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By lopprojectop at 10:11 am, Mar 24, 2006

2 February 2006

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Re: Technical Report for Drive-Sampling[1] & Analysis at 50 Hegenberger Loop, Oakland, California.

INTRODUCTION

This document describes the tasks that were undertaken at the above-referenced site (Figures 1 and 2) for:

- Drive-sampling of three holes to a depth of 16 feet below grade (fbg);
- Soil sampling and analysis and, if present, grab water sampling and analysis;
- Analysis of selected soil samples and water samples, if collected; and
- Technical reporting that discusses:
  a. tasks that were performed, and
  b. makes observations and recommendations, as necessary.

For this next stage of work, three drive-sample holes, arranged in the footprint of the former Underground Storage Tank (UST), and just down-gradient of that tank location (Figures 3 and 4), were installed and sampled for analysis.

SITE BACKGROUND

The former USTs (tank #1 and tank #2) were removed in the fall of 1995 by DC Engineering. Below is an excerpt from their report:

> *"On, or about, October 15, 1995 Cottle Engineering was hired to perform the removal of two 2,000 gallon single walled steel underground gasoline storage tanks at W.E. Lyons Construction Co., 50 Hegenberger Loop, Oakland, California, 94621.*

[1] Drive-sampling is a term used by TCG and others to describe a subsurface investigation of soil, and/or water using a rig that advances the drill rod, stem, and sampling tube by a driving action through the soil instead of drilling the soil out. It is used to investigate shallower depths that do not require the construction of monitor wells. It creates far less cuttings that need to be handled and disposed of.

TCG appreciates this opportunity to be of service to you and looks forward to working with you on this project. Please feel free to contact us at **415.381.2560** regarding any questions you may have concerning this proposal.

Sincerely,
The Consulting Group

Jeanine C. Lovejoy
Principal – Owner

Sherwood Lovejoy, Jr.
Principal Environmental Assessor

C. Hugh Thompson
Principal Engineer

On, or about, October 18, 1995, Cottle Engineering applied for an underground tank removal permit from the Alameda County Health Department, Hazardous Materials Division. And after receiving the County permit, applied to the City of Oakland Fire Department for a tank removal permit on November 2,1995. After issuance of the tank removal permits, we scheduled the tank removal with the inspectors for November 14, 1995 and began removal of the concrete over the tanks on the morning of November 13, 1995.

The excavation was barricaded to prevent entry by unauthorized personnel during the performance of the work. During excavation of the tanks, the excavated soil appeared to be clean and free from petroleum contamination, and was stockpiled on site for future use as backfill for the tank pit with the exception of a small amount of soil which displayed an odor of gasoline and was segregated from the other, clean spoil.

At approximately 11:15 a.m., November 14,1995 the tanks were prepared for removal by the introduction of dry ice at a ratio of 2.5 pounds per 100 gallons of tank volume. Approximately two hours after the introduction of dry ice, the tank's atmospheres were tested for %LEL and %Oxygen, in the presence of the inspectors.

At approximately 1:15 p.m., these readings had reached levels that were unacceptable to the inspectors, and additional dry ice was added to each tank. After the tanks reached acceptable readings of %LEL and %Oxygen the tanks were removed from their excavations and the outer walls inspected for signs of corrosion and/or leakage. Upon visual inspection, the tanks appeared to be in good condition with no visible signs of corrosion or perforations of the tank walls. However, tank no. 2 displayed signs of overfilling indicated by gasoline on the outer tank wall, which caused the tar wrap to disintegrate.

Immediately following visual inspection of the tanks, they were loaded on a truck operated by H & H Environmental Services and transported to their licensed disposal facility in San Francisco, California for further processing and destruction.

Immediately following the removal of the tank from the excavation, one soil sample was taken from each end of the tank excavations in an area just below the end of each tank at a depth of approximately 9-10 feet below ground surface. A four point composite sample was also taken from the spoil pile generated during excavation of the tank. The samples were properly collected, packaged, and transported to McCampbell Analytical in Pacheco, California for analyses. The samples were analyzed for Total petroleum Hydrocarbons as Gasoline (TPHg); and Benzene, Toluene, Xylenes, and Ethylbenzene (BTXE). The analytical reports indicated that in the two samples taken from the tank excavation no. 1 and from the spoil pile, the above named constituents were not detected. The sample Wl-1 from the small contaminated spoil pile indicated gasoline at 2,800 parts per million (ppm); sample WL-5 indicated 7.1ppm of gasoline; and sample WL-4 indicated 2,OOOppm of gasoline.

Based upon the findings of the analytical testing, we recommend aeration of the small contaminated spoil pile and excavation of additional soil from the no. 2 tank pit in the area where sample no. WL-4 was taken and aeration of that spoil as well. Confirmatory sampling from the bottom of the tank pit as well as from the aerated soil will be necessary to determine the effectiveness of the additional excavation and the aeration process.

Once it is confirmed that all contaminated materials have been aerated from the soil to levels of 10ppm or below, the aerated soil can be used for backfill material at the site and a site closure can be requested from the local oversite agency."

The excavation for UST #2 was closed approximately 100 days after UST removal, after the soil was aerated for 90 days. However, resampling was not performed as planned. According to Mr. Gary Lyons, this soil (~5 yards) was placed in the upper 4 feet of the excavation, at least 6 feet above groundwater.

In April 1996, the Alameda County Health Care Services – Environmental Health Services (EHS) wrote a letter to request that the small amount of contaminated soil from tank #1 be aerated and confirmation sampled prior to re-use as backfill material. They further requested that UST #2 tankpit be over-excavated and resampled for chemical analysis, including groundwater, if encountered. The letter is excerpted below:

> *"I last spoke with you on November 30, 1995 after the removal of the two underground tanks at the above site. After review of the analytical data from the removals a number of items were discussed and agreed upon. Among these were:*
>
> *Most of the stockpiled soils from Tank 1 and Tank2 were not contaminated and could be reused to backfill the pit from Tank #1. Also, there was only minor petroleum contamination observed in soil samples from Tank pit 1 and no further work would be required in this area*
>
> *A small amount of stockpiled soil from Tank 1 was contaminated with gasoline and would need to be aerated and resampled prior to reuse.*
>
> *The north end of Tank 2 detected elevated levels of gasoline and BTEX (benzene, toluene, ethylbenzene, xylenes) which should be overexcavated and resampled. Also, based on the shallow groundwater at this site, should groundwater be encountered during overexcavation and water sample should be taken for chemical analysis.*
>
> *Based on our conversation, I anticipated that this work was being scheduled. To date, our office has not received a work plan nor have we been informed of any further action at this site. Therefore, you are requested to send a work plan to address the above items (#2&3). Please submit your work plan to our office* ***within 30 days or by May 28,1996.***
>
> *This is a formal request for technical reports pursuant to the California Water Code and the Health and Safety Code. Failure to submit the requested reports may subject W. E. Lyons Construction to appropriate civil liability."*

In August 2002, DC Engineering wrote a letter in response to a letter from EHS. An excerpt of the letter follows:

> *"My company was hired by Mr. Lyons to perform the tank removal at his site on Hegenberger Loop in Oakland in October of 1995. I was onsite during most of the construction tasks and remember some of the work we performed. We still have the project file and have forwarded copies to Me. Lyons at his request.*
>
> *Mr. Lyons contacted me recently with regards to a letter he received from you concerning the clean up of this site and forwarded the letter to me. Subsequently I spoke to you on the phone and found the final sample results in the files. Please see the attached copy for your records. I extracted the water sample from the tank excavation on September 5,1996 at the request of Me. Lyons in an effort to complete the project. The water was not present during the original tank removal project and the origin of the water*

could be from multiple reasons. (Rain, Tidal Action, Perched, etc.) As you can see, there was very low levels of gasoline present in the water.

Mr. Lyons did not use our company to perform the clean up of any contaminated soil or water and believe he performed those tasks with the help of someone else as he mentioned he had close ties with another environmental firm that would help him during the original removal project. However, we did place the soil in the back of this property for treatment prior to leaving the site. Cottle Engineering was hired to perform the removal and disposal of the tanks only and the later water sampling was performed additional to the original contract."

In December 2002, the EHS wrote a letter about closing the site. An excerpt of this letter follows:

"*Alameda (County Environmental Health, Local Oversight Program (LOP), has begun our review of the referenced site for formal closure recommendation. Our recent concern regarding the analysis of MTBE was satisfied with the additional analytical results submitted,*[2] *however, it appears that there is still an outstanding issue. A pile(s) was generated during the tank removal (WL1) and during the over-excavation of tankpit pit #2, whose disposition is still unaccounted. You were given the option to dispose of this soil or resample after aeration for possible reuse. Which option did you choose? Please submit a copy of either the soil disposal receipt or a copy of the analysis of soil after re-sampling?"*

In April 2005, the EHS wrote another letter about review of the site. The excerpted information is below:

"Alameda County Environmental Heal1h has reviewed the files regarding the above referenced site. However, we need additional information from you in order to complete our evaluation. We request that you address the following technical comments and submit the technical report requested below.

TECHNICAL COMMENTS

1. ***MTBE in soil and groundwater-*** *Please collect a soil and groundwater sample and analyze for MTBE. The sample must be taken downgradient and in the proximity of the former USTs. You may establish groundwater gradient by studying of the available neighboring sites.*

2. ***Site Map-*** *Please provide a scaled site map with all samples and their historical and currant concentrations of the constituents.*

3. ***Summary Tables-*** *Please provide separate cumulative data tables that include soil and groundwater analytical results for all compounds that were analyzed at this site. For clarity please tabulate your cumulative soil and groundwater data per monitoring point then sorted by date. Include these tables in the report requested below.*

4. ***Benzene concentration-*** *Please collect and analyze an additional soil/groundwater sample In WL4 area where Benzene has been detected at up to 8.5 PPM in soil."*

[2] In this letter, the concern about MTBE was alleviated with the submittal of additional lab results.

Gary Lyons contracted The Consulting Group (TCG) to address this letter and to expedite the closure of the site.

SITE GEOLOGY AND HYDROGEOLOGY

The site is located in the San Francisco Bay region approximately 0.5 miles east of the San Francisco Bay. The site sits at approximately 7 feet-above mean sea level (ft-amsl). The land slopes to the west towards the San Francisco Bay.

The site is located on Quaternary Alluvium. The upper 5 to 15 ft generally consist of unconsolidated gravel, sand, silt, and clay. Shallow groundwater in the area is brackish and cannot be used for drinking water. The direction of the shallow groundwater flow is usually to the west towards the San Francisco Bay.[3]

SCOPE-OF-WORK

The objective of this work was to obtain data upon which site closure will be completed. The data from the three drive samples will be used in conjunction with previous data and other information available from the site. Typically, those data can include:

a) Source definition
b) Quantity of materials released
c) Initial soil and ground water levels of concern
d) Mitigation actions taken, including natural attenuation
e) Soil level now compared to initial levels obtained from excavation bottoms and stockpiled soil
f) Field steps taken to isolate higher level soil from acceptable level soil
g) Projected future releases or lack thereof
h) Assessment and declaration of acceptable risk basis for approval

The drive-sampling and analysis were performed in accordance with the attached (Attachment 1) standard operating procedures (SOPs), the American Society of Testing Materials (ASTM), practice standards #E1903 and E2018, State of California Requirements, Alameda County Public Works Agency (ACPWA), and the Alameda County Health Care Agency, Environmental Health Services (EHS) guidelines. Continuous coring, that is afforded by drive-sampling will allow for

[3] There are no registered wells within 2 blocks of the site, including the one on-site well. Since there are no registered wells in the area, we are unable to determine or verify groundwater flow direction in the area. The regional flow is to the north-northwest on this side of route 880 according to the ACPWA. We will use their determination along with the fact that the holes will be either in the former tankpit footprint (2) or just down-gradient (1) of it.

the viewing of the entire hole prior to choosing the sample locations. The rationale for choosing a sample depth was

- The presence of contamination as determined by the field geologist,
- Change in lithology as determined by the field geologist,
- Discoloration with no odor as determined by the field geologist,
- Amount of moisture, using dry, moist, and wet relative interpretations.

The rationale for the following investigation may be summarized as a study to obtain the minimum amount of information that must be gathered to offer observations and recommendations pertaining to the protection of health and environmental impairments due to soil or groundwater pollution involving fuels.

Workplan and Permit Preparation

A Workplan was prepared and submitted to EHS for review, comment, and approval. The Workplan was also sent to the ACPWA for their files.

As part of the permit application process[4], TCG (Attachment 2) completed:

- an ACPWA - Site Hazard Information Form
- an ACPWA soil boring permit application, and
- paid $200 for the approved Boring permit.

The data quality objectives for this study supported the determination of lateral and vertical extent of migration of chemicals of concern. These data were not intended to serve alone as the clearance data that would defend a no further action recommendation. Specific objectives of these data include US EPA, State of California, or local requirements for:

a. Standard sampling protocol
b. Standard analytical methods
c. Standard data reporting

Concrete Core-holes

Each drive-sampling location (Figures 2 and 3) required the installation of core-holes. The concrete core-holes were cut by Precision, of Richmond, California, under TCG supervision and guidance.

[4] The permit application is referred to as a "Boring Permit Application" even though it is for the "Drive-Sampling" technology also.

Drive-Sampling

The drive-sample holes were installed by Precision, of Richmond, California, under TCG supervision and guidance. TCG chose the locations and number of drive-sampling holes based on location of the area of concern, discussions with EHS, topography in the immediate vicinity and estimated groundwater flow direction.

LITHOLOGY

There was concrete at the top of all three holes that was 4 inches thick. Below this was a baserock layer that was about six inches in thickness. Below this to about 10 fbg was sandy silt that was dark grey to black and was dry to moist. A moderate (B-1 and B-3) to slight odor (B-2) was encountered below 3 fbg. In boring B-3, the color changed to a greenish grey at about 2 fbg and stayed that way until 10 fbg. At about 10 fbg, the soil changed to silty clay that was dark grey to black in color and was wet. First water was seen at between 9.75 fbg (B-2 and B-3) and 10.5 fbg (B-1). This silty clay extended down to 15 fbg in all holes. Slight odors (B-2 and B-3) to moderate (B-1) were evident down to 15 fbg. At 15 fbg, the soil changed in color (tan to light brown and lithology to sandy silt. No odors were evident in any of the three holes below 15 fbg. All three holes were terminated at 16 fbg to avoid the potential for cross contaminating a deeper layer.

CHEMICAL ANALYSIS SAMPLING

Once the core-holes were in place, Precision continuous-cored (4-ft butyrate liner runs) down to 16 fbg in the three holes.[5] Soil samples were selected and collected for analysis after reviewing the entire core. The criterion for analyzing a sample was stated above. The soil samples and grab groundwater samples were analyzed for:

- Total petroleum hydrocarbons, as gasoline (TPH-gro),
- Benzene, toluene, ethyl-benzene, and total xylenes (BTEX), and
- Methyl tert-butyl ether (MTBE).

The samples were collected in butyrate sample tubing; the tube was cut so 6 inches of soil made a sample. The sample tube was sealed with Teflon®-lined plastic caps, labeled, and placed on ice until delivery to the state-certified laboratory.

After the soil samples were collected, the open holes were allowed to recharge so that a grab groundwater sample from each hole could be collected. For the grab groundwater samples, the sampling jars were two amber liters (extractables) and three 40-ml VOA vials (volatiles). Once collected from a disposable bailer in the appropriate jars, the grab groundwater samples were

[5] This depth was chosen due to an impervious layer (clays) found at this depth and the decision not to potentially cross-contaminate water-bearing zones.

sealed, labeled, and placed on ice until delivery to the state-certified laboratory. The soil and grab groundwater samples were delivered to the laboratory under strict chain-of-custody (COC) procedures. Groundwater was found in each hole at approximately 10 fbg.

Cuttings from the drive-sampling were handled as prescribed in SOP 2b (attached).

The drive-sample holes were grouted after the collection of the grab groundwater samples according to requirements and SOP 2b attached.

Chemical Analysis

The soil and grab groundwater samples were delivered to STL San Francisco (STL) of Pleasanton, California, a state-certified laboratory, under strict COC procedures. Ten soil samples were selected for analysis for TPH-gro, BTEX, and methyl tert-butyl ether (MTBE). TPH-gro, BTEX and MTBE were analyzed by EPA Method 8260. The analytical methods employed for soil were the same as those for the grab groundwater samples.

Soil Sample Analysis

Drive-Sample Hole B-1

Petroleum product analysis indicated that:

- Gasoline ranged from ND its RL of 1 mg/kg to 1.3 mg/kg (5 fbg),
- MTBE ranged from ND its RL of 0.005 mg/kg to 0.0081 mg/kg (13 fbg),
- Benzene was not found above its RL of 0.005 mg/kg,
- Toluene was not found above its RL of 0.005 mg/kg,
- Ethyl benzene was not found above its RL of 0.005 mg/kg, and
- Total xylenes ranged from ND its RL of 0.01 mg/kg to 0.017 mg/kg (5 fbg).

Drive-Sample Hole B-2

Petroleum product analysis indicated that:

- Gasoline ranged from ND its RL of 1 mg/kg to 2.6 mg/kg (12 fbg),
- MTBE was not found above its RL of 0.005 mg/kg,
- Benzene was not found above its RL of 0.005 mg/kg,
- Toluene was not found above its RL of 0.005 mg/kg,
- Ethyl benzene was not found above its RL of 0.005 mg/kg, and
- Total xylenes were not found above its RL of 0.01 mg/kg.

Drive-Sample Hole B-3

Petroleum product analysis[6] indicated that:

- Gasoline ranged from 2.9 mg/kg (13 fbg) to 690 mg/kg (7.5 fbg, but the RL was raised to 180 mg/kg in the sample @ 7.5 fbg,
- MTBE was not found above its RL of 0.005 mg/kg, but the RL was raised to 0.890 mg/kg in the sample @ 7.5 fbg where the result was ND,
- Benzene was not found above its RL of 0.005 mg/kg, but the RL was raised to 0.890 mg/kg in the sample @ 7.5 fbg where the result was ND,
- Toluene was not found above its RL of 0.005 mg/kg, but the RL was raised to 0.890mg/kg in the sample @ 7.5 fbg where the result was ND,
- Ethyl benzene ranged from ND at its RL of 0.005 mg/kg to 8.3 mg/kg (7.5 fbg), and
- Total xylenes ranged from ND at its RL of 0.005 mg/kg to 0.0024 mg/kg (3.5 fbg).

Grab Groundwater Sample Analysis

Drive-Sample Hole B-1 Groundwater

Petroleum product analysis indicated that:

- Gasoline was detected at 95 ug/l at an RL of 50 ug/l,
- MTBE was detected at 2.7 ug/l at an RL of 0.5 ug/l,
- Benzene was not found above its RL of 0.5 ug/l,
- Toluene was not found above its RL of 0.5 ug/l,
- Ethyl benzene was not found above its RL of 0.5 ug/l, and
- Total xylenes were detected at 1.1 ug/l at an RL of 1 ug/l.

Drive-Sample Hole B-2 Groundwater

Petroleum product analysis indicated that:

- Gasoline was detected at 53 ug/l at an RL of 50 ug/l,
- MTBE was detected at 2.3 ug/l at an RL of 0.5 ug/l,
- Benzene was not found above its RL of 0.5 ug/l,
- Toluene was not found above its RL of 0.5 ug/l,
- Ethyl benzene was not found above its RL of 0.5 ug/l, and
- Total xylenes were not found above its RL of 1 ug/l.

[6] The standard method detection limit is 5 ug/kg for this compound. Some laboratories are able to report lower reporting limits. Unless the reporting limit is significant, we will be reporting detection limits that are above the laboratory data (statically insignificant) and are consistent (do not vary by sample) in our reports and we will attach the laboratory sheets for reference.

Drive-Sample Hole B-3 Groundwater

Petroleum product analysis indicated that:

- Gasoline was detected at 350 ug/l at an RL of 50 ug/l,
- MTBE was not found above its RL of 0.5 ug/l,
- Benzene was detected at 1.4 ug/l at an RL of 0.5 ug/l,
- Toluene was not found above its RL of 0.5 ug/l,
- Ethyl benzene was detected at 3.4 ug/l at an RL of 0.5 ug/l, and
- Total xylenes were detected at 1 ug/l at an RL of 1 ug/l.

OBSERVATIONS

SOIL ISSUES

The Environmental Screening Level (ESL) [Res, DW, <3 mbgs[7]] for TPH-gro is 100 mg/kg. The ESL [Res, DW, <3 mbgs] for Ethylbenzene is 3.3 mg/kg, the ESL [Res, DW, <3 mbgs] for total Xylenes is 1.5 mg/kg, and the ESL [Res, DW, <3 mbgs] for MTBE is 0.023 mg/kg.

1. TPH-gro ranged from ND to 690 mg/kg:
    - TPH-gro was detected in all drive-sample holes,
    - TPH-gro in B-1 and B-2 are below the Environmental Screening Level (ESL) of 100 mg/kg
    - TPH-gro in B-3 is below the ESL, except at 7.5 fbg.
2. Benzene and Toluene were not detected in any of the samples analyzed.
3. Ethyl-Benzene, total Xylenes, and MTBE were detected in soil samples:
    - Ethylbenzene was found in B-3 @ 7.5 fbg (8.3), 10 fbg (0.0038), and 13 fbg (0.014),
    - Xylenes were detected in B-1 @ 5 fbg (0.017) and B-3 @ 3.5 fbg (0.024), and
    - MTBE was detected in B-1 @ 13 fbg (0.0081).

Except for the sample at 7.5 fbg in B-3, all results for TPH-gro are below the ESL. For Ethylbenzene the 7.5 fbg sample is above the ESL, while the 10 fbg and 13 fbg are below in B-3. For Xylenes, both detectable samples are below the ESL. For MTBE, the detectable sample is below the ESL.

[7] mbgs = meters below grade surface. This is from the RWQCB – Region 2 (San Francisco), July 2003.

GROUNDWATER ISSUES

The ESL for TPH-g [GW→DW] is 100 ug/l. The ESL for Benzene is 1 ug/l, while the ESL for Ethyl-Benzene is 30 ug/l, the ESL for total Xylenes is 13 ug/l, and the ESL for MTBE is 5 ug/l.

1. TPH-g was detected in all three-grab groundwater samples at 95 ug/l (B-1), 53 ug/l (B-2), and 350 ug/l (B-3).
2. Benzene was detected in one of the three-grab groundwater samples (B-3) at 7.5 ug/l.
3. Toluene was not detected in any of the three grab groundwater samples.
4. Ethyl-Benzene was detected in one of the three-grab groundwater sample (B-3) at 3.4 ug/l.
5. Total Xylenes were detected in two of the three-grab groundwater samples at 1.1 ug/l (B-1) and 1 ug/l (B-3).
6. MTBE was detected in two of the three-grab groundwater samples at 2.7 ug/l (B-1) and 2.3 ug/l (B-2).

The result for B-3 is above the ESL for TPH-g. B-1 and B-2 results are below the ESL for TPH-gro. The result for Benzene in B-3 is above the ESL. The result for Ethyl-Benzene in B-3 is below the ESL. The results for total Xylenes in B-1 and B-3 are below the ESL, while MTBE in B-1 and B-2 are below the ESL.

RECOMMENDATIONS

Only the 7.5-fbg-soil sample from B-3 contains concentrations for TPH-gro and Benzene that exceed ESLs. All other compounds tested are below their ESLs for both soil and groundwater. With this in mind, the site should be closed due to:

1. Source has been removed,
2. Natural-degradation of these compounds has been shown to work at sites in the Bay Area and has been recommended for sites of low-risk[8],
3. The area has been covered with a barrier (concrete) thereby retarding the percolation of surface water from rainfall, and
4. When you consider the use of this water as a drinking water, it is restricted by sanitary and treatment requirements.

Therefore, the application of beneficial uses or non-degradation to groundwater in this area would seem to be too restrictive, and has been stated so by others in Senate Bill 1764 Advisory Committee Recommendations Report.[9]

[8] LLNL Reports, 1995.

[9] Section 8 – Beneficial Use Designations and Water Quality Objectives, pp 12.

REFERENCES

California Code of Regulations; Title 8; Department of Industrial Relations - California Occupational Safety and Health Regulations (Title 8).

California Code of Regulations; Title 22: Social Security; Division 4: Environmental Health and Division 4.5: Chapter 11: Identification of Hazardous Waste; article 3: Characterization of Hazardous Waste (Title 22).

Code of Federal Regulations; Title 29; part 1910: Occupational Safety and Health Standards (29 CFR).

Code of Federal Regulations; Title 40; part 261; subpart B - Criteria for identifying the Characteristics of Hazardous Waste and for Listing Hazardous Waste, and subpart C - Characteristics of Hazardous Waste (40 CFR).

Designated Level Methodology for Waste Classification and Cleanup Level Determination; California Regional Water Quality Control Board; Central Valley Region (Marshack Document).

Dragun & Chiasson, 1991, Elements in North American Soils.

Lawrence Livermore National Laboratory, 1995, *Recommendations To improve the Cleanup Process for California's Leaking Underground Fuels Tanks (LUFTs*), LLNL, 16 October, 1995.

_____, 1995, *California Leaking Underground Fuel Tank (LUFT) Historical Case Analyses* LLNL, 16 November 1995.

Scott, 1995, Background Metal Concentrations in Soil in Northern Santa Clara County, California.

Senate Bill 1764 Advisory Committee Recommendations Report Regarding California's Underground Storage Tank Program, 31 May 1996.

State Water Resources Control Board, 1995, Letter regarding Lawrence Livermore National Laboratory (LLNL) Report on Leaking Underground Storage Tank (UST) Cleanup, 8 December 1995.

The Consulting Group, 2002, *Table: Background Levels for Metals*, State of California, September 2002.

_____, 2005, *Workplan for Drive-Sampling & Analysis* at 50 Hegenberger Loop, Oakland, California, 10 August 2005.

CERTIFICATION AND LIMITATION

This report has been prepared by the staff of The Consulting Group (TCG) under the supervision of our registered engineer whose stamp and signature appear below.

This report has been prepared by TCG for the exclusive use of TCG and W. E. Lyons (client) and not for use by any other party. Any use by a third party of any of the information contained in this report shall be at their own risk and shall constitute a release and an agreement to defend and indemnify TCG from and against any and all liability in connection therewith whether arising out of TCG's negligence or otherwise.

All interpretations, conclusions, and recommendations are based solely on information gathered during this investigative stage and on no other unspecified information. This report is prepared as a tool for the client to use in determining the condition of the site. This report makes no certification, either implied or otherwise, that the site is free from contamination; it simply reports the findings of the study. Soil sampling (contrary to water sampling), if performed, is so sample specific that if contaminants are not found in a sample it does not universally suggest that there are none of these contaminants present at the site.

The results and findings contained in this report are based on certain information from sources outside the control of TCG. While exercising all reasonable diligence in the acceptance and use of information provided, TCG does not warrant or guarantee the accuracy thereof. The report was developed specifically for this project (50 Hegenberger Loop, Oakland, California) and should not be used for any other site.

Copyright law covers this report. Any reproduction, either in total or in part, without the permission of TCG is prohibited.

Tables: 1 – Petroleum Hydrocarbon Analytical Results – Soil
2 - Petroleum Hydrocarbon Analytical Results – Water

Figures: 1 - Site Location Map
2 - Site Layout Map w/Proposed Drive-Sampling Locations
3 – Boring Locations w/Cross-section Line
4 – Idealized Cross-Section A - A' Lithology
5 – Cross-Section A - A' Color Guide & Analyzed Sample Locations
6 – Cross-Section A - A' Color Guide & Volatile Hydrocarbons Results (mg/kg)
7 - Idealized Cross-Section A - A' Lithology & Grab Groundwater Sample Results (ug/l)

Attachment 1 - Selected Standard Operating Procedures
2 – Boring Permit
3 – Laboratory Results and COC Forms

TABLES

TABLE 1 - PETROLEUM HYDROCARBONS ANALYTICAL RESULTS
Site Closure Process Progran - Soil Sampling and Analysis
W. E. Lyons, 50 Hegenberger Loop, Oakland, CA
TCG Project #055101

Sample #	B-1-5	B-1-13	B-1-15.5	B-2-2.5	B-2-8.5	B-2-12	B-3-3.5	B-3-7.5	B-3-10	B-3-13
Date	6-Dec-2005	6-Dec-2005	6-Dec-2005	6-Dec-2005	6-Dec-2005	6-Dec-2005	6-Dec-2005	6-Dec-2005	6-Dec-2005	6-Dec-2005
Depth (ft)	5.00	13.00	15.60	2.50	8.50	12.00	3.50	7.50	10.00	13.00
Matrix	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Constituent										
Petroleum Hydrocarbons (mg/kg)										
TPH-g	**1.3**	ND(0.94)	ND(1)	ND(0.85)	**1.2**	**2.6**	**5.3**	**690**	**3.1**	**2.9**
Aromatics (mg/kg)										
Benzene	ND(0.0046)	ND(0.0047)	ND(0.005)	ND(0.0043)	ND(0.0043)	ND(0.0045)	ND(0.0044)	ND(0.890)	ND(0.0047)	ND(0.0043)
Toluene	ND(0.0046)	ND(0.0047)	ND(0.005)	ND(0.0043)	ND(0.0043)	ND(0.0045)	ND(0.0044)	ND(0.890)	ND(0.0047)	ND(0.0043)
Ethyl-benzene	ND(0.0046)	ND(0.0047)	ND(0.005)	ND(0.0043)	ND(0.0043)	ND(0.0045)	ND(0.0044)	**8.3**	**0.038**	**0.014**
Total Xylenes	**0.017**	ND(0.0094)	ND(0.01)	ND(0.0085)	ND(0.0086)	ND(0.0091)	**0.024**	ND(1.8)	ND(0.0094)	ND(0.0087)
Methyl tert-Butyl Ether (MTBE)	ND(0.0046)	**0.0081**	ND(0.005)	ND(0.0043)	ND(0.0043)	ND(0.0045)	ND(0.0044)	ND(0.890)	ND(0.0047)	ND(0.0043)

Notes:

B-1-5 = sample desgignation
ND = not detected (repoting limit)
Results in milligrams per kilogram (mg/kg)
Bold = results to be resolved

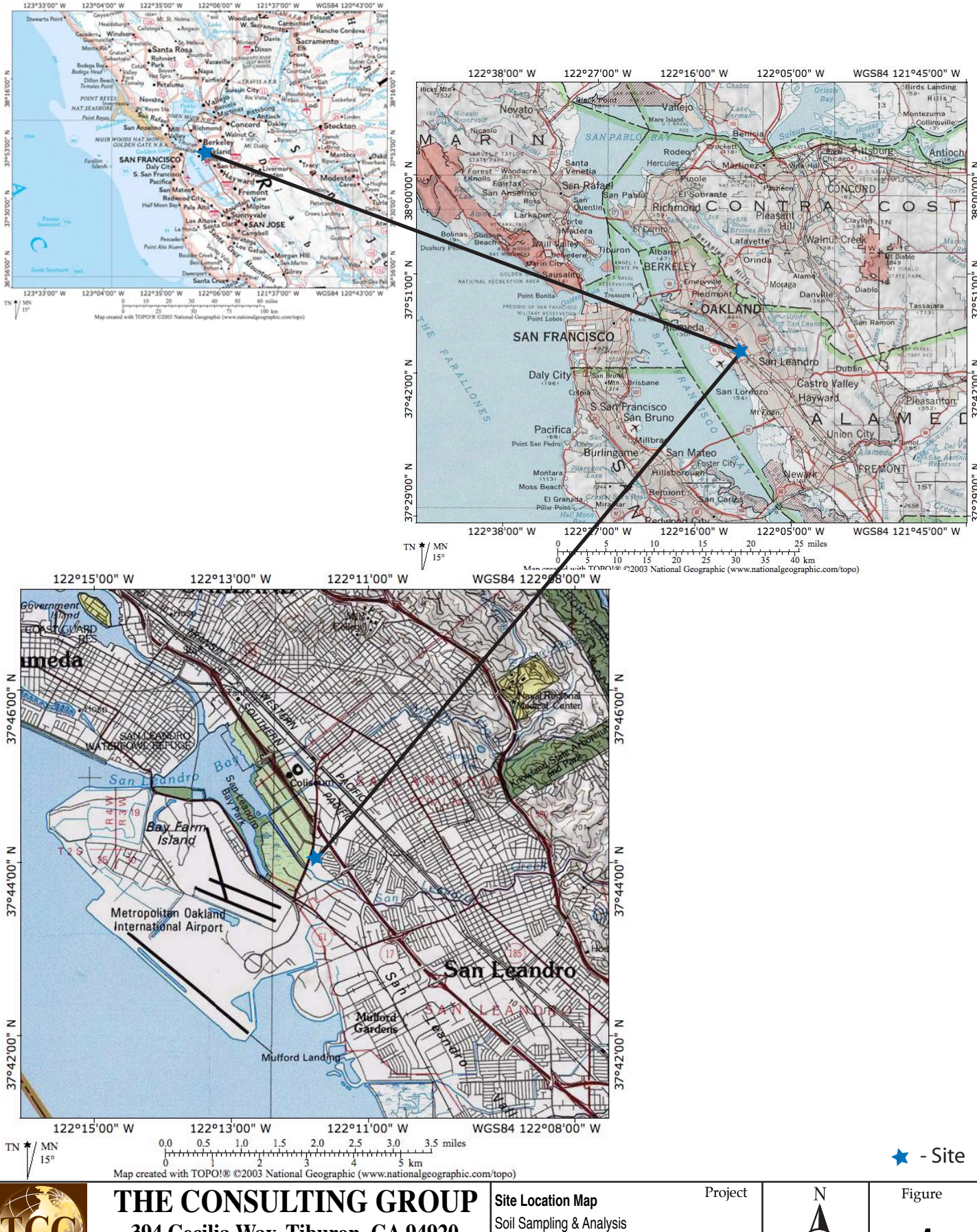
TABLE 2 - PETROLEUM HYDROCARBONS ANALYTICAL RESULTS
Site Closure Process Progran - Grab Groundwater Sampling and Analysis
W. E. Lyons, 50 Hegenberger Loop, Oakland, CA
TCG Project #055101

Sample #	B1-W	B2-W	B3-W
Date	6-Dec-2005	6-Dec-2005	6-Dec-2005
Matrix	Water	Water	Water
Constituent			
		Petroleum Hydrocarbons (ug/l)	
TPH-g	**95**	**53**	**350**
		Aromatics (ug/l)	
Benzene	ND(0.5)	ND(0.5)	**1.4**
Toluene	ND(0.5)	ND(0.5)	ND(0.5)
Ethyl-benzene	ND(0.5)	ND(0.5)	**3.4**
Total Xylenes	**1.1**	ND(1)	**1**
Methyl tert-Butyl Ether (MTBE)	**2.7**	**2.3**	ND(0.5)

Notes:

B1-W = sample desgignation
ND = not detected (repoting limit)
Results in micrograms per liter (ug/l)
Bold = results to be resolved

FIGURES



THE CONSULTING GROUP

394 Cecilia Way, Tiburon, CA 94920
Tel: 415.381.2560 / Fax: 415.381.1741

Job No.	Date	Drawn by	Rev.	Apprvd.
055101	8 August 05	RC	GAK	WL

Site Location Map

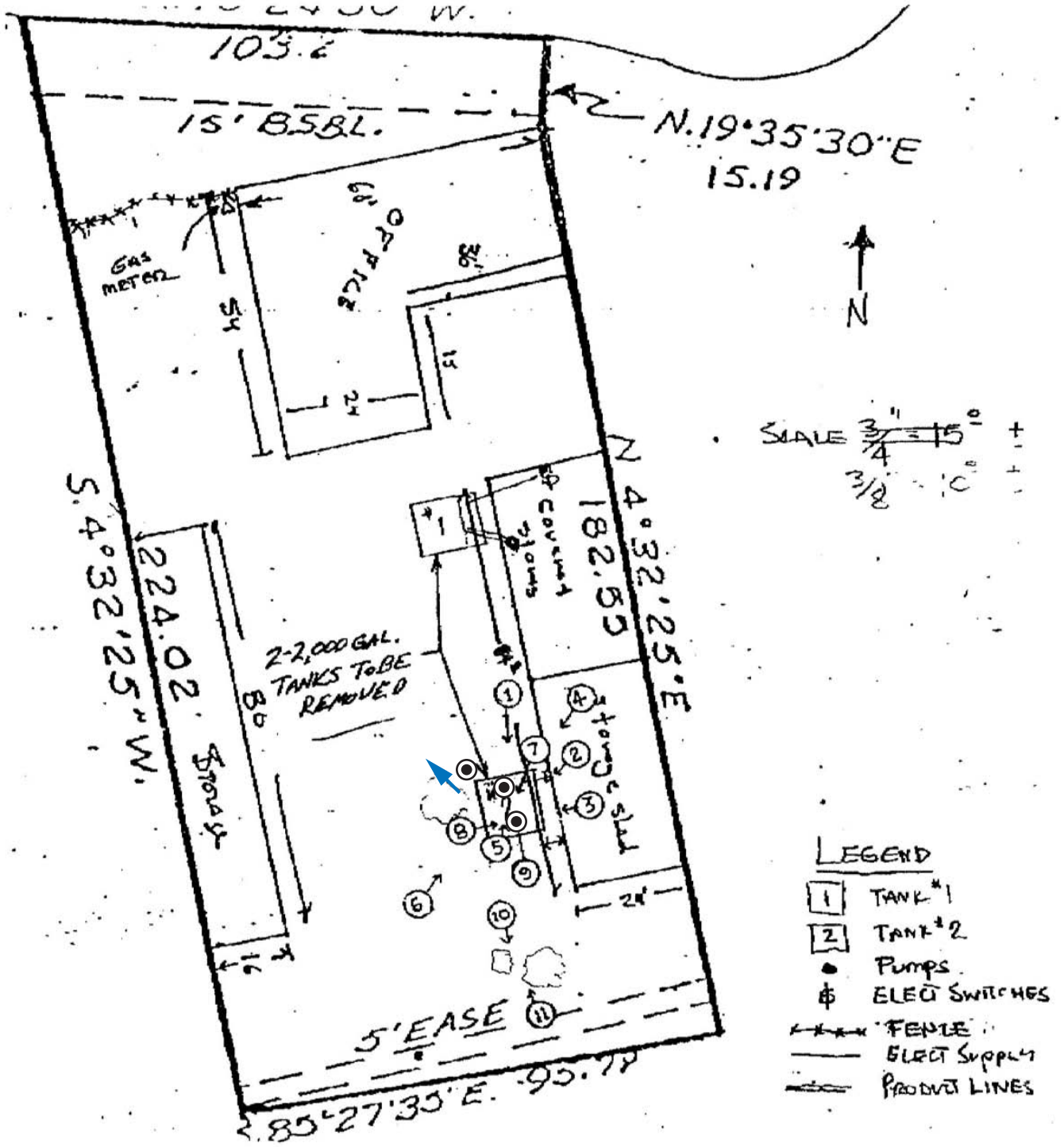
Project

Soil Sampling & Analysis
50 Hegenberger Loop
for W. E. Lyons Construction
50 Hegenberger Loop, Oakland CA

N

Figure

1



- Estimated GW Flow Direction

- Proposed Drive-Sample Holes (approximate)

(source: W. E. Lyons, 2005)

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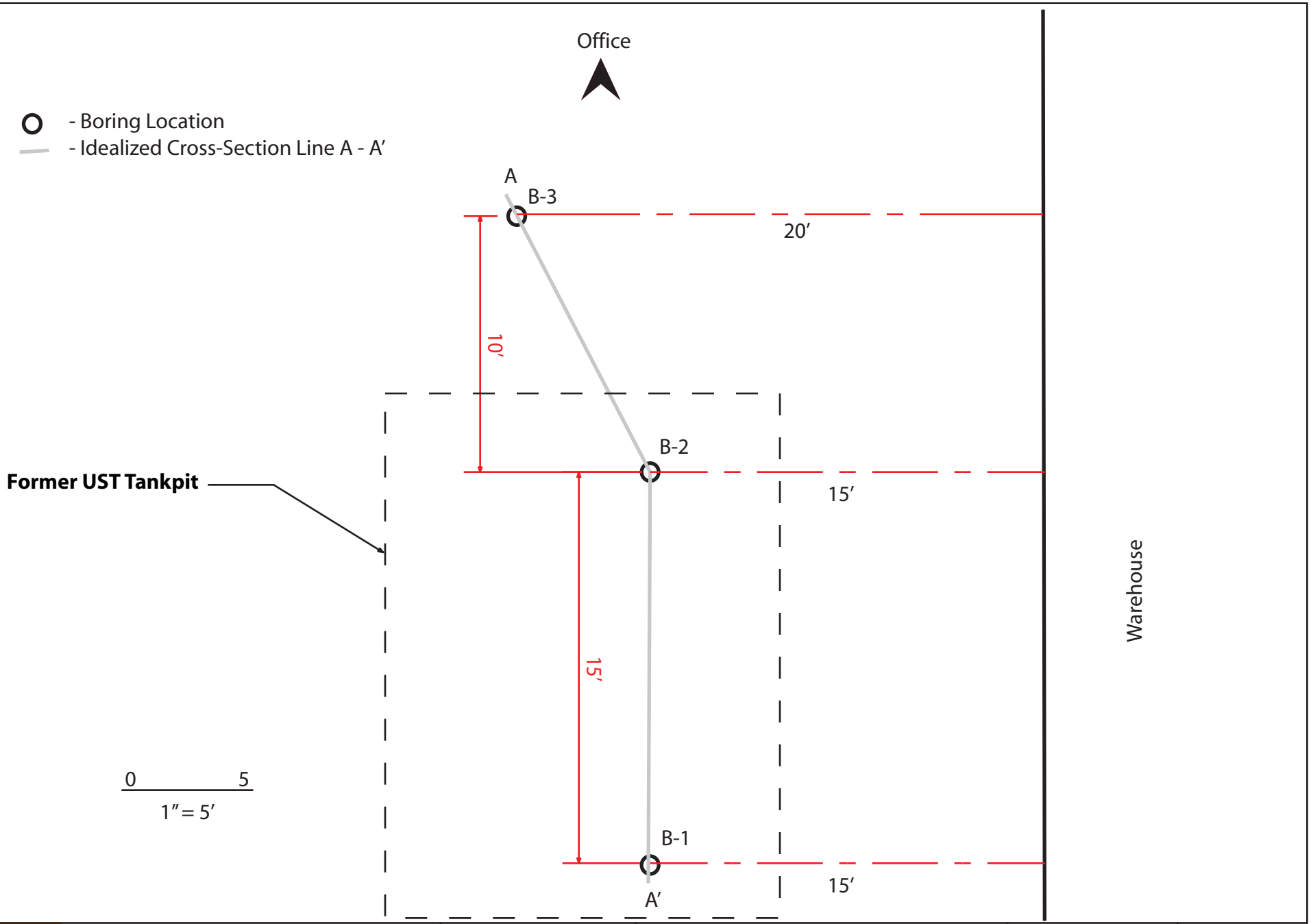
Job No.	Date	Drawn by	Rev.	Apprvd.
055101	8 August 05	RC	GAK	WL

Project: **Site Layout w/proposed D-S Locations**
Soil Sampling & Analysis
50 Hegenberger Loop
for W. E. Lyons Construction
50 Hegenberger Loop, Oakland CA

N

Figure **2**



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Tel: 415.381.2560 / Fax: 415.381.1741

Job No.	055101
Date	20 Jan 06
Drawn by	WL
Rev	RC
Apprvd	WL

Project

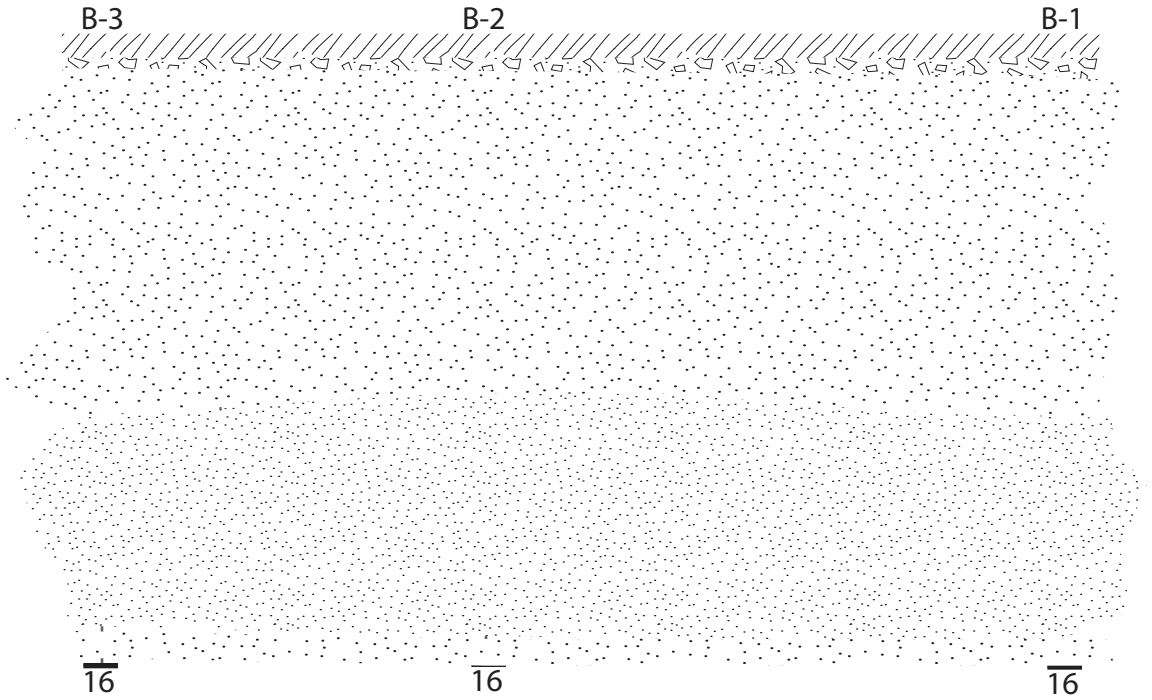
Boring Locations w/Cross-section line
Soil Sampling & Analysis
50 Hegenberger Loop
for W. E. Lyons Construction
50 Hegenberger Loop, Oakland CA

N

Figure

3

16 - End of Boring w/Depth
- Silty Clays
- Sandy Silts
- Fill Material
- Concrete



0 5

1″ = 5′

THE CONSULTING GROUP
394 Cecilia Way, Tiburon, CA 94920
Tel: 415.381.2560 / Fax: 415.381.1741

Job No.	055101
Date	20 Jan 06
Drawn by	WL
Rev RC	Apprvd WL

Project

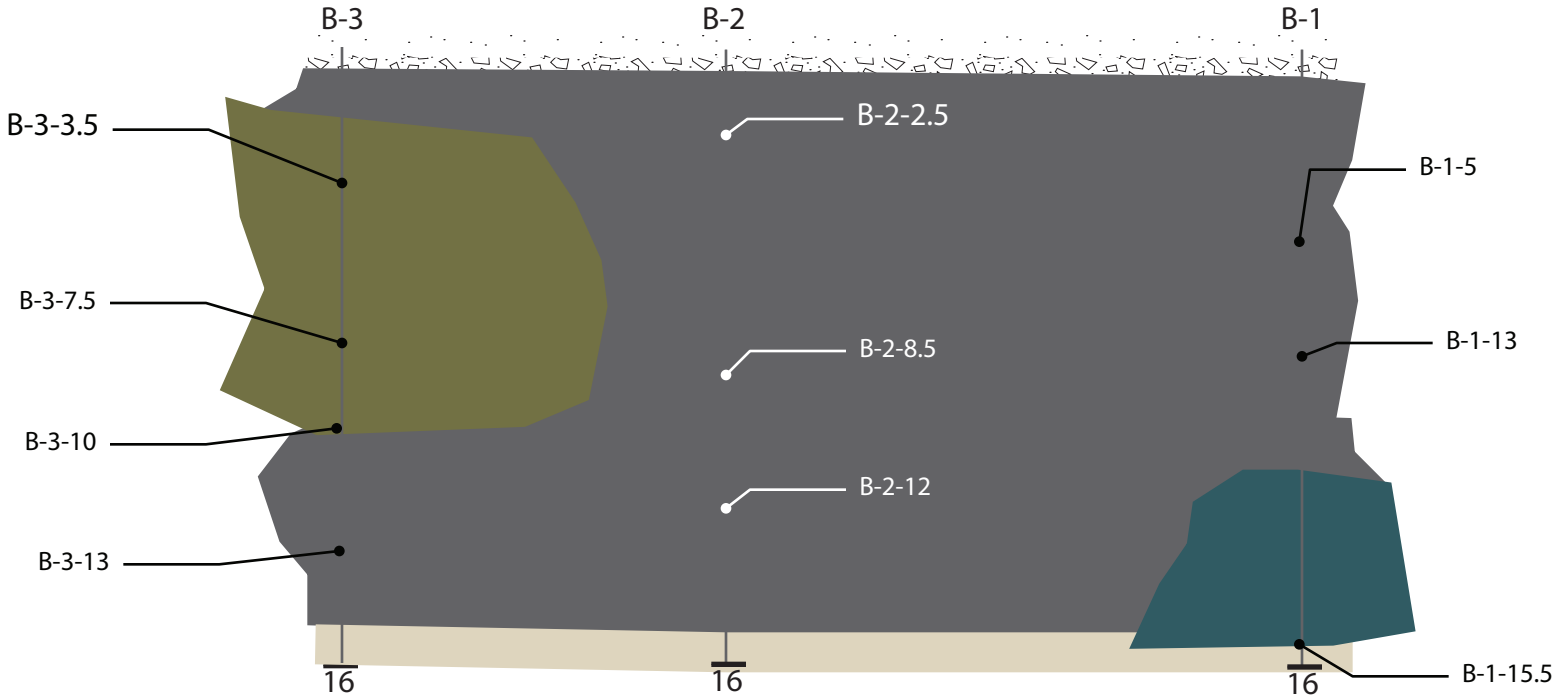
Idealized Cross-Section A - A' Lithology
Soil Sampling & Analysis
50 Hegenberger Loop
for W. E. Lyons Construction
50 Hegenberger Loop, Oakland CA

N

Figure

4

16 - End of Boring w/Depth
- Silty Clays
- Sandy Silts
- Fill Material
- Concrete



0 5

1″ = 5′

THE CONSULTING GROUP
394 Cecilia Way, Tiburon, CA 94920
Tel: 415.381.2560 / Fax: 415.381.1741

Job No.	055101
Date	20 Jan 06
Drawn by	WL
Rev	RC
Apprvd	WL

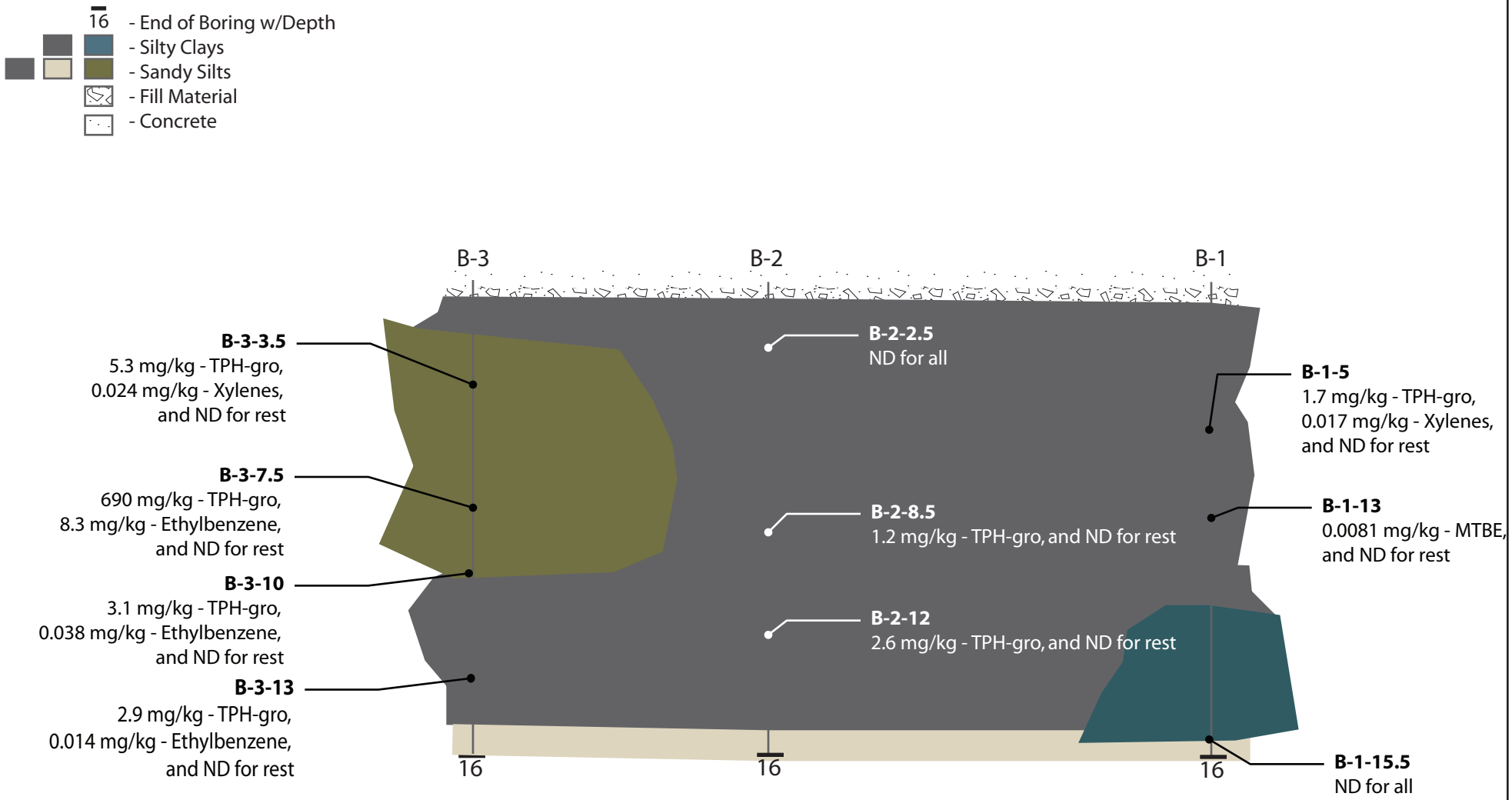
Project

Cross-Section A - A' Color Guide & Analyzed Sample Locations
50 Hegenberger Loop
for W. E. Lyons Construction
50 Hegenberger Loop, Oakland CA

N

Figure

5



THE CONSULTING GROUP
394 Cecilia Way, Tiburon, CA 94920
Tel: 415.381.2560 / Fax: 415.381.1741

Job No.	055101
Date	20 Jan 06
Drawn by	WL
Rev	RC
Apprvd	WL

Project

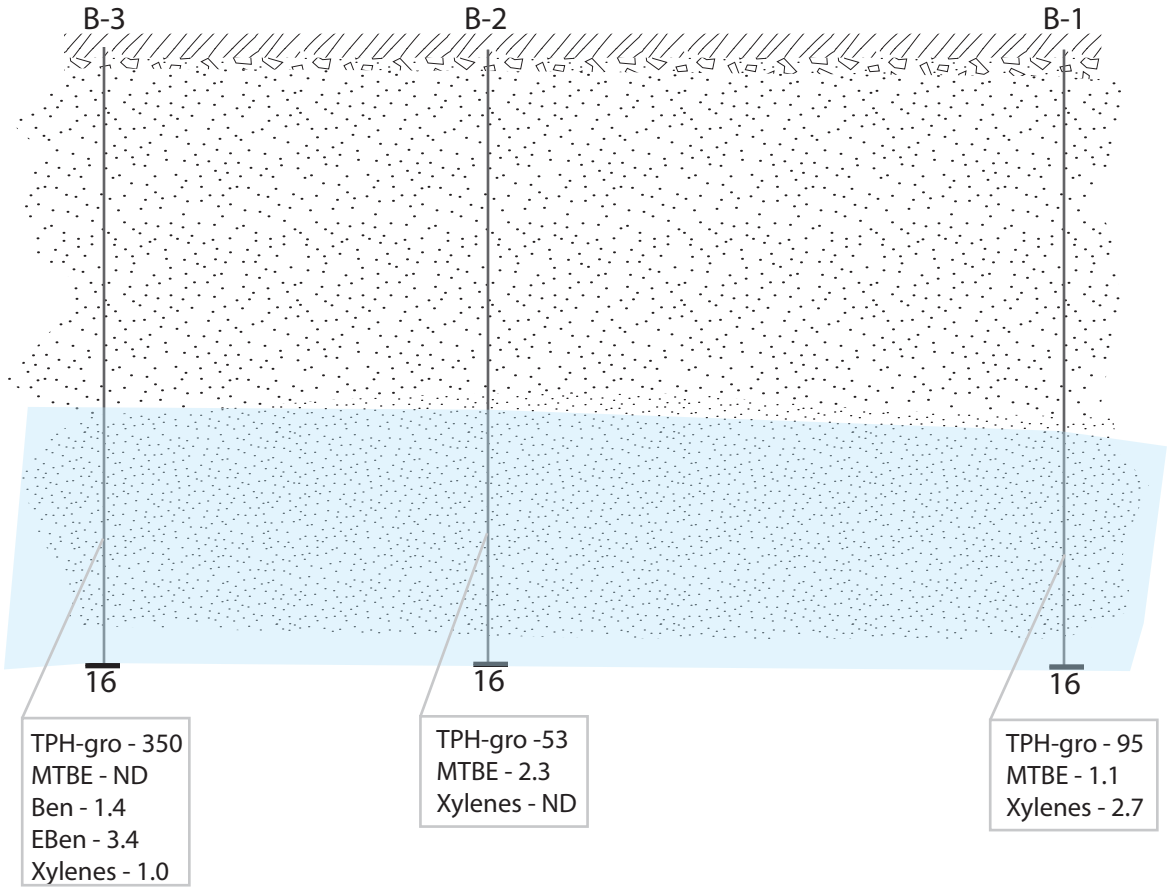
Cross-Section A - A' Color Guide &
Volatile Hydocarbons Results (mg/kg)
50 Hegenberger Loop
for W. E. Lyons Construction
50 Hegenberger Loop, Oakland CA

N

Figure

6

16 - End of Boring w/Depth
- Silty Clays
- Sandy Silts
- Fill Material
- Concrete



0 5

1″ = 5′

THE CONSULTING GROUP
394 Cecilia Way, Tiburon, CA 94920
Tel: 415.381.2560 / Fax: 415.381.1741

Job No.	055101
Date	20 Jan 06
Drawn by	WL
Rev	RC
Apprvd	WL

Idealized Cross-Section A - A' Lithology & Grab Groundwater Sample Results (ug/l)

Project
Soil Sampling & Analysis
50 Hegenberger Loop
for W. E. Lyons Construction
50 Hegenberger Loop, Oakland CA

N

Figure
7

ATTACHMENT 1

SOP 2b – SOIL & GRAB GROUNDWATER SAMPLING WITH GEOPROBE®

Soil samples for chemical analysis are collected in thin-walled Butyrate tubes. The tubes are 4 feet long by 2-inch diameter. The 4-foot core is reviewed and the location of a soil sample is selected by visual observation and photo-ionization detection (PID).

One soil sample collected at each sampling interval is analyzed in the field using a photo ionization detector (PID), a flame ionization detector (FID), or an explosion meter. The purpose of this field analysis is to qualitatively determine the presence or absence of hydrocarbons or halocarbons and to help establish which soil samples will be analyzed at the laboratory. The soil sample is sealed in a zip-lock plastic bag and placed in the sun to enhance volatilization of any hydrocarbons in the sample. The data is recorded on drill logs at the depth corresponding to the sampling point.

Other soil samples are collected to document the lithology and stratigraphy and estimate the relative permeability of the subsurface materials. All drive-sampling equipment are steam-cleaned before use at each site and between holes on-site to minimize the potential for cross-contamination.

The sampling equipment consists of Teflon® or steam-cleaned PVC bailer. Forty-milliliter (ml) glass volatile-organic-analysis (VOA) vials, with Teflon septa, are used as sample containers for volatile organic compound (VOC) analysis. For other analyses, the appropriate EPA-approved sampling containers are used.

The groundwater sample is decanted into each preserved VOA vial in such a manner that there is a meniscus at the top of the vial. The cap is quickly placed over the top of the vial and securely tightened. The VOA vial is then inverted and tapped to see if air bubbles are present. If none are present, the sample is labeled and refrigerated for delivery under chain-of-custody to the laboratory. Label information should include a sample identification number, job identification number, date, time, type of analysis requested, and the sampler's name.

A trip blank is prepared at the laboratory and placed in the transport cooler. It remains with the cooler and is placed on hold pending any anomalous results. A field blank is prepared in the field when sampling equipment is not dedicated. The field blank is prepared after a pump or bailer used in a well is steam-cleaned, before use in a second well, and is analyzed along with the other samples. The field blank demonstrates the quality of in-field cleaning procedures to prevent cross-contamination.

To minimize the potential for cross-contamination between wells, all the well purging and water sampling equipment that is not dedicated to a well is triple-rinsed between each well. As a second precautionary measure, samples are collected in order of least to highest concentrations as established by previous analyses.

All the soil is put in DOT-approved drums (drilling cuttings) for storage pending analytical results. Once results are available, soil disposal is determined. The soil is disposed of at the appropriate landfill(s) or re-used according to State, regional and/or local requirements.

Drive-sample holes that will not be completed as monitoring wells are destroyed, following the guidelines of the State of California Department of Water Resources Bulletin 74-90, and any local guidelines or regulations.

SOP-8 - LIQUID LEVEL GAUGING USING WATER LEVEL METER OR INTERFACE PROBE

The complete list of field equipment for liquid level gauging is assembled in the Technical office prior to departure to the field. This includes the probe(s), light filter(s), and product bailer(s) to be used for liquid levels (tested in test well before departure). The field kit also includes cleaning supplies (buckets, TSP, spray bottles, and deionized water) to clean the equipment between gauging wells.

When using the water level probe to gauge liquid levels, the probe tip is lowered into the well until the unit sounds. The top-of-casing (TOC) point is determined. This point is marked with a dot or a groove, is an obvious high point on the casing, or is the north side of the casing. The place on the probe-cord that corresponds with this TOC point is marked and an engineer's tape is used to measure the distance between the probe end and marking on the cord. This measurement is then recorded on the liquid level data sheet as depth to water (DTW).

When using the interface probe to gauge liquid levels, clamping it to the metal stovepipe or another metal object nearby first grounds the probe. When no ground is available, reproducible measurements can be obtained by clipping the ground lead to the handle of the interface probe case. After grounding the probe, the top of the well casing is fitted with a light filter to insure that sunlight does not interfere with the operation of the probe's optical mechanisms. The probe tip is then lowered into the well and submerged in the groundwater. An oscillating (beeping) tone indicates that the probe is in water. The probe is slowly raised until either the oscillating tone ceases or becomes a solid tone. In either case, this is the depth-to-groundwater (DTW) measurement. The solid tone indicates that floating hydrocarbons are present on top of the groundwater. To determine the thickness of the floating hydrocarbons, the probe is slowly raised until the solid tone ceases. This is the depth-to-floating hydrocarbon (DTFH) measurement. The process of lowering and raising the probe must be repeated several times to insure accurate measurements. DTW and DTFH measurements are recorded in hundredths of feet on the liquid level data sheet. When floating hydrocarbons are found in a well, a bottom-loading product bailer must be lowered partially through the water/liquid hydrocarbon interface to confirm the thickness of floating hydrocarbons on the water surface. This measurement is recorded on the data sheet as liquid hydrocarbon thickness (PT).

In order to avoid cross contamination of wells during the liquid level gauging process, wells are gauged in a clean to dirty order (where this information is available). In addition, any gauging equipment is cleaned with TSP and water and thoroughly rinsed with deionized water before daily use, before gauging another well on a site, and at the completion of daily use.

SOP-10 - SAMPLE LABELING & CHAIN-OF-CUSTODY

To ensure correct analysis and integrity of any sample, correct sample labeling and the accompaniment of a chain-of-custody (COC) form with all samples from the field to the designated analytic laboratory is mandatory. The label of a sample must include, at a minimum, the following items:

- Sample identification number
- Location of sample collection
- Date and time of sample collection
- Name of sampler
- Analysis required

Once this data has been put on the sample container, it must be transferred to the COC. A COC accompanies every shipment of samples and establishes the documentation necessary to trace sample possession, as well as evidence of collection, shipment, laboratory receipt, analysis requested and laboratory custody until the time of disposal. The COC form must include, at a minimum, the following items:

- Sample identification number
- Location of sample collection
- Date and time of sample collection
- Analysis required
- Sample type
- Sample container type
- Preservative used, if any
- Names of all samplers
- Signatures of personnel relinquishing and receiving samples
- Laboratory name and address
- Laboratory sample number and log number (recorded by laboratory personnel)
- Company contact name and project number
- Sample condition and temperature (recorded by laboratory personnel)

Sample transfer and shipment is always accompanied by a COC. The initial preparation of the COC occurs in the office and completed in the field by the personnel collecting the samples. Each sample is assigned a unique identification number that represents the specific sampling location. The identification numbers are entered on the COC accompanied by the requested analysis, preservative used, if any, type of sample collected, and type of sample container. Any special instructions are included here.

If the field personnel deliver the samples to the laboratory, they will at that time sign the COC form and relinquish the samples. At this point, the Quality Control Coordinator, or the representative for the laboratory, will check to make sure all samples are present and note the

condition and integrity of each sample. After all samples have been documented as received by the laboratory personnel, they will sign the COC form and issue the delivering personnel a copy. The laboratory with the analytic data report should also return a copy of the signed COC form.

If the samples are delivered by courier, or other commercial carrier, the container of samples shall be sealed, and a custody tape will be applied to the container to seal it and to signal any tampering with the container. The courier will sign the COC taking ownership of the samples that the samplers have relinquished by also signing the COC. The receipt form the courier will be attached to the COC copy retained by the relinquishing personnel and serve as an extension of the COC.

Any changes to a COC must be initialed and copies of the revised COC must be distributed to all appropriate personnel.

ATTACHMENT 2

Alameda County Public Works Agency - Water Resources Well Permit

399 Elmhurst Street
Hayward, CA 94544-1395
Telephone: (510)670-6633 Fax:(510)782-1939

Application Approved on: 12/01/2005 By jamesy
Permits Issued: W2005-1149

Receipt Number: WR2005-2221
Permits Valid from 12/06/2005 to 12/06/2005

Application Id: 1133287258054
Site Location: 50 Hegenberger Loop, Oakland, CA 94621
Project Start Date: 12/06/2005

City of Project Site: Oakland
Completion Date: 12/06/2005

Applicant: The Consulting Group - Sherwood Lovejoy Jr. 394 Cecilia Wy, Tiburon, CA 94920 **Phone:** 650-714-4200
Property Owner: W. E. Lyons 50 Hegenberger Lp., Oakland, CA 94612 **Phone:** 510-568-4827
Client: ** same as Property Owner **

Total Due: $200.00
Total Amount Paid: $200.00
Paid By: CHECK **PAID IN FULL**

Works Requesting Permits:

Borehole(s) for Investigation-Contamination Study - 3 Boreholes
Driller: Precision Sampling - Lic #: 636387 - Method: other **Work Total: $200.00**

Specifications

Permit Number	Issued Dt	Expire Dt	# Boreholes	Hole Diam	Max Depth
W2005-1149	12/01/2005	03/06/2006	3	2.00 in.	25.00 ft

Specific Work Permit Conditions

1. Backfill bore hole by tremie with cement grout or cement grout/sand mixture. Upper two-three feet replaced in kind or with compacted cuttings. All cuttings remaining or unused shall be containerized and hauled off site.

2. Boreholes shall not be left open for a period of more than 24 hours. All boreholes left open more than 24 hours will need approval from Alameda County Public Works Agency, Water Resources Section. All boreholes shall be backfilled according to permit destruction requirements and all concrete material and asphalt material shall be to Caltrans Spec or County/City Codes. No borehole(s) shall be left in a manner to act as a conduit at any time.

3. Permittee shall assume entire responsibility for all activities and uses under this permit and shall indemnify, 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.

4. Applicant shall contact James Yoo for an inspection time at 510-670-6633 at least five (5) working days prior to starting, once the permit has been approved. Confirm the scheduled date(s) at least 24 hours prior to drilling.

5. Copy of approved drilling permit must be on site at all times. Failure to present or show proof of the approved permit application on site shall result in a fine of $500.00.

6. Permit is valid only for the purpose specified herein. No changes in construction procedures, as described on this permit application. Boreholes shall not be converted to monitoring wells, without a permit application process.

ATTACHMENT 3

ANALYTICAL REPORT

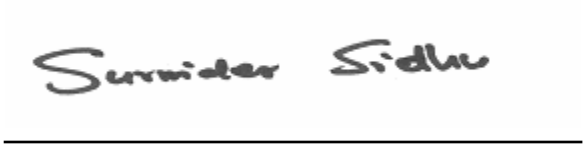
Job Number: 720-869-1

Job Description: WE LYONS

For:

TCG (The Consulting Group)
394 Cecilia Way
Tiburon, CA 94920-2105

Attention: Mr. Woody Lovejoy



Surinder Sidhu
Project Manager I
ssidhu@stl-inc.com
12/23/2005

METHOD SUMMARY

Client: TCG (The Consulting Group) Job Number: 720-869-1

Description	Lab Location	Method	Preparation Method
Matrix: Solid			
Volatile Organic Compounds by GC/MS	STL-SF	SW846 8260B	
Purge and Trap for Solids	STL-SF		SW846 5030B
Purge-and-Trap for Aqueous Samples/High	STL-SF		SW846 5030B
Matrix: Water			
Volatile Organic Compounds by GC/MS	STL-SF	SW846 8260B	
Purge-and-Trap	STL-SF		SW846 5030B
Nonhalogenated Organics using GC/FID -Modified (Diesel Range Organics)	STL-SF	SW846 8015B	
Separatory Funnel Liquid-Liquid Extraction	STL-SF		SW846 3510C
Silica Gel Cleanup	STL-SF		SW846 3630C

LAB REFERENCES:

STL-SF = STL-San Francisco

METHOD REFERENCES:

SW846 - "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

SAMPLE SUMMARY

Client: TCG (The Consulting Group) Job Number: 720-869-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
720-869-1	B-1-5	Solid	12/06/2005 0000	12/07/2005 1900
720-869-2	B-1-13	Solid	12/06/2005 0000	12/07/2005 1900
720-869-3	B-1-15.5	Solid	12/06/2005 0000	12/07/2005 1900
720-869-4	B-2-2.5	Solid	12/06/2005 0000	12/07/2005 1900
720-869-5	B-2-8.5	Solid	12/06/2005 0000	12/07/2005 1900
720-869-6	B-2-12	Solid	12/06/2005 0000	12/07/2005 1900
720-869-7	B-3-3.5	Solid	12/06/2005 0000	12/07/2005 1900
720-869-8	B-3-7.5	Solid	12/06/2005 0000	12/07/2005 1900
720-869-9	B-3-10	Solid	12/06/2005 0000	12/07/2005 1900
720-869-10	B-3-13	Solid	12/06/2005 0000	12/07/2005 1900
720-869-11	B1-W	Water	12/06/2005 0000	12/07/2005 1900
720-869-12	B2-W	Water	12/06/2005 0000	12/07/2005 1900
720-869-13	B3-W	Water	12/06/2005 0000	12/07/2005 1900

Client: TCG (The Consulting Group) Job Number: 720-869-1

Client Sample ID: **B-1-5**

Lab Sample ID: 720-869-1
Client Matrix: Solid

Date Sampled: 12/06/2005 0000
Date Received: 12/07/2005 1900

8260B Volatile Organic Compounds by GC/MS

Method: 8260B
Preparation: 5030B
Dilution: 1.0
Date Analyzed: 12/13/2005 2301
Date Prepared: 12/13/2005 2301

Analysis Batch: 720-3029

Instrument ID: Saturn 2100
Lab File ID: d:\data\200512\121305\720-
Initial Weight/Volume: 5.39 g
Final Weight/Volume: 10 mL

Analyte	DryWt Corrected: N	Result (ug/Kg)	Qualifier	RL
Benzene		ND		4.6
Ethylbenzene		ND		4.6
Toluene		ND		4.6
MTBE		ND		4.6
Xylenes, Total		17		9.3
Gasoline Range Organics (GRO)-C5-C12		1300		930

Surrogate	%Rec	Acceptance Limits
Toluene-d8	95	70 - 130
1,2-Dichloroethane-d4	99	60 - 140

Client: TCG (The Consulting Group) Job Number: 720-869-1

Client Sample ID: **B-1-13**

Lab Sample ID: 720-869-2
Client Matrix: Solid

Date Sampled: 12/06/2005 0000
Date Received: 12/07/2005 1900

8260B Volatile Organic Compounds by GC/MS

Method: 8260B
Preparation: 5030B
Dilution: 1.0
Date Analyzed: 12/13/2005 2328
Date Prepared: 12/13/2005 2328

Analysis Batch: 720-3029

Instrument ID: Saturn 2100
Lab File ID: d:\data\200512\121305\720-
Initial Weight/Volume: 5.34 g
Final Weight/Volume: 10 mL

Analyte	DryWt Corrected: N	Result (ug/Kg)	Qualifier	RL
Benzene		ND		4.7
Ethylbenzene		ND		4.7
Toluene		ND		4.7
MTBE		8.1		4.7
Xylenes, Total		ND		9.4
Gasoline Range Organics (GRO)-C5-C12		ND		940

Surrogate	%Rec	Acceptance Limits
Toluene-d8	96	70 - 130
1,2-Dichloroethane-d4	97	60 - 140

Client: TCG (The Consulting Group) Job Number: 720-869-1

Client Sample ID: B-1-15.5

Lab Sample ID: 720-869-3
Client Matrix: Solid

Date Sampled: 12/06/2005 0000
Date Received: 12/07/2005 1900

8260B Volatile Organic Compounds by GC/MS

Method: 8260B
Preparation: 5030B
Dilution: 1.0
Date Analyzed: 12/13/2005 0915
Date Prepared: 12/13/2005 0915

Analysis Batch: 720-3029

Instrument ID: Saturn 2100
Lab File ID: d:\data\200512\121305\720-
Initial Weight/Volume: 5.02 g
Final Weight/Volume: 10 mL

Analyte	DryWt Corrected: N	Result (ug/Kg)	Qualifier	RL
Benzene		ND		5.0
Ethylbenzene		ND		5.0
Toluene		ND		5.0
MTBE		ND		5.0
Xylenes, Total		ND		10
Gasoline Range Organics (GRO)-C5-C12		ND		1000

Surrogate	%Rec	Acceptance Limits
Toluene-d8	94	70 - 130
1,2-Dichloroethane-d4	83	60 - 140

Client: TCG (The Consulting Group) Job Number: 720-869-1

Client Sample ID: B-2-2.5

Lab Sample ID: 720-869-4
Client Matrix: Solid

Date Sampled: 12/06/2005 0000
Date Received: 12/07/2005 1900

8260B Volatile Organic Compounds by GC/MS

Method: 8260B
Preparation: 5030B
Dilution: 1.0
Date Analyzed: 12/13/2005 2354
Date Prepared: 12/13/2005 2354

Analysis Batch: 720-3029

Instrument ID: Saturn 2100
Lab File ID: d:\data\200512\121305\720-
Initial Weight/Volume: 5.85 g
Final Weight/Volume: 10 mL

Analyte	DryWt Corrected: N	Result (ug/Kg)	Qualifier	RL
Benzene		ND		4.3
Ethylbenzene		ND		4.3
Toluene		ND		4.3
MTBE		ND		4.3
Xylenes, Total		ND		8.5
Gasoline Range Organics (GRO)-C5-C12		ND		850

Surrogate	%Rec	Acceptance Limits
Toluene-d8	80	70 - 130
1,2-Dichloroethane-d4	90	60 - 140

Client: TCG (The Consulting Group) Job Number: 720-869-1

Client Sample ID: B-2-8.5

Lab Sample ID: 720-869-5
Client Matrix: Solid

Date Sampled: 12/06/2005 0000
Date Received: 12/07/2005 1900

8260B Volatile Organic Compounds by GC/MS

Method: 8260B
Preparation: 5030B
Dilution: 1.0
Date Analyzed: 12/14/2005 0020
Date Prepared: 12/14/2005 0020

Analysis Batch: 720-3029

Instrument ID: Saturn 2100
Lab File ID: d:\data\200512\121305\720-
Initial Weight/Volume: 5.80 g
Final Weight/Volume: 10 mL

Analyte	DryWt Corrected: N	Result (ug/Kg)	Qualifier	RL
Benzene		ND		4.3
Ethylbenzene		ND		4.3
Toluene		ND		4.3
MTBE		ND		4.3
Xylenes, Total		ND		8.6
Gasoline Range Organics (GRO)-C5-C12		1200		860

Surrogate	%Rec	Acceptance Limits
Toluene-d8	83	70 - 130
1,2-Dichloroethane-d4	91	60 - 140

Client: TCG (The Consulting Group) Job Number: 720-869-1

Client Sample ID: B-2-12

Lab Sample ID: 720-869-6
Client Matrix: Solid

Date Sampled: 12/06/2005 0000
Date Received: 12/07/2005 1900

8260B Volatile Organic Compounds by GC/MS

Method: 8260B
Preparation: 5030B
Dilution: 1.0
Date Analyzed: 12/14/2005 0046
Date Prepared: 12/14/2005 0046

Analysis Batch: 720-3029

Instrument ID: Saturn 2100
Lab File ID: d:\data\200512\121305\720-
Initial Weight/Volume: 5.50 g
Final Weight/Volume: 10 mL

Analyte	DryWt Corrected: N	Result (ug/Kg)	Qualifier	RL
Benzene		ND		4.5
Ethylbenzene		ND		4.5
Toluene		ND		4.5
MTBE		ND		4.5
Xylenes, Total		ND		9.1
Gasoline Range Organics (GRO)-C5-C12		2600		910

Surrogate	%Rec	Acceptance Limits
Toluene-d8	90	70 - 130
1,2-Dichloroethane-d4	88	60 - 140

Client: TCG (The Consulting Group) Job Number: 720-869-1

Client Sample ID: B-3-3.5

Lab Sample ID: 720-869-7
Client Matrix: Solid

Date Sampled: 12/06/2005 0000
Date Received: 12/07/2005 1900

8260B Volatile Organic Compounds by GC/MS

Method: 8260B
Preparation: 5030B
Dilution: 1.0
Date Analyzed: 12/14/2005 0112
Date Prepared: 12/14/2005 0112

Analysis Batch: 720-3029

Instrument ID: Saturn 2100
Lab File ID: d:\data\200512\121305\720-
Initial Weight/Volume: 5.64 g
Final Weight/Volume: 10 mL

Analyte	DryWt Corrected: N	Result (ug/Kg)	Qualifier	RL
Benzene		ND		4.4
Ethylbenzene		ND		4.4
Toluene		ND		4.4
MTBE		ND		4.4
Xylenes, Total		24		8.9
Gasoline Range Organics (GRO)-C5-C12		5300		890

Surrogate	%Rec	Acceptance Limits
Toluene-d8	87	70 - 130
1,2-Dichloroethane-d4	90	60 - 140

Client: TCG (The Consulting Group) Job Number: 720-869-1

Client Sample ID: B-3-7.5

Lab Sample ID: 720-869-8
Client Matrix: Solid

Date Sampled: 12/06/2005 0000
Date Received: 12/07/2005 1900

8260B Volatile Organic Compounds by GC/MS

Method: 8260B
Preparation: 5030B-Medium
Dilution: 200
Date Analyzed: 12/17/2005 1622
Date Prepared: 12/15/2005 1739

Analysis Batch: 720-3275
Prep Batch: 720-3458

Instrument ID: Varian 3900E
Lab File ID: c:\varianws\data\200512\12
Initial Weight/Volume: 5.59 g
Final Weight/Volume: 10 mL

Analyte	DryWt Corrected: N	Result (ug/Kg)	Qualifier	RL
Benzene		ND		890
Ethylbenzene		8300		890
Toluene		ND		890
MTBE		ND		890
Xylenes, Total		ND		1800
Gasoline Range Organics (GRO)-C5-C12		690000		180000

Surrogate	%Rec	Acceptance Limits
Toluene-d8	99	70 - 130
1,2-Dichloroethane-d4	100	60 - 140

Client: TCG (The Consulting Group) Job Number: 720-869-1

Client Sample ID: B-3-10

Lab Sample ID: 720-869-9
Client Matrix: Solid

Date Sampled: 12/06/2005 0000
Date Received: 12/07/2005 1900

8260B Volatile Organic Compounds by GC/MS

Method: 8260B
Preparation: 5030B
Dilution: 1.0
Date Analyzed: 12/14/2005 0139
Date Prepared: 12/14/2005 0139

Analysis Batch: 720-3029

Instrument ID: Saturn 2100
Lab File ID: d:\data\200512\121305\720-
Initial Weight/Volume: 5.32 g
Final Weight/Volume: 10 mL

Analyte	DryWt Corrected: N	Result (ug/Kg)	Qualifier	RL
Benzene		ND		4.7
Ethylbenzene		38		4.7
Toluene		ND		4.7
MTBE		ND		4.7
Xylenes, Total		ND		9.4
Gasoline Range Organics (GRO)-C5-C12		3100		940

Surrogate	%Rec	Acceptance Limits
Toluene-d8	96	70 - 130
1,2-Dichloroethane-d4	89	60 - 140

Client: TCG (The Consulting Group) Job Number: 720-869-1

Client Sample ID: **B-3-13**

Lab Sample ID: 720-869-10
Client Matrix: Solid

Date Sampled: 12/06/2005 0000
Date Received: 12/07/2005 1900

8260B Volatile Organic Compounds by GC/MS

Method: 8260B
Preparation: 5030B
Dilution: 1.0
Date Analyzed: 12/14/2005 0205
Date Prepared: 12/14/2005 0205

Analysis Batch: 720-3029

Instrument ID: Saturn 2100
Lab File ID: d:\data\200512\121305\720-
Initial Weight/Volume: 5.75 g
Final Weight/Volume: 10 mL

Analyte	DryWt Corrected: N	Result (ug/Kg)	Qualifier	RL
Benzene		ND		4.3
Ethylbenzene		14		4.3
Toluene		ND		4.3
MTBE		ND		4.3
Xylenes, Total		ND		8.7
Gasoline Range Organics (GRO)-C5-C12		2900		870

Surrogate	%Rec	Acceptance Limits
Toluene-d8	88	70 - 130
1,2-Dichloroethane-d4	85	60 - 140

Client: TCG (The Consulting Group) Job Number: 720-869-1

Client Sample ID: B1-W

Lab Sample ID: 720-869-11
Client Matrix: Water

Date Sampled: 12/06/2005 0000
Date Received: 12/07/2005 1900

8260B Volatile Organic Compounds by GC/MS

Method: 8260B
Preparation: 5030B
Dilution: 1.0
Date Analyzed: 12/15/2005 1116
Date Prepared: 12/15/2005 1116

Analysis Batch: 720-3202

Instrument ID: Varian 3900C
Lab File ID: c:\saturnws\data\200512\12
Initial Weight/Volume:
Final Weight/Volume: 10 mL

Analyte	Result (ug/L)	Qualifier	RL
Benzene	ND		0.50
Ethylbenzene	ND		0.50
Toluene	ND		0.50
MTBE	2.7		0.50
Xylenes, Total	1.1		1.0
Gasoline Range Organics (GRO)-C5-C12	95		50

Surrogate	%Rec	Acceptance Limits
Toluene-d8	105	77 - 121
1,2-Dichloroethane-d4	111	73 - 130

Client: TCG (The Consulting Group) Job Number: 720-869-1

Client Sample ID: **B2-W**

Lab Sample ID: 720-869-12
Client Matrix: Water

Date Sampled: 12/06/2005 0000
Date Received: 12/07/2005 1900

8260B Volatile Organic Compounds by GC/MS

Method: 8260B
Preparation: 5030B
Dilution: 1.0
Date Analyzed: 12/15/2005 1144
Date Prepared: 12/15/2005 1144

Analysis Batch: 720-3202

Instrument ID: Varian 3900C
Lab File ID: c:\saturnws\data\200512\12
Initial Weight/Volume:
Final Weight/Volume: 10 mL

Analyte	Result (ug/L)	Qualifier	RL
Benzene	ND		0.50
Ethylbenzene	ND		0.50
Toluene	ND		0.50
MTBE	2.3		0.50
Xylenes, Total	ND		1.0
Gasoline Range Organics (GRO)-C5-C12	53		50

Surrogate	%Rec	Acceptance Limits
Toluene-d8	104	77 - 121
1,2-Dichloroethane-d4	118	73 - 130

Client: TCG (The Consulting Group) Job Number: 720-869-1

Client Sample ID: **B3-W**

Lab Sample ID: 720-869-13
Client Matrix: Water

Date Sampled: 12/06/2005 0000
Date Received: 12/07/2005 1900

8260B Volatile Organic Compounds by GC/MS

Method: 8260B
Preparation: 5030B
Dilution: 1.0
Date Analyzed: 12/15/2005 1212
Date Prepared: 12/15/2005 1212

Analysis Batch: 720-3202

Instrument ID: Varian 3900C
Lab File ID: c:\saturnws\data\200512\12
Initial Weight/Volume:
Final Weight/Volume: 10 mL

Analyte	Result (ug/L)	Qualifier	RL
Benzene	1.4		0.50
Ethylbenzene	3.4		0.50
Toluene	ND		0.50
MTBE	ND		0.50
Xylenes, Total	1.0		1.0
Gasoline Range Organics (GRO)-C5-C12	350		50

Surrogate	%Rec	Acceptance Limits
Toluene-d8	106	77 - 121
1,2-Dichloroethane-d4	113	73 - 130

DATA REPORTING QUALIFIERS

Lab Section	Qualifier	Description

Client: TCG (The Consulting Group) Job Number: 720-869-1

QC Association Summary

Lab Sample ID	Client Sample ID	Client Matrix	Method	Prep Batch
GC/MS VOA				
Analysis Batch:720-3029				
LCS 720-3029/15	Lab Control Spike	Solid	8260B	
LCSD 720-3029/14	Lab Control Spike Duplicate	Solid	8260B	
MB 720-3029/16	Method Blank	Solid	8260B	
720-869-1	B-1-5	Solid	8260B	
720-869-2	B-1-13	Solid	8260B	
720-869-3	B-1-15.5	Solid	8260B	
720-869-3MS	Matrix Spike	Solid	8260B	
720-869-3MSD	Matrix Spike Duplicate	Solid	8260B	
720-869-4	B-2-2.5	Solid	8260B	
720-869-5	B-2-8.5	Solid	8260B	
720-869-6	B-2-12	Solid	8260B	
720-869-7	B-3-3.5	Solid	8260B	
720-869-9	B-3-10	Solid	8260B	
720-869-10	B-3-13	Solid	8260B	
Analysis Batch:720-3202				
LCS 720-3202/2	Lab Control Spike	Water	8260B	
LCSD 720-3202/1	Lab Control Spike Duplicate	Water	8260B	
MB 720-3202/3	Method Blank	Water	8260B	
720-869-11	B1-W	Water	8260B	
720-869-12	B2-W	Water	8260B	
720-869-13	B3-W	Water	8260B	
Prep Batch: 720-3458				
LCS 720-3458/1-A	Lab Control Spike	Solid	5030B	
LCSD 720-3458/2-A	Lab Control Spike Duplicate	Solid	5030B	
MB 720-3458/3-A	Method Blank	Solid	5030B	
720-869-8	B-3-7.5	Solid	5030B	
Analysis Batch:720-3275				
LCS 720-3458/1-A	Lab Control Spike	Solid	8260B	720-3458
LCSD 720-3458/2-A	Lab Control Spike Duplicate	Solid	8260B	720-3458
MB 720-3458/3-A	Method Blank	Solid	8260B	720-3458
720-869-8	B-3-7.5	Solid	8260B	720-3458

Client: TCG (The Consulting Group) Job Number: 720-869-1

QC Association Summary

Lab Sample ID	Client Sample ID	Client Matrix	Method	Prep Batch
GC Semi VOA				
Prep Batch: 720-3035				
LCS 720-3035/2-B	Lab Control Spike	Water	3510C	
LCSD 720-3035/3-B	Lab Control Spike Duplicate	Water	3510C	
MB 720-3035/1-B	Method Blank	Water	3510C	
720-869-11	B1-W	Water	3510C	
720-869-12	B2-W	Water	3510C	
720-869-13	B3-W	Water	3510C	
Analysis Batch:720-3081				
LCS 720-3035/2-B	Lab Control Spike	Water	8015B	720-3035
LCSD 720-3035/3-B	Lab Control Spike Duplicate	Water	8015B	720-3035
MB 720-3035/1-B	Method Blank	Water	8015B	720-3035
720-869-11	B1-W	Water	8015B	720-3035
720-869-12	B2-W	Water	8015B	720-3035
720-869-13	B3-W	Water	8015B	720-3035

Client: TCG (The Consulting Group) Job Number: 720-869-1

Method Blank - Batch: 720-3029

Method: 8260B
Preparation: 5030B

Lab Sample ID: MB 720-3029/16
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 12/13/2005 2018
Date Prepared: 12/13/2005 2018

Analysis Batch: 720-3029
Prep Batch: N/A
Units: ug/Kg

Instrument ID: Saturn 2100
Lab File ID: d:\data\200512\121305\mb
Initial Weight/Volume: 5.34 g
Final Weight/Volume: 10 mL

Analyte	Result	Qual	RL
Benzene	ND		4.7
Ethylbenzene	ND		4.7
Toluene	ND		4.7
MTBE	ND		4.7
Xylenes, Total	ND		9.4
Gasoline Range Organics (GRO)-C5-C12	ND		940

Surrogate	% Rec	Acceptance Limits
Toluene-d8	92	70 - 130
1,2-Dichloroethane-d4	83	60 - 140

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: TCG (The Consulting Group) Job Number: 720-869-1

Laboratory Control/
Laboratory Control Duplicate Recovery Report - Batch: 720-3029

Method: 8260B
Preparation: 5030B

LCS Lab Sample ID: LCS 720-3029/15
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 12/13/2005 1926
Date Prepared: 12/13/2005 1926

Analysis Batch: 720-3029
Prep Batch: N/A
Units: ug/Kg

Instrument ID: Saturn 2100
Lab File ID: d:\data\200512\121305\ls-s
Initial Weight/Volume: 5.23 g
Final Weight/Volume: 10 mL

LCSD Lab Sample ID: LCSD 720-3029/14
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 12/13/2005 1952
Date Prepared: 12/13/2005 1952

Analysis Batch: 720-3029
Prep Batch: N/A
Units: ug/Kg

Instrument ID: Saturn 2100
Lab File ID: d:\data\200512\121305\ld-so
Initial Weight/Volume: 5.39 g
Final Weight/Volume: 10 mL

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Benzene	93	93	69 - 129	3	20		
Toluene	95	95	70 - 130	2	20		
MTBE	106	93	65 - 165	16	20		

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
Toluene-d8	92	97	70 - 130
1,2-Dichloroethane-d4	88	79	60 - 140

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: TCG (The Consulting Group) Job Number: 720-869-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 720-3029

Method: 8260B
Preparation: 5030B

MS Lab Sample ID:	720-869-3	Analysis Batch: 720-3029	Instrument ID: Saturn 2100
Client Matrix:	Solid	Prep Batch: N/A	Lab File ID: d:\data\200512\121305\72
Dilution:	1.0		Initial Weight/Volume: 5.05 g
Date Analyzed:	12/13/2005 0941		Final Weight/Volume: 10 mL
Date Prepared:	12/13/2005 0941		

MSD Lab Sample ID:	720-869-3	Analysis Batch: 720-3029	Instrument ID: Saturn 2100
Client Matrix:	Solid	Prep Batch: N/A	Lab File ID: d:\data\200512\121305\720
Dilution:	1.0		Initial Weight/Volume: 5.75 g
Date Analyzed:	12/13/2005 1008		Final Weight/Volume: 10 mL
Date Prepared:	12/13/2005 1008		

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Benzene	82	81	69 - 129	14	20		
Toluene	84	84	70 - 130	13	20		
MTBE	80	88	65 - 165	4	20		

Surrogate	MS % Rec	MSD % Rec	Acceptance Limits
Toluene-d8	95	91	70 - 130
1,2-Dichloroethane-d4	77	77	60 - 140

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: TCG (The Consulting Group) Job Number: 720-869-1

Method Blank - Batch: 720-3202

Method: 8260B
Preparation: 5030B

Lab Sample ID: MB 720-3202/3
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 12/15/2005 1006
Date Prepared: 12/15/2005 1006

Analysis Batch: 720-3202
Prep Batch: N/A
Units: ug/L

Instrument ID: Varian 3900C
Lab File ID: c:\saturnws\data\200512\12
Initial Weight/Volume:
Final Weight/Volume: 10 mL

Analyte	Result	Qual	RL
Benzene	ND		0.50
Ethylbenzene	ND		0.50
Toluene	ND		0.50
MTBE	ND		0.50
Xylenes, Total	ND		1.0
Gasoline Range Organics (GRO)-C5-C12	ND		50

Surrogate	% Rec	Acceptance Limits
Toluene-d8	107	77 - 121
1,2-Dichloroethane-d4	111	73 - 130

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: TCG (The Consulting Group) Job Number: 720-869-1

Laboratory Control/
Laboratory Control Duplicate Recovery Report - Batch: 720-3202

Method: 8260B
Preparation: 5030B

LCS Lab Sample ID: LCS 720-3202/2
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 12/15/2005 0911
Date Prepared: 12/15/2005 0911

Analysis Batch: 720-3202
Prep Batch: N/A
Units: ug/L

Instrument ID: Varian 3900C
Lab File ID: c:\saturnws\data\200512\12
Initial Weight/Volume:
Final Weight/Volume: 10 mL

LCSD Lab Sample ID: LCSD 720-3202/1
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 12/15/2005 0938
Date Prepared: 12/15/2005 0938

Analysis Batch: 720-3202
Prep Batch: N/A
Units: ug/L

Instrument ID: Varian 3900C
Lab File ID: c:\saturnws\data\200512\121
Initial Weight/Volume:
Final Weight/Volume: 10 mL

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Benzene	108	113	69 - 129	4	25		
Toluene	103	112	70 - 130	8	25		
MTBE	104	108	65 - 165	4	25		

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
Toluene-d8	106	111	77 - 121
1,2-Dichloroethane-d4	108	106	73 - 130

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: TCG (The Consulting Group) Job Number: 720-869-1

Method Blank - Batch: 720-3458

Method: 8260B
Preparation: 5030B

Lab Sample ID: MB 720-3458/3-A
Client Matrix: Solid
Dilution: 200
Date Analyzed: 12/15/2005 1737
Date Prepared: 12/15/2005 1739

Analysis Batch: 720-3275
Prep Batch: 720-3458
Units: ug/Kg

Instrument ID: Varian 3900E
Lab File ID: c:\varianws\data\200512\12
Initial Weight/Volume: 5 g
Final Weight/Volume: 10 mL

Analyte	Result	Qual	RL
Benzene	ND		1000
Ethylbenzene	ND		1000
Toluene	ND		1000
MTBE	ND		1000
Xylenes, Total	ND		2000
Gasoline Range Organics (GRO)-C5-C12	ND		200000

Surrogate	% Rec	Acceptance Limits
Toluene-d8	119	70 - 130
1,2-Dichloroethane-d4	128	60 - 140

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: TCG (The Consulting Group) Job Number: 720-869-1

Laboratory Control/
Laboratory Control Duplicate Recovery Report - Batch: 720-3458

Method: 8260B
Preparation: 5030B

LCS Lab Sample ID: LCS 720-3458/1-A
Client Matrix: Solid
Dilution: 200
Date Analyzed: 12/15/2005 1800
Date Prepared: 12/15/2005 1739

Analysis Batch: 720-3275
Prep Batch: 720-3458
Units: ug/Kg

Instrument ID: Varian 3900E
Lab File ID: c:\varianws\data\200512\12
Initial Weight/Volume: 5 g
Final Weight/Volume: 10 mL

LCSD Lab Sample ID: LCSD 720-3458/2-A
Client Matrix: Solid
Dilution: 200
Date Analyzed: 12/15/2005 1824
Date Prepared: 12/15/2005 1739

Analysis Batch: 720-3275
Prep Batch: 720-3458
Units: ug/Kg

Instrument ID: Varian 3900E
Lab File ID: c:\varianws\data\200512\121
Initial Weight/Volume: 5 g
Final Weight/Volume: 10 mL

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Benzene	129	128	69 - 129	1	20		
Toluene	127	125	70 - 130	2	20		
MTBE	135	130	65 - 165	4	20		

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
Toluene-d8	127	125	70 - 130
1,2-Dichloroethane-d4	136	129	60 - 140

Calculations are performed before rounding to avoid round-off errors in calculated results.

LOGIN SAMPLE RECEIPT CHECK LIST

Client: TCG (The Consulting Group) Job Number: 720-869-1

Login Number: 869

Question	T/F/NA	Comment
Radioactivity either was not measured or, if measured, is at or below background	NA	
The cooler's custody seal, if present.	NA	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present	True	
Samples do not require splitting or compositing	True	

720-869

The Consulting Group

Chain of Custody

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Reference #: 90145

Date: 6 December 2005 **Page 1 of 2**

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Sampler: **Woody Lovejoy**

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Tele: Project Manager: **Gary Lyons**

Fax: Cell:

Analysis Request

Sample ID	Date	Time	Matrix	Pres.	TPH EPA - ☐ 8015/8021 ☒ 8260B ☒ Gas w/ ☒ BTEX ☒ MTBE	Purgeable Aromatics BTEX EPA - ☐ 8021 ☐ 8260B	TEPH 8015M ☒ Silica Gel ☒ Diesel ☒ Motor Oil ☐ Other	Fuel Tests 8260B: ☐ Gas ☐ BTEX ☐ Five Oxy ☐ DCA, EDB ☐ Ethanol	Purgeable Halocarbons (HVOCs) EPA 8021	Volatile Organics GC/MS (VOCs) ☒ EPA 8260B ☐ 624	Semivolatiles GC/MS ☒ EPA 8270 ☐ 625	Oil and Grease ☐ Petroleum (EPA 1664) ☒ Total	Pesticides ☒ EPA 8081 ☐ 608 PCBs ☒ EPA 8082 ☐ 608	PNAs by ☐ 8270 ☐ 8310	CAM17 Metals (6010/7470/1)	Metals: ☐ Lead ☒ LUFT ☐ RCRA ☐ Other:	☐ W.E.T (STLC) ☐ TCLP	☐ Hexavalent Chromium ☐ pH (24h hold time for H_2O)	☐ Spec Cond. ☐ Alkalinity ☐ TSS ☐ TDS	Anions : ☐ Cl ☐ SO_4 ☐ NO_3 ☐ F ☐ Br ☐ NO_2 ☐ PO_4	Aroclor 1260 / 1268	TEPH-DRO and TEPH-ho, SG Strip		Number of Containers
B-1-5	12/6/05		S	N	X																			1
B-2-3	12/6/05		S	N	X																			1
B-1-15.5	12/6/05		S	N	X																			1
B-2-25	12/6/05		S	N	X																			1
B-2-8.5	12/6/05		S	N	X																			1
B-2-12	12/6/05		S	N	X																			1
B-3-3.5	12/6/05		S	N	X																			1
B-3-7.5	12/6/05		S	N	X																			1

Project Info.

Project Name: **WE Lyons**

Project#: **055101**

PO#:

Credit Card#:

Sample Receipt

of Containers:

Head Space: NA

Temp: 3°C

Conforms to record:

TAT 5 Day | 72h | 48h | 24h | Other:

Report: ☒ Routine ☐ Level 3 ☐ Level 4 ☐ EDD ☐ State Tank Fund EDF

Special Instructions / Comments:

☐ Global ID:

☐ Log Code

*place number letters on Hold

Bill TCG

Email TCG

1) Relinquished by:	2) Relinquished by:	3) Relinquished by:
Signature Time	Signature 19:00 Time	Signature Time
Woody Lovejoy 12/6/05	H Morrison 12/7/05	
Printed Name Date	Printed Name Date	Printed Name Date
TCG	STL-SF	
Company	Company	Company

1) Received by:	2) Received by:	3) Received by:
Signature 1417 Time	Signature 19:00 Time	Signature Time
Printed Name Date	Shawn Acosta 12/7/05	
STL-SF	Printed Name Date	Printed Name Date
Company	STL SF	
	Company	Company

Rev 01/02

Date: 6 December 2005 **Page 2 of 2**

96145

TCG Personnel

Project Manager: **Jeanine Lovejoy**

Sampler: **Woody Lovejoy**

Client Information

Client: **WE Lyons** 50 Hegenberger, Oakland

Tele: Project Manager: **Gary Lyons**

Fax: Cell:

Analysis Request

Sample ID	Date	Time	Matrix	Pres.	TPH EPA ~~8015~~/8021 ☒ 8260B ☒ Gas w/ ☒ BTEX ☒ MTBE	Purgeable Aromatics BTEX EPA - ☐ 8021 ☐ 8260B	TEPH 8015M ☒ Silica Gel ☒ Diesel ☒ Motor Oil ☐ Other:	Fuel Tests 8260B: ☐ Gas ☐ BTEX ☐ Five Oxy ☐ DCA, EDB ☐ Ethanol	Purgeable Halocarbons (HVOCs) EPA 8021	Volatile Organics GC/MS (VOCs) ☒ EPA 8260B ☐ 624	Semivolatiles GC/MS ☒ EPA 8270 ☐ 625	Oil and Grease ☐ Petroleum (EPA 1664) ☐ Total	Pesticides ☒ EPA 8081 ☐ 608 PCBs ☒ EPA 8082 ☐ 608	PNAs by ☐ 8270 ☐ 8310	CAM17 Metals (6010/7470/1)	Metals: ☐ Lead ☒ LUFT ☐ RCRA ☐ Other:	☐ W.E.T (STLC) ☐ TCLP	☐ Hexavalent Chromium ☐ pH (24h hold time for H_2O)	☐ Spec Cond. ☐ Alkalinity ☐ TSS ☐ TDS	Anions : ☐ Cl ☐ SO_4 ☐ NO_3 ☐ F ☐ Br ☐ NO_2 ☐ PO_4	Aroclor 1260 / 1268			Number of Containers
B-3-10	6/15/05		S	N	X																				1
B-3-13	6/15/05		S	N	X																				1
B1-W	6/15/05		W		X																				5
B2-W	6/15/05		W		X																				5
B3-W	6/15/05		W		X																				5
	6/15/05																								
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	6/15/05																								
	6/15/05																								
	6/15/05																								
	6/15/05																								

Project Info.

Project Name: **WE Lyons**

Project#: **055101**

PO#:

Credit Card#:

Sample Receipt

of Containers:

Head Space: **NA**

Temp: 3°C

Conforms to record:

TAT 5 Day | 72h | **48h** | 24h | Other:

Report: ☒ Routine ☐ Level 3 ☐ Level 4 ☐ EDD ☐ State Tank Fund EDF

Special Instructions / Comments:

☐ Global ID:

☐ Log Code

place Amber Liters on Hold

Bill TCG, Email TCG.

~~Composite stockpile samples as shown.~~

1) Relinquished by:

Signature Time

Woody Lovejoy 12/6/05

Printed Name Date

TCG

Company

2) Relinquished by:

Signature 17:00 Time

Printed Name 12/7/05 Date

STL-SF 12/7/05

Company

3) Relinquished by:

Signature Time

Printed Name Date

Company

1) Received by:

Signature 1417 Time

Printed Name 12/7/05 Date

STL-SF

Company

2) Received by:

Signature 19:00 Time

Printed Name 12/7/05 Date

STL SF

Company

3) Received by:

Signature Time

Printed Name Date

Company

Rev 01/02

THE CONSULTING GROUP
394 CECILIA WAY, TIBURON, CA 94920
TELE: 415.381.2560 / FAX: 415.381.1741
EMAIL: tcg@tcg-international.com

RECEIVED
2:25 pm, Jul 17, 2007
Alameda County
Environmental Health

2 February 2006

Mr. Amir Gholami
ACPHA-EHS
1131 Harbor Way Parkway, Ste. 250
Alameda, CA 94502-6577

Project No.: 055101
Via Email/mail: amir.gholami@acgov.org
Via Email/Mail: ridgerat10@aol.com

Re: Technical Report for Drive-Sampling[1] & Analysis at 50 Hegenberger Loop, Oakland, California.

INTRODUCTION

This document describes the tasks that were undertaken at the above-referenced site (Figures 1 and 2) for:

- Drive-sampling of three holes to a depth of 16 feet below grade (fbg);
- Soil sampling and analysis and, if present, grab water sampling and analysis;
- Analysis of selected soil samples and water samples, if collected; and
- Technical reporting that discusses:
  a. tasks that were performed, and
  b. makes observations and recommendations, as necessary.

For this next stage of work, three drive-sample holes, arranged in the footprint of the former Underground Storage Tank (UST), and just down-gradient of that tank location (Figures 3 and 4), were installed and sampled for analysis.

SITE BACKGROUND

The former USTs (tank #1 and tank #2) were removed in the fall of 1995 by DC Engineering. Below is an excerpt from their report:

> *"On, or about, October 15, 1995 Cottle Engineering was hired to perform the removal of two 2,000 gallon single walled steel underground gasoline storage tanks at W.E. Lyons Construction Co., 50 Hegenberger Loop, Oakland, California, 94621.*

[1] Drive-sampling is a term used by TCG and others to describe a subsurface investigation of soil, and/or water using a rig that advances the drill rod, stem, and sampling tube by a driving action through the soil instead of drilling the soil out. It is used to investigate shallower depths that do not require the construction of monitor wells. It creates far less cuttings that need to be handled and disposed of.

On, or about, October 18, 1995, Cottle Engineering applied for an underground tank removal permit from the Alameda County Health Department, Hazardous Materials Division. And after receiving the County permit, applied to the City of Oakland Fire Department for a tank removal permit on November 2,1995. After issuance of the tank removal permits, we scheduled the tank removal with the inspectors for November 14, 1995 and began removal of the concrete over the tanks on the morning of November 13, 1995.

The excavation was barricaded to prevent entry by unauthorized personnel during the performance of the work. During excavation of the tanks, the excavated soil appeared to be clean and free from petroleum contamination, and was stockpiled on site for future use as backfill for the tank pit with the exception of a small amount of soil which displayed an odor of gasoline and was segregated from the other, clean spoil.

At approximately 11:15 a.m., November 14,1995 the tanks were prepared for removal by the introduction of dry ice at a ratio of 2.5 pounds per 100 gallons of tank volume. Approximately two hours after the introduction of dry ice, the tank's atmospheres were tested for %LEL and %Oxygen, in the presence of the inspectors.

At approximately 1:15 p.m., these readings had reached levels that were unacceptable to the inspectors, and additional dry ice was added to each tank. After the tanks reached acceptable readings of %LEL and %Oxygen the tanks were removed from their excavations and the outer walls inspected for signs of corrosion and/or leakage. Upon visual inspection, the tanks appeared to be in good condition with no visible signs of corrosion or perforations of the tank walls. However, tank no. 2 displayed signs of overfilling indicated by gasoline on the outer tank wall, which caused the tar wrap to disintegrate.

Immediately following visual inspection of the tanks, they were loaded on a truck operated by H & H Environmental Services and transported to their licensed disposal facility in San Francisco, California for further processing and destruction.

Immediately following the removal of the tank from the excavation, one soil sample was taken from each end of the tank excavations in an area just below the end of each tank at a depth of approximately 9-10 feet below ground surface. A four point composite sample was also taken from the spoil pile generated during excavation of the tank. The samples were properly collected, packaged, and transported to McCampbell Analytical in Pacheco, California for analyses. The samples were analyzed for Total petroleum Hydrocarbons as Gasoline (TPHg); and Benzene, Toluene, Xylenes, and Ethylbenzene (BTXE). The analytical reports indicated that in the two samples taken from the tank excavation no. 1 and from the spoil pile, the above named constituents were not detected. The sample Wl-1 from the small contaminated spoil pile indicated gasoline at 2,800 parts per million (ppm); sample WL-5 indicated 7.1ppm of gasoline; and sample WL-4 indicated 2,OOOppm of gasoline.

Based upon the findings of the analytical testing, we recommend aeration of the small contaminated spoil pile and excavation of additional soil from the no. 2 tank pit in the area where sample no. WL-4 was taken and aeration of that spoil as well. Confirmatory sampling from the bottom of the tank pit as well as from the aerated soil will be necessary to determine the effectiveness of the additional excavation and the aeration process.

Once it is confirmed that all contaminated materials have been aerated from the soil to levels of 10ppm or below, the aerated soil can be used for backfill material at the site and a site closure can be requested from the local oversite agency."

The excavation for UST #2 was closed approximately 100 days after UST removal, after the soil was aerated for 90 days. However, resampling was not performed as planned. According to Mr. Gary Lyons, this soil (~5 yards) was placed in the upper 4 feet of the excavation, at least 6 feet above groundwater.

In April 1996, the Alameda County Health Care Services – Environmental Health Services (EHS) wrote a letter to request that the small amount of contaminated soil from tank #1 be aerated and confirmation sampled prior to re-use as backfill material. They further requested that UST #2 tankpit be over-excavated and resampled for chemical analysis, including groundwater, if encountered. The letter is excerpted below:

> *"I last spoke with you on November 30, 1995 after the removal of the two underground tanks at the above site. After review of the analytical data from the removals a number of items were discussed and agreed upon. Among these were:*
>
> *Most of the stockpiled soils from Tank 1 and Tank2 were not contaminated and could be reused to backfill the pit from Tank #1. Also, there was only minor petroleum contamination observed in soil samples from Tank pit 1 and no further work would be required in this area*
>
> *A small amount of stockpiled soil from Tank 1 was contaminated with gasoline and would need to be aerated and resampled prior to reuse.*
>
> *The north end of Tank 2 detected elevated levels of gasoline and BTEX (benzene, toluene, ethylbenzene, xylenes) which should be overexcavated and resampled. Also, based on the shallow groundwater at this site, should groundwater be encountered during overexcavation and water sample should be taken for chemical analysis.*
>
> *Based on our conversation, I anticipated that this work was being scheduled. To date, our office has not received a work plan nor have we been informed of any further action at this site. Therefore, you are requested to send a work plan to address the above items (#2&3). Please submit your work plan to our office* ***within 30 days or by May 28,1996.***
>
> *This is a formal request for technical reports pursuant to the California Water Code and the Health and Safety Code. Failure to submit the requested reports may subject W. E. Lyons Construction to appropriate civil liability."*

In August 2002, DC Engineering wrote a letter in response to a letter from EHS. An excerpt of the letter follows:

> *"My company was hired by Mr. Lyons to perform the tank removal at his site on Hegenberger Loop in Oakland in October of 1995. I was onsite during most of the construction tasks and remember some of the work we performed. We still have the project file and have forwarded copies to Me. Lyons at his request.*
>
> *Mr. Lyons contacted me recently with regards to a letter he received from you concerning the clean up of this site and forwarded the letter to me. Subsequently I spoke to you on the phone and found the final sample results in the files. Please see the attached copy for your records. I extracted the water sample from the tank excavation on September 5,1996 at the request of Me. Lyons in an effort to complete the project. The water was not present during the original tank removal project and the origin of the water*

could be from multiple reasons. (Rain, Tidal Action, Perched, etc.) As you can see, there was very low levels of gasoline present in the water.

Mr. Lyons did not use our company to perform the clean up of any contaminated soil or water and believe he performed those tasks with the help of someone else as he mentioned he had close ties with another environmental firm that would help him during the original removal project. However, we did place the soil in the back of this property for treatment prior to leaving the site. Cottle Engineering was hired to perform the removal and disposal of the tanks only and the later water sampling was performed additional to the original contract."

In December 2002, the EHS wrote a letter about closing the site. An excerpt of this letter follows:

"*Alameda (County Environmental Health, Local Oversight Program (LOP), has begun our review of the referenced site for formal closure recommendation. Our recent concern regarding the analysis of MTBE was satisfied with the additional analytical results submitted,*[2] *however, it appears that there is still an outstanding issue. A pile(s) was generated during the tank removal (WL1) and during the over-excavation of tankpit pit #2, whose disposition is still unaccounted. You were given the option to dispose of this soil or resample after aeration for possible reuse. Which option did you choose? Please submit a copy of either the soil disposal receipt or a copy of the analysis of soil after re-sampling?"*

In April 2005, the EHS wrote another letter about review of the site. The excerpted information is below:

"Alameda County Environmental Heal1h has reviewed the files regarding the above referenced site. However, we need additional information from you in order to complete our evaluation. We request that you address the following technical comments and submit the technical report requested below.

TECHNICAL COMMENTS

1. ***MTBE in soil and groundwater-*** *Please collect a soil and groundwater sample and analyze for MTBE. The sample must be taken downgradient and in the proximity of the former USTs. You may establish groundwater gradient by studying of the available neighboring sites.*

2. ***Site Map-*** *Please provide a scaled site map with all samples and their historical and currant concentrations of the constituents.*

3. ***Summary Tables-*** *Please provide separate cumulative data tables that include soil and groundwater analytical results for all compounds that were analyzed at this site. For clarity please tabulate your cumulative soil and groundwater data per monitoring point then sorted by date. Include these tables in the report requested below.*

4. ***Benzene concentration-*** *Please collect and analyze an additional soil/groundwater sample In WL4 area where Benzene has been detected at up to 8.5 PPM in soil."*

[2] In this letter, the concern about MTBE was alleviated with the submittal of additional lab results.

Gary Lyons contracted The Consulting Group (TCG) to address this letter and to expedite the closure of the site.

SITE GEOLOGY AND HYDROGEOLOGY

The site is located in the San Francisco Bay region approximately 0.5 miles east of the San Francisco Bay. The site sits at approximately 7 feet-above mean sea level (ft-amsl). The land slopes to the west towards the San Francisco Bay.

The site is located on Quaternary Alluvium. The upper 5 to 15 ft generally consist of unconsolidated gravel, sand, silt, and clay. Shallow groundwater in the area is brackish and cannot be used for drinking water. The direction of the shallow groundwater flow is usually to the west towards the San Francisco Bay.[3]

SCOPE-OF-WORK

The objective of this work was to obtain data upon which site closure will be completed. The data from the three drive samples will be used in conjunction with previous data and other information available from the site. Typically, those data can include:

a) Source definition
b) Quantity of materials released
c) Initial soil and ground water levels of concern
d) Mitigation actions taken, including natural attenuation
e) Soil level now compared to initial levels obtained from excavation bottoms and stockpiled soil
f) Field steps taken to isolate higher level soil from acceptable level soil
g) Projected future releases or lack thereof
h) Assessment and declaration of acceptable risk basis for approval

The drive-sampling and analysis were performed in accordance with the attached (Attachment 1) standard operating procedures (SOPs), the American Society of Testing Materials (ASTM), practice standards #E1903 and E2018, State of California Requirements, Alameda County Public Works Agency (ACPWA), and the Alameda County Health Care Agency, Environmental Health Services (EHS) guidelines. Continuous coring, that is afforded by drive-sampling will allow for

[3] There are no registered wells within 2 blocks of the site, including the one on-site well. Since there are no registered wells in the area, we are unable to determine or verify groundwater flow direction in the area. The regional flow is to the north-northwest on this side of route 880 according to the ACPWA. We will use their determination along with the fact that the holes will be either in the former tankpit footprint (2) or just down-gradient (1) of it.

the viewing of the entire hole prior to choosing the sample locations. The rationale for choosing a sample depth was

- The presence of contamination as determined by the field geologist,
- Change in lithology as determined by the field geologist,
- Discoloration with no odor as determined by the field geologist,
- Amount of moisture, using dry, moist, and wet relative interpretations.

The rationale for the following investigation may be summarized as a study to obtain the minimum amount of information that must be gathered to offer observations and recommendations pertaining to the protection of health and environmental impairments due to soil or groundwater pollution involving fuels.

Workplan and Permit Preparation

A Workplan was prepared and submitted to EHS for review, comment, and approval. The Workplan was also sent to the ACPWA for their files.

As part of the permit application process[4], TCG (Attachment 2) completed:

- an ACPWA - Site Hazard Information Form
- an ACPWA soil boring permit application, and
- paid $200 for the approved Boring permit.

The data quality objectives for this study supported the determination of lateral and vertical extent of migration of chemicals of concern. These data were not intended to serve alone as the clearance data that would defend a no further action recommendation. Specific objectives of these data include US EPA, State of California, or local requirements for:

a. Standard sampling protocol
b. Standard analytical methods
c. Standard data reporting

Concrete Core-holes

Each drive-sampling location (Figures 2 and 3) required the installation of core-holes. The concrete core-holes were cut by Precision, of Richmond, California, under TCG supervision and guidance.

[4] The permit application is referred to as a "Boring Permit Application" even though it is for the "Drive-Sampling" technology also.

Drive-Sampling

The drive-sample holes were installed by Precision, of Richmond, California, under TCG supervision and guidance. TCG chose the locations and number of drive-sampling holes based on location of the area of concern, discussions with EHS, topography in the immediate vicinity and estimated groundwater flow direction.

LITHOLOGY

There was concrete at the top of all three holes that was 4 inches thick. Below this was a baserock layer that was about six inches in thickness. Below this to about 10 fbg was sandy silt that was dark grey to black and was dry to moist. A moderate (B-1 and B-3) to slight odor (B-2) was encountered below 3 fbg. In boring B-3, the color changed to a greenish grey at about 2 fbg and stayed that way until 10 fbg. At about 10 fbg, the soil changed to silty clay that was dark grey to black in color and was wet. First water was seen at between 9.75 fbg (B-2 and B-3) and 10.5 fbg (B-1). This silty clay extended down to 15 fbg in all holes. Slight odors (B-2 and B-3) to moderate (B-1) were evident down to 15 fbg. At 15 fbg, the soil changed in color (tan to light brown and lithology to sandy silt. No odors were evident in any of the three holes below 15 fbg. All three holes were terminated at 16 fbg to avoid the potential for cross contaminating a deeper layer.

CHEMICAL ANALYSIS SAMPLING

Once the core-holes were in place, Precision continuous-cored (4-ft butyrate liner runs) down to 16 fbg in the three holes.[5] Soil samples were selected and collected for analysis after reviewing the entire core. The criterion for analyzing a sample was stated above. The soil samples and grab groundwater samples were analyzed for:

- Total petroleum hydrocarbons, as gasoline (TPH-gro),
- Benzene, toluene, ethyl-benzene, and total xylenes (BTEX), and
- Methyl tert-butyl ether (MTBE).

The samples were collected in butyrate sample tubing; the tube was cut so 6 inches of soil made a sample. The sample tube was sealed with Teflon®-lined plastic caps, labeled, and placed on ice until delivery to the state-certified laboratory.

After the soil samples were collected, the open holes were allowed to recharge so that a grab groundwater sample from each hole could be collected. For the grab groundwater samples, the sampling jars were two amber liters (extractables) and three 40-ml VOA vials (volatiles). Once collected from a disposable bailer in the appropriate jars, the grab groundwater samples were

[5] This depth was chosen due to an impervious layer (clays) found at this depth and the decision not to potentially cross-contaminate water-bearing zones.

sealed, labeled, and placed on ice until delivery to the state-certified laboratory. The soil and grab groundwater samples were delivered to the laboratory under strict chain-of-custody (COC) procedures. Groundwater was found in each hole at approximately 10 fbg.

Cuttings from the drive-sampling were handled as prescribed in SOP 2b (attached).

The drive-sample holes were grouted after the collection of the grab groundwater samples according to requirements and SOP 2b attached.

Chemical Analysis

The soil and grab groundwater samples were delivered to STL San Francisco (STL) of Pleasanton, California, a state-certified laboratory, under strict COC procedures. Ten soil samples were selected for analysis for TPH-gro, BTEX, and methyl tert-butyl ether (MTBE). TPH-gro, BTEX and MTBE were analyzed by EPA Method 8260. The analytical methods employed for soil were the same as those for the grab groundwater samples.

Soil Sample Analysis

Drive-Sample Hole B-1

Petroleum product analysis indicated that:

- Gasoline ranged from ND its RL of 1 mg/kg to 1.3 mg/kg (5 fbg),
- MTBE ranged from ND its RL of 0.005 mg/kg to 0.0081 mg/kg (13 fbg),
- Benzene was not found above its RL of 0.005 mg/kg,
- Toluene was not found above its RL of 0.005 mg/kg,
- Ethyl benzene was not found above its RL of 0.005 mg/kg, and
- Total xylenes ranged from ND its RL of 0.01 mg/kg to 0.017 mg/kg (5 fbg).

Drive-Sample Hole B-2

Petroleum product analysis indicated that:

- Gasoline ranged from ND its RL of 1 mg/kg to 2.6 mg/kg (12 fbg),
- MTBE was not found above its RL of 0.005 mg/kg,
- Benzene was not found above its RL of 0.005 mg/kg,
- Toluene was not found above its RL of 0.005 mg/kg,
- Ethyl benzene was not found above its RL of 0.005 mg/kg, and
- Total xylenes were not found above its RL of 0.01 mg/kg.

Drive-Sample Hole B-3

Petroleum product analysis[6] indicated that:

- Gasoline ranged from 2.9 mg/kg (13 fbg) to 690 mg/kg (7.5 fbg, but the RL was raised to 180 mg/kg in the sample @ 7.5 fbg,
- MTBE was not found above its RL of 0.005 mg/kg, but the RL was raised to 0.890 mg/kg in the sample @ 7.5 fbg where the result was ND,
- Benzene was not found above its RL of 0.005 mg/kg, but the RL was raised to 0.890 mg/kg in the sample @ 7.5 fbg where the result was ND,
- Toluene was not found above its RL of 0.005 mg/kg, but the RL was raised to 0.890mg/kg in the sample @ 7.5 fbg where the result was ND,
- Ethyl benzene ranged from ND at its RL of 0.005 mg/kg to 8.3 mg/kg (7.5 fbg), and
- Total xylenes ranged from ND at its RL of 0.005 mg/kg to 0.0024 mg/kg (3.5 fbg).

Grab Groundwater Sample Analysis

Drive-Sample Hole B-1 Groundwater

Petroleum product analysis indicated that:

- Gasoline was detected at 95 ug/l at an RL of 50 ug/l,
- MTBE was detected at 2.7 ug/l at an RL of 0.5 ug/l,
- Benzene was not found above its RL of 0.5 ug/l,
- Toluene was not found above its RL of 0.5 ug/l,
- Ethyl benzene was not found above its RL of 0.5 ug/l, and
- Total xylenes were detected at 1.1 ug/l at an RL of 1 ug/l.

Drive-Sample Hole B-2 Groundwater

Petroleum product analysis indicated that:

- Gasoline was detected at 53 ug/l at an RL of 50 ug/l,
- MTBE was detected at 2.3 ug/l at an RL of 0.5 ug/l,
- Benzene was not found above its RL of 0.5 ug/l,
- Toluene was not found above its RL of 0.5 ug/l,
- Ethyl benzene was not found above its RL of 0.5 ug/l, and
- Total xylenes were not found above its RL of 1 ug/l.

[6] The standard method detection limit is 5 ug/kg for this compound. Some laboratories are able to report lower reporting limits. Unless the reporting limit is significant, we will be reporting detection limits that are above the laboratory data (statically insignificant) and are consistent (do not vary by sample) in our reports and we will attach the laboratory sheets for reference.

Drive-Sample Hole B-3 Groundwater

Petroleum product analysis indicated that:

- Gasoline was detected at 350 ug/l at an RL of 50 ug/l,
- MTBE was not found above its RL of 0.5 ug/l,
- Benzene was detected at 1.4 ug/l at an RL of 0.5 ug/l,
- Toluene was not found above its RL of 0.5 ug/l,
- Ethyl benzene was detected at 3.4 ug/l at an RL of 0.5 ug/l, and
- Total xylenes were detected at 1 ug/l at an RL of 1 ug/l.

OBSERVATIONS

SOIL ISSUES

The Environmental Screening Level (ESL) [Res, DW, <3 mbgs[7]] for TPH-gro is 100 mg/kg. The ESL [Res, DW, <3 mbgs] for Ethylbenzene is 3.3 mg/kg, the ESL [Res, DW, <3 mbgs] for total Xylenes is 1.5 mg/kg, and the ESL [Res, DW, <3 mbgs] for MTBE is 0.023 mg/kg.

1. TPH-gro ranged from ND to 690 mg/kg:
    - TPH-gro was detected in all drive-sample holes,
    - TPH-gro in B-1 and B-2 are below the Environmental Screening Level (ESL) of 100 mg/kg
    - TPH-gro in B-3 is below the ESL, except at 7.5 fbg.
2. Benzene and Toluene were not detected in any of the samples analyzed.
3. Ethyl-Benzene, total Xylenes, and MTBE were detected in soil samples:
    - Ethylbenzene was found in B-3 @ 7.5 fbg (8.3), 10 fbg (0.0038), and 13 fbg (0.014),
    - Xylenes were detected in B-1 @ 5 fbg (0.017) and B-3 @ 3.5 fbg (0.024), and
    - MTBE was detected in B-1 @ 13 fbg (0.0081).

Except for the sample at 7.5 fbg in B-3, all results for TPH-gro are below the ESL. For Ethylbenzene the 7.5 fbg sample is above the ESL, while the 10 fbg and 13 fbg are below in B-3. For Xylenes, both detectable samples are below the ESL. For MTBE, the detectable sample is below the ESL.

[7] mbgs = meters below grade surface. This is from the RWQCB – Region 2 (San Francisco), July 2003.

GROUNDWATER ISSUES

The ESL for TPH-g [GW→DW] is 100 ug/l. The ESL for Benzene is 1 ug/l, while the ESL for Ethyl-Benzene is 30 ug/l, the ESL for total Xylenes is 13 ug/l, and the ESL for MTBE is 5 ug/l.

1. TPH-g was detected in all three-grab groundwater samples at 95 ug/l (B-1), 53 ug/l (B-2), and 350 ug/l (B-3).
2. Benzene was detected in one of the three-grab groundwater samples (B-3) at 7.5 ug/l.
3. Toluene was not detected in any of the three grab groundwater samples.
4. Ethyl-Benzene was detected in one of the three-grab groundwater sample (B-3) at 3.4 ug/l.
5. Total Xylenes were detected in two of the three-grab groundwater samples at 1.1 ug/l (B-1) and 1 ug/l (B-3).
6. MTBE was detected in two of the three-grab groundwater samples at 2.7 ug/l (B-1) and 2.3 ug/l (B-2).

The result for B-3 is above the ESL for TPH-g. B-1 and B-2 results are below the ESL for TPH-gro. The result for Benzene in B-3 is above the ESL. The result for Ethyl-Benzene in B-3 is below the ESL. The results for total Xylenes in B-1 and B-3 are below the ESL, while MTBE in B-1 and B-2 are below the ESL.

RECOMMENDATIONS

Only the 7.5-fbg-soil sample from B-3 contains concentrations for TPH-gro and Benzene that exceed ESLs. All other compounds tested are below their ESLs for both soil and groundwater. With this in mind, the site should be closed due to:

1. Source has been removed,
2. Natural-degradation of these compounds has been shown to work at sites in the Bay Area and has been recommended for sites of low-risk[8],
3. The area has been covered with a barrier (concrete) thereby retarding the percolation of surface water from rainfall, and
4. When you consider the use of this water as a drinking water, it is restricted by sanitary and treatment requirements.

Therefore, the application of beneficial uses or non-degradation to groundwater in this area would seem to be too restrictive, and has been stated so by others in Senate Bill 1764 Advisory Committee Recommendations Report.[9]

[8] LLNL Reports, 1995.

[9] Section 8 – Beneficial Use Designations and Water Quality Objectives, pp 12.

REFERENCES

California Code of Regulations; Title 8; Department of Industrial Relations - California Occupational Safety and Health Regulations (Title 8).

California Code of Regulations; Title 22: Social Security; Division 4: Environmental Health and Division 4.5: Chapter 11: Identification of Hazardous Waste; article 3: Characterization of Hazardous Waste (Title 22).

Code of Federal Regulations; Title 29; part 1910: Occupational Safety and Health Standards (29 CFR).

Code of Federal Regulations; Title 40; part 261; subpart B - Criteria for identifying the Characteristics of Hazardous Waste and for Listing Hazardous Waste, and subpart C - Characteristics of Hazardous Waste (40 CFR).

Designated Level Methodology for Waste Classification and Cleanup Level Determination; California Regional Water Quality Control Board; Central Valley Region (Marshack Document).

Dragun & Chiasson, 1991, Elements in North American Soils.

Lawrence Livermore National Laboratory, 1995, *Recommendations To improve the Cleanup Process for California's Leaking Underground Fuels Tanks (LUFTs*), LLNL, 16 October, 1995.

_____, 1995, *California Leaking Underground Fuel Tank (LUFT) Historical Case Analyses* LLNL, 16 November 1995.

Scott, 1995, Background Metal Concentrations in Soil in Northern Santa Clara County, California.

Senate Bill 1764 Advisory Committee Recommendations Report Regarding California's Underground Storage Tank Program, 31 May 1996.

State Water Resources Control Board, 1995, Letter regarding Lawrence Livermore National Laboratory (LLNL) Report on Leaking Underground Storage Tank (UST) Cleanup, 8 December 1995.

The Consulting Group, 2002, *Table: Background Levels for Metals*, State of California, September 2002.

_____, 2005, *Workplan for Drive-Sampling & Analysis* at 50 Hegenberger Loop, Oakland, California, 10 August 2005.

CERTIFICATION AND LIMITATION

This report has been prepared by the staff of The Consulting Group (TCG) under the supervision of our registered engineer whose stamp and signature appear below.

This report has been prepared by TCG for the exclusive use of TCG and W. E. Lyons (client) and not for use by any other party. Any use by a third party of any of the information contained in this report shall be at their own risk and shall constitute a release and an agreement to defend and indemnify TCG from and against any and all liability in connection therewith whether arising out of TCG's negligence or otherwise.

All interpretations, conclusions, and recommendations are based solely on information gathered during this investigative stage and on no other unspecified information. This report is prepared as a tool for the client to use in determining the condition of the site. This report makes no certification, either implied or otherwise, that the site is free from contamination; it simply reports the findings of the study. Soil sampling (contrary to water sampling), if performed, is so sample specific that if contaminants are not found in a sample it does not universally suggest that there are none of these contaminants present at the site.

The results and findings contained in this report are based on certain information from sources outside the control of TCG. While exercising all reasonable diligence in the acceptance and use of information provided, TCG does not warrant or guarantee the accuracy thereof. The report was developed specifically for this project (50 Hegenberger Loop, Oakland, California) and should not be used for any other site.

Copyright law covers this report. Any reproduction, either in total or in part, without the permission of TCG is prohibited.

TCG appreciates this opportunity to be of service to you and looks forward to working with you on this project. Please feel free to contact us at **415.381.2560** regarding any questions you may have concerning this proposal.

Sincerely,
The Consulting Group

Jeanine C. Lovejoy
Principal – Owner

Sherwood Lovejoy, Jr.
Principal Environmental Assessor

C. Hugh Thompson
Principal Engineer

Tables: 1 – Petroleum Hydrocarbon Analytical Results – Soil
2 - Petroleum Hydrocarbon Analytical Results – Water

Figures: 1 - Site Location Map
2 - Site Layout Map w/Proposed Drive-Sampling Locations
3 – Boring Locations w/Cross-section Line
4 – Idealized Cross-Section A - A' Lithology
5 – Cross-Section A - A' Color Guide & Analyzed Sample Locations
6 – Cross-Section A - A' Color Guide & Volatile Hydrocarbons Results (mg/kg)
7 - Idealized Cross-Section A - A' Lithology & Grab Groundwater Sample Results (ug/l)

Attachment 1 - Selected Standard Operating Procedures
2 – Boring Permit
3 – Laboratory Results and COC Forms

TABLES

TABLE 1 - PETROLEUM HYDROCARBONS ANALYTICAL RESULTS
Site Closure Process Progran - Soil Sampling and Analysis
W. E. Lyons, 50 Hegenberger Loop, Oakland, CA
TCG Project #055101

Sample #	B-1-5	B-1-13	B-1-15.5	B-2-2.5	B-2-8.5	B-2-12	B-3-3.5	B-3-7.5	B-3-10	B-3-13
Date	6-Dec-2005	6-Dec-2005	6-Dec-2005	6-Dec-2005	6-Dec-2005	6-Dec-2005	6-Dec-2005	6-Dec-2005	6-Dec-2005	6-Dec-2005
Depth (ft)	5.00	13.00	15.60	2.50	8.50	12.00	3.50	7.50	10.00	13.00
Matrix	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Constituent										
Petroleum Hydrocarbons (mg/kg)										
TPH-g	**1.3**	ND(0.94)	ND(1)	ND(0.85)	**1.2**	**2.6**	**5.3**	**690**	**3.1**	**2.9**
Aromatics (mg/kg)										
Benzene	ND(0.0046)	ND(0.0047)	ND(0.005)	ND(0.0043)	ND(0.0043)	ND(0.0045)	ND(0.0044)	ND(0.890)	ND(0.0047)	ND(0.0043)
Toluene	ND(0.0046)	ND(0.0047)	ND(0.005)	ND(0.0043)	ND(0.0043)	ND(0.0045)	ND(0.0044)	ND(0.890)	ND(0.0047)	ND(0.0043)
Ethyl-benzene	ND(0.0046)	ND(0.0047)	ND(0.005)	ND(0.0043)	ND(0.0043)	ND(0.0045)	ND(0.0044)	**8.3**	**0.038**	**0.014**
Total Xylenes	**0.017**	ND(0.0094)	ND(0.01)	ND(0.0085)	ND(0.0086)	ND(0.0091)	**0.024**	ND(1.8)	ND(0.0094)	ND(0.0087)
Methyl tert-Butyl Ether (MTBE)	ND(0.0046)	**0.0081**	ND(0.005)	ND(0.0043)	ND(0.0043)	ND(0.0045)	ND(0.0044)	ND(0.890)	ND(0.0047)	ND(0.0043)

Notes:

B-1-5 = sample desgignation
ND = not detected (repoting limit)
Results in milligrams per kilogram (mg/kg)
Bold = results to be resolved

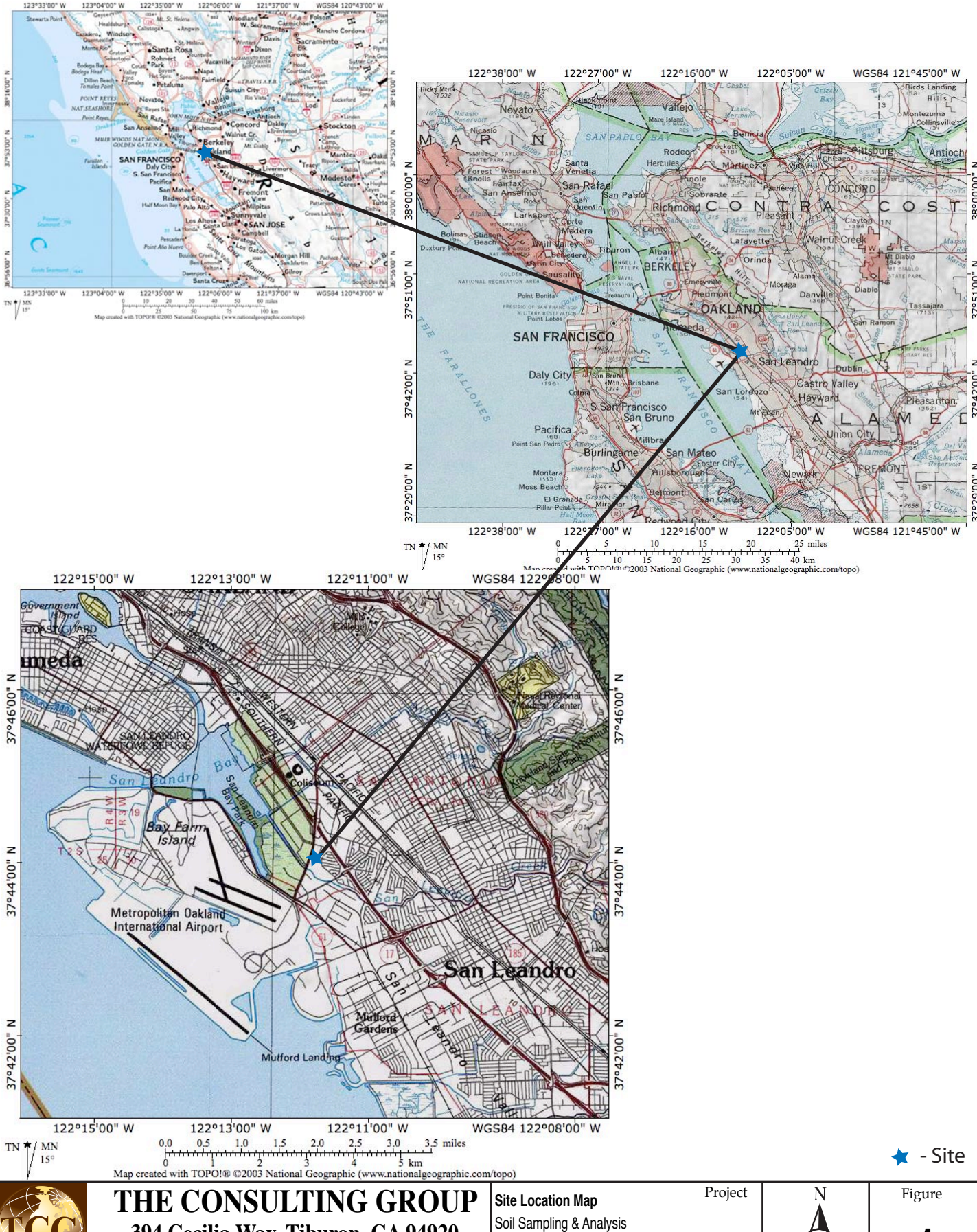
TABLE 2 - PETROLEUM HYDROCARBONS ANALYTICAL RESULTS
Site Closure Process Progran - Grab Groundwater Sampling and Analysis
W. E. Lyons, 50 Hegenberger Loop, Oakland, CA
TCG Project #055101

Sample #	B1-W	B2-W	B3-W
Date	6-Dec-2005	6-Dec-2005	6-Dec-2005
Matrix	Water	Water	Water
Constituent			
		Petroleum Hydrocarbons (ug/l)	
TPH-g	**95**	**53**	**350**
		Aromatics (ug/l)	
Benzene	ND(0.5)	ND(0.5)	**1.4**
Toluene	ND(0.5)	ND(0.5)	ND(0.5)
Ethyl-benzene	ND(0.5)	ND(0.5)	**3.4**
Total Xylenes	**1.1**	ND(1)	**1**
Methyl tert-Butyl Ether (MTBE)	**2.7**	**2.3**	ND(0.5)

Notes:

B1-W = sample desgignation
ND = not detected (repoting limit)
Results in micrograms per liter (ug/l)
Bold = results to be resolved

FIGURES



THE CONSULTING GROUP

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Job No.	Date	Drawn by	Rev.	Apprvd.
055101	8 August 05	RC	GAK	WL

Site Location Map

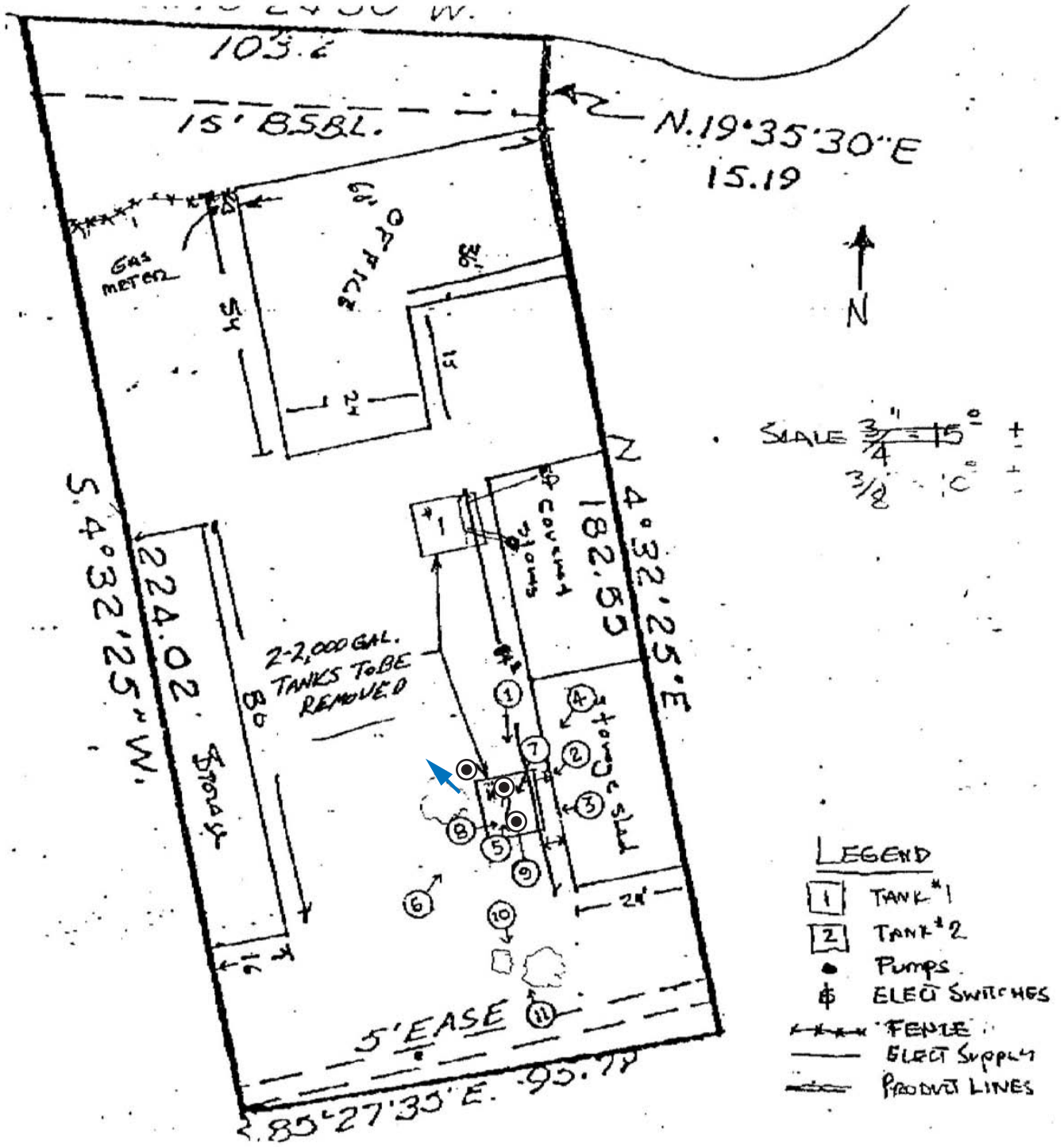
Project

Soil Sampling & Analysis
50 Hegenberger Loop
for W. E. Lyons Construction
50 Hegenberger Loop, Oakland CA

N

Figure

1



- Estimated GW Flow Direction

- Proposed Drive-Sample Holes (approximate)

(source: W. E. Lyons, 2005)

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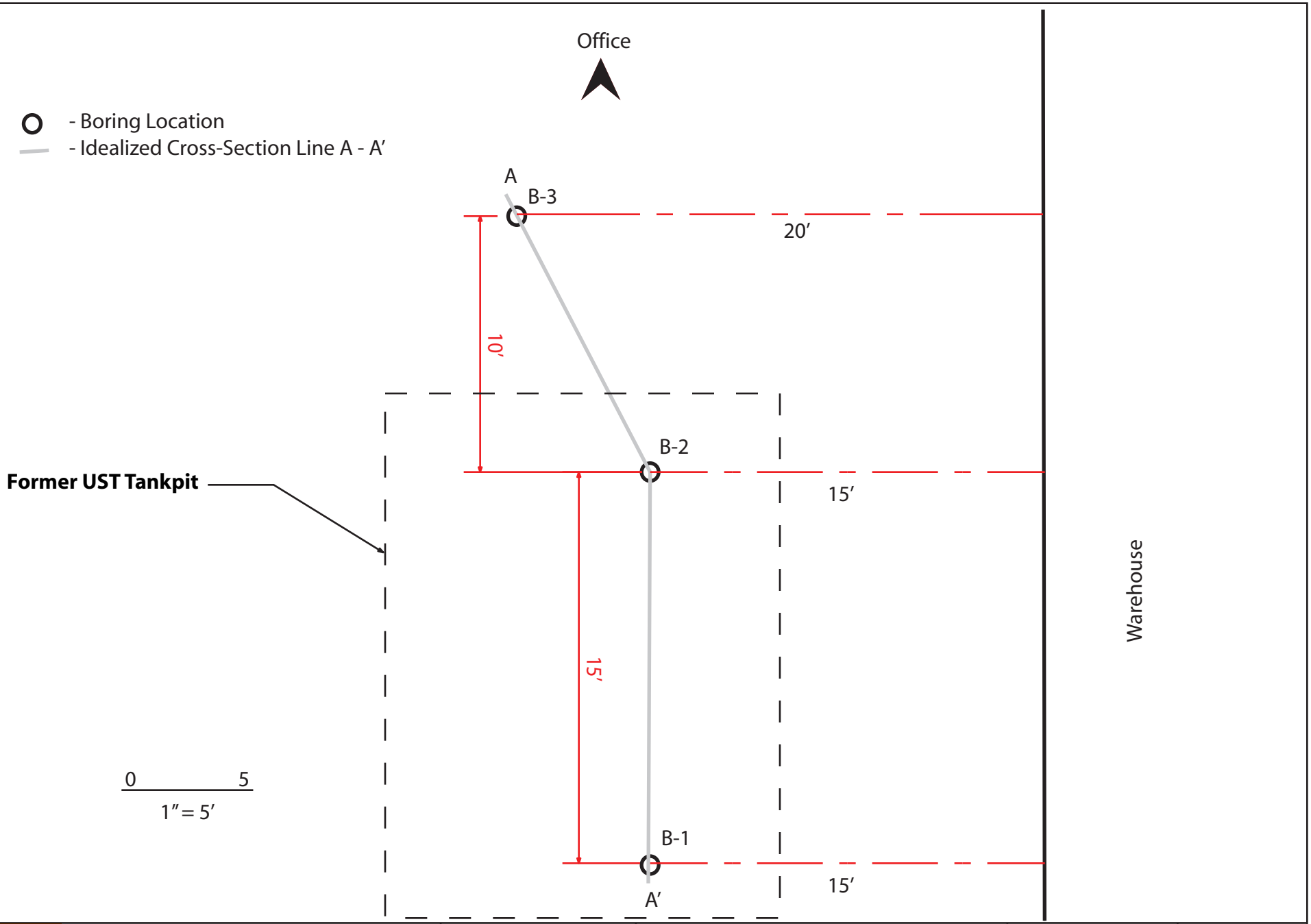
Project: **Site Layout w/proposed D-S Locations**
Soil Sampling & Analysis
50 Hegenberger Loop
for W. E. Lyons Construction
50 Hegenberger Loop, Oakland CA

N

Figure **2**



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Apprvd	WL

Project

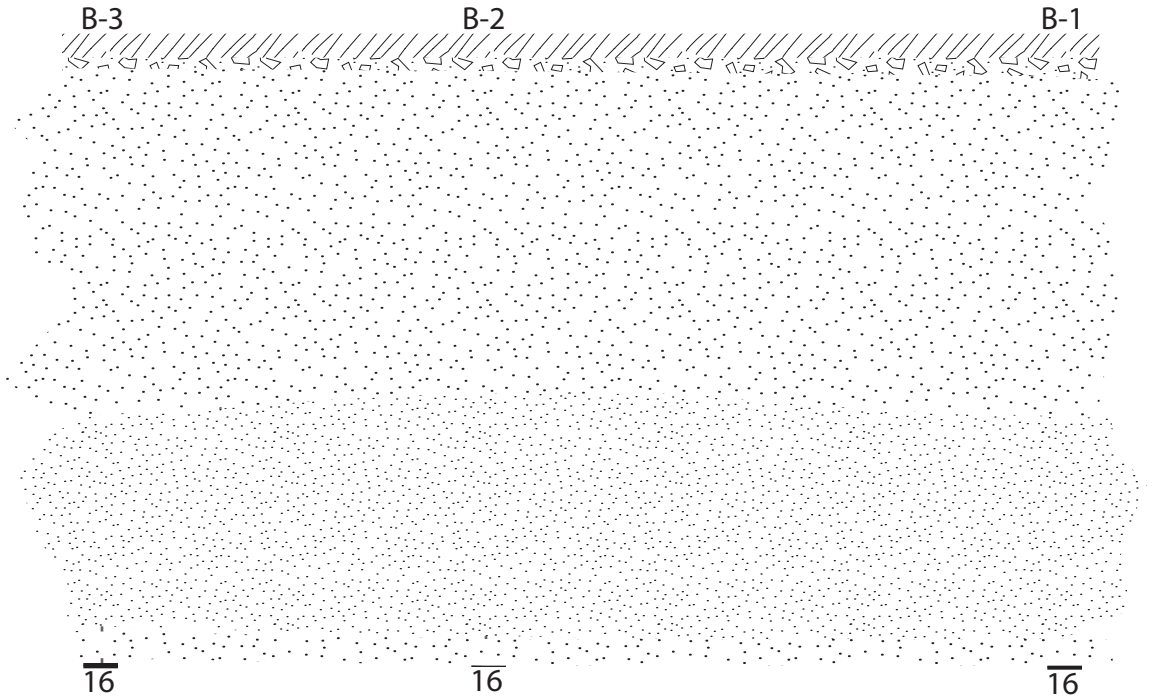
Boring Locations w/Cross-section line
Soil Sampling & Analysis
50 Hegenberger Loop
for W. E. Lyons Construction
50 Hegenberger Loop, Oakland CA

N

Figure

3

16 - End of Boring w/Depth
- Silty Clays
- Sandy Silts
- Fill Material
- Concrete



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1″ = 5′

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Rev	RC
Apprvd	WL

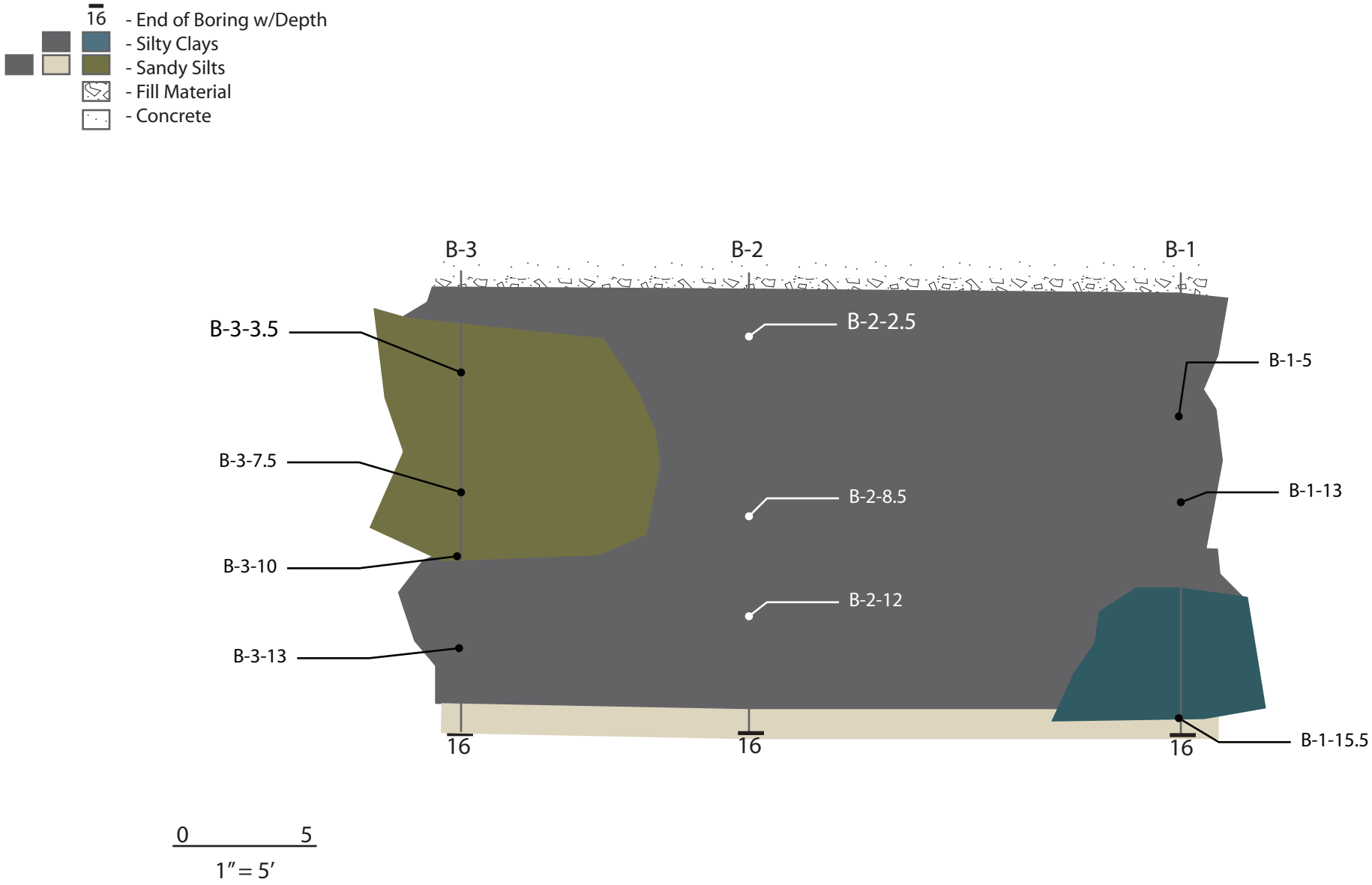
Project

Idealized Cross-Section A - A' Lithology
Soil Sampling & Analysis
50 Hegenberger Loop
for W. E. Lyons Construction
50 Hegenberger Loop, Oakland CA

N

Figure

4



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Job No.	055101
Date	20 Jan 06
Drawn by	WL
Rev	RC
Apprvd	WL

Project

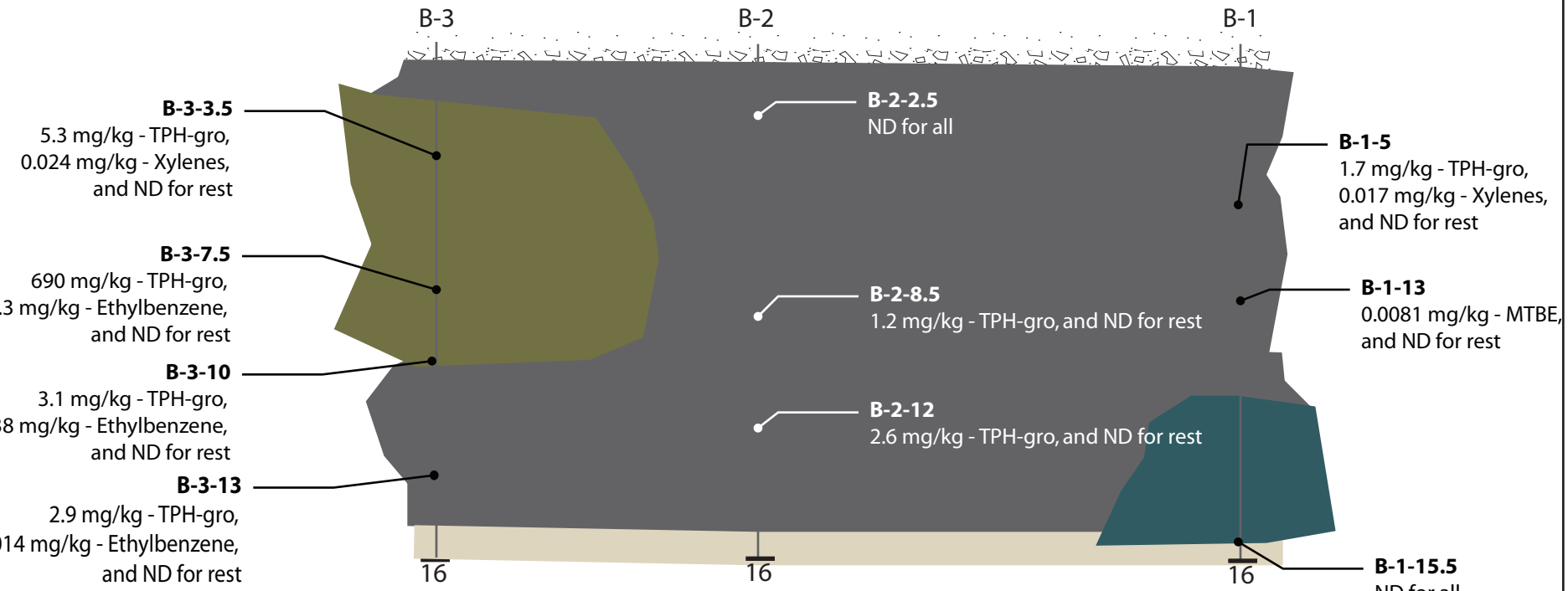
Cross-Section A - A' Color Guide & Analyzed Sample Locations
50 Hegenberger Loop
for W. E. Lyons Construction
50 Hegenberger Loop, Oakland CA

N

Figure

5

16 - End of Boring w/Depth
- Silty Clays
- Sandy Silts
- Fill Material
- Concrete



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Job No.	055101
Date	20 Jan 06
Drawn by	WL
Rev	RC
Apprvd	WL

Project

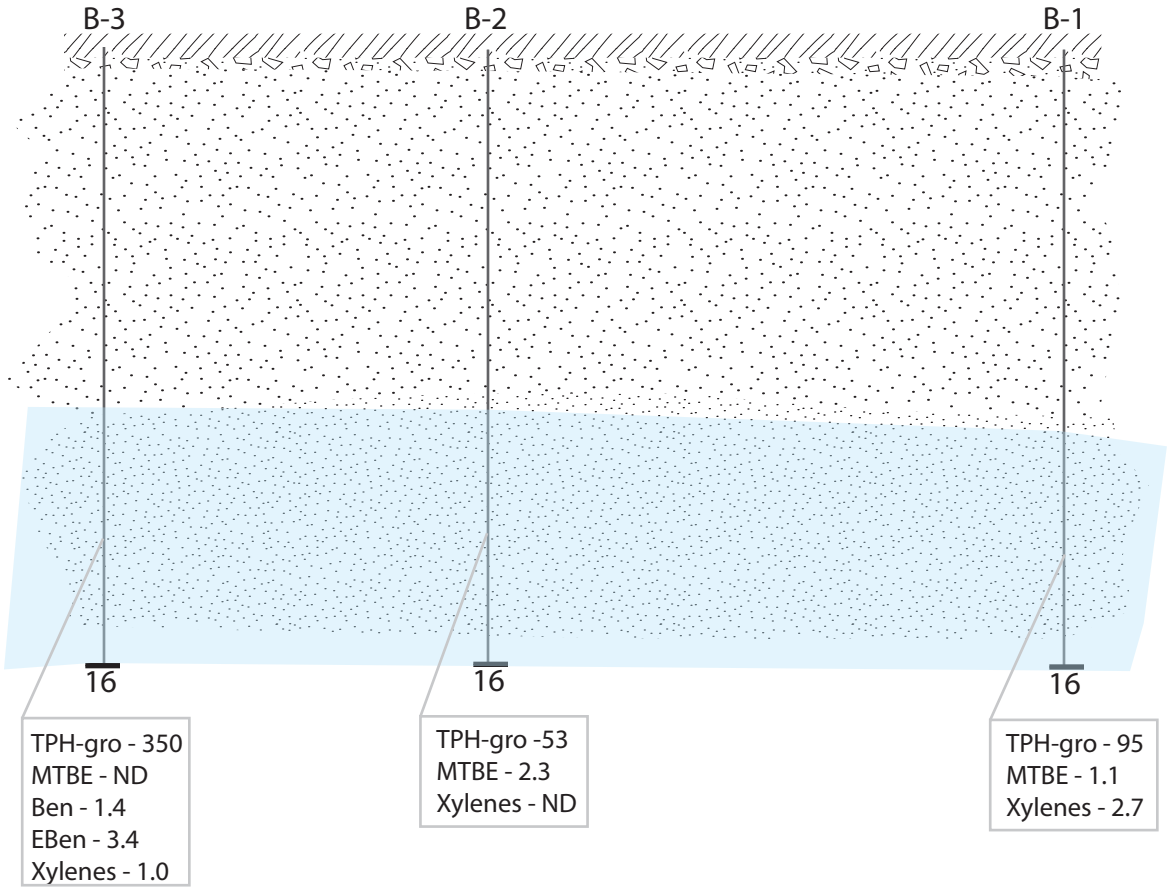
Cross-Section A - A' Color Guide &
Volatile Hydocarbons Results (mg/kg)
50 Hegenberger Loop
for W. E. Lyons Construction
50 Hegenberger Loop, Oakland CA

N

Figure

6

16 - End of Boring w/Depth
- Silty Clays
- Sandy Silts
- Fill Material
- Concrete



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1″ = 5′

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Job No.	055101
Date	20 Jan 06
Drawn by	WL
Rev RC	Apprvd WL

Idealized Cross-Section A - A' Lithology & Grab Groundwater Sample Results (ug/l)

Project
Soil Sampling & Analysis
50 Hegenberger Loop
for W. E. Lyons Construction
50 Hegenberger Loop, Oakland CA

N

Figure
7

ATTACHMENT 1

SOP 2b – SOIL & GRAB GROUNDWATER SAMPLING WITH GEOPROBE®

Soil samples for chemical analysis are collected in thin-walled Butyrate tubes. The tubes are 4 feet long by 2-inch diameter. The 4-foot core is reviewed and the location of a soil sample is selected by visual observation and photo-ionization detection (PID).

One soil sample collected at each sampling interval is analyzed in the field using a photo ionization detector (PID), a flame ionization detector (FID), or an explosion meter. The purpose of this field analysis is to qualitatively determine the presence or absence of hydrocarbons or halocarbons and to help establish which soil samples will be analyzed at the laboratory. The soil sample is sealed in a zip-lock plastic bag and placed in the sun to enhance volatilization of any hydrocarbons in the sample. The data is recorded on drill logs at the depth corresponding to the sampling point.

Other soil samples are collected to document the lithology and stratigraphy and estimate the relative permeability of the subsurface materials. All drive-sampling equipment are steam-cleaned before use at each site and between holes on-site to minimize the potential for cross-contamination.

The sampling equipment consists of Teflon® or steam-cleaned PVC bailer. Forty-milliliter (ml) glass volatile-organic-analysis (VOA) vials, with Teflon septa, are used as sample containers for volatile organic compound (VOC) analysis. For other analyses, the appropriate EPA-approved sampling containers are used.

The groundwater sample is decanted into each preserved VOA vial in such a manner that there is a meniscus at the top of the vial. The cap is quickly placed over the top of the vial and securely tightened. The VOA vial is then inverted and tapped to see if air bubbles are present. If none are present, the sample is labeled and refrigerated for delivery under chain-of-custody to the laboratory. Label information should include a sample identification number, job identification number, date, time, type of analysis requested, and the sampler's name.

A trip blank is prepared at the laboratory and placed in the transport cooler. It remains with the cooler and is placed on hold pending any anomalous results. A field blank is prepared in the field when sampling equipment is not dedicated. The field blank is prepared after a pump or bailer used in a well is steam-cleaned, before use in a second well, and is analyzed along with the other samples. The field blank demonstrates the quality of in-field cleaning procedures to prevent cross-contamination.

To minimize the potential for cross-contamination between wells, all the well purging and water sampling equipment that is not dedicated to a well is triple-rinsed between each well. As a second precautionary measure, samples are collected in order of least to highest concentrations as established by previous analyses.

All the soil is put in DOT-approved drums (drilling cuttings) for storage pending analytical results. Once results are available, soil disposal is determined. The soil is disposed of at the appropriate landfill(s) or re-used according to State, regional and/or local requirements.

Drive-sample holes that will not be completed as monitoring wells are destroyed, following the guidelines of the State of California Department of Water Resources Bulletin 74-90, and any local guidelines or regulations.

SOP-8 - LIQUID LEVEL GAUGING USING WATER LEVEL METER OR INTERFACE PROBE

The complete list of field equipment for liquid level gauging is assembled in the Technical office prior to departure to the field. This includes the probe(s), light filter(s), and product bailer(s) to be used for liquid levels (tested in test well before departure). The field kit also includes cleaning supplies (buckets, TSP, spray bottles, and deionized water) to clean the equipment between gauging wells.

When using the water level probe to gauge liquid levels, the probe tip is lowered into the well until the unit sounds. The top-of-casing (TOC) point is determined. This point is marked with a dot or a groove, is an obvious high point on the casing, or is the north side of the casing. The place on the probe-cord that corresponds with this TOC point is marked and an engineer's tape is used to measure the distance between the probe end and marking on the cord. This measurement is then recorded on the liquid level data sheet as depth to water (DTW).

When using the interface probe to gauge liquid levels, clamping it to the metal stovepipe or another metal object nearby first grounds the probe. When no ground is available, reproducible measurements can be obtained by clipping the ground lead to the handle of the interface probe case. After grounding the probe, the top of the well casing is fitted with a light filter to insure that sunlight does not interfere with the operation of the probe's optical mechanisms. The probe tip is then lowered into the well and submerged in the groundwater. An oscillating (beeping) tone indicates that the probe is in water. The probe is slowly raised until either the oscillating tone ceases or becomes a solid tone. In either case, this is the depth-to-groundwater (DTW) measurement. The solid tone indicates that floating hydrocarbons are present on top of the groundwater. To determine the thickness of the floating hydrocarbons, the probe is slowly raised until the solid tone ceases. This is the depth-to-floating hydrocarbon (DTFH) measurement. The process of lowering and raising the probe must be repeated several times to insure accurate measurements. DTW and DTFH measurements are recorded in hundredths of feet on the liquid level data sheet. When floating hydrocarbons are found in a well, a bottom-loading product bailer must be lowered partially through the water/liquid hydrocarbon interface to confirm the thickness of floating hydrocarbons on the water surface. This measurement is recorded on the data sheet as liquid hydrocarbon thickness (PT).

In order to avoid cross contamination of wells during the liquid level gauging process, wells are gauged in a clean to dirty order (where this information is available). In addition, any gauging equipment is cleaned with TSP and water and thoroughly rinsed with deionized water before daily use, before gauging another well on a site, and at the completion of daily use.

SOP-10 - SAMPLE LABELING & CHAIN-OF-CUSTODY

To ensure correct analysis and integrity of any sample, correct sample labeling and the accompaniment of a chain-of-custody (COC) form with all samples from the field to the designated analytic laboratory is mandatory. The label of a sample must include, at a minimum, the following items:

- Sample identification number
- Location of sample collection
- Date and time of sample collection
- Name of sampler
- Analysis required

Once this data has been put on the sample container, it must be transferred to the COC. A COC accompanies every shipment of samples and establishes the documentation necessary to trace sample possession, as well as evidence of collection, shipment, laboratory receipt, analysis requested and laboratory custody until the time of disposal. The COC form must include, at a minimum, the following items:

- Sample identification number
- Location of sample collection
- Date and time of sample collection
- Analysis required
- Sample type
- Sample container type
- Preservative used, if any
- Names of all samplers
- Signatures of personnel relinquishing and receiving samples
- Laboratory name and address
- Laboratory sample number and log number (recorded by laboratory personnel)
- Company contact name and project number
- Sample condition and temperature (recorded by laboratory personnel)

Sample transfer and shipment is always accompanied by a COC. The initial preparation of the COC occurs in the office and completed in the field by the personnel collecting the samples. Each sample is assigned a unique identification number that represents the specific sampling location. The identification numbers are entered on the COC accompanied by the requested analysis, preservative used, if any, type of sample collected, and type of sample container. Any special instructions are included here.

If the field personnel deliver the samples to the laboratory, they will at that time sign the COC form and relinquish the samples. At this point, the Quality Control Coordinator, or the representative for the laboratory, will check to make sure all samples are present and note the

condition and integrity of each sample. After all samples have been documented as received by the laboratory personnel, they will sign the COC form and issue the delivering personnel a copy. The laboratory with the analytic data report should also return a copy of the signed COC form.

If the samples are delivered by courier, or other commercial carrier, the container of samples shall be sealed, and a custody tape will be applied to the container to seal it and to signal any tampering with the container. The courier will sign the COC taking ownership of the samples that the samplers have relinquished by also signing the COC. The receipt form the courier will be attached to the COC copy retained by the relinquishing personnel and serve as an extension of the COC.

Any changes to a COC must be initialed and copies of the revised COC must be distributed to all appropriate personnel.

ATTACHMENT 2

Alameda County Public Works Agency - Water Resources Well Permit

399 Elmhurst Street
Hayward, CA 94544-1395
Telephone: (510)670-6633 Fax:(510)782-1939

Application Approved on: 12/01/2005 By jamesy
Permits Issued: W2005-1149

Receipt Number: WR2005-2221
Permits Valid from 12/06/2005 to 12/06/2005

Application Id: 1133287258054
Site Location: 50 Hegenberger Loop, Oakland, CA 94621
Project Start Date: 12/06/2005

City of Project Site: Oakland
Completion Date: 12/06/2005

Applicant: The Consulting Group - Sherwood Lovejoy Jr. 394 Cecilia Wy, Tiburon, CA 94920 **Phone:** 650-714-4200
Property Owner: W. E. Lyons 50 Hegenberger Lp., Oakland, CA 94612 **Phone:** 510-568-4827
Client: ** same as Property Owner **

Total Due: $200.00
Total Amount Paid: $200.00
Paid By: CHECK **PAID IN FULL**

Works Requesting Permits:

Borehole(s) for Investigation-Contamination Study - 3 Boreholes
Driller: Precision Sampling - Lic #: 636387 - Method: other **Work Total: $200.00**

Specifications

Permit Number	Issued Dt	Expire Dt	# Boreholes	Hole Diam	Max Depth
W2005-1149	12/01/2005	03/06/2006	3	2.00 in.	25.00 ft

Specific Work Permit Conditions

1. Backfill bore hole by tremie with cement grout or cement grout/sand mixture. Upper two-three feet replaced in kind or with compacted cuttings. All cuttings remaining or unused shall be containerized and hauled off site.

2. Boreholes shall not be left open for a period of more than 24 hours. All boreholes left open more than 24 hours will need approval from Alameda County Public Works Agency, Water Resources Section. All boreholes shall be backfilled according to permit destruction requirements and all concrete material and asphalt material shall be to Caltrans Spec or County/City Codes. No borehole(s) shall be left in a manner to act as a conduit at any time.

3. Permittee shall assume entire responsibility for all activities and uses under this permit and shall indemnify, 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.

4. Applicant shall contact James Yoo for an inspection time at 510-670-6633 at least five (5) working days prior to starting, once the permit has been approved. Confirm the scheduled date(s) at least 24 hours prior to drilling.

5. Copy of approved drilling permit must be on site at all times. Failure to present or show proof of the approved permit application on site shall result in a fine of $500.00.

6. Permit is valid only for the purpose specified herein. No changes in construction procedures, as described on this permit application. Boreholes shall not be converted to monitoring wells, without a permit application process.

ATTACHMENT 3

ANALYTICAL REPORT

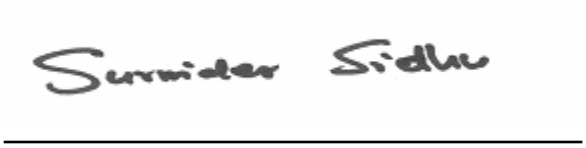
Job Number: 720-869-1

Job Description: WE LYONS

For:

TCG (The Consulting Group)
394 Cecilia Way
Tiburon, CA 94920-2105

Attention: Mr. Woody Lovejoy



Surinder Sidhu
Project Manager I
ssidhu@stl-inc.com
12/23/2005

METHOD SUMMARY

Client: TCG (The Consulting Group) Job Number: 720-869-1

Description	Lab Location	Method	Preparation Method
Matrix: Solid			
Volatile Organic Compounds by GC/MS	STL-SF	SW846 8260B	
Purge and Trap for Solids	STL-SF		SW846 5030B
Purge-and-Trap for Aqueous Samples/High	STL-SF		SW846 5030B
Matrix: Water			
Volatile Organic Compounds by GC/MS	STL-SF	SW846 8260B	
Purge-and-Trap	STL-SF		SW846 5030B
Nonhalogenated Organics using GC/FID -Modified (Diesel Range Organics)	STL-SF	SW846 8015B	
Separatory Funnel Liquid-Liquid Extraction	STL-SF		SW846 3510C
Silica Gel Cleanup	STL-SF		SW846 3630C

LAB REFERENCES:

STL-SF = STL-San Francisco

METHOD REFERENCES:

SW846 - "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

SAMPLE SUMMARY

Client: TCG (The Consulting Group) Job Number: 720-869-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
720-869-1	B-1-5	Solid	12/06/2005 0000	12/07/2005 1900
720-869-2	B-1-13	Solid	12/06/2005 0000	12/07/2005 1900
720-869-3	B-1-15.5	Solid	12/06/2005 0000	12/07/2005 1900
720-869-4	B-2-2.5	Solid	12/06/2005 0000	12/07/2005 1900
720-869-5	B-2-8.5	Solid	12/06/2005 0000	12/07/2005 1900
720-869-6	B-2-12	Solid	12/06/2005 0000	12/07/2005 1900
720-869-7	B-3-3.5	Solid	12/06/2005 0000	12/07/2005 1900
720-869-8	B-3-7.5	Solid	12/06/2005 0000	12/07/2005 1900
720-869-9	B-3-10	Solid	12/06/2005 0000	12/07/2005 1900
720-869-10	B-3-13	Solid	12/06/2005 0000	12/07/2005 1900
720-869-11	B1-W	Water	12/06/2005 0000	12/07/2005 1900
720-869-12	B2-W	Water	12/06/2005 0000	12/07/2005 1900
720-869-13	B3-W	Water	12/06/2005 0000	12/07/2005 1900

Client: TCG (The Consulting Group) Job Number: 720-869-1

Client Sample ID: **B-1-5**

Lab Sample ID: 720-869-1
Client Matrix: Solid

Date Sampled: 12/06/2005 0000
Date Received: 12/07/2005 1900

8260B Volatile Organic Compounds by GC/MS

Method: 8260B
Preparation: 5030B
Dilution: 1.0
Date Analyzed: 12/13/2005 2301
Date Prepared: 12/13/2005 2301

Analysis Batch: 720-3029

Instrument ID: Saturn 2100
Lab File ID: d:\data\200512\121305\720-
Initial Weight/Volume: 5.39 g
Final Weight/Volume: 10 mL

Analyte	DryWt Corrected: N	Result (ug/Kg)	Qualifier	RL
Benzene		ND		4.6
Ethylbenzene		ND		4.6
Toluene		ND		4.6
MTBE		ND		4.6
Xylenes, Total		17		9.3
Gasoline Range Organics (GRO)-C5-C12		1300		930

Surrogate	%Rec	Acceptance Limits
Toluene-d8	95	70 - 130
1,2-Dichloroethane-d4	99	60 - 140

Client: TCG (The Consulting Group) Job Number: 720-869-1

Client Sample ID: **B-1-13**

Lab Sample ID: 720-869-2
Client Matrix: Solid

Date Sampled: 12/06/2005 0000
Date Received: 12/07/2005 1900

8260B Volatile Organic Compounds by GC/MS

Method: 8260B
Preparation: 5030B
Dilution: 1.0
Date Analyzed: 12/13/2005 2328
Date Prepared: 12/13/2005 2328

Analysis Batch: 720-3029

Instrument ID: Saturn 2100
Lab File ID: d:\data\200512\121305\720-
Initial Weight/Volume: 5.34 g
Final Weight/Volume: 10 mL

Analyte	DryWt Corrected: N	Result (ug/Kg)	Qualifier	RL
Benzene		ND		4.7
Ethylbenzene		ND		4.7
Toluene		ND		4.7
MTBE		8.1		4.7
Xylenes, Total		ND		9.4
Gasoline Range Organics (GRO)-C5-C12		ND		940

Surrogate	%Rec	Acceptance Limits
Toluene-d8	96	70 - 130
1,2-Dichloroethane-d4	97	60 - 140

Client: TCG (The Consulting Group) Job Number: 720-869-1

Client Sample ID: B-1-15.5

Lab Sample ID: 720-869-3
Client Matrix: Solid

Date Sampled: 12/06/2005 0000
Date Received: 12/07/2005 1900

8260B Volatile Organic Compounds by GC/MS

Method: 8260B
Preparation: 5030B
Dilution: 1.0
Date Analyzed: 12/13/2005 0915
Date Prepared: 12/13/2005 0915

Analysis Batch: 720-3029

Instrument ID: Saturn 2100
Lab File ID: d:\data\200512\121305\720-
Initial Weight/Volume: 5.02 g
Final Weight/Volume: 10 mL

Analyte	DryWt Corrected: N	Result (ug/Kg)	Qualifier	RL
Benzene		ND		5.0
Ethylbenzene		ND		5.0
Toluene		ND		5.0
MTBE		ND		5.0
Xylenes, Total		ND		10
Gasoline Range Organics (GRO)-C5-C12		ND		1000

Surrogate	%Rec	Acceptance Limits
Toluene-d8	94	70 - 130
1,2-Dichloroethane-d4	83	60 - 140

Client: TCG (The Consulting Group) Job Number: 720-869-1

Client Sample ID: B-2-2.5

Lab Sample ID: 720-869-4
Client Matrix: Solid

Date Sampled: 12/06/2005 0000
Date Received: 12/07/2005 1900

8260B Volatile Organic Compounds by GC/MS

Method: 8260B
Preparation: 5030B
Dilution: 1.0
Date Analyzed: 12/13/2005 2354
Date Prepared: 12/13/2005 2354

Analysis Batch: 720-3029

Instrument ID: Saturn 2100
Lab File ID: d:\data\200512\121305\720-
Initial Weight/Volume: 5.85 g
Final Weight/Volume: 10 mL

Analyte	DryWt Corrected: N	Result (ug/Kg)	Qualifier	RL
Benzene		ND		4.3
Ethylbenzene		ND		4.3
Toluene		ND		4.3
MTBE		ND		4.3
Xylenes, Total		ND		8.5
Gasoline Range Organics (GRO)-C5-C12		ND		850

Surrogate	%Rec	Acceptance Limits
Toluene-d8	80	70 - 130
1,2-Dichloroethane-d4	90	60 - 140

Client: TCG (The Consulting Group) Job Number: 720-869-1

Client Sample ID: B-2-8.5

Lab Sample ID: 720-869-5
Client Matrix: Solid

Date Sampled: 12/06/2005 0000
Date Received: 12/07/2005 1900

8260B Volatile Organic Compounds by GC/MS

Method: 8260B
Preparation: 5030B
Dilution: 1.0
Date Analyzed: 12/14/2005 0020
Date Prepared: 12/14/2005 0020

Analysis Batch: 720-3029

Instrument ID: Saturn 2100
Lab File ID: d:\data\200512\121305\720-
Initial Weight/Volume: 5.80 g
Final Weight/Volume: 10 mL

Analyte	DryWt Corrected: N	Result (ug/Kg)	Qualifier	RL
Benzene		ND		4.3
Ethylbenzene		ND		4.3
Toluene		ND		4.3
MTBE		ND		4.3
Xylenes, Total		ND		8.6
Gasoline Range Organics (GRO)-C5-C12		1200		860

Surrogate	%Rec	Acceptance Limits
Toluene-d8	83	70 - 130
1,2-Dichloroethane-d4	91	60 - 140

Client: TCG (The Consulting Group) Job Number: 720-869-1

Client Sample ID: B-2-12

Lab Sample ID: 720-869-6
Client Matrix: Solid

Date Sampled: 12/06/2005 0000
Date Received: 12/07/2005 1900

8260B Volatile Organic Compounds by GC/MS

Method: 8260B
Preparation: 5030B
Dilution: 1.0
Date Analyzed: 12/14/2005 0046
Date Prepared: 12/14/2005 0046

Analysis Batch: 720-3029

Instrument ID: Saturn 2100
Lab File ID: d:\data\200512\121305\720-
Initial Weight/Volume: 5.50 g
Final Weight/Volume: 10 mL

Analyte	DryWt Corrected: N	Result (ug/Kg)	Qualifier	RL
Benzene		ND		4.5
Ethylbenzene		ND		4.5
Toluene		ND		4.5
MTBE		ND		4.5
Xylenes, Total		ND		9.1
Gasoline Range Organics (GRO)-C5-C12		2600		910

Surrogate	%Rec	Acceptance Limits
Toluene-d8	90	70 - 130
1,2-Dichloroethane-d4	88	60 - 140

Client: TCG (The Consulting Group) Job Number: 720-869-1

Client Sample ID: B-3-3.5

Lab Sample ID: 720-869-7
Client Matrix: Solid

Date Sampled: 12/06/2005 0000
Date Received: 12/07/2005 1900

8260B Volatile Organic Compounds by GC/MS

Method: 8260B
Preparation: 5030B
Dilution: 1.0
Date Analyzed: 12/14/2005 0112
Date Prepared: 12/14/2005 0112

Analysis Batch: 720-3029

Instrument ID: Saturn 2100
Lab File ID: d:\data\200512\121305\720-
Initial Weight/Volume: 5.64 g
Final Weight/Volume: 10 mL

Analyte	DryWt Corrected: N	Result (ug/Kg)	Qualifier	RL
Benzene		ND		4.4
Ethylbenzene		ND		4.4
Toluene		ND		4.4
MTBE		ND		4.4
Xylenes, Total		24		8.9
Gasoline Range Organics (GRO)-C5-C12		5300		890

Surrogate	%Rec	Acceptance Limits
Toluene-d8	87	70 - 130
1,2-Dichloroethane-d4	90	60 - 140

Client: TCG (The Consulting Group) Job Number: 720-869-1

Client Sample ID: B-3-7.5

Lab Sample ID: 720-869-8
Client Matrix: Solid

Date Sampled: 12/06/2005 0000
Date Received: 12/07/2005 1900

8260B Volatile Organic Compounds by GC/MS

Method: 8260B
Preparation: 5030B-Medium
Dilution: 200
Date Analyzed: 12/17/2005 1622
Date Prepared: 12/15/2005 1739

Analysis Batch: 720-3275
Prep Batch: 720-3458

Instrument ID: Varian 3900E
Lab File ID: c:\varianws\data\200512\12
Initial Weight/Volume: 5.59 g
Final Weight/Volume: 10 mL

Analyte	DryWt Corrected: N	Result (ug/Kg)	Qualifier	RL
Benzene		ND		890
Ethylbenzene		8300		890
Toluene		ND		890
MTBE		ND		890
Xylenes, Total		ND		1800
Gasoline Range Organics (GRO)-C5-C12		690000		180000

Surrogate	%Rec	Acceptance Limits
Toluene-d8	99	70 - 130
1,2-Dichloroethane-d4	100	60 - 140

Client: TCG (The Consulting Group) Job Number: 720-869-1

Client Sample ID: B-3-10

Lab Sample ID: 720-869-9
Client Matrix: Solid

Date Sampled: 12/06/2005 0000
Date Received: 12/07/2005 1900

8260B Volatile Organic Compounds by GC/MS

Method: 8260B
Preparation: 5030B
Dilution: 1.0
Date Analyzed: 12/14/2005 0139
Date Prepared: 12/14/2005 0139

Analysis Batch: 720-3029

Instrument ID: Saturn 2100
Lab File ID: d:\data\200512\121305\720-
Initial Weight/Volume: 5.32 g
Final Weight/Volume: 10 mL

Analyte	DryWt Corrected: N	Result (ug/Kg)	Qualifier	RL
Benzene		ND		4.7
Ethylbenzene		38		4.7
Toluene		ND		4.7
MTBE		ND		4.7
Xylenes, Total		ND		9.4
Gasoline Range Organics (GRO)-C5-C12		3100		940

Surrogate	%Rec	Acceptance Limits
Toluene-d8	96	70 - 130
1,2-Dichloroethane-d4	89	60 - 140

Client: TCG (The Consulting Group) Job Number: 720-869-1

Client Sample ID: **B-3-13**

Lab Sample ID: 720-869-10
Client Matrix: Solid

Date Sampled: 12/06/2005 0000
Date Received: 12/07/2005 1900

8260B Volatile Organic Compounds by GC/MS

Method: 8260B
Preparation: 5030B
Dilution: 1.0
Date Analyzed: 12/14/2005 0205
Date Prepared: 12/14/2005 0205

Analysis Batch: 720-3029

Instrument ID: Saturn 2100
Lab File ID: d:\data\200512\121305\720-
Initial Weight/Volume: 5.75 g
Final Weight/Volume: 10 mL

Analyte	DryWt Corrected: N	Result (ug/Kg)	Qualifier	RL
Benzene		ND		4.3
Ethylbenzene		14		4.3
Toluene		ND		4.3
MTBE		ND		4.3
Xylenes, Total		ND		8.7
Gasoline Range Organics (GRO)-C5-C12		2900		870

Surrogate	%Rec	Acceptance Limits
Toluene-d8	88	70 - 130
1,2-Dichloroethane-d4	85	60 - 140

Client: TCG (The Consulting Group) Job Number: 720-869-1

Client Sample ID: B1-W

Lab Sample ID: 720-869-11
Client Matrix: Water

Date Sampled: 12/06/2005 0000
Date Received: 12/07/2005 1900

8260B Volatile Organic Compounds by GC/MS

Method: 8260B
Preparation: 5030B
Dilution: 1.0
Date Analyzed: 12/15/2005 1116
Date Prepared: 12/15/2005 1116

Analysis Batch: 720-3202

Instrument ID: Varian 3900C
Lab File ID: c:\saturnws\data\200512\12
Initial Weight/Volume:
Final Weight/Volume: 10 mL

Analyte	Result (ug/L)	Qualifier	RL
Benzene	ND		0.50
Ethylbenzene	ND		0.50
Toluene	ND		0.50
MTBE	2.7		0.50
Xylenes, Total	1.1		1.0
Gasoline Range Organics (GRO)-C5-C12	95		50

Surrogate	%Rec	Acceptance Limits
Toluene-d8	105	77 - 121
1,2-Dichloroethane-d4	111	73 - 130

Client: TCG (The Consulting Group) Job Number: 720-869-1

Client Sample ID: **B2-W**

Lab Sample ID: 720-869-12
Client Matrix: Water

Date Sampled: 12/06/2005 0000
Date Received: 12/07/2005 1900

8260B Volatile Organic Compounds by GC/MS

Method: 8260B
Preparation: 5030B
Dilution: 1.0
Date Analyzed: 12/15/2005 1144
Date Prepared: 12/15/2005 1144

Analysis Batch: 720-3202

Instrument ID: Varian 3900C
Lab File ID: c:\saturnws\data\200512\12
Initial Weight/Volume:
Final Weight/Volume: 10 mL

Analyte	Result (ug/L)	Qualifier	RL
Benzene	ND		0.50
Ethylbenzene	ND		0.50
Toluene	ND		0.50
MTBE	2.3		0.50
Xylenes, Total	ND		1.0
Gasoline Range Organics (GRO)-C5-C12	53		50

Surrogate	%Rec	Acceptance Limits
Toluene-d8	104	77 - 121
1,2-Dichloroethane-d4	118	73 - 130

Client: TCG (The Consulting Group) Job Number: 720-869-1

Client Sample ID: **B3-W**

Lab Sample ID: 720-869-13
Client Matrix: Water

Date Sampled: 12/06/2005 0000
Date Received: 12/07/2005 1900

8260B Volatile Organic Compounds by GC/MS

Method: 8260B
Preparation: 5030B
Dilution: 1.0
Date Analyzed: 12/15/2005 1212
Date Prepared: 12/15/2005 1212

Analysis Batch: 720-3202

Instrument ID: Varian 3900C
Lab File ID: c:\saturnws\data\200512\12
Initial Weight/Volume:
Final Weight/Volume: 10 mL

Analyte	Result (ug/L)	Qualifier	RL
Benzene	1.4		0.50
Ethylbenzene	3.4		0.50
Toluene	ND		0.50
MTBE	ND		0.50
Xylenes, Total	1.0		1.0
Gasoline Range Organics (GRO)-C5-C12	350		50

Surrogate	%Rec	Acceptance Limits
Toluene-d8	106	77 - 121
1,2-Dichloroethane-d4	113	73 - 130

DATA REPORTING QUALIFIERS

Lab Section	Qualifier	Description

Client: TCG (The Consulting Group) Job Number: 720-869-1

QC Association Summary

Lab Sample ID	Client Sample ID	Client Matrix	Method	Prep Batch
GC/MS VOA				
Analysis Batch:720-3029				
LCS 720-3029/15	Lab Control Spike	Solid	8260B	
LCSD 720-3029/14	Lab Control Spike Duplicate	Solid	8260B	
MB 720-3029/16	Method Blank	Solid	8260B	
720-869-1	B-1-5	Solid	8260B	
720-869-2	B-1-13	Solid	8260B	
720-869-3	B-1-15.5	Solid	8260B	
720-869-3MS	Matrix Spike	Solid	8260B	
720-869-3MSD	Matrix Spike Duplicate	Solid	8260B	
720-869-4	B-2-2.5	Solid	8260B	
720-869-5	B-2-8.5	Solid	8260B	
720-869-6	B-2-12	Solid	8260B	
720-869-7	B-3-3.5	Solid	8260B	
720-869-9	B-3-10	Solid	8260B	
720-869-10	B-3-13	Solid	8260B	
Analysis Batch:720-3202				
LCS 720-3202/2	Lab Control Spike	Water	8260B	
LCSD 720-3202/1	Lab Control Spike Duplicate	Water	8260B	
MB 720-3202/3	Method Blank	Water	8260B	
720-869-11	B1-W	Water	8260B	
720-869-12	B2-W	Water	8260B	
720-869-13	B3-W	Water	8260B	
Prep Batch: 720-3458				
LCS 720-3458/1-A	Lab Control Spike	Solid	5030B	
LCSD 720-3458/2-A	Lab Control Spike Duplicate	Solid	5030B	
MB 720-3458/3-A	Method Blank	Solid	5030B	
720-869-8	B-3-7.5	Solid	5030B	
Analysis Batch:720-3275				
LCS 720-3458/1-A	Lab Control Spike	Solid	8260B	720-3458
LCSD 720-3458/2-A	Lab Control Spike Duplicate	Solid	8260B	720-3458
MB 720-3458/3-A	Method Blank	Solid	8260B	720-3458
720-869-8	B-3-7.5	Solid	8260B	720-3458

Client: TCG (The Consulting Group) Job Number: 720-869-1

QC Association Summary

Lab Sample ID	Client Sample ID	Client Matrix	Method	Prep Batch
GC Semi VOA				
Prep Batch: 720-3035				
LCS 720-3035/2-B	Lab Control Spike	Water	3510C	
LCSD 720-3035/3-B	Lab Control Spike Duplicate	Water	3510C	
MB 720-3035/1-B	Method Blank	Water	3510C	
720-869-11	B1-W	Water	3510C	
720-869-12	B2-W	Water	3510C	
720-869-13	B3-W	Water	3510C	
Analysis Batch:720-3081				
LCS 720-3035/2-B	Lab Control Spike	Water	8015B	720-3035
LCSD 720-3035/3-B	Lab Control Spike Duplicate	Water	8015B	720-3035
MB 720-3035/1-B	Method Blank	Water	8015B	720-3035
720-869-11	B1-W	Water	8015B	720-3035
720-869-12	B2-W	Water	8015B	720-3035
720-869-13	B3-W	Water	8015B	720-3035

Client: TCG (The Consulting Group) Job Number: 720-869-1

Method Blank - Batch: 720-3029

Method: 8260B
Preparation: 5030B

Lab Sample ID: MB 720-3029/16
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 12/13/2005 2018
Date Prepared: 12/13/2005 2018

Analysis Batch: 720-3029
Prep Batch: N/A
Units: ug/Kg

Instrument ID: Saturn 2100
Lab File ID: d:\data\200512\121305\mb
Initial Weight/Volume: 5.34 g
Final Weight/Volume: 10 mL

Analyte	Result	Qual	RL
Benzene	ND		4.7
Ethylbenzene	ND		4.7
Toluene	ND		4.7
MTBE	ND		4.7
Xylenes, Total	ND		9.4
Gasoline Range Organics (GRO)-C5-C12	ND		940

Surrogate	% Rec	Acceptance Limits
Toluene-d8	92	70 - 130
1,2-Dichloroethane-d4	83	60 - 140

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: TCG (The Consulting Group) Job Number: 720-869-1

Laboratory Control/
Laboratory Control Duplicate Recovery Report - Batch: 720-3029

Method: 8260B
Preparation: 5030B

LCS Lab Sample ID: LCS 720-3029/15
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 12/13/2005 1926
Date Prepared: 12/13/2005 1926

Analysis Batch: 720-3029
Prep Batch: N/A
Units: ug/Kg

Instrument ID: Saturn 2100
Lab File ID: d:\data\200512\121305\ls-s
Initial Weight/Volume: 5.23 g
Final Weight/Volume: 10 mL

LCSD Lab Sample ID: LCSD 720-3029/14
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 12/13/2005 1952
Date Prepared: 12/13/2005 1952

Analysis Batch: 720-3029
Prep Batch: N/A
Units: ug/Kg

Instrument ID: Saturn 2100
Lab File ID: d:\data\200512\121305\ld-so
Initial Weight/Volume: 5.39 g
Final Weight/Volume: 10 mL

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Benzene	93	93	69 - 129	3	20		
Toluene	95	95	70 - 130	2	20		
MTBE	106	93	65 - 165	16	20		

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
Toluene-d8	92	97	70 - 130
1,2-Dichloroethane-d4	88	79	60 - 140

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: TCG (The Consulting Group) Job Number: 720-869-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 720-3029

Method: 8260B
Preparation: 5030B

MS Lab Sample ID:	720-869-3	Analysis Batch: 720-3029	Instrument ID: Saturn 2100
Client Matrix:	Solid	Prep Batch: N/A	Lab File ID: d:\data\200512\121305\72
Dilution:	1.0		Initial Weight/Volume: 5.05 g
Date Analyzed:	12/13/2005 0941		Final Weight/Volume: 10 mL
Date Prepared:	12/13/2005 0941		

MSD Lab Sample ID:	720-869-3	Analysis Batch: 720-3029	Instrument ID: Saturn 2100
Client Matrix:	Solid	Prep Batch: N/A	Lab File ID: d:\data\200512\121305\720
Dilution:	1.0		Initial Weight/Volume: 5.75 g
Date Analyzed:	12/13/2005 1008		Final Weight/Volume: 10 mL
Date Prepared:	12/13/2005 1008		

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Benzene	82	81	69 - 129	14	20		
Toluene	84	84	70 - 130	13	20		
MTBE	80	88	65 - 165	4	20		

Surrogate	MS % Rec	MSD % Rec	Acceptance Limits
Toluene-d8	95	91	70 - 130
1,2-Dichloroethane-d4	77	77	60 - 140

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: TCG (The Consulting Group) Job Number: 720-869-1

Method Blank - Batch: 720-3202

Method: 8260B
Preparation: 5030B

Lab Sample ID: MB 720-3202/3
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 12/15/2005 1006
Date Prepared: 12/15/2005 1006

Analysis Batch: 720-3202
Prep Batch: N/A
Units: ug/L

Instrument ID: Varian 3900C
Lab File ID: c:\saturnws\data\200512\12
Initial Weight/Volume:
Final Weight/Volume: 10 mL

Analyte	Result	Qual	RL
Benzene	ND		0.50
Ethylbenzene	ND		0.50
Toluene	ND		0.50
MTBE	ND		0.50
Xylenes, Total	ND		1.0
Gasoline Range Organics (GRO)-C5-C12	ND		50

Surrogate	% Rec	Acceptance Limits
Toluene-d8	107	77 - 121
1,2-Dichloroethane-d4	111	73 - 130

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: TCG (The Consulting Group) Job Number: 720-869-1

Laboratory Control/
Laboratory Control Duplicate Recovery Report - Batch: 720-3202

Method: 8260B
Preparation: 5030B

LCS Lab Sample ID: LCS 720-3202/2
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 12/15/2005 0911
Date Prepared: 12/15/2005 0911

Analysis Batch: 720-3202
Prep Batch: N/A
Units: ug/L

Instrument ID: Varian 3900C
Lab File ID: c:\saturnws\data\200512\12
Initial Weight/Volume:
Final Weight/Volume: 10 mL

LCSD Lab Sample ID: LCSD 720-3202/1
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 12/15/2005 0938
Date Prepared: 12/15/2005 0938

Analysis Batch: 720-3202
Prep Batch: N/A
Units: ug/L

Instrument ID: Varian 3900C
Lab File ID: c:\saturnws\data\200512\121
Initial Weight/Volume:
Final Weight/Volume: 10 mL

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Benzene	108	113	69 - 129	4	25		
Toluene	103	112	70 - 130	8	25		
MTBE	104	108	65 - 165	4	25		

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
Toluene-d8	106	111	77 - 121
1,2-Dichloroethane-d4	108	106	73 - 130

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: TCG (The Consulting Group) Job Number: 720-869-1

Method Blank - Batch: 720-3458

Method: 8260B
Preparation: 5030B

Lab Sample ID: MB 720-3458/3-A
Client Matrix: Solid
Dilution: 200
Date Analyzed: 12/15/2005 1737
Date Prepared: 12/15/2005 1739

Analysis Batch: 720-3275
Prep Batch: 720-3458
Units: ug/Kg

Instrument ID: Varian 3900E
Lab File ID: c:\varianws\data\200512\12
Initial Weight/Volume: 5 g
Final Weight/Volume: 10 mL

Analyte	Result	Qual	RL
Benzene	ND		1000
Ethylbenzene	ND		1000
Toluene	ND		1000
MTBE	ND		1000
Xylenes, Total	ND		2000
Gasoline Range Organics (GRO)-C5-C12	ND		200000

Surrogate	% Rec	Acceptance Limits
Toluene-d8	119	70 - 130
1,2-Dichloroethane-d4	128	60 - 140

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: TCG (The Consulting Group) Job Number: 720-869-1

Laboratory Control/
Laboratory Control Duplicate Recovery Report - Batch: 720-3458

Method: 8260B
Preparation: 5030B

LCS Lab Sample ID: LCS 720-3458/1-A
Client Matrix: Solid
Dilution: 200
Date Analyzed: 12/15/2005 1800
Date Prepared: 12/15/2005 1739

Analysis Batch: 720-3275
Prep Batch: 720-3458
Units: ug/Kg

Instrument ID: Varian 3900E
Lab File ID: c:\varianws\data\200512\12
Initial Weight/Volume: 5 g
Final Weight/Volume: 10 mL

LCSD Lab Sample ID: LCSD 720-3458/2-A
Client Matrix: Solid
Dilution: 200
Date Analyzed: 12/15/2005 1824
Date Prepared: 12/15/2005 1739

Analysis Batch: 720-3275
Prep Batch: 720-3458
Units: ug/Kg

Instrument ID: Varian 3900E
Lab File ID: c:\varianws\data\200512\121
Initial Weight/Volume: 5 g
Final Weight/Volume: 10 mL

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Benzene	129	128	69 - 129	1	20		
Toluene	127	125	70 - 130	2	20		
MTBE	135	130	65 - 165	4	20		

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
Toluene-d8	127	125	70 - 130
1,2-Dichloroethane-d4	136	129	60 - 140

Calculations are performed before rounding to avoid round-off errors in calculated results.

LOGIN SAMPLE RECEIPT CHECK LIST

Client: TCG (The Consulting Group) Job Number: 720-869-1

Login Number: 869

Question	T/F/NA	Comment
Radioactivity either was not measured or, if measured, is at or below background	NA	
The cooler's custody seal, if present.	NA	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present	True	
Samples do not require splitting or compositing	True	

720-869

The Consulting Group

Chain of Custody

394 Cecilia Way ● Tiburon CA 94920-2105
Phone: 415.381.2560 ● Fax: 415.981.1741
Email: tcg@tcg-international.com

Reference #: 90145

Date: 6 December 2005 **Page 1 of 2**

TCG Personnel

Project Manager: **Jeanine Lovejoy**

Sampler: **Woody Lovejoy**

Client Information

Client: **WE Lyons** 50 Hegenberger, Oakland

Tele: Project Manager: **Gary Lyons**

Fax: Cell:

Analysis Request

Sample ID	Date	Time	Matrix	Pres.	TPH EPA - ☐ 8015/8021 ☒ 8260B ☒ Gas w/ ☒ BTEX ☒ MTBE	Purgeable Aromatics BTEX EPA - ☐ 8021 ☐ 8260B	TEPH 8015M ☒ Silica Gel ☒ Diesel ☒ Motor Oil ☐ Other	Fuel Tests 8260B: ☐ Gas ☐ BTEX ☐ Five Oxy ☐ DCA, EDB ☐ Ethanol	Purgeable Halocarbons (HVOCs) EPA 8021	Volatile Organics GC/MS (VOCs) ☒ EPA 8260B ☐ 624	Semivolatiles GC/MS ☒ EPA 8270 ☐ 625	Oil and Grease ☐ Petroleum (EPA 1664) ☒ Total	Pesticides ☒ EPA 8081 ☐ 608 PCBs ☒ EPA 8082 ☐ 608	PNAs by ☐ 8270 ☐ 8310	CAM17 Metals (6010/7470/1)	Metals: ☐ Lead ☒ LUFT ☐ RCRA ☐ Other:	☐ W.E.T (STLC) ☐ TCLP	☐ Hexavalent Chromium ☐ pH (24h hold time for H_2O)	☐ Spec Cond. ☐ Alkalinity ☐ TSS ☐ TDS	Anions : ☐ Cl ☐ SO_4 ☐ NO_3 ☐ F ☐ Br ☐ NO_2 ☐ PO_4	Aroclor 1260 / 1268	TEPH-DRO and TEPH-ho, SG Strip		Number of Containers
B-1-5	12/6/05		S	N	X																			1
B-2-3	12/6/05		S	N	X																			1
B-1-15.5	12/6/05		S	N	X																			1
B-2-25	12/6/05		S	N	X																			1
B-2-8.5	12/6/05		S	N	X																			1
B-2-12	12/6/05		S	N	X																			1
B-3-3.5	12/6/05		S	N	X																			1
B-3-7.5	12/6/05		S	N	X																			1

Project Info.

Project Name: **WE Lyons**

Project#: **055101**

PO#:

Credit Card#:

Sample Receipt

of Containers:

Head Space: NA

Temp: 3°C

Conforms to record:

TAT 5 Day | 72h | 48h | 24h | Other:

Report: ☒ Routine ☐ Level 3 ☐ Level 4 ☐ EDD ☐ State Tank Fund EDF

Special Instructions / Comments:

☐ Global ID:

☐ Log Code

*place number letters on Hold

Bill TCG

Email TCG

1) Relinquished by:	2) Relinquished by:	3) Relinquished by:
Signature Time	Signature 19:00 Time	Signature Time
Woody Lovejoy 12/6/05	H Morrison 12/7/05	
Printed Name Date	Printed Name Date	Printed Name Date
TCG	STL-SF	
Company	Company	Company

1) Received by:	2) Received by:	3) Received by:
Signature 1417 Time	Signature 19:00 Time	Signature Time
Printed Name Date	Shawn Acosta 12/7/05	
STL-SF	Printed Name Date	Printed Name Date
Company	STL SF	
	Company	Company

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Date: 6 December 2005 **Page 2 of 2**

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TCG Personnel

Project Manager: **Jeanine Lovejoy**

Sampler: **Woody Lovejoy**

Client Information

Client: **WE Lyons** 50 Hegenberger, Oakland

Tele: Project Manager: **Gary Lyons**

Fax: Cell:

Analysis Request

Sample ID	Date	Time	Matrix	Pres.	TPH EPA ~~8015~~/8021 ☒ 8260B ☒ Gas w/ ☒ BTEX ☒ MTBE	Purgeable Aromatics BTEX EPA - ☐ 8021 ☐ 8260B	TEPH 8015M ☒ Silica Gel ☒ Diesel ☒ Motor Oil ☐ Other:	Fuel Tests 8260B: ☐ Gas ☐ BTEX ☐ Five Oxy ☐ DCA, EDB ☐ Ethanol	Purgeable Halocarbons (HVOCs) EPA 8021	Volatile Organics GC/MS (VOCs) ☒ EPA 8260B ☐ 624	Semivolatiles GC/MS ☒ EPA 8270 ☐ 625	Oil and Grease ☐ Petroleum (EPA 1664) ☐ Total	Pesticides ☒ EPA 8081 ☐ 608 PCBs ☒ EPA 8082 ☐ 608	PNAs by ☐ 8270 ☐ 8310	CAM17 Metals (6010/7470/1)	Metals: ☐ Lead ☒ LUFT ☐ RCRA ☐ Other:	☐ W.E.T (STLC) ☐ TCLP	☐ Hexavalent Chromium ☐ pH (24h hold time for H_2O)	☐ Spec Cond. ☐ Alkalinity ☐ TSS ☐ TDS	Anions : ☐ Cl ☐ SO_4 ☐ NO_3 ☐ F ☐ Br ☐ NO_2 ☐ PO_4	Aroclor 1260 / 1268			Number of Containers
B-3-10	6/15/05		S	N	X																				1
B-3-13	6/15/05		S	N	X																				1
B1-W	6/15/05		W		X																				5
B2-W	6/15/05		W		X																				5
B3-W	6/15/05		W		X																				5
	6/15/05																								
	6/15/05																								
	6/15/05																								
	6/15/05																								
	6/15/05																								
	6/15/05																								
	6/15/05																								

Project Info.

Project Name: **WE Lyons**

Project#: **055101**

PO#:

Credit Card#:

Sample Receipt

of Containers:

Head Space: **NA**

Temp: 3°C

Conforms to record:

TAT 5 Day | 72h | **48h** | 24h | Other:

Report: ☒ Routine ☐ Level 3 ☐ Level 4 ☐ EDD ☐ State Tank Fund EDF

Special Instructions / Comments:

☐ Global ID:

☐ Log Code

place Amber Liters on Hold

Bill TCG, Email TCG.

~~Composite stockpile samples as shown.~~

1) Relinquished by:

Signature Time

Woody Lovejoy 12/6/05

Printed Name Date

TCG

Company

2) Relinquished by:

Signature 17:00 Time

Printed Name 12/7/05 Date

STL-SF 12/7/05

Company

3) Relinquished by:

Signature Time

Printed Name Date

Company

1) Received by:

Signature 1417 Time

Printed Name 12/7/05 Date

STL-SF

Company

2) Received by:

Signature 19:00 Time

Printed Name 12/7/05 Date

STL SF

Company

3) Received by:

Signature Time

Printed Name Date

Company

Rev 01/02