the permit or arising out of permittee's failure to il, and by acceptance of the permit agrees to defend, indemnify, save and hold harmless the City, its officers by any person for or on account of any bodily injuries, disease or illness or damage to persons and/or property it or in consequence of permittee's failure to perform the obligations with respect to street maintenance. This by the Director of the Office of Planning and Building.
ermit and agree to its requirement	er provisions of Chapter 9 of Division 3 its, and that the above information is true for Precision Dv	
ture of Permittee	Agent for Contractor Owner	12/50/05
STREET LAST REACED	SPECIAL PAVING DETAIL  REQUIRED 7 0 YES NO	HOLIDAY RESTRICTION?  LIMITED OPERATION AREA?
≟D BY	<i>a</i> .	DATE ISSUED
		iL



1137 - 1167 65thStreet Oakland, California



# **EXCAVATION PERMIT**

TO EXCAVATE IN STREETS OR OTHER SPECIFIED WORK

CIVIL ENGINEERIN

PAGE 2 of 2

Permit valid for 90 days from date of issuance

	y woodange.
<b>X 0 3 0</b> 1 2 1 7	1137-1167 (3th Street, Oakland Peabody
APPROX. START DATE APPROX. END DATE	24-HOUR EMERGENCY PHONE NUMBER
	(Permit not valid without 24-Hour number)
CONTRACTOR'S LICENSE # AND CLASS	CITY BUSINESS TAX #
C57 # 636387	
ATTENTION:	1
1- State law requires that the contractor/owner call Underground S secured an inquiry identification number issued by USA. The U	Service Alert (USA) two working days before excavating. This permit is not valid unless applicant has ISA telephone mumber is 1-800-642-2444. Underground Service Alert (USA) #
2- 48 hours prior to starting work, you MUS	ST CALL (510) 238-3651 to schedule an inspection.
3- 48 hours prior to re-paving, a compaction	a certificate is required (waived for approved slurry backfill).
OWNER/BUILDER	
Professions Code: The Contractor's License Law does not apply to an owner provided that such improvements are not intended or offered for sale. If howe burden of proving that he did not build or improve for the purpose of sale).  □ 1, as owner of the property, am exempt from the sale requirements of the a be performed prior to sale, (3) I have resided in the residence for the 12 month structures more than once during any three-year period. (Sec. 7044 Business a □ I, as owner of the property, am exclusively contracting with licensed contracting with licensed contracting with licensed contracting with licensed contracting with licensed contracting with licensed contracting with licensed contracting with licensed contracting with licensed contracting with licensed contracting with licensed contracting with licensed contracting with licensed contracting with licensed contracting with licensed contracting with licensed contracting with licensed contracting with licensed contracting with licensed contracting with licensed contracting with licensed contracting with licensed contracting with licensed contracting with licensed contracting with licensed contracting with licensed contracting with licensed contracting with licensed contracting with licensed contracting with licensed contracting with licensed with licensed contracting with licensed contracting with licensed contracting with licensed contracting with licensed contracting with licensed contracting with licensed contracting with licensed contracting with licensed contracting with licensed contracting with licensed contracting with licensed contracting with licensed contracting with licensed contracting with licensed contracting with licensed contracting with licensed contracting with licensed with licensed with licensed with licensed with licensed with licensed with licensed with licensed with licensed with licensed with licensed with licensed with licensed with licensed with licensed with licensed with licensed with licensed with licensed with licensed with l	compensation, will do the work, and the structure is not intended or offered for sale (Sec. 7044, Business of property who builds or improves thereon, and who does such work himself or through his own employees, ever, the building or improvement is sold within one year of completion, the owner-builder will have the above due to: (1) I am improving my principal place of residence or appurtenances thereto, (2) the work will his prior to completion of the work, and (4) I have not claimed exemption on this subdivision on more than two
1 hereby affirm that I have a certificate of consent to self-insure, or a certificate	ficate of Worker's Compensation Insurance, or a certified copy thereof (Sec. 3700, Labor Code).
Policy # Company Name	6
	d, I shall not employ any person in any manner so as to become subject to the Worker's Compensation Laws
comply with such provisions or this permit shall be deemed revoked. This per granted upon the express condition that the permittee shall be responsible for perform the obligations with respect to street maintenance. The permittee shall and employees, from and against any and all suits, claims, or actions brought	ou should become subject to the Worker's Compensation provisions of the Labor Code, you must forthwith simil is issued pursuant to all provisions of Title 12 Chapter 12.12 of the Oakland Municipal Code. It is all claims and liabilities arising out of work performed under the permit or arising out of permittee's failure to it, and by acceptance of the permit agrees to defend, indemnify, save and hold harmless the City, its officers by any person for or on account of any bodily injuries, disease or illness or damage to persons and/or property it or in consequence of permittee's failure to perform the obligations with respect to street maintenance. This d by the Director of the Office of Planning and Building.
I hereby affirm that I am licensed under provisions of Chapter 9 of Division 3 this permit and agree to its requirements, and that the above information is true	3 of the Business and Professions Code and my license is in full force and effect (if contractor), that I have read see and correct under penalty of law.
for Precision	Sampling, lac . 12/30/03
Signature of Permittee	Date Date
Signature of Permylice	HOLIDAY RESTRICTION? LIMITED OPERATION AREA?
Signature of Permittee	HOLIDAY RESTRICTION?  LIMITED OPERATION A REA?

CITY OF ( _AND • Community and Economic Develor __t Agency 250 Frank H. Ogawa Plaza, 2nd Floor, Oakland, CA 94612 • Phone (510) 238-3443 • FAX (510) 238-2263

Job Site 1137 65TH ST

Parcel# 016 -1505-011-03

Appl# X0301217

Descr soil boring on Peabody Lane

Permit Issued 12/31/03

Work Type EXCAVATION-PRIVATE P

USA #

Util Co. Job #

Acctg#:

Util Fund #:

Applent

Phone#

Lic##: --License Classes--

Owner NADY JOHN TR

Contractor PRECISION SAMPLING INC

Arch/Engr

Agent MATT MEYERS

Applic Addr 1400 SOUTH ST RICHMOND, CA, 948

OND, CA, 94804

JOB SITE

\$256.00 TOTAL FEES PAID AT ISSUANCE

51.00 Appli

\$205.00 Permi

\$.00 Process 🦏

\$.00 Rec Mgmt

\$.00 Gen Plan \$.00 Other \$.00 Invstg

ADD

TSIC

PTS100-01

UPDATE/QUERY PROJECT INFORMATION

5/05/04 15:00:20 Next Option: 101

Applic#* ENMI04493 Type: 1

Date Filed: 04/21/04

Disposition:

SUFFIX* SUITE ASSESSOR PARCEL# NUMBER STREET NAME Site addr: 1) 1167 65TH ST016 -1505-011-03

2)

3)

Prcl Cond: X Cond Aprvl:

Viol:

Proj Descr: install 2 wells on 65th street and

6 wells on Peabody Lane

all monitoring wells

Insp Div: ENG-SVCS Dist:

Track:

Lic# Phone# Applicant

Owner: JOHN NADY

Contractor:

Arch/Engr: CAMBRIA ENVIRONMENTAL TECHNO

)420-0700

Χ

Agent: JASON GERKE

Applicant Addr: 5900 HOLLIS STREET

No Fee:

City/State: EMERYVILLE, CA

Zip: 94608

Wrkrs Comp*

Other Related Applic#s: X0401967 X0401968

F3=Ext F5=Chg F6=Add F7=Fwd F8=Bck F11=Fnd F12=Prv F23=Dsc F24=Com307 Press ENTER to view page 2 data

JOB SITE

### Virgil Chavez Land Surveying

312 Georgia Street, Suite 225 Vallejo, California 94590-5907 (707) 553-2476 • Fax (707) 553-8698

June 9, 2004

Project No.: 2111-48

Matt Meyers Cambria Environmental 5900 Hollis Street, Suite A Emeryville, CA 94608

Subject:

Monitoring Well Survey

1137-1167 65th St. Oakland, CA

#### Dear Matt:

This is to confirm that we have proceeded at your request to survey the new ground water monitoring wells located at the above referenced location. The survey was performed on June 2, 2004. The benchmark for this survey was a well monument on Powell St. under the westbound lanes of I-580. The latitude, longitude and coordinates are for top of casings and are based on the California State Coordinate System, Zone II (NAD83). Benchmark Elevation = 13.88 feet (NAVD88).

<u>Latitude</u>	<u>Longitude</u>	<b>Northing</b>	Easting	Elev.	Desc.
37.8472236	-122.2866863	2135879.67	6045809.48	39.64	TOC MW-1A
				39.95	RIM MW-1A
37.8472300	-122.2866958	2135882.07	6045806.77	39.50	TOC MW-1B
				39.88	RIM MW-1B
37.8472323	-122.2866825	2135882.83	6045810.62	39.49	TOC MW-1C
00 0400064				39.91	RIM MW-1C
37.8473761	-122.2863455	2135933.32	6045908.93	40.72	TOC MW-2A
27 0474545	100 0068800			40.99	RIM MW-2A
37.8474515	-122.2867589	2135963.03	6045790.09	40.88	TOC MW-3A
27 0476420	100 0060000	0405000 05		41.05	RIM MW-3A
37.8476410	-122.2868200	2136032.35	6045773.77	38.71	TOC MW-4A
27 0476240	100 000000	0405000 54		38.89	RIM MW-4A
37.8476310	-122.2868258	2136028.76	6045772.04	38.54	TOC MW-4B
27 0476255	100 000000	0406000 00		38.96	RIM MW-4B
37.8476355	-122.2868037	2136030.28	6045778.45	38.50	TOC MW-4C
27 0475425	100 0071000	0125000 46	6015600 30	39.00	RIM MW-4C
37.8475435	-122.2871088	2135998.46	6045689.73	38.98	TOC MW-5A
27 0471000	100 000000	0105017.01	6045550	39.45	RIM MW-5A
37.8471299	-122.2869907	2135847.24	6045720.94	37.98	TOC MW-6A
27 0471254	122 2070070	0125045 60	604ED1E 00	38.29	RIM MW-6A
37.8471254	-122.2870078	2135845.69	6045715.98	37.66	TOC MW-6B
				38.16	RIM MW-6B

### Virgil Chavez Land Surveying

312 Georgia Street, Suite 225 Vallejo, California 94590-5907 (707) 553-2476 • Fax (707) 553-8698

> Monitoring Well Survey 1137-1167 65th St. Oakland, CA

June 9, 2004

Project No.: 2111-48

Page 2

Latitude	Longitude	Northing	<u>Easting</u>	Elev.	Desc.
37.8471225	-122.2870218	2135844.71	6045711.92	37.59 38.07	TOC MW-6C
37.8474130	-122.2869572	2135950.12	6045732.59	40.58 40.74	TOC MW-7A RIM MW-7A

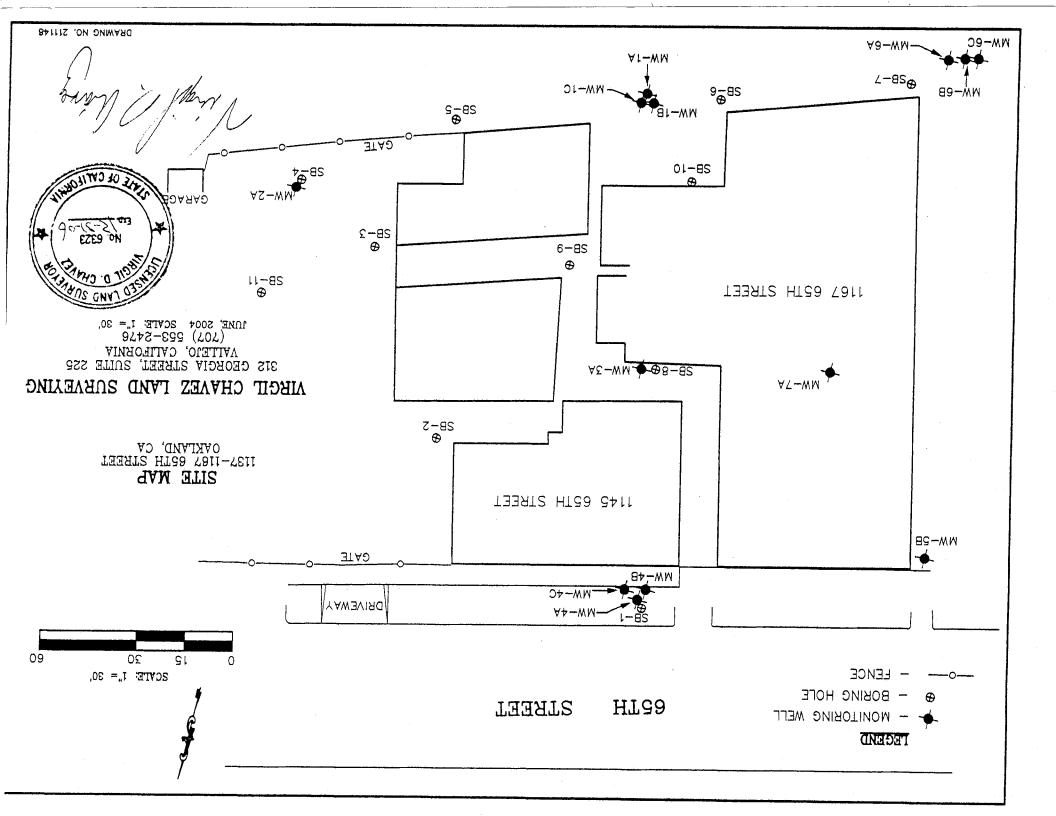
Sincerely,

No. 6323

No. 6323

FIE. R. STOP CALIFORNIA

Virgil D. Chavez, PLS 6323



### **APPENDIX G**

Laboratory Analytical Reports



#### McCampbell Analytical, Inc.

Cambria Env. Technology	Client Project ID: #522-1000-28; John	Date Sampled: 05/07/04
5900 Hollis St, Suite A	Nady	Date Received: 05/10/04
Emeryville, CA 94608	Client Contact: Matt Meyers	Date Reported: 05/14/04
Eliktyville, CA 94008	Client P.Q.:	Date Completed: 05/14/04

WorkOrder: 0405130 May 14, 2004

Dear Matt:

Enclosed are:

- 1) the results of 2 analyzed samples from your #522-1000-28; John Nady project,
- 2), a OC report for the above samples
- 3), a copy of the chain of custody, and

McCampbell Analytical, Inc.

Cambria Env. Technology

4). a bill for analytical services.

All analyses were completed satisfactorily and all QC samples were found to be within our control limits. If you have any questions please contact me. McCampbell Analytical Laboratories strives for excellence in quality, service and cost. Thank you for your business and I look forward to working with you again.

Angela Rydelius, Lab Manager

Date Sampled: 05/07/04

Suite A	Nady		Date Received: 05	Date Received: 05/10/04					
Client Contact: Matt Meyers		Date Extracted: 05	Date Extracted: 05/10/04						
Client P.O.:				/12/04					
			rder. 04051;						
Client ID	Matrix	TPH(d)	TPH(mo)	DF	% SS				
MW-3A@15	s	180,d,b.g	9.2	1	107				
	†     †     †       †           †								
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	_LL_			i	1				
	Diest (C10-23 93550C Client ID MW-JA@15	Suite A   Client Con	Olient   Client Contact:   Matt Meyers	Suite A 94608  Client Contact: Matt Meyers Date Extracted: 05 Client P.O.: Diesel (C10-23) spd OH (C18+) Range Extractable Hydrocarbons as Diesel and Motor C Analysist Involved: 58 Mills   MW-JA-Q15 S 180,d,b,g 9.2	Suite A				

Client Project ID: #522-1000-28; John

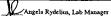
* water samples are reported in 19/L, wipe samples in 19/mipe, soil/soil/dsludge samples in mg/kg, product/oil/non-aqueous liquid samples in mg/L, and all DISTLC / STLC / SPLP / TCLP extracts are reported in 19/L.

f cluttered chromatogram resulting in coeluted surrogate and sample peaks, or, surrogate peak is on elevated baseline, or, surrogate has been dim by dibution of original extract.

*The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified deset is significant; b) diesel range compounds are significant; no recognizable pattern; c) again diesel? is significant; o) plantomy medium boiling goint panten that does not appear to be derived from diesel (apalable;); no ne to a few toolsted peaks person;; g) oil range compounds are significant; o) lighted man, b) lighted marks make in minicible, sidentifyed the present; j) oil range compounds are significant; b) lighted marks make in minicible, sidentifyed the present; j) oil range compounds are significant; b) lighted marks oil; in justical and orderent/minicial significant.

DHS Certification No. 1644

Reporting Limit for DF =1; ND means not detected at or above the reporting limit



McCampbell Analytical, Inc.

110 2nd Avenus South, FD7, Pacheco, CA 94553-5560 Telephone: 923-798-1670 Fax: 973-798-1622 Websiu: ***.mccampbell.com E-mail train@mzeampbell

Client Project ID: #522-1000-28; John Nady Cambria Env. Technology Date Sampled: 05/07/04 Date Received: 05/10/04 5900 Hollis St, Suite A Client Contact: Matt Meyers Date Extracted: 05/10/04 Emeryville, CA 94608 Date Analyzed: 05/11/04 Client P.O.:

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline with BTEX and MTBE* DF %SS 97.4 NA l ug/L S 1.0 0.05 0.005 0.005

water and vapor samples and all TCLP & SPLP extracts are reported in pg/L, soil/sludg aduct/oil/non-aqueous liquid samples in mg/L

d chromatogram; sample peak coelules with surrogate peak.

The following descriptions of the TPH chromotogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified gasoline is significant; b) heavier gasoline range compounds their protect most mobile fraction are agrificant by associate range compounds their protect descriptions are agrificant, b) associate range compounds having break at sequingly gasoline range compounds having break at sequingly gasoline range compounds having break at sequingly gasoline range compounds as a sequingly and attended and the responsible of the protection of the responsibility of the protection of the responsibility of the responsibility of the responsibility of the responsibility of the responsibility of the responsibility of the responsibility of the responsibility of the responsibility of the responsibility of the responsibility of the responsibility of the responsibility of the responsibility of the responsibility of the responsibility of the responsibility of the responsibility of the responsibility of the responsibility of the responsibility of the responsibility of the responsibility of the responsibility of the responsibility of the responsibility of the responsibility of the responsibility of the responsibility of the responsibility of the responsibility of the responsibility of the responsibility of the responsibility of the responsibility of the responsibility of the responsibility of the responsibility of the responsibility of the responsibility of the responsibility of the responsibility of the responsibility of the responsibility of the responsibility of the responsibility of the responsibility of the responsibility of the responsibility of the responsibility of the responsibility of the responsibility of the responsibility of the responsibility of the responsibility of the responsibility of the responsibility of the responsibility of the responsibility of the responsibility of the responsibility of the responsibility of the responsibility of the respo derived from gasoline (aviation gas). m) no recognizable pattern.

DBS Certification No. 1644

Angela Rydelius, Lab Manager

0.005

1 mg/Kg

0.005

McCampbell Analytical, Inc.					110 Ind Avenus South, #D7, Pacheco, CA 94533-5560 Telephone: 975-794-1620 Fax: 975-798-1622 Website: www.mccsimpbell.com E-mail: main@mccampbell.com					
Cambria Env. Technology	Client Project II Nady							07/04		
5900 Hollis St, Suite A					Date Re	ceived: 05/	0/04			
Emeryville, CA 94608	Client Contact:	Mait Mey	/crs		Date Ex	tracted: 05/.	10/04			
	Client P.O.:					alyzed: 05/				
Halogenated V Extraction Method: SW5030	olatile Organics	by P&T			8010 Basic	Target List)	, a Work Order	r: 0405)30		
Lab ID	0405130-003A									
Client 1D	MW-3A@15						Reporting			
Matrix	s						DF	-1		
DF	20						s I	w		
······	2									
Compound	ļ <u>.</u>	Concentration					με/Kg	µg/L		
Bromodichloromethane	ND×100						5.0	NA.		
Bromoform	ND×100						5.0	NA		
Bromomethane	ND<100						5.0	NA.		
Carbon Tetrachloride	ND<100						5.0	NA		
Chlorobenzene	ND<100						5.0	NA.		
Chloroethane	ND<100		1				5.0	NA		
2-Chloroethyl vinyl ether	ND<100	ļ					5.0	NA		
Chloroform	ND≺100						5.0	NA,		
Chloromethane	ND<100		i				5.0	NA		
1,4-Dichlorobenzene	ND<100						5.0	NA.		
Dibromochloromethane	ND≺100		1				5.0	NA		
1,2-Dichlorobenzene	ND≺100				i		5.0	NA.		
1,3-Dichlorobenzene	ND<100						5.0	NA		
Dichlorodifluoromethane	ND<100						5.0	NA		
1,1-Dichloroethane	ND<100	<u> </u>					5.0	NA		
1,2-Dichloroethane	ND<100						5.0	NΑ		
1,1-Dichloroethene	ND<100	ļ					5.0	NA		
cis-1,2-Dichloroethene	ND<100		to come to a		i		5.0	NA.		
trans-1,2-Dichloroethene	ND<100						5.0	NA		
1,2-Dichloropropane	ND<100						5.0	NA.		
cis-1,3-Dichloropropene	ND<100	L					5.0	NA		
trans-1,3-Dichloropropene	ND<100						5.0	NA		
Methylene ehloride	ND<100	<u> </u>					5.0	NA		
1,1,2,2-Tetrachloroethane	ND<100						5.0	NA.		
Tetrachloroethene	ND<100	<u> </u>	:				5.0	NA		
1,1,1-Trichloroethane	ND<100	<b></b>	<b>—</b>				5.0	NA		
1,1,2-Trichloroethane	ND<100	<b>!</b>					5.0	NA .		
Trichloroethene	ND<100	<u> </u>					5.0	NA.		
Trichlorofluoromethane	ND<100						5.0	NA.		
Vinyl Chloride	ND<100	1					5.0	NA		
%SS:	Surr 90.0	ozale Re	coveries	(%)						

ctected above the reporting limit; N/A means analyte not applicable to this analysis.

h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than -1 vol. % sediment; j) sample diluted due to high organic content; k) reporting limit rasted due to insufficient sample amount.



110 2nd Avenue South, #D7, Pacheco, CA 94553-5560 Telephone: 925-798-1620 Fax: 975-798-1627 hite ways recommedition formal property and public ways recommedition.

#### QC SUMMARY REPORT FOR SW8021B/8015Cm

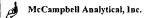
WorkOrder: 0405130

EPA Method: SW8	В	BatchID:	11483	S	Spiked Sample ID: 0405133-021A					
	Sample	Spiked	MS.	MSD.	MS-MSD.	LCS	LCSD	cs-tcsp	Acceptanc	e Criteria (%
	mg/Kg	mg/Kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	Low	High
TPH(bicz) ^E	0.15	0.60	75 4	74.4	0.973	101	100	0.947	70	130
MTBE	NĐ	010	107	97.6	4.79	111	108	2.21	70	130
Benzene	ND	0.10	112	107	4 37	109	103	3.63	70	130
Toluene	ND	0.10	94.1	91.6	2.69	90	88.4	3.81	70	130
Ethylbenzene	סא	0.10	111	110	0.806	109	107	2.19	70	130
Xylenes	ΝО	0.30	100	96	4.08	96.7	96	0.692	70	130
%SS-	96.4	0.10	99.5	90	100	94.9	947	0.740	70	130

NONE

DHS Certification No. 1644

TL QA/QC Offices



#### QC SUMMARY REPORT FOR SW8021B

Matrix:	

EPA Melhod: SW80218	E	xtraction:	SW5030		BalchID:	11484	S	piked Sampi	e ID: 0405	130-003A
	Sample	Spiked	MS*	MSD*	MS-MSD*	LCS	LCSD	LCS-LCSD	Acceptanc	Criteria (%
	ир/Ко	уу/Кұ	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	Low	High
Chlorobenzene	ND<100	50	87.6	91.6	4.46	97.2	95.9	1.37	70	130
1,1-Dichloroethene	ND≺100	50	843	86.6	2.69	118	113	4.94	70	130
Trichloroethene	ND≺100	50	71	79	10.7	102	901	1.70	70	130
%SS:	90.0	50	87.4	89.4	2.26	104	104	0	70	130

NONE

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation

TL_QA/QC Officer

#### McCampbell Analytical, Inc.

#### QC SUMMARY REPORT FOR SW8015C

Matrix: S

WorkOrder, 0405130

EPA Melhod: SW8015C	E	xtraction:	SW35500	0	BalchID:	11479	s	piked Sampl	e ID: 0405	123-001A
	Sample	Spiked	MS*	MSD.	MS-MSD.	LCS	LCSD	LCS-LCSD	Acceptance	Criteria (%
	mg/Kg	mg/Kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	Low	High
TPH(d)	ИD	150	105	104	1.40	115	116	1.04	70	130
%\$\$:	100	50	105	104	1.38	112	113	0.715	70	i 130

NONE

rery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2)

DHS Certification No. 1644

TL QA/QC Officer

mpbell Analytical, Inc.		_	CHAIN-OF-CUSTODY RECORD	DY RECORI		Page ! of !
Petheco, CA 94553-5560 (925) 798-1620			WorkOrder: 0405130	ClientID: CETE		
			B#140:		Requested TAT:	5 days
leyers ria Env. Technology Hollis St. Suite A Mile, CA 94608	TEL: (FAX: (AProjectivo: #	TEL: (510) 420-0700 FAX: (510) 420-9170 Projectivo: #522-1000-28: John Nady PO:	Accounts Payable Cambria Eriv. Technology 5900 Hollis St, Ste. A Emeryville, CA 94608	ology	Date Received: Date Printed:	5/10/04
CilentSemplD M	Matrix Co	Mection Date Hold 1 2	Collection Date Hold 1 2 3 4 5 6 7 8 9 9 10 11 12 13 14 15	Requested Yeats (See legand below)	11 12 13 14 15	14 15
03 MW-3A@15	Soil STA	Soil	· A T			

DHS Certification No. 1644

METHOD PRESERVED

Hold Hold XX X

Remarks:

E-mail: mmeyers@cambria-env.com Fax: (510) 420-9170 Project Name: John Nady

MATRIX

Project #: 522-1000-28

SAMPLE ID (Field Point Name)

MW-3A@ 5.5 MW-3A@ 11.5

MN-3AC 15

Project Location: 1137-1167/65* Street, Oakland Sampler Signature:

LOCATION

SAMPLING

5/7/04 10:40

Date: Time: 5/7/043:30 Date: Time:

Date: //o/o-y/ Date:

Time Date

> 10:51 11:00

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Company: Cambri		al To	chne	logy, Inc.	·						_			4		ی ا	-		١.			Ιi	i										
5900 Hollis Street,											_					3	i l	-	1							ŀ	1						
Emeryville, Ca 946				E-mail:				bria-	cnv	.com		-		-48	Ĕŀ	Defenda	١.							EPA 625 18370 1831 0		į	1	1	ĺ		l		
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Project #: 522-1000	28	_		Project N	ame:	John	Nad	<u>y</u>					_	-	Ē   Z	বাং	3	-	9	1	l .			ŝ	l		_	1	1				
Project Location: I		Σιτες	et, Oa	kland								_		┥.	후 1.		3		8		Ę			2		1	1 6	1				li	
Sampler Signature:	<u>~ ~~~</u>	_				,	_			-	1	MET	LOU.			+   5		]	9		0,5			3			3	1	ļ		1		
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	1			1	# Containers	Type Containers	Water	Soit	¥	Studge	1	Ē	ž	Other	BTEX &	표	3	EPA 601 : 8010	12	EPA 608 / 8089	7	×	EPA 615 18170	PAHTS / PNA's by	CAM-17 Metals	LUFT 5 Metals	1	Į					
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Cambria Env. Technology

Client Project ID: #522-1000-28; John Nady

McCampbell Analytical, Inc.

Emeryville, CA 94608 5900 Hollis St, Suite A

Client P.O.:

Date Analyzed: 05/11/04

Date Extracted: 05/10/04

Date Received: 05/10/04 Date Sampled: 05/07/04

Client Contact: Man Meyers

Gasolide Range (C6-C12), Stoddard Solvent Range (C9-C12) Volatile Hydrocarbons with BTEX and MTBE-ration induct \$191000. Vol. 10 August Head Swini (1901) Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the C

0405130-003A

MW-JA@15

Reporting Limit for DF = 1

Compound

Concentration

ΨK

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McCampbell Analytical, Inc.	alytical, Inc.	210 2nd Avenue Sout Triephone : 975-1 Website: www.mccompbe	0 Ind Avenue Sout Telephore : 925-7 www.uncomphe
Cambria Env. Technology	Client Project ID: #522-1000-28; John	)00-28; John	Date :
5900 Hollis St, Suite A	Nagy		Date I
Emercille Ca 94608	Client Contact: Matt Meyers	2	Date
Elliel Jvide, Co. 24000	Client P.O.:		Date

ompleted: 05/19/04

05/12/04 05/19/04 05/10/04

May 19, 2004 WorkOrder: 0405184

GOOD CONDITION AFFROPRIATE CONTAINERS DECHLORINATED IN LAB. PRESERVED IN LAB. PRESERVATION OAS A METALS OTHER

#D7, Pacheco, CA 94551-5569 \$1620 Fax: 925-792-1627 torn E-mail: mais@mcsampbell.com

Lowest possible detection limits.

Please email results.

Enclosed are:

1). the results of

analyzed samples from your

#522-1000-28; John Nady project,

a QC report for the above samples

a copy of the chain of custody, and

4). a bill for analytical services. All analyses were completed satisfactorily and all QC samples were found to be within our control limit

If you have any questions please contact me. McCampbell Analytical Laboratories strives for excellence

SECURE LOCATIONS

Angela Rydelius, Lab Manager

in following descriptions of the TM consumprant are compriments in Add Advanged has been proposed in the interpretation a promotion of a walky modelled packed (A). (I give to interpretation a) promotion of walky modelled packed (A), (I give to interpretation a) promotion of the consumpration (A). (I give to interpretation appropried (A) may be added to the consumpration (A) and the consumpration (A) and the consumpration (A) and the consumpration (A) and the consumpration (A) and the consumpration (A) and the consumpration (A) and the consumpration (A) and the consumpration (A) and the consumpration (A) and the consumpration (A) and the consumpration (A) and the consumpration (A) and the construction (A) and the construction (A) and the construction (A) and the construction (A) and the construction (A) and the construction (A) and the construction (A) and the construction (A) and the construction (A) and the construction (A) and the construction (A) and the construction (A) and the construction (A) and the construction (A) and the construction (A) and the construction (A) and the construction (A) and the construction (A) and the construction (A) and the construction (A) and the construction (A) and the construction (A) and the construction (A) and the construction (A) and the construction (A) and the construction (A) and the construction (A) and the construction (A) and the construction (A) and the construction (A) and the construction (A) and the construction (A) and the construction (A) and the construction (A) and the construction (A) and the construction (A) and the construction (A) and the construction (A) and the construction (A) and the construction (A) and the construction (A) and the construction (A) and the construction (A) and the construction (A) and the construction (A) and the construction (A) and the construction (A) and the construction (A) and the construction (A) and the construction (A) and the construction (A) and the construction (A) and the construction (A) and the construction (A) and the Surrogate Recoveries (%) in µg/L, soiVshudge/solid samples in mg/kg. 0.005 0.003 0.005 0.05 7.0 1.0 ž 7 ž 3 ž ξ ž

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sample peak coelutes with surrogate

McCampbell /	Analytical, Inc.	Telephone: 925-798-1620 Fax: 925-798-1622 Website: www.mocampbell.com E-mill: min@mecampbell.com
Cambria Env. Technology	Client Project ID: #522-1000-28;	John Date Sampled: 05/10/04
5900 Hollis St, Suite A	Nady	Date Received: 05/12/04
Emeryville, CA 94608	Client Contact: Matt Meyers	Date Extracted: 05/12/04
Elleryvine, CA 34000	Client P.O.:	Date Analyzed: 05/14/04

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline with BTEX and MTBE* ods: SW8021B/8015Cm Lab ID Chent ID TPH(g) MTBE A 100 MW-1C@65 ND ND ND ИD ND ND 002A MW-1C@9.5 s 160,6 ND<2.0 ND<0.20 ND<0.20 ND<0.20 ND<0.20 40 98.8 003A MW-1C@14.5 1 60,6 ND ND 0.0053 ND 80. j 005A MW-IC@20 ND ND ND t ND ND ND 89.0 Reporting Limit for Df +1; W.

ND means not detected at or
above the reporting limit S NA NA NA NA 1 ug/1. 1.0 0.05 0.005 0.005 0.005 0.005 mg/K g

"water and vapor samples and all TCLP & SPLP extracts are reported in pg/L, soil/sludge/solid samples in mg/kg, wipe samples in pg/wipe, product/oil/non-aqueous fiquid samples in mg/L.

schmered chromatogram; sample peak coelutes with surrogate peak

The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) summodified or weakly modified gasoline is significant; b) heaving patoline range compounds are significant[aged gasoline?], c) lighten gasoline range compounds the most mobile fractions are significant; b) passine range compounds that when good chromatographic peaks are significant; b) loogically libered gasoline?. c) TPH pattern that does not speed to be derived from gasoline (stodded solver) minure spirity.), f) once to a few day one stage peaks present; g) strongly aged gasoline or direct range compounds are significant; b) lighter than water immissible sheen/product is present; j) liquid jample that consists greate than 1 or M. sediment; j) reporting limit raised due to high MTBE content; j) TPH pattern that does not appear to be derived from gasoline (svisition gas); m) no recognizable pattern.

DHS Certification No. 1644

Angela Rydelius, Lab Manager

McCampbell An	alytical, Inc	·	Telephone	nue South, #D7, Pacheco, CA r: 925-798-1620 - Fax : 925- reampbell.com E-mail: mulo(	798-1622	cent
Cambria Env. Technology	Client Project II Nady	D: #522-1000-2	8; John	Date Sampled: 05/	10/04	
5900 Hollis St, Suite A			1	Date Received: 05/	12/04	
Emeryville, CA 94608	Client Contact:	Matt Meyers	]	Date Extracted: 05/	12/04	
	Client P.O.;			Date Analyzed: 05/	14/04	
				Basic Target List)		
Extraction Method: SW3030	Ans	lytical Method: SW102	1B		Work Orde	T. 0405114
Lab ID	0405184-001A	0405184-002A	0405184-003,	A 0405184-005A	***************************************	
Client ID	MW-1C@6.5	MW-1C@9.5	MW-1C@14.5	MW-1C@20	Reporting	
Matrix	S	S	S	s	DF	-1
DF		4	<del>-</del>		s	w
						-
Compound			entration		µg/Kg	μ <b>g/L</b>
Bromodichloromethane	ND	ND<20		ND	5.0	NA.
Bromoform	ND	ND<20	ND	ND	5.0	N.A
Bromomethane	ND	ND<20	ND	ND ND	5.0	NA
Carbon Tetrachloride	ND	ND<20	ND	DM	5.0	NA.
Chlorobenzene	ND	ND<20	ND	ND	5,0	NA
Chloroethane	ND	ND<20	ND ND	ND	5.0	NA
2-Chloroethyl vinyl ether	ND I	ND<20	ND	ND	5.0	NA
Chloroform	ND	ND-20	ND	DM	5.0	NA
Chloromethane	ND	ND<20	ND	D D	5.0	. NA
1,4-Dichlorobenzene	ND	ND<20	ND	ND	5.0	NA
Dibromochloromethane	ND	ND<20	ND	ND	5.0	NA
1,2-Dichlorobenzene	ND	ND<20	ND	ND	5.0	. NA
1,3-Dichlombenzene	ND ND	ND<20	ND.	ND	5.0	NA
Dichlorodifluoromethane	ND	ND<20	ND	ND I	5.0	NA
1,1-Dichlorosthane	ND	ND<20	ND	ND	5.0	NA.
1.2-Dichloroethane	ND.	ND<20	ND	ND	5.0	25
1,1-Dichloroethene	ND	ND<20	ND ND	ND j	5.0	NA
cis-1,2-Dichloroethene	ND	ND<20	ND	ДИ	5.0	NA
trans-1,2-Dichloroethene	ND	ND<20	ND	ND	5.0	NA
1,2-Dichloropropane	ND	ND<20	ND	םא	5.0	NA
cis-1,3-Dichloropropene	ND	ND<20	ND	ND	5.0	X
mans-1,3-Dichloropropene Methylene chloride	ND ND	ND<20	ND	ND	5.0	NA
1,1,2,2-Tetrachloroethane	ND ND	ND<20	ND	ND ND	5.0	NA.
Tetrachloroethene	ND ND	ND<20	ND ND	ND	5.0	NA.
1,1,1-Trichloroethane	ND	ND<20	ND ND	ND	5.0	NA.
1,1,2-Trichloroethane	ND	ND<20	ND ND	ND	5.0	NA.
Trichloroethene	ND	ND<20	ND	ND ND	5,0	NA.
Trichlorofluoromethane	ND ND	ND-20	ND	ND ND	5.0	NA.
Vinyl Chloride	ND ND	ND<20	UND OTH	ND	5.0	NA.
				DΝ	5.0	NA.
%SS:	110	Pate Recoverie	109	107		
Comments		1,1,5	107			
water and vapor samples and all TCLP &						

h) lighter than water immiscible shear/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) sample diluted due to high organic content; k) reporting limit rasied due to insufficient sample amount.

Angela Rydelius, Lab Manager

| McCampbell Analytical, Inc. | 110 2nd Avene South, PD. Packers, CA. 94533-5560 |
170 poloce: 9725-794-1000 | 711-1975-798-1070 |
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traction method S1	W3550C		Analytical inethods: SW8015C		Wark O	nder: 0405184
Lab ID	Clien ID	Matrix	TPH(d)	TPH(mo)	DF	% SS
0405184-001A	MW-1C@6.5	s	ND	ND	1	99.1
0405184-002A	MW-1C@9.5	s	مر60	ND	.   1	101
0403184-003A	MW-1C@14.5	s	مرد.9	МD		103
0403184-005A	MW-1C@20	s	ND	МD		100
		<del>  </del>				
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		-				ļ
		<del> </del>				ļ
						-
Reporting L	imit for DF = 1;	w	NA	NA	<del>                                     </del>	g/L
	ot detected at or reporting limit	S	1.0	5.0		/Kg

* water samples are reported in µg/L, wipe samples in µg/wipe, soil/soild/sludge samples in mg/kg, product/oil/non-aqueous liquid samples in mg/L, and all DISTUC / STLC / SPLP / TCLP extracts are reported in µg/L.

# clustered chromatogram resulting in cochited surrogate and sample peaks, or; surrogate peak is on elevated baseline, or; surrogate has been diminished by dilution of original extract.

4 The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified diesel is significant, b) diesel range compounds are significant or occupitable pontern; c) aged diesel? is significant, d) gasoline range compounds are significant; of unknown medium boiling point pattern that does not appear to be derived from diesel (apphalt). (I) one to a few instance peaks present; (a) of large compounds are significant; b) ligher than waste unmissible sheetpropodect is present; (i) liquid sample that contains greater than -1 vol. % sediment; (k) kerosenu/kerosene range; (i) bunker oil, m) fuel oil; (n) stoddard solvent/mineral spirit.

DHS Certification No. 1644

Angela Rydelius, Lab Manager

McCampbell Analytical, Inc.

310 2nd Avenue South, #D7, Pacheco, CA 94553-5560 Telephone: 923-793-1620 Fsx: 973-793-1622 Website: www.mzcarapbell.com E-mail; main@nccampbell.com

#### QC SUMMARY REPORT FOR SW8021B/8015Cm

Matrix; S

WorkOrder: 0405184

EPA Melhod: SW8	021B/8015Cm E	xtraction:	SW5030	3	BalchID:	11526	s	piked Sampi	e ID: 0405	85-004A
	Sample	Spiked	MS*	MSD.	MS-MSD*	LCS	LCSD	CS-LCSD	Acceptance	Criteria (%
	mg/Kg	толКа	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	Low	High
TPH(blex)	ND	0.60	100	99.1	0.955	99.1	99.1	0	70	130
мтве "	ND	0.10	104	103	0.696	108	101	7.04	70	130
Benzene	ND.	9.10	104	102	1.23	116	112	3.08	70	130
Toluene	ND	0.10	89.8	89.1	0.723	98.2	96.2	2.04	70	130
Ethylbenzene	ND	0.10	110	109	0.401	118	115	2.00	70	130
Xylenes	ND	0.30	100	100	0	107	100	6.45	70	130
%SS:	81.0	0.10	95.8	101	5.28	109	88.9	20.3	70	130

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions NONE

MS = Mabrix Spike; MSD = Matrix Spike Duplicale; LCS = Laboratory Control Sample; LCSD > Laboratory Control Sample Duplicare; RPD = Relative Percent

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / (MS + MSD) / 2).

MS and / or MSD spike recoveries may not be near 100% or the RPDs near 0% if: a) the sample is inhomogenous ANO contains significant concentrations of smallyte relative to the amount spiked, or b) if that specific sample matrix interferes with spike recovery.

f TPH(blex) = sum of BTEX areas from the FID.

of cluttered chromotogram, sample peak coekites with surrogate peak.

NVA = not enough sample to perform matris spiks and matris spike duplicate.

NR = snal/br concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample dikited due to high matrix or analyte content.

ID means not detected above the reporting limit; NVA means analyte not applicable to this analysis.

gate diluted out of range or surrogate coelutes with another peak

110 7nd Avenus South, #D7, Pacheco, CA 94552-5560 Telephous: 925-798-1607 Fax: 925-798-1622 Website: www.nocampbell.com E-mail muin@presarabell.com

#### QC SUMMARY REPORT FOR SW8015C

Mantain C

WorkOrder 0405184

EPA Method: SW8015C	1	Extraction:	SW35500		BalchID:	11527	s	piked Sampi	e ID: 0405	85-004A
	Sample	Spiked	MS'	MSD*	MS-MSD*	LCS	LCSD	LCS-LCSD	Acceptance	Criteria (%
	mg/Kg	mg/Kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	Low	High
TPH(d)	ND	150	92.1	93.1	1.03	92.2	91.9	0.324	70	130
%55:	99.6	50	101	101	0	102	101	0.211	70	130

AS = Metrix Spike; MSD = Matrix Spike Dupitcate; LCS = Leboratory Control Sample; LCSD > Leboratory Control Sample Dupitcate; RPI	= Relative Percent
Peviation.	

I was recovery - 100 (ms-semple) (periodic spinery) (or 0 + 100 (ms - msb)) ((ms + msb)) 2

* MS and / or MSD spike recoveries may not be near 100% or the RPDs near 0% it, a) the sample is inhomogenous AND contains algoriticant concentrations of analytic relative to the amount spiked, or b) it that specific sample metrix interferes with spike recovery.

NVA = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2s spike amount for water matrix or sample disited due to high matris or analyte content.

DHS Certification No. 1644

CHAIN-OF-CUSTODY RECORD

McCampbell Analytical, Inc.
110 Second Avanue South, 1577
Protection, CA 94553-5560
[925] 739-1620

TE QNQC Officer

5 days 5/12/04 5/12/04		sa Valida
Requested TAT:  Date Received:  Date Printed:	19 1- 1- 1- 1- 1- 1- 1- 1- 1- 1- 1- 1- 1-	[5] [10] [15] Prepared by: Melissa Valles
o: Accounts Payable Gambria Eriv. Technology 5800 Hollis St. Ste. A Ernerville, CA 94609	(ef Tests (See Egand Seiser)	
Bill to: Accounts Payable Cambria Env. Technol 5900 Hollis St. Ste. A Emeryville, CA 94908	3   4   6   6   7   6   6   10   10   10   10   10   10	14)
5-0700 5-9170 XO-28; John Nady		6 8 6
TEL: (510) 420-0700 FAX: (510) 420-9170 Projectivo: #522-1000-28; John Nady PC:	Matrit Collection Date Scill 19/1004 8/3500 AM Scill 19/1004 8/3500 AM Scill 19/1004 8/3500 AM Scill 19/1004 8/3500 AM Scill 19/1004 8/3500 AM Scill 19/1004 8/3500 AM	2 G-HBTEX 8
Technology Suite A A 94608	ClientSampiO NW-1C@6.5 WW-1C@1.5 WW-1C@1.5 WW-1C@20	2 7 7 142



McCampbell Analytical, Inc.

110 2nd Avenus South. PD7, Pacheco, CA. 94553-5560
Telephone: 925-798-1620 Fax: 925-798-1672
Website: www.mccampbell.com E-mail. main@mccampbell.com

#### QC SUMMARY REPORT FOR SW8021B

				матк;	5				Work Order:	0405184
EPA Method: SW8021B		xtraction:	SW5030		BatchID:	11484	s	piked Sampl	le ID; 0405	130-003A
	Sample	Spiked	MS*	MSD*	MS-MSD*	LCS	LCSD	rcs-rcsp	Acceptanc	e Criteria (%)
	ру/Ка	ру/Кр	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	Low	High
Chlorobenzene	ND< 100	50	87.6	91.6	4.46	97.2	95.9	1.37	70	130
1,1-Dichloroethene	ND<100	50	84.3	86.6	2.69	118	113	4.94	70	130
Trichloroethene	ND<100	50	7)	79	10.7	102	100	1.70	70	130
%55:	90.0	50	87.4	89.4	2.26	104	104	0	70	130

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions: NONE

MS = Main's Spike; MSD = Main's Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / {(MS + MSD) / 2]

MS and for MSD spike recoveries may not be near 100% or the RPDs near 0% if; a) the sample is inhomogenous AND contains significant concentrations a analyte relative to the amount spiked, or b) if that specific sample matrix interferes with spike recovery.

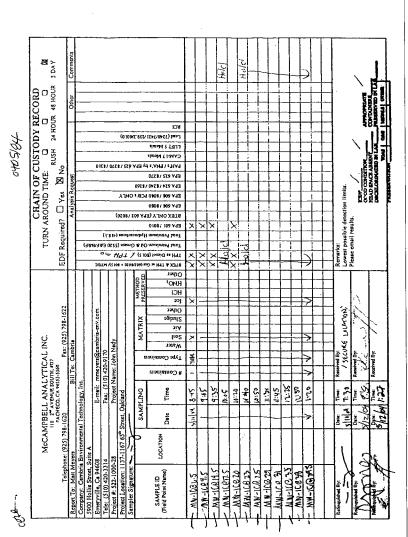
NVA = not enough sample to perform matrix spike and matrix spike duplicate

NR = analyte concentration in campile exceeds splike amount for soil matrix or exceeds 2x spike amount for water matrix or exceeds 2x spike amount for water matrix or exceeds 2x spike amount for water matrix or enablyte content.

Laboratory extraction solvents such as methylene chloride and acetone may occasionally appear in the method blank at low levels.

DHS Certification No. 1644

TL_QA/QC Officer



McCampbell An	alytical, lɒc.		Telepho	unue South, #D7, Pacheco, C/ pe : 925-798-1620 Fax : 975 recampbell com E-mill, main	-79 L 1627	onth.
Cambria Env. Technology	Client Project ID	#572-1000-21	; John	Date Sampled: 05/	10/04	
5900 Hollis St, Suite A	Nady			Date Received: 05/	12/04	
Emeryville, CA 94608	Client Contact: 1	Matt Meyers		Date Extracted: 05/	12/04	
Elleryville, CA 34000	Client P.O.:			Date Analyzed: 05/	14/04	
Gasoline Range (C6-C12), St Extraction Method SW30008		ange (C9-C12) bical Method, SW802		trocarbons with BT		TBE* cr. 0405184
Lab ID	0405184-001A	0405184-002A	0405184-00	5A		
Client ID	MW-1C@6.5	MW-1C@9.5	MW-IC@	20	Reporting DF	
Мапіх	S	S	5		. "	
DF	1	40	1		S	*
Compound		Conc	ntration	,	mg/Kg	սբ/Լ
TPH(g)	МО	160	DM		10	NA
TPH(ss)	DN	340	ND		1.0	NA
мтве	ND	ND<2.0	DN		0.05	NA
Benzene	ND	ND<0.70	ND		0.005	NA
Toluene	ND	ND<0.20	מא		0 005	NA.
Ethylbenzene	ND	ND<0.20	ND		0.005	NA
Xylenes	ND	ND<0.20	ND		0.005	NA
	Surre	gate Recoverie	(%)			
MSS:	84.9	98.8	89.0			
Comments	1	ь				

water and vapou samples and all TCLP & SPLP extracts are reported in µg/L, soil/studge/soild samples in mg/kg, wipe samples in pre/wipe, reduct/oil/non-squeous liquid samples in mg/L.

# cluttered chromatogram; sumple peak coelutes with surrogate peak.

The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified gasoline is significant; b) heavier gasoline range compounds their nots mobile fraction or significant, b) gasoline range compounds having broad chromatographic peaks are significant; b) digital gasoline?, c) this plant gasoline range compounds the sound and chromatographic peaks are signified, this objectally alreed gasoline?, c) TPH partern that does not appear to be derived from gasoline (gaodaud solvent / mineral spirit?); f) one to a few isolated non-target peaks present; g) arongly ago gasoline or disect arong compounds are significant; b) highted have are immissible thereforedor is error; b) fiquid cample that consists, greater than —1 vol. ½ sediment; j) reporting limit raised due to high MTBE content; k) TPH partern that does not appear to be derived from gasoline (visition gas, n) mo precognizable pattern.

DHS Certification No. 1644



McCampbell Analytical, Inc.	110 7ad Avenus South, #D7, Pacheco, CA 94553-5560 Telephone : 925-798-1670 Fax : 923-798-1622 Website: www.mecampbell.com E-trail: main@oncompbell.com

Cambria Env. Technology	Client Project ID: #522-1000-28; John	Date Sampled: 05/11/04
5900 Hollis St, Suite A	Nady	Date Received: 05/12/04
Emeryville, CA 94608	Client Contact: Matt Meyers	Date Reported: 05/19/04
Energyine, CA 94006	Client P.O.:	Date Completed: 05/19/04

WorkOrder: 0405185

May 19, 2004

Dear Matt

Enclosed are:

- 1). the results of 4 analyzed samples from your #522-1000-28; John Nady project,
- 2). a QC report for the above samples
- 3). a copy of the chain of custody, and
- 4). a bill for analytical services.

All analyses were completed satisfactorily and all QC samples were found to be within our control limits.

If you have any questions please contact me. McCampbell Analytical Laboratories strives for excellence in quality, service and cost. Thank you for your business and I look forward to working with you again.

Arrela Rydelius, Lab Manage

McCAMPBE 10 27 10 27 11 Telephone; (925) 798-1620 Report To: Matt Meyers	McCAMPBELL, ANALYTICAL INC. 110 2*Avenescont., 2007. 102) 798-1620   Ext. (92) 198-1620   Ext. (92) 198-1620   Ext. (92)	IALY ESOUTI 94533-5	LYTICAL INC OUTH 407 433-4580 Fex. (9 Bill To: Cambria	N	.L INC. Fex: (925) 798-1622 ambria	1622		- W	1 JCI	TURN AR	A ARC	CHAIN OF C TURN AROUND TIME:  Required?   Analysis Request		OF CL IME: CL	RUISH	AG # I	S S S S S S S S S S S S S S S S S S S	CHAIN OF CUSTODY RECORD ROUND TIME: 0 0 0  Ves SN No. 1814 14 HOUR AS HOUR AMAZIE Request	~ H	IN S DAY
Company: Cambria Environmental Technology, Inc. 5500 Hollis Street, Suite A E-mail: Energyville, Ca 9408 Febreryville, Ca 9408 Febreryville, Ca 9408 Febrer 522-1000-23 Project P. 522-1000-23 Project Location: 1177-1167 65th Street, Oakland	al Technology, E-me Fax: Proje Proje Street, Oakland	Inc. (510)	logy, Inc. E-mail: mmeyer@eambria-env.com Fax; (510) 420-9170 Project Name: John Nady Kland	o v da w	a-cnv	E S		2 24200 W. W. W. W.		(1.8 th.) aven (1.8 th.)				01(8/0(21/529 V		10 109/2			<del></del>	
SAMPLE ID LOCATION (Field Point Name)	SAMPLING Date Time	<del>                                     </del>	# Containers  Type Containers	TalsW	Nio2 F io2 X syludge	Olber	HCI SET SOL	13010	TPH 25 Decel (\$015)	ab liO involous I tau T anbyll musious A tase T	67.5 601 /3010 BTEX ONLY (EPA 60	08081 808 A43	Eby 624/8240/8260	E6Y 625 / 8270	CYM-13 Meals	LUIT 1 Meats Lead (1740/A1214/19)	KCI			
- MA-1091-5	Sur 8 1	22	1086		× -		×			++	××	+ :	+	11	1			+	11	
AW-100145	7:48 7:48	7 کر		二二					XX		×	$\exists$	++	廿	1	11	T	+-	=	12/2
MW-1622	01; jt	9 2				1			XIA	17	X. T	11	++	$\pm$	i	H	1 !	++		190/01
MW-10025 MW-10025	\$5:0)	2 % 2		111		111		111	+++		+++	~	+++		1-1-		<del>!                                    </del>			
MW-10035 MW-10038 MW-100383	- <del>- &gt;</del>	27.20				- - -			++++	1 1 1			++++		1 1 1			1 1 1		
Refinement By:	1100 Times 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 State 120 S	<del></del>	A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A SECONDED BY A		SECUKE LICENON,	13 3	1   1	111	Remarks: Lowest pe Please on	rks: st poss	Renarks: Lowest possible det Please email results	- iğ	Simits.	TOW GOOD CONTROL BALLO BRACE ASSETT FOR BALLO BRACE ASSETT FOR BALLO BRACE ASSETT FOR BALLO BRACE ASSETT FOR BALLO BRACE ASSETT FOR BALLO BRACE ASSETT FOR BALLO BRACE ASSETT FOR BALLO BRACE ASSETT FOR BALLO BRACE ASSETT FOR BALLO BRACE ASSETT FOR BALLO BRACE ASSETT FOR BALLO BRACE ASSETT FOR BALLO BRACE ASSETT FOR BALLO BRACE ASSETT FOR BALLO BRACE ASSETT FOR BALLO BRACE ASSETT FOR BALLO BRACE ASSETT FOR BALLO BRACE ASSETT FOR BALLO BRACE ASSETT FOR BALLO BRACE ASSETT FOR BALLO BRACE ASSETT FOR BALLO BRACE ASSETT FOR BALLO BRACE ASSETT FOR BALLO BRACE ASSETT FOR BALLO BRACE ASSETT FOR BALLO BRACE ASSETT FOR BALLO BRACE ASSETT FOR BALLO BRACE ASSETT FOR BALLO BRACE ASSETT FOR BALLO BRACE ASSETT FOR BALLO BRACE ASSETT FOR BALLO BRACE ASSETT FOR BALLO BRACE ASSETT FOR BALLO BRACE ASSETT FOR BALLO BRACE ASSETT FOR BALLO BRACE ASSETT FOR BALLO BRACE ASSETT FOR BALLO BRACE ASSETT FOR BALLO BRACE ASSETT FOR BALLO BRACE ASSETT FOR BALLO BRACE ASSETT FOR BALLO BRACE ASSETT FOR BALLO BRACE ASSETT FOR BALLO BRACE ASSETT FOR BALLO BRACE ASSETT FOR BALLO BRACE ASSETT FOR BALLO BRACE ASSETT FOR BALLO BRACE ASSETT FOR BALLO BRACE ASSETT FOR BALLO BRACE ASSETT FOR BALLO BRACE ASSETT FOR BALLO BRACE ASSETT FOR BALLO BRACE ASSETT FOR BALLO BRACE ASSETT FOR BALLO BRACE ASSETT FOR BALLO BRACE ASSETT FOR BALLO BRACE ASSETT FOR BALLO BRACE ASSETT FOR BALLO BRACE ASSETT FOR BALLO BRACE ASSETT FOR BALLO BRACE ASSETT FOR BALLO BRACE ASSETT FOR BALLO BRACE ASSETT FOR BALLO BRACE ASSETT FOR BALLO BRACE ASSETT FOR BALLO BRACE ASSETT FOR BALLO BRACE ASSETT FOR BALLO BRACE ASSETT FOR BALLO BRACE ASSETT FOR BALLO BRACE ASSETT FOR BALLO BRACE ASSETT FOR BALLO BRACE ASSETT FOR BALLO BRACE ASSETT FOR BALLO BRACE ASSETT FOR BALLO BRACE ASSETT FOR BALLO BRACE ASSETT FOR BALLO BRACE ASSETT FOR BALLO BRACE ASSETT FOR BALLO BRACE ASSETT FOR BALLO BRACE ASSETT FOR BALLO BRACE ASSETT FOR BALLO BRACE ASSETT FOR BALLO BRACE ASSETT FOR BALLO BRACE ASSETT FOR BALLO BRACE ASSETT FOR BALLO BRACE ASSETT FOR BALLO BRACE ASSETT FOR BALLO BRACE ASSETT FOR BALLO	limits.  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	a Euv. Technol ollis St, Suite A		Client P Nady	roject ID: #!	522-1000-28;	_ <u>-</u>	ate Sampled: ate Received:			
			Client C	Contact: Matt	Meyers	D	ale Extracted:	05/12/04		
Emeryv	rille, CA 94608		Client P	·O:		D	ate Analyzed:	05/14/04-05	/15/0-	4
Extraction	Gasol method: SW50308		e (C6-C12)		rocarbons as metods: SW\$02)		th BTEX and	MTBE*	nder: 0	403123
Lab ID	Client ID	Matrix	TPH(g)	мтве	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS
001A	MW-6C@3.3	s	5.9 _{.8}	ND	ND	ND	ND	ND	1	95.4
002A	MW-6C@11	s	29, <b>g</b> ,m	ND<0.25	ND<0.025	ND<0.025	ND<0.025	ND<0.025	5	89.3
003A	MW-6C@16	s	100.g,m	ND<0.50	ND<0.050	ND<0.050	ND<0.050	ND<0.050	10	84.5
004A	MW-6C@21	s	ИО	ND	ND	ND	DИ	ND	,	81.0
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							<del> </del>	-	-	$\vdash$

110 2nd Avesue South, #D7, Pacheco, CA 94553-3560 Telephone: 925-798-1620 Fax: 925-798-1622 chaire: www.mccampbell.com E-meil: main@macampbell.

water and vapor samples and all TCLP & SPLP extracts are reported in µg/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, product/oil/non-aqueous hquid samples in mg/L.

NA

0.005

NA

0.005

NA

0.005

NA

0.05

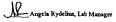
# cluttered chromatogram; sample peak coclutes with surrogate peal

NA

1.0

McCampbell Analytical, Inc.

t The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) tunnedified or weakly modified gasoline is significant; b) heavier gasoline range compounds their success of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property



NA

0.005

l ug/L l mg/Kg

Reporting Limit for DF =1; W
ND means not detected at or
above the reporting limit S

McCampbell Analytical, Inc. ia Епч. Тесhnology Client Project ID: #522-1000-28; John Date Sampled: 05/11/04 Date Received: 05/12/04 5900 Hollis St, Suite A Date Extracted: 05/12/04 Client Contact: Matt Meyers Emeryville, CA 94608 Client P O :

Date Analyzed: 05/14/04-05/15/04

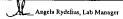
traction trethod: 59		) and Oil (C18+	Range Extractable Hydr Analytical methods: SW10110	ocarbons as Diesel and Moto		der. 0405185
Lab ID	Client ID	Matrix	TPH(d)	TPH(mo)	DF	% SS
2405185-001A	MW-6C@5.5	s	810.g.b	1800	100	107
0405185-002A	MM-9C@II	s	م 18	ND	1	97.1
D405185-003A	MW-6C@16	5	16,n	. אס	1	99.3
0405185-004A	MW-6C@21	2	ND	ND	'	99.6
		-			<u> </u>	ļ
						ļ
		1				ļ
						-
		+				
	imit for DF = 1;	w	NA	NA.	u	g/L
	ot detected at or reporting limit	S	1.0	5.0	m	Kg

* water samples are reported in µg/L, wipe samples in µg/wipe, soll/solid/sludge samples in mg/kg, product/oil/non-aqueous liquid samples in mg/L, and all DISTLC / STLC / SPLP / TCLP extracts are reported in µg/L.

If chattered chromatogram resulting in cocluted surrogate and sample peaks, or, surrogate peak is on elevated baseline, or, surrogate has been diminished by dilution of original extract.

*The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: 2) unmodified or weakly modified disself is significant; b) disself range compounds are significant, no recognizable pattern, c) aged disself is significant, of pattern modified modified pattern for the compounds are significant, or unknown modified modified pattern for the derived from disself paths (t), one to a few to lotted peaks present; g) oil range compounds are significant; b) higher but write inminischib sheetyle-obect is present; j) implied sample that commands greater than a 1 vol. 3's selfortions; §) becomes device of the commands greater than a 1 vol. 3's selfortions; §) service of the commands greater than a 1 vol. 3's selfortion; §) to some office of the commands greater than a 1 vol. 3's selfortion; §) to some office of the commands greater than a 1 vol. 3's selfortion; §) to some office of the commands of the commands are selfortion.

DHS Certification No. 1644





#### QC SUMMARY REPORT FOR SW8021B/8015Cm

WorkOrder: 0405185

EPA Method: SW80	21B/8015Cm E	xtraction:	SW5030E	3	BalchIO:	11528	. 8	spiked Sampl	e ID: 04051	91-001A
	Sample	Spiked	MS*	MSD*	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance	Criteria (%
	mg/Kg	mg/Kgr	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	Low	Hìgh
TPH(blex) ^E	ND	0.60	101	101	0	99.7	301	0.81)	70	130
мтве	ND	0.10	102	100	1.79	105	102	2.92	70	130
Benzene	ND	0.30	101	103	1.37	116	113	2.24	70	130
Tolvene	ND	0.10	89.2	89.6	0.510	98.9	95.8	3.19	70	130
Ethylbenzene	ND	0.10	109	110	0.854	118	116	1.91	70	130
Xylenes	ND	0.30	96.7	100	3.39	107	100	6 45	70	130
%\$\$:	109	0.10	103	90.2	1113	104	112	7.43	70	130

ounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions NONE

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent

MS and for MSD spike recoveries may not be near 100% or the RPDs near 0% it a) the sample is in helyte relative to the amount spiked, or b) it that specific sample matrix interferes with spike recovery.

x) = sum of BTEX areas from the FID.

red chromatogram; sample peak coekses with surrogate peak



McCampbell An	alytical, Inc	•	Telephone	or South, #D7, Pacheco, CA : 923-798-1620 Fax : 925- campbell com E-mail: main	791-1672						
Cambria Env. Technology	Client Project II	D: #522-1000-2	8; John [	Date Sampled: 05/	11/04						
5900 Hollis St, Suite A	Ivady		Г	ate Received: 05/	12/04						
Emeryville, CA 94608	Client Contact:	Matt Meyers	Г	Date Extracted: 05/	12/04						
	Client P.O.:		r	ate Analyzed: 05/	13/04-05/1	4/04					
Halogenated \ Extraction Method 5W5030		by P&T and G alysical Method: 5WE03	•	Basic Target List)	Work Orde	r. 040511					
Lab ID	0405185-001A	0405185-002A	0405185-003A	0405185-004A		-					
Client ID	MW-6C@5.5	MW-6C@11	MW-6C@16	MW-6C@21	Reporting						
Matrix				S	DF	-1					
DF	1		i		5	w					
Compound	i	Conc	entration		μ <b>ε/</b> Κ <b>ε</b>	μ <b>g/</b> 1					
Bromodichloromethane	ND	ND	ND	! ND	5.0	NA.					
Bromoform	ND	ND	ND	ND	5.0	NA.					
Bromomethane	ND	ND	ND	ND	5.0	NA.					
Carbon Tetrachloride	ND	ND	ND	ND	5.0	NA					
Chlorobenzene	ND	ND	ND	ND	5.0	NA.					
Chlomethane	ND	DM	ND	ND	5.0	NA					
2-Chloroethyl vinyl ether	ND	ND	ND	ND	5.0	NA.					
Chloroform	ND	DN	ND	ND	5.0	NA					
Chloromethane	ND	MD	ND	DND	5.0	NA					
1,4-Dichlorobenzene	ND .	ND	ND	ND .	5.0	NA					
Dibromochloromethane	ND	ND	ND	ND	5.0	NA					
1,2-Dichlorobenzene	ND ND		ND	ND	ND		ND	ND		5.0	NA NA
		ND	I ND	ND	5.0	NA.					
Dichlorodifluoromethane	ND	ND	ND	ND	5.0	NA					
1,1-Dichloroethane	ND	ND	ND	ND	5.0	NA.					
1,2-Dichloroethane	DN	ND	ND	ND	5.0	N/A					
1,3-Dichloroethene	ND	. ND	: ND	ND	5.0	N/A					
t is-1,2-Dichloroethent	ND	ND	ND	ND	5.0	N/A					
trans-1,2-Dichloroethene	ND	ND	ND	ND	5.0	N/A					
1,2-Dichloropropane	ND	ИD	ND	ND	5.0	N.A					
cis-1,3-Dichloropropene	ND	ND	ND	ND	5.0	NA.					
trans-1,3-Dichloropropene	ND	i ND	ND	ND	5.0	NA					
Methylene chloride	ND	ND	ND	NTD.	5.0	NA					
1,1,2,2-Tetrachloroethane	ND	ND	! ND	ND	5.0	NA					
Tetrachloroethene	ND	ND	ND	ND	5.0	NA					
1,1,1-Trichloroethane	ND	ND	ND	ND	5.0	NA					
1,1,2-Trichloroethane	ND	DND	ND	ND	5.0	. NA					
Trichloroethene	ND	ND	ND	ND	5.0	NA.					
Trichlorofluoromethane	ND.	! ND	ND	ND	5.0	NIA.					

Surrogate Recoveries (%)

110

D means not detected above the reporting limit; N/A means analyte not applicable to this analysis

DHS Certification No. 1644

Vinyl Chlorid

%\$\$:



McCampbell Analytical, Inc.

#### QC SUMMARY REPORT FOR SW8021B/8015Cm

				massa,	•				TIOKCIDES:	0403183
EPA Method: SW80	21B/8015Cm E	xtraction:	SW5030B		Batch1D:	11526	s	plked Sampl	e ID: 0405	185-004A
	Sample	Splked	MS*	MSD*	MS-MSD*	LCS	LCSD	LCS-LCSD	Acceptance	o Criteria (%
	mg/Kg	mg/Kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	Low	High
TPH(blex)	DN	0.60	100	99.1	0.955	99.1	99.1	0	70	130
мтве	ND	9.10	104	103	0.696	108	101	7.04	70	130
Benzene	ND	0.10	104	102	1.23	116	112	3.08	70	130
Toluene	ND	0.10	89.8	89.1	0.723	98.2	96.2	2.04	70	130
Ethylbenzene	ND	0.10	110	109	0.401	118	115	2.00	70	130
Xylenes	ND	0.30	100	100	0	107	100	6.45	70	. 130
%SS:	81.0	0.10	95.8	101	5.28	109	88.9	20.3	70	130

All target compounds in the Method Blank of this extraction batch were ND less than the method RI with the following except NONE

MS = Malitix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent

f or MSD spike recoveries may not be near 100% or the RPDs near 0% if, b) the sample is in lative to the amount spiked, or b) if that specific sample matrix interferes with spike recovery.

TPH(blex) = sum of BTEX areas from the FID.

ered chromatogram; sample peak coekdes with surrocute neak

VA = not enough sample to perform matrix spike and matrix spike duplicate. IR ≈ analyte concentration in sample exceeds spike emount for soil matris or exc

110 7nd Averne South #D7, Pacheco, CA 94553-5560 Telephone: 925-798-1670 Fax: 925-798-1672 Websit: www.mczampbell.com E-ma), margimecampbell.com

#### QC SUMMARY REPORT FOR SW8015C

Mahin: 9

Mark Order (MOS185

	Sample	Spiked	MS*	MSD*	MS-MSD.	LCS	LCSD	LCS-LCSD	Acceptance	Criteria (%
	mg/Kg	mg/Kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	Low	High
TPH(d)	ND	150	97.1	93.1	1.03	97 2	91.9	0.374	70	130
%SS:	99 6	50	101	101	0	102	101	0 211	70	130

MS » Maths Spike, MSD « Matrix Spike Dupicate; LCS » Laboratory Control Sample; LCSD » Laboratory Control Sample Dupicate; HPD » Reletiva Percent Divisition. M. Dierromon a 1011° AJS-Sample) / (Amount Spiked); RPD = 100° (MS - MSD) / (MS + MSD) / 2).

* NS and ( or NSD spike recoveries may not be near 100% or the RPDs near 0% if, a) the sample is inhorhoge

* MS and / or MSD spike recoveries may not be near 100% or the HPUs near 0% if, a) the sample is innormogenous with contains significant contains administration of an applied relative to the amount spiked, or b) if that specific sample matrix interferes with spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

Date Received: Date Printed:

TEL (510) 420-0700 FAX: (510) 420-9170 Projective: #522-1000-28; John Nady PO:

PIOH

Collection Date

Y PET

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample divided due to high matrix or

DHS Certification No. 1644

Page i of 1

CHAIN-OF-CUSTODY RECORD

WorkOrder: 0405185

McCampbell Analytical, Inc.

QA/QC Officer

NOTE: Samples are discarded 60 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at client an

#### McCampbell Analytical, Inc.

110 2nd Avenue South, #D7, Pacheco, CA 94553-3560 Telephone: 925-793-1620 Fax: 925-798-1672 Website: www.mccampbell.com E-mail: main@mccampbell.com

#### QC SUMMARY REPORT FOR SW8021B

Matrix: 9

F	xtraction:	SW5030		BatchID:	11484	s	piked Sampl	le ID: 04051	30-003A
Sample	Spiked	MS*	MSD.	MS-MSD"	LCS	LCSD	cs-csb	Acceptance	Criteria (%)
рд/Кд	уд/Ка	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	Low	High
ND<100	50	87.6	91.6	4.46	97.2	95.9	1.37	70	130
ND<100	50	84.3	86.6	2 69	118	113	4,94	70	130
ND<100	50	71	79	10.7	102	100	1.70	70	130
90.0	50	87.4	89.4	2.26	104	104	0	70	130
	Sample pg/Kg ND<100 ND<100 ND<100	Sample Spiked pg/Kg pg/Kg pg/Kg ND<100 50 ND<100 50 ND<100 50	μη/Kg μη/Kg % Rec. ND<100 50 87.6 ND<100 50 84.3 ND<100 50 71	Sample   Spiked   MS'   MSO'	Sample   Spiked   MS*   MSD*   MS-MSD*	Sample   Späted   MS'   MSD'   MS-MSD'   LCS     μg/Kg   μg/Kg   % Rec.   % Rec.   % RPD   % Rec.     ND< 100   50   87.6   91.6   4.46   97.2     ND< 100   50   84.3   86.6   2.69   118     MD< 100   50   71   79   10.7   102	Sample   Spiket   MS   MSOF   MS-MSOF   LCS   LCSD     μg/Kg   μg/Kg   %, Rec.   %, Rec.   %, Rep.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %, Rec.   %,	Sample   SpBed   MS*   MSD*   MS-MSD*   LCS   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LCSU   LC	Sample   Späed   MS*   MSO*   MS-MSD*   LCS   LCSD   LCS-LCSD   Acceptance   μg/Kg   μg/Kg   % Rec.   % Rec.   % RPD   % Rec.   % Rec.   % RPD   Low   ND     100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   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 100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions: NONE

MS = Maids Spike; MSD = Maids Spike Duplicate; LCS = Laboratory Control Sample, LCSD = Laboratory Control Sample Duplicate; RPD > Relative Percent Deviation.

*MS and / or MSD spike recovaries may not be near 100% or the RPDs near 0% it, a) the sample is inhomogenous ANO contains significant concentrations of analyte relative to the amount spiked, or b) if that specific sample matrix interferes with spike recovery.

NA = not enough sample to perform matrix spike and matrix spike displicable.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diffired due to high matrix or involve content.

Laboratory extraction solvents such as methylene chloride and scatone may occasionally appear in the method blank at low levels.

DHS Certification No. 1644

TL QA/QC Officer

Tubbuone (23) 78-160   MacAnitro Recognition   MacAnitro Recognition   MacAnitro Recognition   MacAnitro Recognition   MacAnitro Recognition   MacAnitro Recognition   MacAnitro Recognition   MacAnitro Recognition   MacAnitro Recognition   MacAnitro Recognition   MacAnitro Recognition   MacAnitro Recognition   MacAnitro Recognition   MacAnitro Recognition   MacAnitro Recognition   MacAnitro Recognition   MacAnitro Recognition   MacAnitro Recognition   MacAnitro Recognition   MacAnitro Recognition   MacAnitro Recognition   MacAnitro Recognition   MacAnitro Recognition   MacAnitro Recognition   MacAnitro Recognition   MacAnitro Recognition   MacAnitro Recognition   MacAnitro Recognition   MacAnitro Recognition   MacAnitro Recognition   MacAnitro Recognition   MacAnitro Recognition   MacAnitro Recognition   MacAnitro Recognition   MacAnitro Recognition   MacAnitro Recognition   MacAnitro Recognition   MacAnitro Recognition   MacAnitro Recognition   MacAnitro Recognition   MacAnitro Recognition   MacAnitro Recognition   MacAnitro Recognition   MacAnitro Recognition   MacAnitro Recognition   MacAnitro Recognition   MacAnitro Recognition   MacAnitro Recognition   MacAnitro Recognition   MacAnitro Recognition   MacAnitro Recognition   MacAnitro Recognition   MacAnitro Recognition   MacAnitro Recognition   MacAnitro Recognition   MacAnitro Recognition   MacAnitro Recognition   MacAnitro Recognition   MacAnitro Recognition   MacAnitro Recognition   MacAnitro Recognition   MacAnitro Recognition   MacAnitro Recognition   MacAnitro Recognition   MacAnitro Recognition   MacAnitro Recognition   MacAnitro Recognition   MacAnitro Recognition   MacAnitro Recognition   MacAnitro Recognition   MacAnitro Recognition   MacAnitro Recognition   MacAnitro Recognition   MacAnitro Recognition   MacAnitro Recognition   MacAnitro Recognition   MacAnitro Recognition   MacAnitro Recognition   MacAnitro Recognition   MacAnitro Recognition   MacAnitro Recognition   MacAnitro Recognition   MacAnitro Recognition   MacAnitro Recognition   MacAn								Ì	ļ	1						۱	l		l		1	5	S	50			
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McCampbell A	Analytical, Inc.	Tek	Avenue South, #D7, Pacheco, CA 94553-5560   phoor: 925-798-1670   Fax: 975-798-1627   re_mczampbell.com E-mail_tmain@mcvampbell.com
Cambria Env. Technology	Client Project ID: #522-1	000-28; John	Date Sarrupled: 05/11/04  Date Received: 05/12/04  Date Extracted: 05/12/04
5900 Hollis St, Suite A	Nady		Date Received: 05/12/04
r	Client Contact: Matt Mey	ers	Date Extracted: 05/12/04
Emeryville, CA 94608	Client P.O.:		Date Analyzed: 05/14/04-05/15/04

Gasoline Range (C6-C12). Stoddard Solvent Range (C9-C12) Volatile Hydrocarbons with BTEX and MTBE*

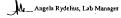
Extraction Method SW3030B		palytical Method. SW802			Work Ord	rr: 04051 <b>8</b> 5
Lab	D 0405185-001A	0405185-002A	0405185-003A	0405185-004A		
Client	ID MW-6C@5.5	MW-6C@11	MW-6C@16	MW-6C@21	Reporting	Limit for
Mar	ria S	s	s	s	DF	=1
	DF I	5	10	i	s	w
Compound		Солс	entration		mg/Kg	ug/L
трн(g)	5.9	79	100	ND	1.0	NA
TPH(ss)	11	68	230	ND	1.0	NA
мтве	ND	ND<0.25	ND<0.50	ND	0.05	NA
Benzene	ND	ND<0.025	ND<0.050	ND	0.005	NA.
Toluene	ND	ND<0.025	ND<0.050	ND	0.005	NA.
Ethylbenzene	ND	ND<0.025	ND<0.050	ND	0.003	NA
Xylenes	ND	ND<0.025	ND<0.050	ND	0.005	NA
	Sur	rogate Recoverie	rs (%)			
%SS:	95.4	89.3	84.5	81.0		
Comments	E	8.m	g,m	1	1	
1						

water and vapor samples and all TCLP & SPLP extracts are reported in µg/L, soli/studge/solid samples in mg/kg, wipe samples in µg/wipe, roduct/oi/non-aqueous liquid samples in mg/L.

ed chromatogram; sample peak coelutes with surrogate peak.

The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) summodified or weakly modified gasoline is significant; b) heaving passible range conspounds are significant placed, and a summodified or weakly modified gasoline is significant, d) gasoline range compounds having board chromatographic peaks are significant, bloidegically altered gasoline; (c) TPH pattern that does not appear to be derived from goodine (stoddard solvent / mineral spirity); f) one to a few sichted on barged process, proceeding the process of the pattern described on the pattern of the pattern of the pattern of the pattern of the pattern of the pattern of the pattern of the pattern of the pattern of the pattern of the pattern of the pattern of the pattern of the pattern of the pattern of the pattern of the pattern of the pattern of the pattern of the pattern of the pattern of the pattern of the pattern of the pattern of the pattern of the pattern of the pattern of the pattern of the pattern of the pattern of the pattern of the pattern of the pattern of the pattern of the pattern of the pattern of the pattern of the pattern of the pattern of the pattern of the pattern of the pattern of the pattern of the pattern of the pattern of the pattern of the pattern of the pattern of the pattern of the pattern of the pattern of the pattern of the pattern of the pattern of the pattern of the pattern of the pattern of the pattern of the pattern of the pattern of the pattern of the pattern of the pattern of the pattern of the pattern of the pattern of the pattern of the pattern of the pattern of the pattern of the pattern of the pattern of the pattern of the pattern of the pattern of the pattern of the pattern of the pattern of the pattern of the pattern of the pattern of the pattern of the pattern of the pattern of the pattern of the pattern of the pattern of the pattern of the pattern of the pattern of the pattern of the pattern of the pattern of the pattern of th

DHS Certification No. 1644



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McCampbell Analytical, Inc.	110 Ind Avenue South, #D7, Pacheco, CA 94553-5560 Telephone: 925-798-1620 Fax: 925-798-1672 Website: www.mecsampbell.com E-mail.main@mccampbell.com
9	Website www.meesmpbell.com E-mail main@meeampbell.com

Cambria Env. Technology	Client Project ID: #522-1000-28; John	Date Sampled: 05/18/04
5900 Hollis St, Suite A	Nady	Date Received: 05/20/04
Emeryville, CA 94608	Client Contact: Matt Meyers	Date Reported: 05/25/04
епктууще, СА 94006	Client P.O.:	Date Completed: 05/25/04

WorkOrder: 0405329

May 25, 2004

Enclosed are:

- 1), the results of 1 analyzed sample from your #522-1000-28; John Nady project,
- 2). a QC report for the above sample
- 3). a copy of the chain of custody, and
- 4). a bill for analytical services.

All analyses were completed satisfactorily and all QC samples were found to be within our control limits. If you have any questions please contact me. McCampbell Analytical Laboratories strives for excellence in quality, service and cost. Thank you for your business and I look forward to working with you again.

Angela Rydelius, Lab Manager

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TURN AROUND TIME: D D D D
TURN AROUND TIME: THOUR 48 HOUR RCI [01095,PET (13+1/0+57) bes J BESM STRUE CAM-17 Mebb 0 K\$1 0K\$1 5K9 483 K0 5.7H41 1 5H44 0LT\$ / \$79 Y d3 頝 EbY 974 : \$310 \ 8590 E6Y 708 12080 ICB.1 ONT A 0802 \ 808 A 93 Ö BTEX ONLY (EPA 602 18020) 0 103 / 109 Y 43 Total Petroleum Hydro CAC +177 \ (2018) 22 Dicce (1810 2) LAFT & H9T EDF 109) tr ( 11 4 X378 55 +38.07 AS 100 + OLOS 15A1C 'ONH LOUR TION 2gpngc 1105 McCAMPBELL ANALYTICAL INC. 110 24 AVBNUE. ROUTH, 407 PACHECO, CA 94553-5560 (925) 798-1620 Water Туре Сопыпая Fax: (510 Project Na Project Na 167 65" Street, Oakland . ko/11/5 Date LOCATION MW-46855 MW-6681 MW-6681 MW-6681 MW-6681 MW-6681 MW-6681 MW-6681 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-6685 MW-66 3

ø	McCam	pbell A	nalytica	l, Inc.	,	Triepboo	tur South, #D7, Pachéu 1: 923-798-1670 Fan scampbell.com E-meil	925-792-1622		
Cambria	Env. Techno	logy		roject ID: #5	522-1000-28;	John	Date Sampled:	05/18/04		
5900 Ho	ollis St, Suite	A	Nady				Date Received:	05/20/04		
			Client C	ontact; Matt	Meyers		Date Extracted:	05/20/04		
Emeryvi	ille, CA 9460	0	Client P	.O.:			Date Analyzed:	05/21/04		
Extraction	Gaso method: 5W50001	-	e (C6-C12)		rocarbons as		dth BTEX and		Order: 0	405329
Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS
001A	SP-IA-H	s	80,g_m	ND	ND	ND	0.026	0.14	1	110
									T	

Extraction n	uenpront: 2.M.20030∄			Amalytical	methods: SW 80211	9/8015Cm		Work (	mar. o	105329
Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS
001A	SP-IA-H	s	80,g_m	ND	ND	ND	0.026	0.14		110
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		1				ļ	-		1-	$\vdash$
Reporting	Limit for DF =1; not detected at or	W	NA	NA.	NA.	NA NA	NA.	NA.	1	ug/L
above d	be reporting himit	s	1.0	0.05	0.005	0.005	0.005	0.005	1	ing/K

*The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified gasoline is significant; b) heavier gasoline range compounds are significant/significant gasoline range compounds (the most mobile fraction) are significant; b) heavier gasoline range compounds therein by the significant gasoline range compounds therein the product of the significant gasoline range compounds therein gasoline (sandard solvent / mirrar s) paint?), no net as few isolated non-targe packs present; g) strongly sayed gasoline or discript may be derived from gasoline (sandard solvent / mirrar s) paint?), no net or service, i) liquid sample data contains greated than 1 or M. sendment? I proporting limit raised due to high MTBE content; b) TPH pattern that does not appear to be derived from gasoline (aviation gas), m) no recognizable pattern.

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Ø Me	Campbell A	nalytical,	lnc.	Telep	hone: 925-798-1620 Fax 	: 925-798-1672	nom .
Cambria Env.	Technology		ject ID: #522-1000-28;	lohn	Date Sampled:	05/18/04	
5900 Hollis S	, Suite A	Nady			Date Received:	05/20/04	
Emeryville, C.	A 94608	Client Cor	itaci: Mati Meyers		Date Extracted:	05/20/04	
Libery vine, c.	A 74000	Client P.O	l:		Date Analyzed:	05/22/04	
	Diesel (C10-23)	and Oil (C18	+) Range Extractable Hyd	rocarbon	s as Diesel and Moto	r Oil*	
Extraction method 3	W3330C		Analytical methods: SW8015			Work Or	der: 0405329
Lab ID	Client ID	Matrix	TPH(d)	T	TPH(mo)	DF	% S5

bothern nectoral	2M3330C		Analytical methods: SW8015C		Work O	der: 040532
Lab ID	Client ID	Matrix	TPH(d)	TPH(mo)	DF	% S5
0405329-001A	SP-1A-H	s	12,d.g	9.3	1	89.5
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	Limit for DF =1; not detected at or	w	NA	NA .	וַני	z/L
	ne reporting limit	S j	1.0	5.0	mg	/Kg

^{*} water samples are reported in µg/L, wipe samples in µg/wipe, sol/sol/d/sludge samples in mg/kg, product/oil/non-aqueous liquid samples in mg/L, and all DISTLC / STLC / SPLP / TCLP extracts are reported in µg/L.

*The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified dieself is significantly of dieself range compounds are significantly on recognizable pattern, c) aged dieself is significantly of pattern medium belling point pattern that does not appear to be derived from diesel datapable), f) one to be some significant of a windown medium belling point pattern that does not appear to be derived from diesel datapable), f) one to be some significant to a point pattern that continue the pattern is plotted in section of the some significant to the some significant to the some significant to the some significant to the some significant to the some significant to the some significant to the some significant to the some significant to the some significant to the some significant to the some significant to the some significant to the some significant to the some significant to the some significant to the significant to the significant to the significant to the significant to the significant to the significant to the significant to the significant to the significant to the significant to the significant to the significant to the significant to the significant to the significant to the significant to the significant to the significant to the significant to the significant to the significant to the significant to the significant to the significant to the significant to the significant to the significant to the significant to the significant to the significant to the significant to the significant to the significant to the significant to the significant to the significant to the significant to the significant to the significant to the significant to the significant to the significant to the significant to the significant to the significant to the significant to the significant to the significant to the significant to the significant to the significant to the significant to the significant to the significant to

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110 7nd Avenue South, #D7, Pacheco, CA. 94313-5560 Telephone: 925-798-1620 Fax: 933-798-1622 Website: www.mxcampbell.com E-mail: msin@mccampbell.

#### QC SUMMARY REPORT FOR SW8021B/8015Cm

EPA Method: SW8	021BV8015Cm 8	xtraction:	SW5030E	В	BalchID:	11613	s	piked Sampi	e ID: 04053	21-001A
	Sample	Spiked	MS*	MSD*	MS-MSD*	LCS	LCSD	LCS-LCSD	Acceptance	Criteria (%
	mg/Kg	mg/Kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	Low	High
TPH(biex) ^f	ND	0.60	106	112	5.72	97.1	99.3	2.30	70	130
мтве	ND	0.10	82.9	90.4	8.69	99.7	93.6	6.32	70	130
Benzene	ND	0.10	109	11)	1.32	108	106	1.73	70	130
Toluene	OIN	0.10	94.5	91.4	3.36	92.1	90.1	2 22	70	130
Ethylbenzene	ND	0.10	)14	112	1.30	107	110	3.10	70	130
Xylenes	ND	0.30	107	100	6.45	100	100	0	70	130
%SS:	89.0	0.10	107	103	3.81	87.4	103	16.4	70	130

MS = Montax Spike, MSD = Metrix Spike Duplicate; LCS × Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent

(MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

MSD spike recovaries may not be near 100% or the RPDs near 0% it. a) the sample is inhomogenous AND contains eignific a to the amount spiked, or b) if that specific sample matrix intentares with spike recovery.

TPH(btex) = sum of BTEX arees from the FID.

not prough sample to perform metrix spike and metris spike duplicate.
 omight concentration in sample exceeds spike armount for soil metrix or exceeds 2x spike amount for water metrix or sample diluted due to high metrix or pla context.

TL_QA/QC Officer

McC	Campbell A	nalytical	, Inc.	Tek	Avenue South, #D7, Pacheco, CA 94: pbone: 975-798-1620 Fax: 925-798- mocamphell.com E-mail: main@me	1622	·
Cambria Env. T	echnology		oject ID: #522	-1000-28; John	Date Sampled: 05/18/	)4	
5900 Hollis St,	Suite A	Nady			Date Received: 05/20/	)4	
Emeryville, CA	94608	Client Co	ptact: Matt Me	yers	Date Extracted: 05/20/0	)4	_
		Client P.C	D:		Date Analyzed: 05/21/6	)4	
Atraction method: 5W	30509			by ICP*		Work Order:	04053
LabiD	Client ID	Matrix	Extraction		Liad	DF	% S
0405379-001A	SP-1A-H	. s	TILC		21	1	97.
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w THE mg/L s TTLC 5.0 mg/Kg *water/product/oil/non-aqueous liquid samples and all TCLP / STLC / DISTLC / SPLP extracts are reported in mg/L, soil/shudge/solid samples in mg/kg, wipe samples in µg/wipe. filter samples in µg/likie.

urrogate recovery outside of acceptance range due to matrix interference; & means surrogate diluted out of acceptance range; ND means not shove the reporting limit; N/A means not applicable to this sample or instrument.

nalytical Methods: EPA 6010C/200.7 for all elements except: 200.9 (water/liquid- Sb, As, Pb, Se, T1); 245.1 (Hg); 7010 udge/soil/soil/doil/product/wiper/filer - As, Se, T1); 7471B (Hg).

) liquid sample that contains greater than -1 vol. % sediment; this sediment is extracted with the liquid, in accordance with EPA methodologies and can ignificantly effect reported once it concentrations; j) reporting limit raised due to insufficient sample amount; k) results are reported by dry weight; y) stimuted values due to low surrogate recovery; z) reporting limit raised due to namis instrictions.

DHS Certification No. 1644

Angela Rydelius, Lab Manager

McCampbell Analytical, Inc.

110 2nd Avenue South, #D7, Pacheco, CA 94553-5560 Telephone: 925-798-1620 Fax: 925-798-1622

#### QC SUMMARY REPORT FOR SW8015C

WorkOrder: 0405329

EPA Method: SW8015C		extraction:	SW35500	3	BatchID:	11612	s	piked Samp	le ID: 04053	21-001A
	Sample	Spiked	MS*	MSD*	MS-MSD*	LCS	LCSD	LCS-LCSD	Acceptance	Criteria (%
	mg/Kg	mg/Kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	Low	High
TPH(d)	ND	150	95.1	96.6	1.54	100	98.8	1,44	70	130
%SS:	102	50	92.1	93.2	1.16	104	102	1.63	70	130

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:

MS = Matrix Spiker, MSD = Matrix Spike Duplicater, LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent

ry = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / (fMS + MSD) / 21.

MS and / or MSD apike recoveries may not be near 100% or the RPDs near 0% it, a) the sample is in not/te relative to the amount spiked, or b) if that apocific sample matrix interferes with spike recovery.

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TL QA/QC Officer

NONE

If cluttered chromatogram resulting in coclused surrogate and sample peaks, or, surrogate peak is on elevated baseline, or, surrogate has been diminished by dilution of original extract.

110 2nd Avenut South, ADT, Pacheco, CA, 94553-5560 Telephone, 925-794-1620 Jan 923-791-1622 Website: www.inccumpbell.com E-mail.main@mccampbell.com

#### QC SUMMARY REPORT FOR 6010C

Matrix: S

WorkOrder: D405329

EPA Method. 6010C	E	xiraction	SW3050B		BatchID.	11623	S	piked Sampi	le ID: 04053	30-002A
	Sample	Spiked	MS'	MSD*	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance	Criteria (%
	т9/К9	ту∕Ку	% Rec	% Rec.	% RPD	% Rec.	% Rec.	% RPD	Low	High
i, cad	10 16	50	123	95.7	- 217	100	103	2 76	80	120
%SS	99.8	250	101	98 8	7.15	102	165	3 09	80	120

MS = Matrix Spike; MSD = Matrix Spike Dupikate; LCS = Laboratory Control Sample; LCSD > Laboratory Control Sample Dupikate; RPD = Relative Percant Deviation

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2)

* Acceptance Criteria for MS7 MS0 is between 70% and 130%. MS and / or MS0 spike recoveries may not be near 100% or the RPDs near 0% if a) the samp is inhomogenous AND contains significant concentrations of enabyte relative to the amount spiked, or b) if that specific sample matrix interferes with spike recovery.

N/A : not applicable to this method. NR : analyte concentration in sample exceeds strike amount for soil matrix or exceeds 2x soils:

ik a analyte concentration in sample exceeds spixe amount for son matrix or exceeds to spixe amount to water matrix or sample district one to high matrix or nayte content

DHS Certification No. 1644

SAN DAVOC OFFICE

	McCAN	APREL L	McCAMPBELL ANALYTICAL INC.	Jic	AL D	ÿ						. E	Y Y	CHAIN OF CUSTODY RECORD TURN AROUND TIME: 0 0	Zig	NE SE	2	٥,	<del>-</del> -	j J	30	双
		110 2" AN	110 2" AVENUE SOUTH, #D7 PACHECO, CA 94533-3560	F. 85.	,		(C): 00E (3CO)	5			EDF	Seou	red?	EDF Required? \( \text{Yes} \( \text{SNo} \)	្ន	ĸ	5 5	E	5. E	<b>5</b>	HOU	RUSH 24 HOUR 48 HOUR 5 DAY
Telephone:	Telephone: (925) 798-1620	0791-1	ä	Rill To: Cambria			200	775		t				Analysis Request	is Rec	uest.	H	П	П	Ŭ	Other	Comments
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Company; Cambria Environmental Technology, inc.	Environment	T I CCUID	10K), 111c.								_	(3%						_				
Syou noting street, some A	V alino		E-mail: mmevers@cambria-env.com	No.	90	į	env.ce	Ę		Ī	21	an a		_			01				_	
Tal (\$10) 470-3316	9		Pax: (\$10) 420-9170	92	5		ľ		Ì	Ĺ	- LIN				_		(\$/			_	_	
Drainet #: 577-1000-78	178		Project Name: John Nady	or SE	Z S	è											OLZ	_			_	
Project Location: 1137-1167 65" Street, Oakland	137,1167 65	Street, Oa	Kland							П	d_	_		07 Q1	አገ	_	1/5	_	(0)		_	
Sampler Signature:	ار ا	١								П	<u> </u>	_		1/20		-	9 Y		09/7	0	_	
	6	SAMP	SAMPLING	-	١,	ž	MATEUX		PRESERVED	٥ <u>ان</u>	_		_	9 v a		1071	sa ke		.eur	₩.Э		
SAMPLE ID (Field Point Name)	LOCATION	Date	Ei.	asmianno	nanianoO aq	ater jic	udge udge	ther 5	CI	NO ₁ ther	18X & 1941 at Ga 18) Ibrael (8)	) muolotas listo I muolotas listo	0 108 / 109 Yd	TEX ONLY (E.	0902/209 Ya	0L78/579 V&	A2T : / PUA's b	संद्राज्ञल र 1-14.A. संद्राज्ञल र 17.U.	ाज स्थापना			"
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McCampbell Analytical, Inc.	T 110 Second Avenue South, #D7	Pacheca, CA 94553-5560	(923) 798-1620

Page, I of I

CHAIN-OF-CUSTODY RECORD

ClientID: CETE

WorkOrder: 0405329

Report to:
Matt Mayers
Cannotis Env. Technology PAX:
S900 Hollis St. Suite A Prefective:
Emeryville, CA 94608 PO:

(510) 420-9700 (510) 420-9170 : #522-1000-28: John Nady

Collection Date

XI.43EM

Date Received: Date Printed:

Requested TAT;

NOTE: Samples are discarded 60 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at client expense.

McCampbell Analytical, Inc.

110 2nd Artune South, FD7, Pachero, CA 94535-3550
Tshaphon: 192-794-1620 Fax: 1921-794-1627
Websit: www.mrs.ampbell.com E-mail: mail@mc.crepbell.com

Cambria Env. Technology	Client Project ID: #522-1000-28; John	Date Sampled: 05/18/04
5900 Hollis St, Suite A	Nady	Date Received: 05/20/04
Emeryville, CA 94608	Client Contact: Matt Meyers	Date Reported: 05/26/04 .
Emeryvine, CA 94008	Client P.O.:	Date Completed: 05/26/04

WorkOrder: 0405331

May 26, 2004

Dear Matt:

Enclosed are:

- 1). the results of 5 analyzed samples from your #522-1000-28; John Nady project,
- 2). a QC report for the above samples
- 3), a copy of the chain of custody, and
- 4). a bill for analytical services.

All analyses were completed satisfactorily and all QC samples were found to be within our control limits.

If you have any questions please contact me. McCampbell Analytical Laboratories strives for excellence in quality, service and cost. Thank you for your business and I look forward to working with you again.

Angela Rydelius, Lab Manager

McCampbell An	alytical, Inc			Telephon	ne South, PD7, Pacheco, CA 1:925-798-1620 Fax:925- teamphell.com E-mail.mair@	798-1622	om
Cambria Env. Technology	Client Project II	D: #522-	1000-28	, John	Date Sampled: 05/1	8/04	
5900 Hollis St, Suite A	Nady .			<u> </u>	Date Received: 05/7	20/04	
	Client Contact:	Matt Mey	rers		Date Extracted: 05/7	20/04	
Emeryville, CA 94608	Client P.O.:				Date Analyzed: 05/2	1/04	
Gasoline Range (C6-C12), St Extraction Method, SW1010B		Range (C!			rocarbons with BTI		TBE*
Lab ID	0405331-001A	0405331	-002A	0405331-003	A 0405331-004A		
Client ID	MW-5B@5	MW-SE	3@10	MW-5B@1	MW-5B@20	Reporting	
Матгія	s	s		S	s	DF	-1
DF	1	1		20	1	s	w
Compound	1	<del></del>	Conce	ntration		mg/Kg	ug/L
TPH(g)	ND ND 410 ND					1.0	NA
TPH(ss)	ND	NE	)	390	ND	1.0	МА
мтве	ND	NI	,	ND<1.0	ND	0.05	НА
Вептепе	ND	NE		ND<0.10	ND	0.005	NA
Toluene	ND	IN	)	ND<0.10	DM	0.005	NA
Ethylbenzene	ND	NI	0	ND<0.10	NĎ	0.005	NA
Xylenes	סא	и	D .	14	DM	0.005	NA
	Surr	ogate Rec	coveries	(%)			
%SS:	99.7	10	8	93.5	96.5		
Comments							

"water and vapor samples and all TCLP & SPLP extracts are reported in ug/L, soil/sludge/solid samples in mg/kg, wipe samples in ug/wipe, product/oil/non-aqueous liquid samples in mg/L.

clustered chromatogram; sample peak coelutes with surrogate peak.

The following descriptions of the TPH chromatogram are cansory in nature and McCampbell Analytical is not responsible for their interpretation: s) unmodified or weakly modified gasoline is significant, b) heavier gasoline range compounds are significant(aged gasoline?); c) lighter gasoline range compounds (the most mobile fraction) are significant, b) heavier gasoline, that having bread thorous greating the peaks are significant to be derived from gasoline (saided solvent / mineral spinis?), the cut of the visibled non-target parks present; g) strongly gaed gasoline ou discell range compounds are significant; h) lighter than water immuscible sheen/product is present; j) liquid sample that contains greate that -1 vol. V. sediment; j) reporting jimit raised due to high MTBE content; k) TPH paners that does not appear to be derived from gasoline (aviation gas), m) no recognizable pattern.

DHS Certification No. 1644



Mc Mc	Campbell A	nalytical	, Inc.	Telep	A resue South, #D7, Pacheco, C/ hone: 925-798-1620 Fax: 925 w.mccampbell.com E-mail: main	798-1622	om.
Cambria Env. I	Technology	Client Pr	oject ID: #522-	1000-28; John	Date Sampled: 05/	18/04	
5900 Hollis St,	Suite A	,,,,,			Date Received: 05/	20/04	
Emeryville, CA	04608	Client Co	ontact: Matt Mey	rers	Date Extracted: 05/	20/04	
Linki yvinie, CA		Client P	0.:		Date Analyzed: 05/	22/04	
atraction method: SY		and Oil (CI	8+) Range Extrac		s as Diese) and Motor O		der: 0405333
Lab ID	Client ID	Matrix	TPH(d)		TPH(mo)	DF	% SS
0405331-001A	MW-5B@5	s	ND		ND	1	102
0405331-00ZA	MW-5B@10	s	ND		ND	1	102
0405331-003A	MW-5B@15	s	42,d.b		ND	1	107
0405331-004A	MW-5B@20	s	ND		ND .	1	102
0405331-005A	MW-5B@24	s	DM		МD	1	102
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j						ļ	
		<del>  </del>				<u> </u>	ļ
!		$\perp$				<u> </u>	<u> </u>
	Limit for DF =1; not detected at or	w	NA		NA		g/L
	reporting limit	S	1.0		5.0	) m	g/Kg

Be chittered chromatogram resulting in cocluted surrogate and sample peaks, or; surrogate peak is on elevated baseline, or; surrogate has been diminid by dilution of original extract.

*The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified diseals is significant; b) diesel range compounds are significant; on recognizable partern. (2) apid diesel? is significant; of passion many significant; on which mention modified boiling point pattern that does not appear to be derived from diesel-shalt; (1) or to a few isolated peaks present; g) oil range compounds are significant; (a) lighter than water immittable bener/product is present; j) injud sample that contains present than 1-10.4. See definent, (3) increment/concern targe; (b) white oil; n) succided so observational partern than 1-10.4.

DHS Certification No. 1644



McCampbell An	alytical, lnc.		Telephi	venue South, #D7, Pscheco, C# one : 925-798-1620 Fax : 925 unccampbell.com E-meil main	798-1672	ta
Cambria Env. Technology		: #522-1000-28	; John	Date Sampled: 05/	18/04	
5900 Hollis St, Suite A	Nady			Date Received: 05/	20/04	
	Client Contact: 1	Matt Meyers		Date Extracted: 05/	20/04	
Emeryville, CA 94608	Client P.O.:			Date Analyzed: 05/	21/04	
Gasoline Range (C6-C12), St Extraction Method: SW50308		lange (C9-C12) ¹ lytical Method SW80711		drocarbons with BT	EX and M	
Lab ID	0405331-005A					
Client 1D	MW-5B@24				Reporting	
Matrix	s				DF	-1
DF					s	w
Compound		Conce	mg/Kg	υg/L		
ТРН( <b>8</b> )	ND		1.0	NA		
TPH(ss)	ND				1.0	NA
мтве	ND				0.05	NA
Benzene	DM				0.005	NA
Toluene	ND				0.005	NA
Ethylbenzene	סא				0 005	NA
Xylenes	ND				0.005	NA
	Surr	ogate Recoveries	(%)		•	
%SS:	98.3					
	<del> </del>				+	

*water and vapor samples and all TCLP & SPLP extracts are reported in pg/L, solVshodge/solid samples in mg/Ag, product/oil/non-aqueous liquid samples in mg/L.

*The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretations: a) summedified even keakly modified gasoline is significant, b) heavier gasoline; range compounds their gasoline and the process of the process of the process of the process of the process of the process of the process of the process of the process of the process of the process of the process of the process of the process of the process of the process of the process of the process of the process of the process of the process of the process of the process of the process of the process of the process of the process of the process of the process of the process of the process of the process of the process of the process of the process of the process of the process of the process of the process of the process of the process of the process of the process of the process of the process of the process of the process of the process of the process of the process of the process of the process of the process of the process of the process of the process of the process of the process of the process of the process of the process of the process of the process of the process of the process of the process of the process of the process of the process of the process of the process of the process of the process of the process of the process of the process of the process of the process of the process of the process of the process of the process of the process of the process of the process of the process of the process of the process of the process of the process of the process of the process of the process of the process of the process of the process of the process of the process of the process of the process of the process of the process of the process of the process of the process of the process of the process of the process of the process of the process of the process of the process of the process of the process of the process of the process of the process of the process of the process o

DHS Certification No. 1644



McCampbell An:	alytical, Inc	·	Telephone	or South, FD7, Pacheco, CA : 925-798-1620 Fax: 925- campbell.com E-mail: main(	791-1622	<b>ж</b> р
Cambria Env. Technology	Client Project II Nady	D: #522-1000-2	B; John I	Date Sampled: 05/	18/04	
5900 Hollis St, Suite A	Nady		r	Date Received: 05/	20/04	
Emeryville, CA 94608	Client Contact:	Matt Meyers		Date Extracted: 05/		
	Client P.O.:			Date Analyzed: 05/	<del></del>	4/04
Halogenated V		by P&T and GO		Basic Target List)	Work Orde	r: 040533)
Lab ID	0405331-001A	0405331-002A	0405331-003/		D. die	
Client ID	MW-5B@5	MW-5B@10	M₩-5B@15	MW-5B@20	Reporting DF	
Matrix	S	S	S	S	Ĺ"	-
DF	1	1	4	3	S	w
Сотрона		Conc	entration		μe/Ka	μg/L
Bramodichloromethane	ND	ŅD	ND<20	ND	5.0	NA.
Bromoform	ND	ND	ND-⊄0	ND	5.0	NA
Bromomethane	ND	· ND	ND<20	ND	5,0	NA
Carbon Tetrachloride	ND	ND	ND<20	ND	5.0	NA.
Chlorobenzene	מא	ND	ND<20	ND	5.0	NA.
Chloroethane	ND	ND	ND<20	dи	5.0	NA.
2-Chloroethyl vinyl ether	ND	ND	ND<20	ND	5.0	NA.
Chloroform	ND	ND	ND<20	ND	5.0	NA
Chloromethane	ND	ND	ND ND<20 ND ND<20		5.0	NA.
1,4-Dichlorobenzene	ND	ND			5.0	NA
Dibromochloromethane	ND	ND	ND<20 ND ND<20 ND		5.0	NA.
1,2-Dichlorobenzene	ND	ND			5.0	NA.
1,3-Dichlorobenzene	ND	ND	ND<20	ND	5.0	NA
Dichlorodifluoromethane	ND .	ND	ND<20	ND	5.0	NA
1,1-Dichloroethane	ND	ND	ND<20	ND	5.0	NA
1,2-Dichloroethane	ND	ND	ND<20	DI	5.0	NA.
i,1-Dichloroethene	ND	ND	ND<20	DN	5.0	NA.
cis-1,2-Dichloroethene	- ND	ND	ND<20	ND	5.0	NA.
trans-1,2-Dichloroethene	ND .	ND	ND<20	ND	5.0	. NA
1,2-Dichloropropane	ND	MD	ND<20	ND	5.0	NA.
cis-1_3-Dichloropropene	ND	ND	ND<20	ND	5.0	NA.
trans-1,3-Dichloropropene	ND	ND	ND<20	ND	5.0	NA.
Methylene chloride	ND_	ND	ND<20	ND	5.0	NA.
1,1,2,2-Tetrachloroethane	ND	. ND	ND<20	ND	5.0	NA.
Tetrachloroethene	ND	ND	ND<20	ND ND	5.0	NA.
1,1,1-Trichloroethane	ND	ND	ND<20	ND	5.0	NA.
1,1,2-Trichloroethane	ND	ND	ND<20	ND ND	5.0	NA NA
Trichloroethene	ND	ND	ND<20	ND	5.0	
Trichlorofluoromethane	ND ND	ND ND	ND<20	ND ND	5.0	NA NA
Vinyl Chloride				עיא	1 3.0	I NA
%5S:	T 115	oente Recoverie	197	107	1	
	· · · · · · · · · · · · · · · · · · ·		1 10		1	

oduct/oil/non-aqueous liquid samples in mg/L.

na not detected above the reporting limit; N/A means analyte not applicable to this analysis.

h) lighter than water immiscible sheen/product is present, i) liquid sample that contains greater than ~1 vol. % sediment; j) sample diluted the to high organic content; k) reporting limit rasied due to insufficient sample amount.

Angela Rydelius, Lab Manager

110 7nd Avenue South, #D7, Pacheno, CA 94553-3560 Telephone: 925-798-1620 Fax: 975-798-1622 bate: www.mxcampbell.com E-mail: main@mccampbell McCampbell Analytical, Inc. Cambria Env. Technology Client Project ID: #522-1000-28; John Date Sampled: 05/18/04 Date Received: 05/20/04 59,00 Hollis St, Suite A Date Extracted: 05/20/04 Client Contact: Matt Meyers Emeryville, CA 94608 Client P.O.: Date Analyzed: 05/21/04-05/24/04 Halogenated Volatile Organics by P&T and GC-ELCD (8010 Basic Target List)* Extraction Method SW 5030 Lab ID 0405331-005A Reporting Limit for DF = 1 MW-38@24 Client ID Matri Ś DF µg/L NA NA Compound Concentration µg/Kg 5.0 5.0 5.0 Bromodichloromethane ND ND ND -Chloroethyl vinyl ether Thloromethane ND 2.Dichloroethane is-12-Dichloroethen NA cis-1,2-Dichlorothene
trans-1,2-Dichloropropene
cis-1,3-Dichloropropene
trans-1,3-Dichloropropene
Methylene chloride ND ND ND ND ND 1.1.2.2-Tetrachloroethane 5.0 NA Tetrachloroethene ND 5.0 5.0 5.0 5.0 5.0 5.0 5.0 1.1.1-Trichloroethane
1.1.2-Trichloroethane
Trichloroethene NA Vinyl Chloride ND Surrogate Recoveries (%)

108

D means not detected above the reporting limit; N/A means analyte not applicable to this analysis

surrogate diluted out of range or surrogate coclutes with another peak.

h) lighter than water immincible shreav/product is present; i) liquid sample that contains greater than -1 vol. % sediment; j) sample diluted due to high organic content; h) reporting limit rasied due to insufficient sample amount.

DHS Certification No. 1644





%SS

McCampbell Analytical, Inc.

#### QC SUMMARY REPORT FOR SW8021B/8015Cm

Matrix: S

WorkOrder: 0405331

EPA Melhod: SW80	21B/8015Cm E	xtraction	SW5030E	•	BelchID:	11625	s	piked Sampi	le ID: 04053	33-004A
	Samp <del>le</del>	Spliked	MS*	MSD.	MS-MSD*	LCS	LCSD	LCS-LCSD	Acceptance	Criteria (%
	mg/Kg	mg/Kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	Low	High
TPH(btex) [£]	ND	0.60	105	, 105	0	99.8	96.6	3.23	70	061
мтве	ND	0.10	87.1	87.9	0.886	93	93.7	0.687	70	130
Велделе	ND	0.10	108	112	3.22	108	109	0.780	70	130
Tolume	ND	0.10	92.8	94.9	2.22	92.3	91.7	0.573	70	130
Ethylbenzene	ND	0.10	115	112	2.4)	113	112	1.05	70	130
Xylenes	ND	0.30	103	107	3.17	103	100	3.2B	70	130
%SS:	90.7	0.10	105	111	5.56	97.3	103	5,69	70	130

NONE

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD < Laboratory Control Sample Duplicate; RPD = Relative Percen

(MS-Sample) / (Amount Spiked); RPO × 100 * (MS - MSD) / ((MS + MSD) / 2).

MS and / or MSD spike recoveries may not be near 100% or the RPDs mear 0% it; a) the sample is int haly's relative to the amount spiked, or b) it that specific sample make interfers with spike recovery.

TPH(black) = sum of BTEX areas from the FID.

yam; sample peak coelules with surrogate peak,

NA = not enough sample to perform matrix spike and matrix spike duplicate. NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or a

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TL QUOC OFFICE

#### McCampbell Analytical, Inc.

110 Zud Avenue Sauth, #D7, Pacheco, CA 94553-55
Telephone: 925-798-1670 Fax: 925-798-1679
Vebsitt: www.moramobeli.com E-mail muin@mecamob

#### QC SUMMARY REPORT FOR SW8021B/8015Cm

Matrix: S

WorkOrder 0405331

EPA Method: SW8	021B/8015Cm 8	xtraction:	SW5030	9	BatchID:	11613	s	piked Samp	le ID: 04053	21-001A
	Sample	Spiked	MS*	MSD.	MS-MSD*	LCS	LCSD	CS-LCSD	Acceptance	Criteria (%
	луЖа	ту⁄Ка	% Rec.	% Rec.	% RPD	% Rec.	% Rec	% RPD	Low	High
TPH(biex) ^E	ND	0.60	106	112	5.72	97.1	99.3	2.30	70	130
мтве	ND	0.10	82.9	90.4	8.69	99.7	93.6	6.32	70	130
Benzene	ND	0.10	109	111	1.32	108	106	1.73	70	130
Tolurne	ND	0.10	94.5	91.4	3.36	92.1	90.1	2.22	70	130
Ethylbenzene	ND	0.10	114	112	1.30	107	110	3.10	70	130
Xylenes	ND	0.30	107	100	6.45	100	100	0	70	130
%SS:	89.0	0.10	107	103	3.81	87.4	103	16.4	70	130

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions.

MAS = Mentrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent

ery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2)

MS and / or MSD spike recoveries may not be near 100% or the RPDs near 0% if; a) the sample is inhon nearly to retailive to the amount spiked, or b) if that specific sample matrix interteres with spike recovery.

TPH(blex) = sum of BTEX areas from the FID.

duffered chromatogram; sample peak coelules with surrogate peak

t = not enough sample to perform matrix spike and matria spike dupăcate. La analyte concentration în sampte axceeda spike amount for soë matrix or axceeda Zx spike amount for water matrix or sampte ditutad due lo high matrix or hybro content.

QA/QC Officer



#### McCampbell Analytical, Inc.

#### OC SUMMARY REPORT FOR SW8015C

Matrix: S

WorkOrder 0405331

EPA Method: SW8015C	E	xtraction:	SW35500	:	BatchID:	11624	5	ipiked Sampl	e ID: 04053	33-004A
	Sample mg/Kg	Spiked mg/Kg	MS*		MS-MSD % RPD	LCS % Rec.		LCS-LCSD % RPD	Acceptance Low	Criteria (% High
TPH(d)	ND	150	97.9	99.1	1,27	91,4	92.1	0	70	130
%55:	103	50	101	103	1.53	103	105	0	78	130

NONE

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Retailing Percent

very = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

MS and I or MSD spike recoveries may not be near 100% or the RPDs near 0% lit, a) the sample is inhostly relative to the amount spiked, or b) it that specific sample matrix interferes with spike recovery.

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QA/QC Officer

CHAIN-OF-CUSTODY RECORD WorkOrder: 0405331 McCampbell Analytical, Inc.

άξ

EDF Required?

Page i of

Hold 1 2 3 4 5 6 7 6 9 9 10 (510) 420-0700 (510) 420-9170 b: #522-1000-28; John Nady TEL: FAX: Projectivo: PO: Raport to:
Matt Meyers
Cambria Env. Technology
5900 Hollls St. Suite A
Emeryville. CA 94608

5/20/04

Date Received: Date Printed:

Accounts Payable Cambria Env. Technology 5900 Hollis St. Ste. A Emeryville, CA 94608

Requested TAT:

Clien(ID: CETE

2

11 1 12

Soil S/1804 4/05/00 PM | O

Collection Date

Matrix

CilentSamplD

Sample ID

1 | 80108_s

Comments:

200

PRESERVATION

Remarks: Lowest possible detection limits. Please enail results.

Received By:

10/31/6

ğ ş NOW WOOD CONTINUES ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARGET ON TARG CHAIN OF CUSTODY RECORD
TURN AROUND TIME: 0 0 0 0
TURN AROUND TIME: 124 HOUR 48 HOUR (0 100AS. PEST ISS TOAST) bas САМ-17 Меш 囡 GPA 624 / 8240 / 8260 Remarks: Lowest possible detection limits. Please email results. □ Yes EDF Required? 22+ 36Th V2 tou + 60a (60) us) at HFF & X3TB
Orn H T T (2 (00) best U H9T
(3.08) Abst U Diede (3.00) & Greate (3.00) feel (3.00) feel (3.00) tadio токи HCI Received By: / SELU RE COCATTON Air Sludge Other Fax: (925) 798-1622 E-mail: mmcyets@cambria-env.com Fax: (\$10) 420-9170 Project Name: John Nady Project Name: John Nady SUS. McCAMPBELL ANALYTICAL INC. 110 2"AVENESOTH, 107 PACHECO, CA 94531540 PACHECO, CA 94531540 PAX: (925) Hos Type Containers 5.00 # Containers 4:14 d:P 3:5 SAMPLING 19/81/c Date LOCATION #: 522-1000-28 Location: 1137-1 SAMPLE ID (Field Point Name) WW - 58 624 MW-5865 MW-5602 MW-58@15

1 65204-0

TL QA/QC Officer

CHAIN OF CUSTODY RECORD
TURN ARGUND TIME: D D D

Required D ves \$\forall No. McCAMPBELL ANALYTICAL INC.
10 TA ANEUR SOUTH, 107
NATIECT, CA 9433-5569
Telephone: (925) 798-1620
Telephone: (925) 798-1620

92

Total Petroleum Oil & Greate (5520 E&F/B&F) 11年X A 17代 a. C.a. (60240) ・101 SV NCTBE Oハ ドマフ (2016) lazald us H1T Fax: (925) 798-1622 Bill To: Cambria Company: Cambria Brivion 5900 Hollis Street, Suite A Erreryville, Cs 94608 Tete: (310) 420-3314 Project #: 522-1000-28

E-mail: mneyers@cambris-env.com Fax: (St0) 420-9170 Project Name: John Nady et, Oakland

MATRIX

SAMPLING

4001 IOH Other Air Sludge Tros Type Containers graniging # FI.

LOCATION

SAMPLE 1D (Field Point Nume)

) adiO

ITO

(0109/T-657) VT)

PALE / PNA's by EPA 625 / 1270 / 1310

unak t TAUL

OLZ 8/ 529 Y43

Date

MW-5805 MW-6600 MW-5600 MW-5600

----TPH(DMO) S 

2 2 2

NOTE: Sambos are discarded 80 days shar results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at client expens

DHS Certification No. 1644

1	M.C.
<b>(197</b> )	MICCAL

#### mpbell Analytical, Inc.

110 2nd Avenue South, #D7, Pacheco, CA 94553-5560
Telephone: 925-798-1620 Fax: 975-798-1672
Website: www.mccampbell.com E-mail main@mccampbell

Cambria Env. Technology	Client Project ID: #522-1000-28; John	Date Sampled: 05/17/04
5900 Hollis St, Suite A	Nady	Date Received: 05/20/04
	Client Contact: Matt Meyers	Date Reported: 06/11/04
Emeryville, CA 94608	Client P.O.:	Date Completed: 06/11/04

WorkOrder: 0406090

June 11, 2004

#### Dear Matt:

#### Enclosed are:

- 1). the results of 2 analyzed samples from your #522-1000-28; John Nady project,
- 2). a QC report for the above samples
- 3). a copy of the chain of custody, and
- 4). a bill for analytical services.

All analyses were completed satisfactorily and all QC samples were found to be within our control limits. If you have any questions please contact me. McCampbell Analytical Laboratories strives for excellence in quality, service and cost. Thank you for your business and I look forward to working with you again.



Med	Campbell A	nalytical	, Inc.	Telep	Avenue South, #D7, Pacheco, hone: 925-798-1670 Fax: 9 v.mccampheli.com E-mail: m	25-791-1622	com
Cambria Env.	l'echnology		oject ID: #522-	1000-28; John	Date Sampled: 0	5/17/04	
5900 Hollis St,	Suite A	Nady			Date Received: 0	5/20/04	
Emeryville, CA	0.04608	Client Co	ontact: Matt Mey	ers	Date Extracted: 0	6/07/04	
Elliciyville, CA	1 94006	Client P.	0.:		Date Analyzed: 0	6/08/04	
atraction method: 57		) and Oil (C)	8+) Range Extrac		s as Diesel and Motor		rder: 0406090
Lab ID	Client ID	Matrix	TPH(d)		TPH(mo)	DF	% SS
0406090-002A	MW-4C@10	s	סא		ND	1	106
0406090-003A	MW-4C@15	s	ND		ND	,	106
				*			
	Limit for DF =1; not detected at or	W	NA		NA	,	ıg/L
	reporting limit	S	1.0		5.0	п	g/Kg

* water samples are reported in µg/L, wipe samples in µg/wipe, soil/solid/sludge samples in mg/kg, product/oil/non-aqueous fiquid samples in mg/L, and all DISTIC / STIC / SPLP / TCLP exuacts are reported in µg/L. I cluttered chromatogram resulting in cochited surrogate and sample peaks, or, surrogate peak is on elevated baseline, or, surrogate has been diminished by dilution of original extract.

*The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: s) unmodified or weakly modified descel is significant; b) diesel range compounds are significant; to recognizable partern; c) aged diesel? is significant; o) almost modified and significant; or almost modified being being partern that does not appear to be derived from diesel paship; () one to a few isolated peaks present; g) oil range compounds are significant; () almost one flower to the other of the oil of present; i) property of the other of the oil of the oil of the oil of the oil of the oil of the oil of the oil of the oil of the oil of the oil of the oil of the oil of the oil of the oil of the oil of the oil of the oil of the oil of the oil of the oil of the oil of the oil of the oil of the oil of the oil of the oil of the oil of the oil of the oil of the oil of the oil of the oil of the oil of the oil of the oil of the oil of the oil of the oil of the oil of the oil of the oil of the oil of the oil of the oil of the oil of the oil of the oil of the oil of the oil of the oil of the oil of the oil of the oil of the oil of the oil of the oil of the oil of the oil of the oil of the oil of the oil of the oil of the oil of the oil of the oil of the oil of the oil of the oil of the oil of the oil of the oil of the oil of the oil of the oil of the oil of the oil of the oil of the oil of the oil of the oil of the oil of the oil of the oil of the oil of the oil of the oil of the oil of the oil of the oil of the oil of the oil of the oil of the oil of the oil of the oil of the oil of the oil of the oil of the oil of the oil of the oil of the oil of the oil of the oil of the oil of the oil of the oil of the oil of the oil of the oil of the oil of the oil of the oil of the oil of the oil of the oil of the oil of the oil of the oil of the oil of the oil of the oil of the oil of the oil of the oil of the oil of the oil of the oil of the oil of the oil of the oil of the oil o

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Angela Rydelius, Lab Manager

McCampbell An	alytical, Inc.		Telep	hone : 975-71	PD7, Pacheos, C. 28-1620 Fax: 92: Ecom E-mail. mair	798-1672	om,
Cambria Env. Technology	Client Project ID	: #522-1000-2	8, John	Date S	ampled: 05	/17/04	
5900 Hollis St, Suite A	Nady			Date R	eccived: 05	/20/04	
Emeryville, CA 94608	Client Contact: 1	Matt Meyers		Date E	xtracted: 06	/07/04	
Emeryville, CA 94006	Client P.O.:			Date A	unalyzed: 06	/08/04-06/0	9/04
Gasoline Range (C6-C12) St Extraction Method SW3030B		Range (C9-C12 lytical Method, SW801		lydrocar	bons with B		BE*
Lab ID	0406090-002A	0406090-003A					
Client ID	MW-4C@10	MM-4C@13	-			Reporting	
Matrix	S	S				DF	-1
DF	1	1				s	w
Compound		Соло	entration			mg/Kg	սք/Լ
TPH(g)	ND	ND				1.0	NA
TPH(ss)	מא	ИD				1.0	NA
мтве	ND	ND				0.05	NA
Benzene	ND	ND				0.005	NA
Toluene	ND	ND				0 005	NA
Ethylbenzene	סא	ND				0.005	NA
Xylenes	ND	ND	<u> </u>			0.005	NA
	Surr	ogate Recoveri	rs (%)				
%SS:	88.5	89.4					
Comments	t		1				

cluttered chromatogram; sample peak coelutes with surrogate peak.

*The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified gasoline is significant; b) heavier gasoline range compounds are significant(taged gasoline/t); e) lighter gasoline range compounds (the most melbiolis fraction) are significant; b) placed gasoline range compounds (the most melbiolis fraction) are significant; b) placed gasoline range compounds (the most motion) placed gasoline?; e) TPH pattern that does not appear to be derived from gasoline (tododd sobsent / mineral gasifie). (9) need to should non-suage packs present; g) strongly gaed gasoline or direct range compounds are significant; h) lighter than water immiscible sheen/product is present; j) liquid sample that commiss grated than 1-of Ms. Sediment! proporting limit raised due to high MTBE content; k) TPH pattern that does not appear to be derived from gasoline (aviation gas). m) no recognizable pattern.

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McCampbell An	alytical, Inc		Tele	Avenue South, #D7, Pache phone : 925-798-1620 Fa w.mxcampbell.com E-mai	a: 925-791-1622	×n .
Cambria Env. Technology	Client Project II	D: #522-1	000-28; John	Date Sampled:	05/17/04	
5900 Hollis St, Suite A	Nady			Date Received:	05/20/04	
F	Client Contact:	Ман Меус	18	Date Extracted:	06/07/04	
Emeryville, CA 94608	Client P.O.:			Date Analyzed:	06/11/04	
Halogenated V		by P&T 2 elytical Method		8010 Basic Target	List)* Work Orde	r. D406090
Lab ID	0406090-002A	0406090-	003 A			
Client ID	MW-4C@10	MW-4C6			Reporting	
		~~~~~	yı,		DF	-1
Matrix	S	S				
DF	1	1			S	W
Compound			Concentration		µg/Kg	μ ş /L
Bromodichloromethane	ND	ND		ì	5.0	NA.
Bromoform	. ND	ND			5.0	NA
Bromomethane	ND	ND			5.0	NA
Carbon Tetrachloride	ND	ND			5.0	. NA
Chlorobenzene	ND	ND	. L.		5.0	NA.
Chloroethane	ND .	ИĎ			5.0	NA.
2-Chloroethyl vinyl ether	ND	ND			5.0	NA.
Chloroform	ND	ND			5.0	NA.
Chloromethane	NĐ	ND			5.0	. NA
1,4-Dichlorobenzene	ND	DΝ			5.0	NA.
Dibromochloromethane	ND	ND			5.0	NA
1,2-Dichlorobenzene	HD	ND			5.0	NA.
1,3-Dichlorobenzene	ND	ND		i	5.0	NA.
Dichloredifluoromethane	ND	ND			5.0	NA.
1,1-Dichloroethane	ND	ND			5.0	NA
1,2-Dichloroethane	DN	ND			5.0	NA.
1,1-Dichloroethene	ND	ND			5.0	NA.
cis-1,2-Dichloroethene	ND	. ND			5.0	NA
trans-1,2-Dichloroethene	ND	ND.			5.0	NA
1,2-Dichloropropane	ND	ND			5.0	NA
ris-1,3-Dichloropropene	ND	ND			5.0	NA.
trans-1_3-Dichloropropene	ND	ND			5.0	NA.
Methylene chloride	ND	ND			5.0	NA.
1,1,2,2-Tetrachloroethane	ND.	ND			5.0	NA.
Tetrachloroethene	ND	ND			5.0	NA
1,1,1-Trichloroethane	מא סא	ND DN			5.0	NA NA
1,1,2-Trichloroethane Trichloroethene	ND -	ND			5.0	NA NA
	ND	ND				
Trichlorofluoromethane Vinyl Chloride	ND	NE			5.0	NA NA
THIST CHANGE					3.0	NA
%SS:	97.0	OPale Rec	overies (%)			
7650: Comments	77.0	1 112	·			
CAIMMANG	1		ı	!		

oduct/oil/non-aqueous liquid samples in mg/L

ID means not detected above the reporting limit; NVA means analyte not applicable to this analysis.

te diluted out of range or surrogate coelutes with another peak.

h) lighter than water immiscible theen/product is present; i) isquid sample that contains greater than ~1 vol. % sediment; j) sample diluted due to high organic content; k) reporting limit rasied due to insufficient sample amount.



QC SUMMARY REPORT FOR SW8021B/8015Cm

Matrix: S

EPA Method: SW84	0218/8015Cm E	xtraction:	SW5030B	1	BatchID:	11847	s	piked Sampl	e ID: 04060)97-002A
	Sample	Spiked	MS*	MSD*	MS-MSD'	LCS	LCSD	rcs-rcsd	Acceptance	Criteria (%
	mg/Kg	mg/Kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	Low	High
TPH(bicx) [£]	סא	0.60	99.8	98.4	1 46	98	98 1	0.144	70	130
мтве	ND	0.10	104	99.6	3 93	107	108	0.440	70	130
Велгене	סא	0.10	110	104	4.92	119	117	1.55	70	130
Toluene	ND	0.10	89.5	84	6 40	95.3	93.9	1.38	70	130
Ethylbenzene	ND	0.10	110	106	3.50	116	134	2.24	70	130
Xylmes	ND	0.30	95.3	95	0.350	100	100	0	70	130
WSS:	91.3	010	103	87	16.8	109	103	5.66	70	130

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions: NONE

ple) / (Amount Spliked); RPD > 100 * (MS - MSD) / ((MS + MSD) / 2).

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V. J. QNQC Officer

McCampbell Analytical, Inc.

QC SUMMARY REPORT FOR SW8021B

EPA Method: SW8021B	ε	xtraction:	SW5030		BatchID:	11851	s	piked Samp	le ID: 04060	90-003A
	Sample	Splked	MS*	MSD*	MS-MSD*	LCS	LCSD	LCS-LCSD	Acceptance	Criteria (%
	ирЖд	уужд	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	Low	High
Chlorobenzene	ИD	50	86.7	86.3	0.422	96.8	94	2.95	70	130
1,1-Dichloroethene	ND	50	71.1	73.9	3.86	84.2	80.2	4.82	70	130
Trichloroethene	ND	50	78.6	83.5	6.07	90.1	84.1	6.89	70	130
%\$\$:	114	50	109	105	4.20	109	114	4.73	70	130

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions

DHS Certification No. 1644

V. . QA/QC Officer

McCampbell Analytical, Inc.

QC SUMMARY REPORT FOR SW8015C

				Made	9				WORKOrder.	0406090
EPA Method: SW8015C		Extraction:	SW35500	3	BatchID:	11841	s	piked Sampl	e ID: 04060	75-001A
	Sample	Spiked	MS.	MSD*	MS-MSD.	LCS	LCSD	CS-LCSD	Acceptance	Criteria (%
	mg/Xg	mg/Kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	Low	High
TPH(d)	ND	150	102	97.5	4.29	97.5	.993	1.84	70	130
MSS:	107	50	114	108	5.40	104	104	0	70	130

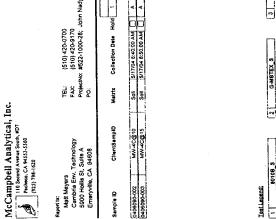
xe; MSD = Main'x Spike Duplicate; LCS × Leboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent

2 2 2 2

DHS Certification No. 1644



	CHAIN-OF-CUSTODY RECORD	벌	3	ij			9	2	ă.	Page I of	-	
	WorkO	WorkOrder: 0406090	06090		ä	Ë	Cilentid: CETE					
	æ	Blifte: Accou	o: Accounts Pavable	g)				ď.	Requested TAT:	42	5 day	~
Nady		Cambr 5900 F Emery	Cambria Env. Technology 5900 Hollis St, Ste. A Emeryville, CA 94608	Ste. A Ste. A 94608	y sology			Dai	Date Received: Date Printed:	÷i.	5/20/0. 6/7/0.	9 9
	10 E	120		quested Tests (See le	8 8	B 8	9 10		13 13	5	1,4	li m
4 4	4 4					Ш	H					

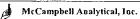


Sample off hold 6/7/04(received 5/20) ok to run out of hold time

Telenho	McCAMPBE 116 27 116 27 1761	APBELI 110 2 A PACHER 1-1620	McCAMPBELL ANALYTICAL INC. 110 2 ANSWESSOUTH, 407 12.0 TACHECO, CA 94553-5560 (925) 788-1670	YTY,	Σς. Έ	.(. INC. Fax. (923) 798-1622		.1622				TURN AROUND : BDF Required?	TUR	Z 2		TURN AROUND TIME:			RUSH) [%]	, D Š	24 HOUR 48 HOUR	o g	⊠ ×os.	⊠ >
Report To: Matt Meyers	yers		100	II To	Bill To: Cambria	pria					Н				(len/	Analysis Request	cance	إ		۱	П	Other	ۊ	Š	Comments
Company: Cambria Environmental Technology, Inc.	Environment	al Techno	ology, Inc								5			_					_						
5900 Hollis Street, Suite	uite A										5+ 	_	375			_				_					
Emeryville, Ca 94608	80		E-mail: nimcyers@cambria-env.com	TIME	ers@	ampr	9-CU	60		ĺ	38.		ינע					1 3	-	_	_			_	
Tele: (510) 420-3314	4		Fax: (510) 420-9170	0) 420	0.9170						יאנו	01,		_		~		: 87		_	_	_			
Project #: 522-1000-28	.28		Project Name: John Nady	lame:	John	Lady					AF IS	1/1						οι		_			_		
Project Location: 1137-1167 65" Street, Oakland	37-1167 65	Street, Oa	brields								rs • I	d.l	-	_	070	7.7		\$15		lo					
Sampler Signature:	\ \ \ \	1		ŀ							1010	1			8/8	но		79		109					
		SAM	SAMPLING			Σ	MATRIX	×	78.ES	METHOD.	T	US II			09 Y	5.8.2	0978	443 y		316.7					
SAMPLE ID (Field Point Name)	LOCATION	Date	Time	# Сопыпет	Type Containen	rolsW lio2	πА	Sludge TadiO		HWO,	TothO BYEX A Yate	18H as Diezel (80	Total Penoleum C I musionary Inol	01081 108 A13	BTEX ONLY (E)	E64 508 / 8080 P	/ Orts - 179 Vd3	671L1164Y.1P	CAM-1: Meult	LUFT 5 Meads Lead (12:40,742)	KCI				
4.00		No jujs	8.3.5	-	1,8%	×	ţ.	+	×	Ļ	╀	1	1-	1.	╁	1	L	-	L	⊢	L	F	+	19/04	2
MW-4(010		-	2	Ŀ	-			F	-	<u> </u>	X	X	-	\times	-	:	-	L	Ĺ	-		L		•	js.
21014-4M			8:50	E	E	E		ļ-	L	L.	X	X	ļ	X	i	į.	! ;	H	_					·	
. MW-41020		-	9,00	E	E	E			E			_	-		-			_		-		[3
SIAN HIM		_	1,35								4		-			_	-			_;	_;	1	- 1	1810	2
Muy-46830			9:50					П					\dashv		-			-			- !	-		4000	S
- MW-460 35			10:20										<u> </u>		\dashv	i	H	-	ij	-	-	-		HOLD	S
0h @ጋ h - መንሃ		Þ	10:49	>	→	_		\dashv	>		-		-		-	- İ	-			4	1	1	_!	HOLD	3
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Relinquished By:	1	Date:	Time:	Rece,	Received By:	9	1	¢	, OC 43 27	١.	2 2	Remarks: Lowest po	S: Possi	Se de	lectio	Remarks: Lowest possible detection limits.	- 5	\	\	ļ					
Relinguished Ay:		Date:	7 ≓ '	2 -	Received By:			1			<u> </u>	Please email results.	Ē	result		1	\	Ę)	\	APPRO	APPROPRIATE	}	\	
Relinquished By:		Dare:			1.8		1)	1		1,	1				3 2 2	HEAD SPACE ABSENT	ψŽ	188F	[[§	П	PRESE	PRESERVED IN LAS.	13		
1		`	1	1			١	'	١																

McCampbell An	alytical, Inc]		Telephone:	e South, FD7, Pacheco, C/ 925-798-1620 Fax: 925 amphell.com E-mail: main	-798-1622	om
Cambria Env. Technology	Client Project II	D: #522-1	000-02	7; John D	ate Sampled: 06/	03/04	
5900 Hollis St, Suite A	Nady			Q	ate Received: 06/	04/04	
Emeryville, CA 94608	Client Contact:	Client Contact: Matt Meyers				09/04-06/1	1/04
	Client P.O.:	Client P.O.:				09/04-06/1	1/04
Gasoline (C6-C12), Stoddard Extraction Method: SW5030B	-	12) Volatil shrical Method			asoline with BTE		TBE* her: 0406080
Lab ID	0406080-001A	0406080-	002A	0406080-003A	0406080-004A		
Client JD	MW-1A	MW-)	В	MW-1C	MW-2A	Reporting Limit	
Matrix	₩	w		w	w	DF	-1
DF)i)		ī	1	S	W
Compound			Conte	ntration		ug/kg	μ g/ L
тен(g)	1400	ND		ND	1700	NA	50
TPH(ss)	2500	ND		ND	3500	NA	50
мтве	ND	סא		ND	ND	NA	5.0
Benzene	NĐ	ND	·	ND	ND	NA	0.5
Toluene	ND	ND		ди	3.5	NA.	0.5
Ethylbenzene	2.0	ND		ND	4.9	NA.	0.5
Xylenes	n	ND		ND	5.1	NA .	0.5
· · · · · · · · · · · · · · · · · · ·	Surr	ogate Reco	veries	(%)			1
%SS:	106	87.6		87.3	113		
Comments					e,m		

The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) immodified or weakly modified gasoline is a significant; b) heavier gasoline range compounds than including a partial problems of the proposed that the problem perhals are significant; b) gasoline range compounds than ingread chromatographic perhals are significant; b) gasoline range compounds than ingread chromatographic perhals are significant; b) isologically intered gasoline?; b) TPH pattern that does not special to be derived from gasoline (140dard solvent / mineral spirity). (I) on the a few isolated non-target persons are significant or diseled many than the property of the persons of the person



Cambria Euv. Technology	Client Project ID: #522-1000-027; John	Date Sampled: 06/03/04
5900 Hollis St, Suite A	Nady	Date Received: 06/04/04
Emeryville, CA 94608	Client Contact: Matt Meyers	Date Reported: 06/14/04
Elikiyviic, CA 94000	Client P.O.:	Date Completed: 06/14/04

WorkOrder: 0406080

June 14, 2004

Деат Мап:

Enclosed are:

- 1). the results of 13 analyzed samples from your #522-1000-027; John Nady project,
- 2). a QC report for the above samples
- 3). a copy of the chain of custody, and
- 4). a bill for analytical services.

All analyses were completed satisfactorily and all QC samples were found to be within our control limits. If you have any questions please contact me. McCampbell Analytical Laboratories strives for excellence in quality, service and cost. Thank you for your business and I look forward to working with you again.

Angela Rydelius, Lab Manager

McCampbell /	Analytical, Inc.	0 2nd Avenue South, #D7, Pacheon, CA 94553-5560 Telephone: 925-798-1620 Fax: 925-798-1622 :- www.mccampbell.com E-mail: main@mccampbell.com
Cambria Env. Technology	Client Project ID: #522-1000-027; Joh	Date Sampled: 06/03/04
5900 Hollis St, Suite A	Nady	Date Received: 06/04/04
Emeryville, CA 94608	Client Contact: Matt Meyers	Date Extracted: 06/09/04-06/11/04
Emeryvine, CA 94000	Client P.O.;	Date Analyzed: 06/09/04-06/11/04

Extraction Method: SW5030B		An	Work Order, 040608					
	Lab ID	0406080-005A	0406080-006A	0406080-007A	0406080-008A			
	Client ID	MW-3A	MW-4A	MW-4B	MW-4C	Reporting	Limit fo	
	Matrix	W	W	W	w	DF	DF = 1	
	DF	10	1	ı	, 1	s	w	
Compound	*******************		Conc	ntration		n8/gt	µg/	
трн(g)		4800	ND	ИD	МЪ	NA	50	
TPH(ss)		12,000	ND	ND	ND	NA	50	
мтве		ND<50	ND	ND	ND	NA	5.0	
Benzene		ND<5.0	ND	ND	PD	NA	0.	
Toluene		ND<5.0	ND	ND	ND	NA	0.	
Ethylbenzene	_	ND<5.0	ND	ND	ND	NA	0.	
Xylenes		ND<5.0	ND	ND	ND	NA.	0.	
		Surr	ogate Recoverie	5 (%)		·	<u> </u>	
%SS:		B2.0	84.5	86.4	87.1			
Continents		e,h,i	 		1			

on-aqueous liquid samples in mg/L

The following descriptions of the TPH chromatogram are cursory in nature and McCempbell Analytical is not responsible for their interpretation: a) immodified or weakly modified guadence is significant; b) heavier guadence range compounds that me the models proceed guadence; c) lighter guadence recompounds that me thouse models bearing an significant; b) against range compounds that my broad chromatogramic peaks are significant; b) belogically elitered guadence; c) TPH pattern that does not separa to be derived from guadence dothern! (minoral spirit); () one to a few isolated non-target peaks are significant, b) and proceeds present; p) interrupts and proceeds are significant. (b) alpha from water immitstude sheets/proches errors; i) inquid and proceeds are significant. (b) alpha (b) and b) and b) and b) and b) and b) are compounded are significant, b) alpha (b) the proceeds are significant of the proceeds are significant, b) and b) and b) are compounded are significant, b) and b) are compounded are significant of the proceeds are significant or the process of the proceeds are significant to the process of the proc

McCampbell /	Analytical, Inc.	Tele	Aremse South #D7. Pacheco, CA 94553-5560 phone: 925-798-1620 Fax: 925-798-1672 www.mecamphell.com E-mail main@mecamphell.com
Cambria Env. Technology Client Project ID: #522-10		000-027; John	Date Sampled: 06/03/04
5900 Hollis St, Suite A	Nady		Date Received: 06/04/04
r : : : : : : : : : : : : : : : : : : :	Client Contact: Matt Mey	ers	Date Extracted: 06/09/04-06/11/04
Emeryville, CA 94608	Client P.O.:		Date Analyzed: 06/09/04-06/11/04

Gasoline (C6-C12), Stoddard Solvent (C9-C12) Volatile Hydrocarbons as Gasoline with BTEX and MTBE*

Applican Method. SW/00109

Wood Order ONO

Wood Order ONO

Wood Order ONO

Extraction Method SW50300		Analysisal Michod: SW 8071B/8015Cm					rr. 04060\$1
	lD الما	0406080-009A	0406080-010A	0406080-011A	0406080-012A		
	Client ID	MW-5B	MW-6A	MW-6B	MW-6C	Reporting	Limit for
	Matrix	rix W	w	w	w	DF = 1	
	DF	,	· "j"	1	. ,	5	w
Compound			Cont	entration		ug/kg	µ g /L
TPH(g)		ND	97 0	1100	160	на	50
TPH(ss)		ND	2400	2900	340	NA	50
мтве		DИ	ND	סא	ND	NA	5.0
Benzene		ND	ND	ND	ND	NA	0.5
Toluene	_	ND	סא	ND	ND	NA	0.5
Ethylbenzene		DИ	МД	D	ND	NA	0.5
Xylenes		ND	2.1	1.4	1.3	NA.	0.5
		Surr	ogale Recoverie	s (%)			
%SS:		86.0	87.8	82.7	90.3		
Comments		-	,				

*water and vapor samples and all TCLP & SPLP extracts are reported in ug/L, soil/sludge/solid samples in mg/L, wipe samples in µg/wipe, product/oil/non-aqueous liquid samples in mg/L.

cluttered chromstogram; sample peak coclutes with surrogate peak.

*The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified gasoline is rignificant, b) heavier gasoline range compounds are significant(aged gasoline?); c) lighter gasoline range compounds the most mobile fraction) are significant, b) objected patients are compounds the most mobile fraction) are significant, b) objected gasoline. (The plant of the power of the plant of the plan

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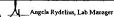
₫ McC	Campbell Ar	palytica	l, Inc.	Telep	Avenue South, PD7, Pacheco, C shone: 925-791-1620 Fax: 92 w.mccampbeRcom E-mil: mai	5-798-1622	:om	
Cambria Env. T	chnology	Client Pr Nady	oject ID: #522-	1-1000-027; John Date Sampled: 06/03/04				
5900 Hollis St,	Suite A	11207			Date Received: 06	/04/04		
Emeryville, ÇA	04608	Client C	ontact: Matt Mey	ers	Date Extracted: 06	/04/04		
LIIKIYIBE, CA	94008	Client P.	O.:		Date Analyzed: 06	/07/04-06/0	9/04	
straction method: SV		and Oil (C1	8+) Range Extrac		a as Diesel and Motor C		rder: 040609	
Lab ID	Client ID	Matrix	TPH(d)		TPH(ma)	DF	% SS	
0406080-001C	MW-1A	w	1300,d,b		260	1	102	
0406080-002C	MW-IB	w	ND		ND	1	108	
0406080-003C	MW-IC	w	ND		ND	1	102	
0406080-004C	MW-2A	w	2900,d		ND	1	105	
0406080-005C	MW-3A	w	زراري المروور 90,000		6000	20	89.6	
0406080-006C	MW-4A	w	270.g.b		440	1	92.7	
0406080-007C	MW-4B	w	ND		ND	1	102	
0406080-008C	MW-4C	w	ND		DN	. 1	104	
0406080-0090	MW-SB	w	ND		ND	1	101	
0406080-010C	мw-6A	w	3500,а,ь		340	1	97.6	
0406080-011C	мw-68	w	2300,d,b		ND	1	102	
0406080-012C	MW-6C	w	240,d,b		ON	'	97.5	
	imit for DF =1; of detected at or	w	50		250	ļ r	g/L	
	or detected at or reporting limit	S	NA		NA	m	g/Kg	

* water samples are reported to yy/t, wipe samples in yy/wipe, soil/solid/sludge samples in mg/kg, product/oil/non-aqueous liquid samples in mg/L, and all DISTLC / STLC / SPLP / TCLP extracts are reported in yz/L.

cluttered chromatogram resulting in coeluted surrogate and sample peaks, or; surrogate peak is on elevated baseline, or; surrogate has been diminished by dilution of original caract.

*The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified diesel's significant; b) diesel range compounds are significant; no recognizable pattent; c) aged diesel's significant; d) gazoline range compounds are significant; c) unknown medium boiling point pattern that does not appear to be derived from diesel (sustained transmission holds, f) one to a few boilted peaks present; d) of image compounds are significant; of higher ban-water immische benefit products of the present; d) is a significant of the present; l) significant point pattern by the significant present; l) significant present; l) significant present; l) significant present; l) significant present pattern between the present pattern between the present pattern between the present pattern between the present pattern between the present pattern between the present pattern between the present pattern between the present pattern between the present pattern between the present pattern between the present pattern between the present pattern between the present pattern between the present pattern between the present pattern between the present pattern between the present pattern between the present pattern between the pattern between the present pattern between the patte

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McCampbell An	alytical, Inc.	Te	d Avenue South, #D7, Pacheco, C. kphore: 925-798-1620 Fax: 92: www.mccampbell.com E-mail: mair	5.798-1627	omb.		
Cambria Env. Technology	Client Project ID: #52	2-1000-027; John	Date Sampled: 06	Date Sampled: 06/03/04			
5900 Hollis St. Suite A	Nady		Date Received: 06	/04/04			
	Client Contact: Matt M	leyers	Date Extracted: 06	/09/04-06/1	1/04		
Emeryville, CA 94608	Client P.O.:		Date Analyzed: 06	/09/04-06/1	1/04		
Gasoline (C6-C12), Stoddar Extraction Method SW5000B	. ,	atile Hydrocarbor thed: \$W8011B/8015Cm	s as Gasoline with BTI	EX and MI Work Ord			
Lab ID	0406080-013A						
Client 1D	MW-7A	MW-7A			Limit for		
Matrix	W			DF	-1		
DF	10			s	w		
Compound		Concentration			µg/L		
трн(g)	3900			NA	50		
TPH(u)	9900			NA.	50		
мтве	ND<50			NA	5.0		
Benzene	ND<5.0			NA	0.5		
Taluene	ND<5.0			NA	0.5		
Ethylbenzene	ND<5.0			NA	0.5		
Xylenes	6.6			NA	0.5		
	Surrogate I	Recoveries (%)					
%\$5:	81.6			T			

water and vapor samples and all TCLP & SPLP extracts are reported in ug/L, soit/sludge/solid samples in mg/Ag, wipe samples in µg/wipe, product/oit/non-aqueous hquid samples in mg/L.

If cluttered chromatogram; sample peak coelutes with surrogate peak.

The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: 3) unmodified or weakly modified pasoline is significant; b) heavier gasoline range compounds are significant(aged pasoline?); c) lighter gasoline range compounds (the most mobile fraction) are significant, biologically altered gasoline. (2) PTH pattern that does not appear to be derived from gasoline (notders) abovent mineral spinify; f), once to a few dated non-target peaks present; g) strongly saged gasoline or direct range compounds are significant; b) lighter than water immiscible sheen/product is present; j) liquid sample that constain greated than 1-oil. Sectionen; j) reporting limit raised due to high MTBE content; k) TPH pattern that does not appear to be derived from pasoline (avision gas). m) no recognizable pattern.

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Cambria Env. Technology	Client Project II Nady	D: #522-1000-02	· -	Date Sampled: 06/0		
5900 Hollis St, Suite A	,		L	Date Received: 06/0	04/04	
Emeryville, CA 94608	Client Contact:	Matt Meyers	r	Date Extracted: 06/0	09/04-06/1	5/04
	Client P.O.:		[r	Date Analyzed: 06/6	09/04-06/1	5/04
				Basic Target List)*		•
Extraction Method: SW5030B		lytical Method: 5W#07			Work Orde	r: 04060 90
Lab ID	0406080-001B	0406080-002B	0406080-003E	3 0406080-004B		
Client ID	MW-1A	MW-1B	MW-1C	MW-ZA	Reporting DF	
Matrix	w	w	w		J.	-,
DF	<u>-</u>	i	<u>-</u>	·	s	w
Compound			ntration		µg/\g	µg/L
	ND<2.5	ND	ND	ND	NA.	
Bromodichloromethane Bromoform	ND<2.5	ND	שא	ND ND	NA NA	0.5
Bromomethane	ND<2.5	ND	ND	ND ND	NA NA	
Carbon Tetrachloride	ND<2.5	סא	ND ND	ND	NA NA	0.5
Chlorobenzene	ND<2.5	ND ND	שא	ND ND	NA NA	0.5
Chloroethane	ND-2.5	ND	- UND	ND ND	NA NA	0.5
2-Chloroethyl vinyl ether	ND<2.5	ND	ND	ND	NA NA	0.5
Chloroform	ND<2.5	8.3	0.5		NA -	0.5
Chloromethane	ND<2.5	ND ND	ND ND	ND	NA.	0.5
Dibromochloromethane	ND<2.5	ND	ND	ND	NA.	0.5
1,2-Dichlorobenzene	ND<2.5	ND	ND	ND	NA.	0.5
1.3-Dichlorobengene	ND<2.5	ND.	ND	ND	NA.	0.5
1,4-Dichlorobenzene	ND<2.5	ND	ND	ND	NA.	0.5
Dichlorodifluoromethane	ND-2.5	ND	ND	ND	NA.	0.5
1,1-Dichloroethane	ND<2.5	8.1	ND	ND	NA.	0.5
1,2-Dichloroethane	ND<2.5	7.9	ND	D	NA	0.5
1,1-Dichloroethene	ND<2.5	ND	ND	ND	NA.	0.5
cis-1,2-Dichloroethese	36	3.9	ND	ND	NA.	0.5
trans-1,2-Dichloroethene	ND<2.5	ND	ND	ND	NA.	0.5
1,2-Dichloropropane	ND<2.5	ND	ND	ND	NA.	0.5
cis-1,3-Dichloropropene	ND<2.5	ND	DN	ND	NA	0.5
trans-1,3-Dichloropropene	ND<2.5	מא	ND	ND	NA	0.5
Methylene chloride	ND<2.5	ND	ND	ND	, NA	0.5
1,1,2,2-Tetrachloroethane	ND<2.5	ND	ND	МD	NA	0.5
Tetrachkroethene	55	ND	ND	ND	NA NA	0.5
1,1,1-Trichloroethane	ND<2.5	ND	ND	ND	NA .	0.5
1,1,2-Trichloroethane	ND-Q.5	ND	ND	ND	NA.	0.5
Trichloroethene	16	ND	ND	ND	NA	0.5
Trichlorofluoromethane	ND<2.5	ND .	ND	ND	NA.	0.5
Vinyl Chloride	6.3	ND	ND	ND	NA.	0.5
%SS:	91.4	ogate Recoverie	92.6	85.1		
Comments		102	92.6	88.7	 -	
Солиштов	l . j .	1	1	i .	1	

ns not detected above the reporting limit; N/A means analyte not applicable to this analysis.

h) lighter than water immissible sheen/product is present; i) liquid sample that contains greater than -1 vol. % sediment; j) sample diluted due to high organic content; k) reporting limit ratiod due to insufficient sample amount.

surrogate diluted out of range or surrogate coclutes with another peak.

McCampbell An	alytical, Inc		1 rlepho	rems South, FD7, Pacheco, C. me: 925-798-1620 Fax: 92: mix umphell.com E-mail: mir	-798-1077	:om			
Cambria Env. Technology	Client Project II Nady	D: #522-1000	-027; John	Date Sampled: 06	/03/04				
5900 Hollis St, Suite A	11809	Date Received:				06/04/04			
Emeryville, CA 94608	Client Contact:	Matt Meyers		Date Extracted: 06	/09/04-06/1	5/04			
	Client P.O.:			Date Analyzed: 06	/09/04-06/1	5/04			
/ Halogenated	Volatile Organic	s by P&T and	GC-MS (801)	Basic Target List)	•				
Extraction Method: \$W5000B	An	alytical Method: SWI	021B by 8260		Work Ord	rr 0406019			
Lab ID	0406080-005B	0406080-006	3 0406080-00	7B 0406080-008B					
Client ID	MW-3A	MW-4A	MW-48	MW-4C		Limit for			
Matrix	w	w	w	- · · · · · · · · · · ·	, Di	-1			
DF	100	1		· · · · · · · · · · · · · · · · · · ·	S	W			
Compound	1	Col	ocentration		µg/kg	ug/L			
Bromodichloromethane	ND< 50	מא	I ND	j ND	. NA	0.5			
Bromoform	ND~30	ND	ND	מא	NA.	0.5			
Bromomethane	ND×50	, ND	ND	DI	NA.	0.5			
Carbon Tetrachloride	ND<50	ND	ND	ND	NA.	0.5			
Chlorobenzene	ND<50	ND	DИ	ND	NA.	0.5			
Chloroethane	ND<50	ND	DИ	ND	NA.	0.5			
2-Chloroethyl vinyl ether	ND<50	ND	ND	ND	NA.	0.5			
Chloroform	ND<30	ND	ND	0.84	NA.	0.5			
Chloromethane	ND<50	ND	ND	ND	NA.	0.5			
Dibromochloromethane	ND<50	ND	ND	ND	! NA	0.5			
1,2-Dichlorobenzene	ND<50	. ND	- ND	ND	NA NA	0.5			
1,3-Dichlorabenzene	ND<50	ND	ND	ИD	NA	0.5			
1.4-Dichlorobenzene	ND<50	ND	DИ	ИD	NA	0.5			
Dichlorod:fluoromethane	ND<50	ND	DIND	_ ND	NA.	0.5			
1,1-Dichloroethane	ND<50	ND	ND	ND	NA	0.5			
1,2-Dichloroethane	ND<20	ND	ND	ФИ	NA.	0.5			
1,1-Dichloroethene	ND<50	ND	ND	i ND	NA NA	0.5			
çis-1,2-Dichkoroethene	ND<50	ND	ND	I ND	NA	0.5			
trans-1,2-Dichloroethene	ND<50	ND	ND	ДИ	NA NA	0.5			
1,2-Dichloropropane	ND<50	ND	DN D	ND	NA NA	0.5			
cis-1,3-Dichloropropene	ND<50	ND	סא	ND.	NA	0.5			
trans-1,3-Dichloropropene	ND<50	ND	ND	ND	NA NA	0.5			
Methylene chloride	ND<10	ND	ND	ND ND	NA.	0.5			
1,1,2,2 Tetrachloroethane	ND<50	ND	ND	ND	NA NA	0.5			
Tetrachloroethene	ND<50	1.5		ND ND	NA.	0.5			
1,1,1-Trichloroethane	ND<50	ND	ND	ND	NA.	0.5			
1,1,2-Trichloroethane	ND<50	ND	ND	DM	NA.	0.5			
Trichloroethene	ND<50	ND ND	ND ND	ND	NA NA	0.5			
Trichlorofluoromethane	ND<50	ND	ND ND	ND ND	NA NA	0.5			
Vinyl Chloride		ogate Recover		I ND) NA	0.5			
%SS:	1 100	99.6	1es (7e) 97	99.8	T				
	100	+ <i>''</i> "		_ <u> </u>	4				

red out of range or surrogate coelutes with another peak.

lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than -1 vol. % sediment; j) sample diluted due to high ganic content; b) reporting limit rasied due to inaufficient sample amount.

DHS Certification No. 1644

Angela Rydelius, Lab Manager

McCampbell An	Avenue South, #D7, Pacheco, CA bone : 925-798-1620 Fax : 925- e.mocampbell.com E-mail: main	798-1677	om		
Cambria Env. Technology	Client Project ID: #522	-1000-027; John	Date Sampled: 06/03/04		
5900 Hollis St, Suite A	Nady		Date Received: 06/	04/04	•
Emeryville, CA 94608	Client Contact: Matt Me	yers	Date Extracted: 06/	09/04-06/1	5/04
	Client P.O.:		Date Analyzed: 06/	09/04-06/1	5/04
Halogenated Extraction Method: SW5000B	Volatile Organics by P& Analytical Meth	T and GC-MS (80 od: 5W8021B by \$260	10 Basic Target List)*	Work Orde	r: 0406080
Lab ID	0406080-013B				
Client ID	MW-7A			Reporting	
Matrix	w			DF	-1
DF				s	w
~					
Compound		Concentration		µg/kg	μg/l.
Bromodichtoromethane	ND			NA	0.5
Bromoform	ND			NA	0.5
Bromomethane	ND			NA .	0.5
Carbon Tetrachloride	ND			NA NA	0.5
Chlorobenzene Chloroethane	ND I			NA.	0.5
2-Chloroethyl vinyl ether	ND			NA .	0.5
Chloroform	ND ND			NA NA	0.5
Chloromethane	ND DN			NA NA	0.5
Dibromochloromethane	ND			NA.	0.5
1,2-Dichlorobenzene	2.0			NA NA	0,5
1.3-Dichlorobenzene	ND			NA.	0.5
1,4-Dichlorobenzene	מא			NA.	0.5
Dichlorodifluoromethane	ND			NA.	0.5
1,1-Dichloroethane	ND			NA .	0.5
1,2-Dichloroethane	ND			NA.	0.5
1,1-Dichloroethene	ND	i		NA.	0.5
cis-1,2-Dichloroethene	ND			NA.	0.5
trans-1,2-Dichloroethene	ND			NA .	0.5
1,2-Dichloropropane	ND			NA.	0.5
cis-1,3-Dichloropropene	ND			NA	0.5
trans-1,3-Dichloropropene	ND			NA	0.5
Methylene chloride	ND			NA	0.5
1,1,2,2-Tetrachloroethane	ND			NA	0.5
Tetrachloroethene	ND			NA .	0.5
1,1,1-Trichloroethane	ND			NA.	0.5
1,1,2-Trichloroethane	ND			NA NA	0.5
Trichloroethene	ND .			NA	0.5
Trichlorofluoromethane Vinyl Chloride	ND ND			NA.	0.5
- mg Chiother				NA.	0.5
%SS:	Surrogate Re	coveries (%)	<u>-</u> -	Γ	
Comments	109				

cted above the reporting limit; N/A means analyte not applicable to this analysis.

b) lighter than water immiscible sheer/product is present; i) liquid sample that contains greater than -1 vol. % sediment; j) sample diluted due to high organic content; k) reporting limit rasied due to insufficient sample amount.

Angela Rydelius, Lab Manager

McCampbell An	Telephon	nor South, #D7, Pacheco, CA e : 925-798-1620 Fax : 925- ccurepbell.com E-mail: main	798-1627	.om		
Cambria Env. Technology	Client Project II Nady	D: #522-1000-0	27; John	Date Sampled: 06/03/04		
5900 Hollis St, Suite A	ivady			Date Received: 06/	04/04	
Emeryville, CA 94608	Client Contact:	Matt Meyers		Date Extracted: 06/	09/04-06/1	5/04
	Client P.O.:			Date Analyzed: 06/	09/04-06/1	5/04
Halogenated	Volatile Organic	s by P&T and	GC-MS (8010	Basic Target List)*		
Extraction Method: SW5030B	Ans	Hytical Method: SW\$0	21B by #260		Work Orde	r. 0406080
Lab ID	0406080-009B	0406080-010B	0406080-011	B 0406080-012B		
Client ID	MW-3B	MW-6A	MW-6B	MW-6C	Reporting	
Matrix	w	w	w	w	DF	-1
DF	· · · · · · · · · · · · · · · · · · ·		7		5	w
Compound		Con	entration		µg/kg	pg/L
Bromodichloromethane	ND	ND	l ND	I ND	NA.	0.5
Brotnoform	ND	ND	ND	ND	NA -	0.5
Bromomethane	ND	ND	ND	ND ND	NA.	0.5
Carbon Tetrachloride	ND	ND	ND	ND ND	NA NA	0.5
Chlorobenzene	ND	ND	. ND	ND ND	NA NA	0.5
Chloroethane	ND	4.7	0.6		NA NA	0.5
2-Chloroethyl vinyl ether	ND	ND	ND	ND	NA NA	0.5
Chlaroform	ND	0.51	ND	ND	NA.	0.5
Chloromethane	ND	ND	ND	ND ND	NA NA	0.5
Dibromochloromethane	ND	ND	ND	ND ND	NA NA	0.5
1.2-Dichlorobenzane	ND	ND	ND	ND	NA NA	0.5
1,3-Dichlorobenzene	ND	ND	ND	ND ND	NA NA	0.5
1.4-Dichlorobenzene	ND	ND	ND ND	ND	NA NA	0.5
Dichlorodifluoromethane	ND	ND	ND	ND ND	NA	0.5
1.1-Dichloroethane	ND	2.1	ND ND	0.61	NA.	0.5
1.2-Dichlorpethane	ND	ND	ND	ND ND	NA	0.5
1,1-Dichloroethene	ND	ND	ND	ND ND	NA NA	0.5
cis-1,2-Dichloroethene	ND	ND	ND	2.8	NA.	0.5
trans-1,2-Dichloroethene	ND	1.8	ND	ND 2.0	NA NA	0.5
1,2-Dichloropropane	ND	ND	ND	ND	NA.	0.5
cis-1,3 Dichloropropene	ND	ND	ND	ND	NA.	0.5
trans-1,3-Dichloropropene	ND	ND	ND	ND	NA NA	0.5
Methylene chloride	ND	ND	ND	ND	NA NA	0.5
1,1,2,3-Tetrachloroethane	ND	ND	ND	ND	NA.	0.5
Tetrachloroethene	ND	ND	ND	ND ND	NA -	0.5
1,1,1-Trichloroethane	ND	ND	ND	ND	NA.	0.5
1,1,2-Trichloroethane	ND	ND	ND	ND	NA.	0.5
Trichloroethene	ND	ND	ND	ND	NA.	0.5
		ND				1 0.0

Surrogate Recoveries (%)
93.7

ID means not detected above the reporting limit; IVA means analyte not applicable to this analysis

h) lighter than water immiscible sheet/product is present; i) liquid sample that contains greater than -1 vol. % sediment; j) sample diluted due to high organic content; k) reporting limit rasied due to insufficient sample amount.

DHS Certification No. 1644

Vinyl Chloride

%5S:



McCampbell Analytical, Inc.

QC SUMMARY REPORT FOR SW8021B/8015Cm

Matrix: W

WorkOrder: 0406080

EPA Method: SW80	21B/8015Cm	xtraction:	SW5030E	3	BatchID:	11839	s	Spiked Sample ID: 0406077-001A								
	Sample µg/L	Spiked µg/L	MS' % Rec.	MSD*	MS-MSD % RPD	LCS % Rec.	LCSD % Rec.	LCS-LCSD	Acceptance Low	Criteria (% High						
TPH(biex)	סא	60	98.1	99.4	1.40	83.8	102	19.5	70	130						
мтве	ND	10	105	103	1.91	104	1115	10.3	70	130						
Benzene	סא	10	110	110	0	303	815	11.2	70	130						
Toluene	ИD	10	109	108	1.30	98.5	109	10.5	70	130						
Ethylbenzene	ND	10	109	109	. 0	105	114	8.59	70	130						
Xylenes	סא	30	96	96	0	95.3	100	4.78	70	130						
%\$\$:	96.6	10	105	106	0.782	100	104	3.69	70	130						

NONE

Spike Duplicate; LCS × Laboratory Control Sample; LCSD × Laboratory Control Sample Duplicate; RPD × Retailive Pe

Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).



QC SUMMARY REPORT FOR SW8021B/8015Cm

Matrix: W

WorkOrder, 0406080

EPA Method SW80		xtraction							e ID. 04060	
	Sample ug/L	Spiked ug/L	MS' % Rec	MSD' % Rec.	MS-MSD % RPD	LCS % Rec.	LCSD % Rec.	LCS-LCSD % RPD	Acceptance Low	Criteria (% High
TP)Nb(c>) ^E	ND	60	99'5	97	2.55	83.5	B4 8	1.57	70	130
MTBE	ND	10	104	105	1 47	84 8	858	1.16	70	130
Benzene	ND	10	111	107	3.48	86.5	87.3	0.992	70	130
Toluene	ND	10	108	105	2 45	87.9	88 6	0 788	70	130
Ethylbenzene	ND	10	110	105	4 52	90.7	907	0.533	70	130
Xylenes	ND	30	96	95	1.05	903	90.3	. 0	70	130
%55	86.0	10	107	107	. 0	956	963	0.679	70	130

MS = Matrix Spike, MSD = Matrix Spike Duplicate, LCS = Laboratory Control Sample, LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent

S-Sample) / [Amound Spiked]; RPD = 100 * (MS - MSD) / ((MS * MSD) / 2)

MS and for MSD spike recoveries may not be near 100% or the RPDs near 0% it, a) the sample is inhomogenous AND contains significant con analyte relative to the amount spiked, or b) it that specific sample matrix interferes with spike recovery.

cluttered chromatogram, sample peak coefules with surrogate peak

NA + not upplicable or not enough sample to perform malns spike and mains spike duplicate hith a native concentration in sample exceeds spike amount for soil mains or exceeds 7s spike amount for water mains or sample dib

DHS Certification No. 1644

QA/QC Officer



QC SUMMARY REPORT FOR SW8015C

Metrix:	W

EPA Method: SW8015C	1	xtraction:	SW35100	3	BatchID:	11844	Spiked Sample ID: N/A							
	Sample µg/L	Spiked ug/L	MS*	MSD*	MS-MSD % RPD	LCS % Rec.			Acceptance Low	Criteria (%				
PH(d)	N/A	7500	N/A	N/A	N/A	98.1	106	7.44	70	130				
%SS:	NVA	2500	N/A	N/A	: N/A	108	115	6.74	70	130				

BAS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplic

100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

DHS Certification No. 1644



McCampbell Analytical, Inc.

QC SUMMARY REPORT FOR SW8035C

Matrix: W

EPA Method SW8015C		xtraction	SW3510C		BatchID.	11833	Spiked Sample ID. N/A									
	Sample	Spiked	MS*	MSD.	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance	Criteria (%						
	h9/L	µg/L	% Rec.	% Rec	% RPD	% Rec	% Rec.	% RPD	Low	High						
TPH(d)	N/A	7500	N/A	N/A	N/A	109	108	0.413	70	130						
%\$\$:	N/A	2500	N/A	N/A	· N/A	117	116	0.491	70	130						

MIS × Matrix Spike; MISD × Matrix Spike Dupticale; LCS × Laboratory Control Sample; LCSD × Laboratory Control Sample Dupticale; RPD × Relative Percent

Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ([MS + MSD) / 2)

MS and t or MSD spike recoveries may not be near 100% or the RPDs near 0% it, a) the sample is intended to the amount spiked, or b) it that specific sample matrix interferes with spike recovery.

DHS Certification No. 1644





McCampbell Analytical, Inc.

QC SUMMARY REPORT FOR SW8021B

EPA Method: SW8021B	E	xtraction:	SW5030B		BatchID:	11845	Spiked Sample ID: 0406080-012A									
	Sample	Spiked	MS* ·	MSD.	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance	Criteria (%						
	μg/t.	µg∕L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	Low	High						
Chlorobenzene	DN	10	99.8	99.2	0.603	105	105	0	70	130						
1.1-Dichloroethene	ND	10	119	323	2.98	313	113	0	70	130						
Trichlomethene	ND	10	90.2	90.7	0.553	107	106	0.522	70	130						
%SS;	95	10	102	92.2	10.1	113	109	5.39	70	130						

NONE

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplic

100 " (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

Laboratory extraction solvents such as methylene chloride and acetone may occasionally appear in the method blank at low DHS Certification No. 1644



CHAIN-OF-CUSTODY RECORD

WorkOrder: 0406080

ClientID: CETE

Requested TAT: 5 days Bill to: Report ta: Accounts Payable Cambria Env. Technology 5900 Holils St, Ste. A Emeryville, CA 94608 TEL: (510) 420-0700 FAX: (510) 420-9170 ProjectNo: #522-1000-027; John Nady Matt Meyers Cambria Env. Technology 5900 Hollis St, Suite A Emeryville, CA 94608 Date Received: 6/4/04 Date Printed: 6/4/04 PO:

				r						Req	uest	ed T		(30	e leg	end	bel	w)								
Sample ID	CilentSampiD	Metrix	Collection Date	Hold	1.1	2	.[3		- 4	5		6	i	7	8		9	<u>.</u> .	10	1 1	1.		2 .	13] !!	115
0406080-001	MW-1A	Waler	6/3/04 10:20:00 AM		В	Ā	- 0	: :			1		Ľ.	***	-	\Box				!"		T]	T
0406080-002	MW-18	Water	6/3/04 9:50:00 AM	Ō	В	A	Ţ	\equiv										i_		<u>i </u>		_	_		١	-
0406080-003	MW-1C	Water	5/3/04 9:20:00 AM		В	A	, c	2 [L	L		L			}		<u></u> .		1		L.,	į		ļ.,	. ļ
0406080-004	MW-2A	Water	6/3/04 3:25:00 PM		В	A				L.			_			-		-		-		١	-			-+-
0406080-005	MW-3A	Water	6/3/04 3:00:00 PM	\Box	В	Α.	_	_		<u> </u>	\perp		L		L.	4		÷		÷		_	-		\ -	
0406080-006	MW-4A	Water	6/3/04 2:10:00 PM		8	A	:) -						!		j				ļ.,	- 1		.	. +
0406080-007	MW-48	Water	6/3/04 1:45:00 PM		В	! A		نــــــــــــــــــــــــــــــــــــــ		<u> </u>			_	_		- 1		1	_	-		:			+	-+-
0406080-008	MW-4C	Water	6/3/04 1:20:00 PM		В	A	1 0	۱.		<u> </u>			L	_		_		-		<u> </u>	_	⊢ -	-		-	
0406080-009	MW-5B	Water	6/3/04 10:55:00 AM		8	A				1	_		Ĺ	,		- 1		į		; .						
0406080-010	MW-6A	Water	6/3/04 B:30:00 AM	[0	8	A		_		1			١.,			_				1	_	-	بــــ		+-	
0406080-011	MW-68	Water	6/3/04 8:00:00 AM	П	8	_ A	10			1	ᅩ		<u> </u>		-	_		4				⊢			+-	-+-
0406080-012	MW-6C	Water	6/3/04 7:35:00 AM		8	! A		_		1	<u>i</u>		1.					- 1		1					1	
0406080-013	MW-7A	Water	6/3/04 2:35:00 PM	П	8	A	- 1	i		١	- 1									.i		ι			1	

Test Legend: 6

8010B_W	2 G-MBTEX_W
	7
	12

3 TPH(DMO)_W
8
13

9 10 15 15

Prepared by: Melissa Valles

Comments:

NOTE: Samples are discarded 60 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at client expense.

لمركب	,Q																							6	40	60	98	0					
		,	McCAMPBELL ANALYTICAL INC. 110 2" AVENUE SOUTIL, #07 ACKECO, CA 94537-5546 Fax: (925) 798-1620 Bill To: Cambris										-	ED	of F			J AF	RO	UN	DŤ:	IME): P1	C)		0	EC(D UR	\$ 10)8X	
1	Report To: Matt M			В	ill To				-				_	\vdash					Λna	lysi:	Rec	ucsi			_				Othe	ar_	Ţc	omme	ılş
	Company: Cambria		al Techno											\Box	Т	T	T						Т	Т	Г				Т	-			
	5900 Hollis Street,													1 :				1						1	1	1		- 1	-	- }			
	Emeryville, Ca 946			E-mail:	mme	rers@	amb	ria-e	nv.co	m				4 Solves (602/1920	1		Ĺ					1	-		1			- 1	1	1	1		
	Tele: (510) 420-33			Fax: (51	0) 42	0-9170								8	1			1			- 1				1	Ιí		- 1	ł		-		
	Project #: 522-1000			Project N	Vame:	John i	Nady							į	13	1								İ	ì]				1	-		
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	Sampler Signature:													& Sedda	ē	1							-	1			li	- [
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	SAMPLE ID (Field Point Name)	LOCATION	Date	Time	# Containers	Type Containers		Soil	Sludge	Other	20 5	- N	Other	BTEX & TPH or Gu	TPIS to Diesel &	HVOC4 (\$010)										,							
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