

**JOHN CARVER CONSULTING  
ENVIRONMENTAL -- CIVIL -- GEOTECHNICAL**

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**REPORT  
OF  
SOIL AND GROUNDWATER INVESTIGATION**  
at  
3884 Martin Luther King Junior Way  
Oakland, California  
RO#0000027\_Report\_2006-03-10

March 10, 2006  
Project 9795

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Oakland, California

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## **EXECUTIVE NARRATIVE**

The site has been an unresolved LUST case since 1995 and subject to legal actions by the regulatory agencies. It was recently purchased and with the cooperation of the Oakland Redevelopment agency, planned for residential development. The development plans to excavate the total gasoline station site to about 12 feet below grade for a basement.

There have been two extensive soil and groundwater investigations addressing the LUST case:

### ENVIRONMENTAL INVESTIGATION

Prepared For:

Department Of Toxic Substances Control

by URS dated September 17, 2004

### SOIL AND GROUNDWATER INVESTIGATION

by John Carver Consulting Dated march 10, 2006

These two reports have thoroughly investigated the LUST case conditions. Soil and groundwater contamination exceeding screening levels has been documented within the property lines and below the sidewalk areas. Both reports recognize the likelihood of off site impacts, particularly below the MLK pavement. With the present circumstances, the site is ready to begin active remediation which will ultimately lead to complete LUST case closure.

### Soil Remediation

The construction of the basement will remediate the contaminated soil areas within the property lines by "excavate and dispose" methods. The basement excavation will be expanded to below the sidewalk areas to remediate contaminated soil conditions under the sidewalk areas by excavate and dispose.

It is believed that this excavate and dispose method of remediation will remove most, if not all of the contaminated soil associated with the LUST case.

A program of confirmation testing will be carried out to determine if there is any soil remaining within the excavated areas that can not be removed by excavation. If soils with contaminant levels remain, a program of soil treatment with ORC will be undertaken to enhance further natural bioremediation of the soil.

### Groundwater Remediation

During the soil excavation both for the tank remediation efforts and the basement excavation, groundwater will likely be encountered. If and when groundwater is encountered during any excavations, several methods of remediation will be carried out.

## EXECUTIVE NARRATIVE sheet 2 of 2

Any sheen or free product noted on the surface of any accumulated groundwater will be removed by skimming or pumping.

Further assessments as to the physical characteristics of the groundwater aquifer will be noted and recorded.

A program of groundwater sampling and analyses will be carried out to determine if there is contamination in groundwater as it enters the excavation

If there is groundwater contamination, the program of ORC emplacement will serve to enhance the continue natural bioremediation of the groundwater along with soils at or below the groundwater table.

### Future Investigation

It is realized that the LUST case has probably impacted soil and groundwater at off-site locations. The lateral and vertical extent will be partially defined during the above described remediation. Depending on actual conditions exposed, a program of groundwater/sampling and/or monitoring well installation will be carried out to define off-site impact. An array of three groundwater sample/groundwater monitoring wells should be required and planned. It is recommended that the installation be planned after the on-site excavation is complete. The excavation will provide valuable planning information for any future groundwater study.

There currently is an opportunity for positive actions to be taken at the LUST case which should lead to an improvement in both on and off site environmental conditions. Additionally, and concurrently with these positive actions, the City of Oakland will benefit from new housing being added.

The property owner is well equipped to begin this project and the associated remediation and is ready to begin within several months. The main obstacle to the owner proceeding is that there are time and regulatory commitments which are dependant of the status of the LUST case. Although closing of the LUST case may take several years due to off-site groundwater concerns, positive statements from the appropriate LUST regulatory may be used in advancing the project to the mutual benefit of all.

## INTRODUCTION

### **Purpose**

The purpose of this work plan is to describe the procedures and methods used in a Soil and Groundwater Investigation at 3884 Martin Luther King Junior Way (MLK) in Oakland, California.

The Soil and Groundwater Investigation was required by the Alameda County Environmental Health Department (ACEHD) to comply with regulations in accordance with the State Water Resources Control Board's Leaking Underground Fuel Tank (LUFT) manual and the TRI-Regional Board Staff Recommendations for Preliminary Evaluation and Investigation of Underground Tank Sites. These documents set the work requirements as part of the work involved when an unauthorized fuel release has occurred and the groundwater below the site may have been affected.

The Investigation is being required to define the lateral and horizontal limits of petroleum hydrocarbon contamination in the soil and groundwater at the site of three different leaking underground storage tanks (LUSTs) at the subject site. The information developed by this Investigation will be used in determining the need for and extent of any further work involving the LUSTs.

This report describes the data review, subsurface exploration, soil sampling and groundwater sampling that was conducted on the site to comply with ACEHD correspondence since the removal of the tanks in 1995. The work was done in general accordance with the Work Plan submitted by John Carver Consulting (JCC) dated 10/12/05. The work plan was based on limited data available from the ACEHD obtained during a review of their files.

After approval of the Work Plan, a report of an Environmental Investigation of the site prepared for the California Department of Toxic Substance Control by URS company, dated September 17, 2004 was obtained. This report contained much data including collection and analyses of 19 surface soil samples, 57 subsurface soil samples, 10 groundwater samples and 3 off-site background surface soil samples. Because the Work Plan scope duplicated much of the information of this report, there were deviations from the work plan as to number and location of samples.

### **Scope**

JCC carried out the following to further investigate the soil and groundwater conditions at the site by exploring and sampling 8 locations at the LUST tank site.

This Report includes descriptions of:

- Previous Environmental activities carried out at

the site.

- Required pre-field work activities and permitting.
- Exploration equipment and methods.
- Soil and groundwater sampling equipment and techniques.
- Soil and groundwater sample handling and transportation.
- Management of soil cuttings and purge water.
- Sample analyses.
- Data interpretation and reporting procedures.

### Site Location and Description

The subject commercial property is located at the northeast corner of 39th Street and Martin Luther King Way in Oakland, California. The site has been previously identified as the "Grove Street Wash Rack" and Lucky's Auto Body facility site. The property is a historic gasoline service station and the gasoline station building, a canopy and out buildings remain on the site. There is currently an automotive repair facility on the property but there are no fuel distribution systems. Figure 1 attached, shows the general site vicinity. The actual location of the tanks as well as nearby streets is shown on the attached Figure 2.

### Site History

The following summary shows the tank designations, size, type of construction and contents based on information in the Tank Removal Report and the ACEHD notes. The tank designations and locations are shown on Figure 2.

Designation	Construction/	diameter (feet)	length (feet)	size (gallons)	contents
TANK 1 (south*)	uncoated steel	na	na	650*	gasoline**
TANK 2 (north*)	uncoated steel	na	na	650*	gasoline**
TANK 3 (east*)	uncoated steel	3'	9'10"*	500*	gasoline**

\* ACEHD notes

\*\* based on analytical protocol of TPH-G only

na not available

During the removal operations, three soil samples were taken and analyzed. Subsequently one sample was taken from a stockpile in 1996 but no details as to the source, location or purpose of the stockpile were available.

The ACEHD field notes sheet indicates that there was rain water or perched water in the east tank (Tank 3). No water sample was taken and no further statements regarding groundwater were made in the ACEHD field notes or the Tank Removal report.

The following presents the results of the four samples taken at the site to date.

Sample ID	TPH-G (ppm)	B/T/E/X (ppb)	Total Lead (ppm)
SS-1 Tank 1 @ 9'	35	590/570/1,300/5,400	2.6
SS-2 Tank 2 @ 9'	140	610/960/580/9,700	7.9
SS-3 Tank 3 @ 7.5'	18	340/400/850/4,600	3.4
3884/0826-SP1 (southern part of site)	ND	ND/ND/ND/ND	--

The locations of the three tank removal samples are shown on the attached Figure 2.

The following Chronology shows the significant work carried out at the site.

- 01/05/95 Tanks 1, 2 and 3 removed from site, soil samples taken under ACEHD observation.
  - 01/17/95 Tank Removal Report published by Scott Environmental for Pacific Excavators.
  - 05/10/95 ACEHD publishes a letter requiring additional work be carried out at the site to define the extent of contamination.
  - 07/17/96 Letter by H20GEO presents laboratory results of a stockpile sample.
  - /-- Various letters from ACEHD and the Regional Board requiring additional work.
  - 09/10/02 State Water Resources Control Board publishes letter of Notice of Removal from the UST Clean Up Fund.
- No subsequent data in ACEHD files.
- 10/--/05 JCC contacts the ACEHD, reviews files and prepares a Work Plan.
  - 02/02/06 ACEHD approved JCC Work Plan with Technical Comments
  - 02/10/06 Environmental Investigation by URS for DTSC obtained and reviewed.
  - 02/21/06 JCC advances 8 geoprobes, samples and analyses soil and groundwater.

### **DTSC Report**

During 2004 The DTSC commissioned an extensive soil and groundwater investigation of the site and the adjacent site at 3860 MLK Way. The report was obtained in electronic

form and was over 1000 pages long. The precise reason for the investigation is unknown but it specifically addressed and provided significant data regarding the releases from the USTs on the site. The information obtained from the report was used in modifying the locations and sampling carried out in February 2006. The various analytical data of the 2004 have been included in this report and was used in arriving at the conclusions and recommendations.

The Introduction and Conclusions and Recommendations section of the report have been reproduced below. Various analytical results have been tabulated herein along with the current results.

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## **1.0 INTRODUCTION**

Pursuant to Contract No. 03-T2691, the California Environmental Protection Agency (EPA), Department of Toxic Substances Control (DTSC), retained URS Corporation (URS) to conduct a soil and groundwater investigation at the Lucky's Auto Body facility, located at 3860 and 3884 Martin Luther King (MLK) Jr. Way, Oakland, California (Figure 1). This investigation included the collection of 19 surface soil samples, 57 subsurface soil samples, 10 groundwater samples, 3 off-site background surface soil samples, 6 duplicate soil samples, and 1 duplicate groundwater sample. A geophysical survey was completed to identify potentially significant subsurface features such as underground storage tanks (USTs) and conveyance piping. An asbestos and lead-based paint survey of the on-site structures was also conducted. All work was conducted in accordance with the DTSC-prepared *Field Sample Plan for Targeted Site Investigation, Lucky's Auto Body Site* (DTSC, 2004) and the URS-prepared *Site-Specific Health and Safety Plan* (URS, 2004).

## **7.0 CONCLUSIONS AND RECOMMENDATIONS**

### **7.1 3884 MLK Jr. Way**

#### **7.1.2 Soil**

Based on the results of the investigation at the Lucky's Auto Body site, soil has been impacted with VOCs and TPH-g. Low levels of BTEX and TPH in soil were detected throughout the site. These findings are consistent with a facility that has been associated with an automobile service and repair station for the past 50 to 60 years. Elevated concentrations of BTEX and TPH-g detected in the soil in the area of the three former USTs are the result of the leaking tanks. The tanks were removed in 1995; however, the contaminated soil was not fully excavated during the tank removal and is a source of soil (and groundwater) contamination.

Based on the limited number of borings near the former USTs, the lateral extent of soil contamination is not well defined. However, based on the tank sizes (two 650-gallon and one 500-gallon), the approximate estimate of soil contamination is 200 cubic yards (cy). This was derived by estimating that soil is contaminated from the bottom of the tank (8 feet bgs) to the water table (17 feet bgs); and contamination has spread from the original footprint of the tank to an area estimated to be 9 X 15 feet. These assumptions result in a calculated in-place



volume of 45 cy per tank. An additional 50 percent contingency was added to this volume calculation, yielding 67 cy per tank, and 200 cy of contaminated soil in total. Because groundwater has not been impacted at S11/G11, the estimate for contaminated soil (to the water table) may be high. However, because a 14-foot soil sample was not collected at this location (a sample was collected at 10 feet bgs which is where field observations indicated that contamination appeared to end), it is not known where the soil contamination ends vertically.

Contaminated soil associated with the former USTs should be excavated to remove this source of contamination to groundwater. Prior to excavation, additional soil samples should be collected to define the lateral extent of soil contamination. Soil samples should be collected from all four sides of the former USTs. The two northernmost former USTs should be considered as one area, requiring only four boreholes and not eight. Soil should be collected at approximately 8, 12, and 16 feet bgs in each borehole and analyzed for VOCs and TPH-g.

Of the 30 environmental samples collected only one duplicate sample contained lead above the DTSC screening level of 247 mg/kg. The duplicate sample contained 285 mg/kg, the environmental sample associated with the duplicate contained 239 mg/kg of lead which is below the screening level. Two background samples contained lead that exceeded the screening levels (461 mg/kg and 467 mg/kg). The site is located in an industrial and high density residential area, therefore, background sample locations were very limited. The background samples were either collected adjacent to a busy street or Highway 24. Because samples were collected in areas with high automobile usage the results may not be indicative of actual background concentrations.

The elevated concentrations of arsenic (above the cancer endpoint but below the noncancer endpoint) detected in the background soil samples generally fall within the average "background" ranges found in the San Francisco Bay Area. In 2002, the Lawrence Berkeley National Laboratory (LBNL, 2002) conducted a study of background concentrations of metals in soil for the Bay Area. Results of the study indicated that arsenic concentrations have a range of 0.3 to 30 mg/kg, therefore the concentrations detected at the site are within the average background range.

### **7.1.3 Groundwater**

Groundwater at the site has been impacted with VOCs and TPH-g. Based on the results, it appears the leaking former USTs are the source of groundwater contamination in the northeastern portion of the site. Given the suspected direction of groundwater flow to the north/northwest and the location of the former USTs, it is assumed that groundwater contamination has migrated off-site. Additional groundwater samples should be collected to identify the edge of the downgradient contamination. Samples should be collected to the northeast of G10, and to the north and northeast of G2.

Elevated groundwater (and soil) contamination exists in the central portion of the site at G4/S4. The source of this contamination is not known; therefore, additional sampling should be undertaken. Groundwater and soil samples should be collected to identify the source. Four Geoprobe® samples surrounding G4/S4 should be collected to attempt to identify a source, and the extent of contamination.

Elevated concentrations of TPH-g were detected in an upgradient borehole (G7). This contamination may be originating from an off-site source based on the suspected direction of groundwater flow and the location of G7. However, because actual groundwater flow direction is not known and TPH-mo was detected in the soil sample collected from 3.5 feet bgs, the on-site pit adjacent to the shop building may be the source of TPH-g contamination in G7.

## **7.2 3860 MLK Jr. Way**

Soil samples from the Oakland Redevelopment Agency's vacant lot did not include any analytes detected above the laboratory detection limits. Three of the four groundwater samples collected from the site contained low levels of benzene (ranging from 0.53 to 1.5 µg/L) and toluene (ranging from 0.58 to 2.6 µg/L). The California MCL for benzene is 1.0 µg/L, and 150 µg/L for toluene. Based on the low levels of contamination, and the former uses of the site and its location in an industrial area, an additional investigation of this area is not warranted.

## **7.3 Potential Threat to Human Health or the Environment**

Because the Lucky's Auto Body site is paved, the exposure pathways are limited; therefore, this site does not pose a threat to human health or the environment. If the pavement were removed, no direct contact threat to human health would exist, based on the low and non-detect results for the analyses conducted on the shallow soil samples collected. However, the increased rainfall infiltration would result in more leaching of subsurface hydrocarbon contamination to the groundwater. Additionally, pavement removal may create a potential for exposure from volatilization of the groundwater contaminants. Existing concentrations in site soil and groundwater do not pose a significant risk based on the current property use. However, removal of pavement or use of the property for unrestricted residential development would require additional sampling, remedial actions and/or engineering controls to ensure that potential risks are minimized.

While the site does not currently pose a threat to human health or the environment, contaminated soil and groundwater are present above allowable regulatory limits. The TPH-g and BTEX groundwater plume have likely migrated off-site; therefore, remediation of the site will be required.

The Oakland Redevelopment Agency's vacant lot is unpaved. Again, based on the analytical results of the shallow soil samples, there is no direct contact threat to human health. Given the extremely low levels of VOC contamination in

groundwater that is located approximately 17 feet bgs, it does not pose a threat to human health or the environment.

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### **Site Geology, Soil Conditions and Hydrogeology**

The ACEHD notes taken during the tank removal indicated that the soil was a "clay/gravel". Anticipated general soil conditions in the area would be fine grained soils, sand, and gravels of alluvial deposition.

Groundwater was not encountered during the tank removal operation but would be anticipated to be approximately 20 to 30 feet below surface elevations. No groundwater gradient has been determined, but based on topography and direction to San Francisco Bay, the gradient would be estimated to be toward the southwest.

## **WORK ACCOMPLISHED**

### **Sequence**

The following is the sequence of the activities carried out during the project:

- Drill and sample eight "geoprobess" at the approximate locations shown on the attached Figure 3.
- Extend four geoprobess to beyond the first encountered groundwater.
- Install temporary casings in each of the extended geoprobess and allow the groundwater to stabilize as time and permits allow.
- Measure the depth to groundwater in each of the temporary casings.
- Survey the top of casing elevations for groundwater gradient calculation.
- Sample the groundwater from each of the temporary casings.
- Remove the temporary casings and backfill each geoprobe with neat cement grout.
- Analyze all soil and groundwater samples.
- Prepare a summary report of the work accomplished along with conclusions and recommendations for further work or case closure.

### **Pre-field Activities**

A permit to conduct underground drilling and sampling was obtained from the Alameda County Public Works Agency (ACPWA) and also from the City of Oakland Civil Engineering department for geoprobess within the sidewalk right of way. Underground Service Alert (USA) was notified at least 72 hours before any drilling so that any utilities were located. ACPWA, the City of Oakland and the property owners and tenants were notified of the investigation date for inspection and access purposes. JCC arranged and scheduled all excavation and laboratory subcontractor services.

### **Geoprobes**

On February 21, 2006, the 8 geoprobes were advanced at the locations shown on Figure 3 of Appendix A. The locations of the URS geoprobes of 2004 are also shown on Figure 3. Drilling was by the Precision Sampling Company, a California Licensed Water Well Drilling Contractor (C57-624461), using Geoprobe (percussion penetration techniques and sampling equipment) technology. The geoprobes were observed under the supervision of a registered Civil Engineer. The soil cuttings generated during the geoprobe exploration were contained in one 55 gallon drum which was sealed, labeled and stored on site. After characterization and profiling, the buckets will be disposed of at an appropriate facility.

All down-hole equipment was decontaminated before arriving on site and after each geoprobe and before leaving to prevent cross and off-site contamination.

### **Soil Sampling**

The geoprobe is a percussion drilling method which advances a plastic liner into the soil and a continuous soil core is obtained. The core is observed and relatively undisturbed soil samples are obtained from the geoprobes by removing a section of the plastic liner. Samples for analyses were taken from 5, 10 and 14 feet and at significant changes of lithography and at indications of contamination. As the samples are obtained, they were covered with teflon sheets, capped and sealed with tape. The samples were labeled and stored in an ice chest for transportation to the analytical laboratory.

A Chain-of-Custody form was initiated by JCC personnel at the time of sampling and accompanied the samples to a state certified laboratory using California Department of Health Services approved methods.

### **Groundwater Sample Collection**

Four geoprobe (GP1, GP2, GP3 and GP4) were extended to about 16 feet deep which was estimated to be several feet beyond first indications of groundwater. A PVC well casing was installed in each geoprobe to serve as a temporary casing. After a stabilization period, the depth to groundwater from the top of the temporary casing was measured with an electronic water sensing gauge and recorded. The water was then checked for floating product or iridescent sheen by taking a preliminary water sample with a clear acrylic bailer. No floating product or sheen was observed.

A "grab" groundwater sample was collected from each geoprobe in a disposable bailer and poured directly into laboratory cleaned 40 milliliter volatile organic analysis (VOA) vials to prevent loss of any volatile constituents. The vials were filled slowly and in such a manner that the meniscus extended above the top of the VOA vial. After the vials were filled and capped, they were inverted to insure there are no headspaces or entrapped air bubbles. After sealing with a laboratory provided teflon cap, the VOA vials were labeled and stored in a cooled ice chest for transportation to the analytical laboratory.

Upon the completion of groundwater sampling, the elevations of the top of the casings

were surveyed for relative vertical elevations. The surveying was conducted with laser equipment and was done by a licensed civil engineer.

### **Analysis of Soil Samples**

All of the soil samples were analyzed for:

- Total Petroleum Hydrocarbon as Gasoline (TPH-G),
- Fuel Oxygenates.
- Purgeable Aromatic Hydrocarbons (Benzene, Toluene, Ethylbenzene, and total Xylenes--BTEX).

All analyses were performed by the ABC Environmental Laboratories (ELAP 2584), a laboratory certified by the State of California using approved analytical and extraction methods.

### **Analysis of Groundwater Samples**

The four groundwater samples were analyzed for:

- Total Petroleum Hydrocarbon as Gasoline (TPH-G),
- Fuel Oxygenates.
- Purgeable Aromatic Hydrocarbons (Benzene, Toluene, Ethylbenzene, and total Xylenes--BTEX).

All analyses were performed by the ABC Environmental Laboratories (ELAP 2584), a laboratory certified by the State of California using approved analytical and extraction methods.

## **FINDINGS**

### **Soil Conditions**

The soil conditions encountered in all the geoprobes and in the URS investigation were all similar. The site is underlain by terrace deposits which are composed of alternating layers of fine grained soil (sandy and clayey silts) and coarser soil deposits, silty sands and clayey sands with varying amounts of fine angular gravels. Because of the proximity of the source materials, (the hills to the east) the deposits vary with depth and lateral position. Details of the soil conditions are presented on the boring logs for GP1 through GP8, Figures 12-19 of appendix A

### **Groundwater Conditions**

There were no specific indications of groundwater during the advancement of the geoprobes. By 16 feet, the soil appeared saturated with small amounts of water on the sampler. Based on the URS reports of groundwater at 14 feet, the PVC casings were installed. Groundwater collected in the casings and was periodically measured to determine stabilized depths. During the time available, groundwater elevations rose several feet. Because of the time restriction to complete the grouting of the wells per

ACPWA, final stabilized elevations were not determined. Final un-stabilized depths to water from adjacent pavement and assumed elevations are:

Locations	depth to water	Assumed Elevations
GP1	12.41 feet	47.91
GP2	12.97 feet	46.18
GP3	15.44 feet	43.64
GP4	10.83 feet	48.56

Based on review of procedures, data in the URS report, nearby data information in URS report and the presence of rainwater or perched water reported in the Tank Removal Report, The depth to stabilized groundwater at the site is in the range of about 10 feet below grade. The discontinuous soil conditions with permeabilities varying vertically and horizontally, the strong possible that the groundwater is confined and under pressure from aquifers much higher in elevation to the east of the site, presents a very complex hydrological condition.

The lack of stabilized groundwater elevations, and the discontinuous nature of the aquifer on the site precludes calculation of a gradient.

### Soil Sample Results

The following table presents only the soil sample results for TPH-G and Benzene analytical results for clarity. The complete results are shown on the attached table.

Sample ID	TPH-G	Benzene
<b>JCC Borings of February 2006</b>		
9795-GP1-5.0	ND	ND
9795-GP1-10.0	ND	ND
9795-GP1-15.0	ND	ND
9795-GP2-5.0	ND	ND
9795-GP2-10.0	23.6 ppm	ND
9795-GP2-14.0	ND	ND
9795-GP3-5.0	ND	ND
9795-GP3-10.0	ND	ND
9795-GP3-14.0	ND	ND
9795-GP4-5.0	ND	ND
9795-GP4-10.0	30.7 ppm	ND
9795-GP4-14.0	1.31 ppm	ND
9795-GP5-2.0	ND	ND
9795-GP5-8.0	176	ND
9795-GP5-12.0	1.80	0.86 ppm

9795-GP6-1.5	ND	ND
9795-GP6-6.0	ND	ND
9795-GP6-10.0	18.3 ppm	ND
9795-GP6-14.0	1.36 ppm	0.60 ppm
9795-GP7-5.0	ND	0.007 ppm
9795-GP7-10.0	19.1 ppm	ND
9795-GP7-14.0	2.85 ppm	ND
9795-GP8-5.0	ND	ND
9795-GP8-10.0	ND	ND
9795-GP8-12.0	ND	ND
<b>URS borings of September 2004</b>		
S1-1.0	ND	ND
S1-3.5	ND	ND
S1-14.0	ND	110 ppb
S2-1.0	ND	ND
S2-3.5	ND	ND
S2-14.0	170 ppm	3,200 ppb
S3-1.0	ND	ND
S3-3.5	ND	ND
S3-14.0	ND	22 ppb
S4-1.0	ND	ND
S4-3.5	ND	ND
S4-14.0	6.2 ppm	250 ppb
S5-1.0	ND	ND
S5-3.5	ND	ND
S5-14.0	ND	ND
S6-1.0	ND	ND
S6-3.5	ND	ND
S6-14.0	ND	ND
S7-1.0	ND	ND
S7-3.5	ND	ND
S7-14.0	ND	ND
S8-1.0	ND	ND
S8-3.5	ND	ND
S8-14.0	ND	ND
S9-1.0	ND	ND
S9-3.5	ND	11 ppb
S9-14.0	20 ppm	1,500 ppb
S10-1.0	ND	ND
S10-3.5	ND	ND
S10-14.0	ND	19 ppb

S11-1.0	ND	ND
S11-3.5	ND	ND
S11-10.0	220 ppm	940 ppb

TPH-G Total Petroleum Hydrocarbons as Gasoline  
 ND Not Detected at or above the method detection limit

As can be seen there is no to minimal impact of any soils within the upper feet at the site.

Figures showing the locations and results of TPH-G and Benzene for soil between 0.5 and 5 feet, 10 feet and 14 feet are presented on Figures 4 through 9 of Appendix A.

The major impact appears to be to the soils at about 10 feet below ground surface. The one soil sample taken from 8 feet bgs was also significantly impacted. In all cases where there are soil samples from both 10 feet deep and 14 feet deep, the TPH-G decreases to at least one tenth than that at 10 feet.

In connection with the distribution of the TPH-G, it must be kept in mind that there may be perched, and or shallow groundwater conditions which may be instrumental in distributing the TPH-G at the 10 foot level.

**Groundwater Sample Results**

The following table presents the analytical results for the four groundwater samples obtained during the investigation and the 11 samples from the URS investigation.

Sample ID	TPH-G	Benzene
<b>JCC Borings of February 2006</b>		
9795-GP1-W	ND	ND
9795-GP2-W	554 ppb	10.1 ppb
9795-GP3-W	79,800 ppb	17,600 ppb
9795-GP4-W	1,980 ppb	294 ppb
<b>URS Borings of September 2004</b>		
G2	22,000 ppb	4,700 ppb
G4	950 ppb	260 ppb
G7	190 ppb	21 ppb
G9	1,200 ppb	88 ppb
G10	97 ppb	4.4 ppb
G11	66 ppb	2.3 ppb
G12	ND	1.5 ppb
G13	ND	0.53 ppb
G17	ND	0.59 ppb
G19	ND	ND
G20	64 ppb	ND

TPH-G Total Petroleum Hydrocarbons as Gasoline  
 ND Not Detected at or above the method detection limit



Figures showing the locations and results of TPH-G and Benzene in groundwater are presented on Figures 10 and 11 of Appendix A.

The results show definite TPH-G and Benzene contamination to the groundwater in the area of the tanks. The areas impacted appear to be centered at the hot spot at GP3. There was no soil contamination found in the soil samples from GP3. There is no correlation of the various TPH-G data points across the site which would indicate consistent release patterns, uniform soil or groundwater conditions. The lack of a gradient complicates the situation. Benzene essentially duplicates the pattern of TPH-G. Minor amounts of TPH-G in the URS sample G20 which is at the rear of the property, tends to indicate that the gradient at the site may be toward the south east and not the northwest as surmised. The levels in GP3, GP4 and G4 tend to corroborate such a gradient.

## **ANALYTICAL CERTIFICATES**

Copies of original certificates from the California Certified ABC Environmental Laboratories for the soil and groundwater sample analyses are attached in Appendix B. A copy of the Chain-of-Custody Form is also included in Appendix B.

## **CONCLUSIONS**

There has been an impact to the groundwater at the site. It appears that the impact is due to releases from underground storage tanks which were removed from the site in 1995.

There have been two soil and groundwater investigations after the tanks were removed and both encountered similar results. The main contaminants of concern are TPH-G and Benzene. Levels of both exceed the Regional Water Quality Control Board screening levels.

The site itself is considered to be adequately categorized to begin remediation of the secondary sources related to impacted soil and to remediate groundwater within the site boundaries. Present plans call for the site itself along with the adjacent vacant parcel to be developed with a multiple story apartment building with a basement level.

The planned excavation for the basement will remove all contaminated soil within the site boundaries down to 12 feet below existing grade. The excavation can be expanded to include the impacted soil below the sidewalk area. In areas where screening levels are exceeded at the 12 foot levels, the excavation could be deepened to remove such impacted soil.

Groundwater in the vicinity of the tanks was determined to have containment levels exceeding screening levels. Because of the particulars of the groundwater (shallow), in a

horizontally and vertically discontinuous, slow recharging and confined aquifer and one which may have been altered by various large BART projects to the east and south, no precise description of the groundwater behavior is feasible.

It is our opinion that groundwater will stabilize at a depth of about 10 feet below the ground surface during the basement excavation. Such water will require removal from the excavation. Removal of large quantities of groundwater within the excavation will serve as a remediation measure.

We conclude that there has been adequate investigation of the soil and groundwater conditions within the property. The excavation for the proposed basement should be allowed to proceed. Such an excavation, when modified to include the sidewalk areas and combined with appropriate confirmation sampling, will serve as the primary means of remediating all the on site impacted soil resulting from the leaking underground storage tanks. Such remediation is affirmative and will remove all contaminated soil in a positive manner. The excavation will allow for the immediate remediation of any adjacent contaminated soil within the site.

Groundwater will be removed from the site during the excavation. The water will require profiling and/or treatment before disposal in an appropriate manner. When exposed, more precise details regarding the groundwater conditions at the site will be available. Confirmation samples of any groundwater within the excavation can be used to determine the actual conditions which will remain after the construction.

Provisions will be made for the treatment of groundwater which may remain in the area of the building by using ORCs (Oxygen Releasing Compounds) as recommended in the URS report. Such treatment will serve as a continuing soil and groundwater remediation action. The use of ORCs is much more efficient than a pint injection system and should be utilized in this situation.

The data developed to date indicates that there may be off-site effects, particularly to the west and south of the site. Concurrently or immediately after the on-site excavation, a program of monitoring well installation will be carried out. Depending on actual conditions determined during the excavation, groundwater monitoring wells would establish actual groundwater gradients and flows and levels of contaminants remaining in the groundwater.

## **RECOMMENDATIONS**

Remediation of the soil and groundwater should start in conjunction with the proposed building construction at the site. The following are recommended:

Excavate all soil within the sidewalk area and site area down to the proposed basement elevations.

Carry out confirmation sampling and extend and deepen the excavation as necessary

Profile and appropriately dispose of all impacted soil

Treat the exposed soil with ORCs for long term groundwater remediation

During excavation observe aquifer conditions

As appropriate remove groundwater from the excavation. Profile and dispose ground water in an appropriate manner.

Carry out sampling of incoming groundwater to determine the condition of the groundwater as it enters the site.

Based on observations, plan a groundwater monitoring program with at least three off-site groundwater monitoring wells with provisions for quarterly sampling and gradient calculations. Soil sampling during the monitoring well installation will provide additional data regarding any off site soil contamination.

**ATTACHED TABLE OF RESULTS**

**REPORT  
OF  
SOIL AND GROUNDWATER INVESTIGATION**  
at  
3884 Martin Luther King Junior Way  
Oakland, California

March 10, 2006  
Project 9795

# JOHN CARVER CONSULTING

## ENVIRONMENTAL -- CIVIL -- GEOTECHNICAL

**Soil Analytical Results 3884 Martin Luther King Junior Way  
JCC INVESTIGATION OF FEBRUARY 2006**

Analyte	TPH-G	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Other Oxygenates			TTL	STL	PRG resid	RBSL
9795-GP1-5.0	ND	ND	ND	ND	ND	ND	ND			--	--	NE	100
9795-GP1-10.0	ND	ND	ND	ND	ND	ND	ND			--	--	NE	100
9795-GP1-15.0	ND	ND	ND	ND	ND	ND	ND			--	--	NE	500
										--	--	NE	NE
9795-GP2-5.0	ND	ND	ND	ND	ND	ND	ND			--	--	varies	varies
9795-GP2-10.0	23.6 ppm	ND	ND	0.315 ppm	0.243 ppm	ND	ND			--	--	6.2	0.028
9795-GP2-14.0	ND	ND	ND	ND	ND	ND	ND						
										500	15.0	310	6.3
9795-GP3-5.0	ND	ND	ND	ND	ND	ND	ND			500	5.	220	0.39
9795-GP3-10.0	ND	ND	ND	ND	ND	ND	ND			10,000	100	5,400	750
9795-GP3-14.0	ND	ND	ND	ND	ND	ND	ND			75	0.75	150	4.0
										100	1.0	37	1.7
9795-GP4-5.0	ND	ND	ND	ND	ND	ND	ND			2500	560	210	750
9795-GP4-10.0	30.7 ppm	ND	ND	1.38 ppm	4.60 ppm	ND	ND			8,000	80	900	40
9795-GP4-14.0	1.31 ppm	ND	ND	0.083 ppm	0.057 ppm	ND	ND			2,500	25	3,100	225
										1,000	5.0	150	200
9795-GP5-2.0	ND	ND	ND	ND	ND	ND	ND			20	0.2	23	4.7
9795-GP5-8.0	176	ND	ND	3.19 ppm	15.5 ppm	ND	ND			3,500	350	390	40
9795-GP5-12.0	1.80	0.86 ppm	0.14 ppm	0.11 ppm	0.26 ppm	ND	ND			2,000	20	1,600	150
										100	1.0	390	10
9795-GP6-1.5	ND	ND	ND	ND	ND	ND	ND			500	5.0	390	20
9795-GP6-6.0	ND	ND	ND	ND	ND	ND	ND			700	7.0	5.2	1.0
9795-GP6-10.0	18.3 ppm	ND	ND	0.48 ppm	0.57 ppm	ND	ND						
9795-GP6-14.0	1.36 ppm	0.60 ppm	0.079 ppm	0.10 ppm	0.07 ppm	ND	ND						

**JOHN CARVER CONSULTING**  
**ENVIRONMENTAL -- CIVIL -- GEOTECHNICAL**

**Soil Analytical Results 3884 Martin Luther King Junior Way**  
**JCC INVESTIGATION OF FEBRUARY 2006**

Analyte	TPH-G	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Other Oxygenates
9795-GP7-5.0	ND	0.007 ppm	ND	ND	ND	ND	ND
9795-GP7-10.0	19.1 ppm	ND	ND	0.23 ppm	ND	ND	ND
9795-GP7-14.0	2.85 ppm	ND	ND	0.058 ppm	0.042 ppm	ND	ND
9795-GP8-5.0	ND	ND	ND	ND	ND	ND	ND
9795-GP8-10.0	ND	ND	ND	ND	ND	ND	ND
9795-GP8-12.0	ND	ND	ND	ND	ND	ND	ND

# JOHN CARVER CONSULTING

## ENVIRONMENTAL -- CIVIL -- GEOTECHNICAL

### Soil Analytical Results 3884 Martin Luther King Junior Way URS INVESTIGATION OF SEPTEMBER 2004

Analyte	TPH-G	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Other Oxygenates
S1-1.0	ND	ND	ND	ND	ND	ND	
S1-3.5	ND	ND	ND	ND	ND	ND	
S1-14.0	ND	110 ppb	15 ppb	38 ppb	95 ppb	18 ppb	
S2-1.0	ND	ND	ND	ND	ND	ND	
S2-3.5	ND	ND	ND	ND	ND	ND	
S2-14.0	170 ppm	3,200 ppb	14,000 ppb	4,100 ppb	20,000 ppb	ND	
S3-1.0	ND	ND	ND	ND	ND	ND	
S3-3.5	ND	ND	ND	ND	ND	ND	
S3-14.0	ND	22 ppb	ND	ND	ND	ND	
S4-1.0	ND	ND	ND	ND	ND	ND	
S4-3.5	ND	ND	ND	ND	ND	ND	
S4-14.0	6.2 ppm	250 ppb	ND	ND	ND	ND	
S5-1.0	ND	ND	ND	ND	ND	ND	
S5-3.5	ND	ND	ND	ND	ND	ND	
S5-14.0	ND	ND	ND	ND	ND	ND	
S6-1.0	ND	ND	ND	ND	ND	ND	
S6-3.5	ND	ND	ND	ND	ND	ND	
S6-14.0	ND	ND	ND	ND	ND	ND	

# JOHN CARVER CONSULTING

## ENVIRONMENTAL -- CIVIL -- GEOTECHNICAL

### Soil Analytical Results 3884 Martin Luther King Junior Way URS INVESTIGATION OF SEPTEMBER 2004

Analyte	TPH-G	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Other Oxygenates
S7-1.0	ND	ND	ND	ND	ND	ND	
S7-3.5	ND	ND	ND	ND	ND	ND	
S7-14.0	ND	ND	ND	ND	ND	ND	
S8-1.0	ND	ND	ND	ND	ND	ND	
S8-3.5	ND	ND	ND	ND	ND	ND	
S8-14.0	ND	ND	ND	ND	ND	ND	
S9-1.0	ND	ND	ND	ND	ND	ND	
S9-3.5	ND	11 ppb	ND	22 ppb	37 ppb		
S9-14.0	20 ppm	1,500 ppb	280 ppb	380 ppb	1,600 ppb	ND	
S10-1.0	ND	ND	ND	ND	ND	ND	
S10-3.5	ND	ND	ND	ND	ND	ND	
S10-14.0	ND	19 ppb	6.2 ppb	79 ppb	96 ppb	ND	
S11-1.0	ND	ND	ND	ND	ND	ND	
S11-3.5	ND	ND	ND	ND	ND	ND	
S11-10.0	220 ppm	940 ppb	670 ppb	8,500 ppb	8,000 ppb	ND	



# JOHN CARVER CONSULTING

## ENVIRONMENTAL -- CIVIL -- GEOTECHNICAL

**Soil Analytical Results 3884 Martin Luther King Junior Way**  
**JCC INVESTIGATION OF FEBRUARY 2006**  
**URS INVESTIGATION OF SEPTEMBER 2004**

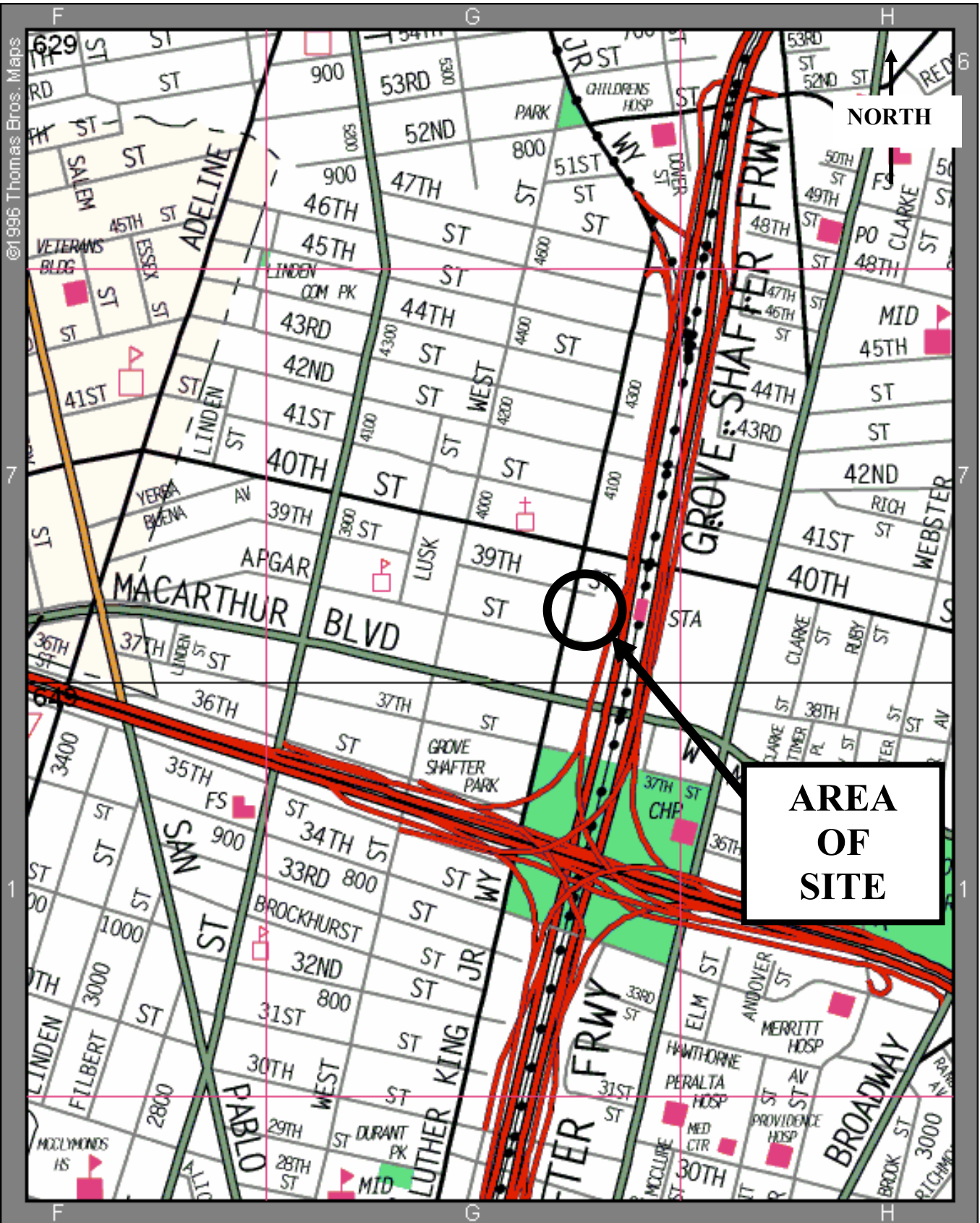
### GROUNDWATER

Analyte	TPH-G	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Other Oxygenates
<b>JCC INVESTIGATION OF 2006</b>							
9795-GP1-W	ND	ND	ND	ND	ND	ND	ND
9795-GP2-W	554 ppb	10.1 ppb	ND	89.2 ppb	114 ppb	ND	ND
9795-GP3-W	79,800 ppb	17,600 ppb	8,480 ppb	1,950 ppb	10,200 ppb	ND	ND
9795-GP4-W	1,980 ppb	294 ppb	ND	189 ppb	523 ppb	ND	ND
<b>URS INVESTIGATION OF 2004</b>							
G2	22,000 ppb	4,700 ppb	5,500 ppb	700 ppb	2,300 ppb	ND	
G4	950 ppb	260 ppb	ND	74 ppb	58 ppb	ND	
G7	190 ppb	21 ppb	34 ppb	5.0 ppb	10 ppb	ND	
G9	1,200 ppb	88 ppb	42 ppb	33 ppb	170 ppb	7.9 ppb	
G10	97 ppb	4.4 ppb	1.5 ppb	4.2 ppb	5.3 ppb	6.5 ppb	
G11	66 ppb	2.3 ppb	2.9 ppb	1.6 ppb	5.2 ppb	ND	
G12	ND	1.5 ppb	2.6 ppb	ND	ND	ND	
G13	ND	0.53 ppb	0.58 ppb	ND	ND	ND	
G17	ND	0.59 ppb	0.62 ppb	ND	ND	ND	
G19	ND	ND	ND	ND	ND	ND	
G20	64 ppb	ND	ND	ND	ND	ND	

**APPENDIX A**  
Figures 1 through 19

**REPORT  
OF  
SOIL AND GROUNDWATER INVESTIGATION**  
at  
3884 Martin Luther King Junior Way  
Oakland, California

March 10, 2006  
Project 9795



**JOHN CARVER CONSULTING**

**VICINITY MAP**  
 3884 Martin Luther King Way  
 Oakland, California

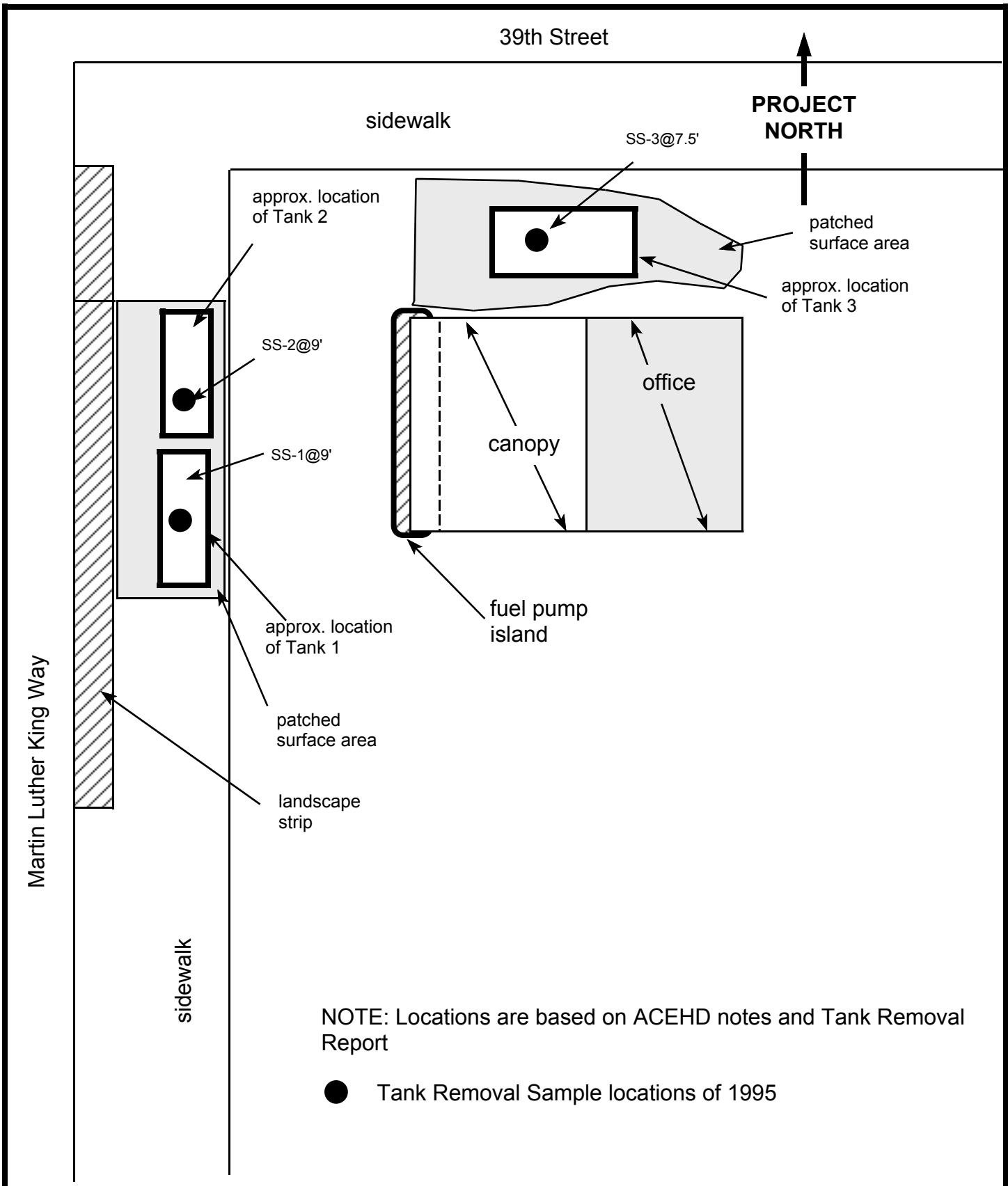
Project 9795

by: jnc

not to scale

March 2006

Figure Number 1



**JOHN CARVER CONSULTING**

415 235 4648

**SITE PLAN**

3884 Martin Luther King Way  
Oakland, CA

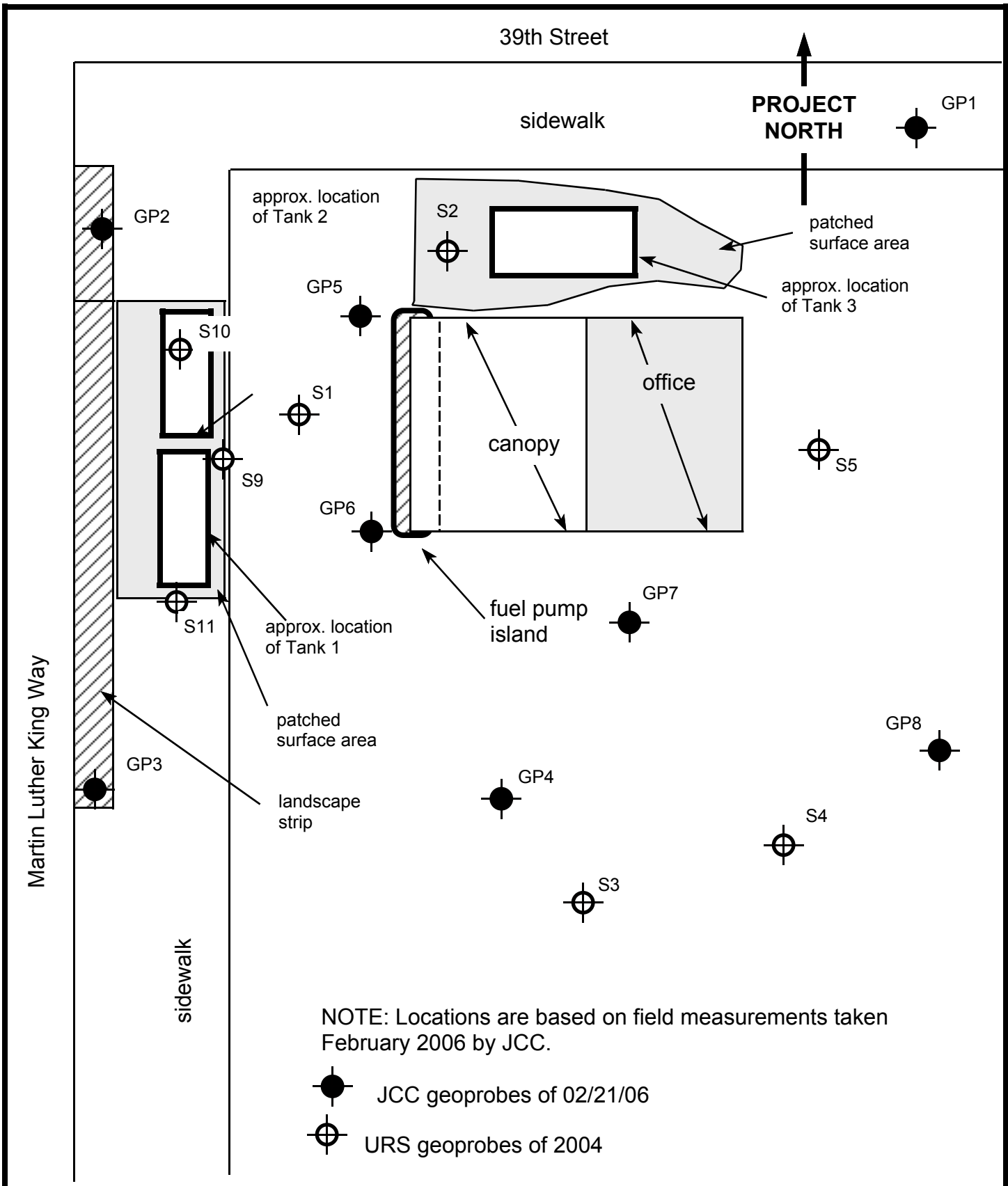
Project 9795

by: jnc

Scale 1" = 10'

March 2006

Figure 2



**JOHN CARVER CONSULTING**  
415 235 4648

**SITE PLAN**  
3884 Martin Luther King Way  
Oakland, CA

Project 9795

by: jnc

Scale 1" = 10'

March 2006

Figure 3

39th Street

sidewalk

PROJECT NORTH

GP1

approx. location of Tank 2

S2

GP2

GP5

S10

S1

S9

S5

GP6

GP7

fuel pump island

S11

GP8

GP3

GP4

S4

sidewalk

S3

**NO TPH-G DETECTED IN ANY SAMPLE AT 0.0 TO 5.0 FEET**

NOTE: Locations are based on field measurements taken February 2006 by JCC.



URS geoprobes of 2004



JCC geoprobes of 02/21/06

**JOHN CARVER CONSULTING**

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**TPH-G 0.0 TO 5.0 FEET**

3884 Martin Luther King Way  
Oakland, CA


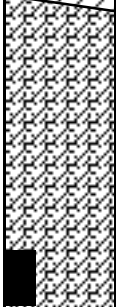
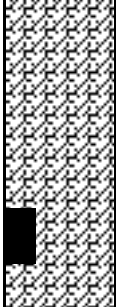
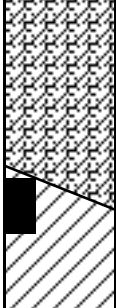
Project 9795

by: jnc

Scale 1" = 10'

March 2006

Figure 4

Sample Number	Blows per foot	Soil Type	Time	Log	Depth in feet	DESCRIPTION
9795-GP6-1.5		CL	1140		0	2 inches of asphalt over 4 inches of base rock  dark brown silty clay
9795-GP6-6.0		Terrace Deposits to 16 feet	1145		5	brown silty clay with layers of gravel. Appear to be Terrace deposits.  Gravel size ranges up to 1 inch.
9795-GP6-10.0	1150			10		
9795-GP6-14.0	1155			15	brown silty clay, wet to saturated	

Drilled February 21, 2006 using Geoprobe percussion technology. No groundwater indications during drilling. Boring terminated at 16 feet and grouted with neat cement.

**JOHN CARVER CONSULTING**  
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BORING LOG GP6  
3884 Martin Luther King Way  
Oakland, California

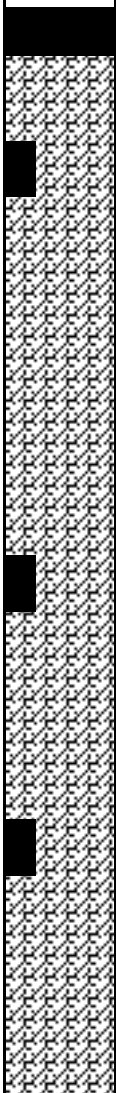
Project No. 9795

By: jnc

Not To Scale

March 2006

Figure 17

Sample Number	Blows per foot	Soil Type	Time	Log	Depth in feet	DESCRIPTION
9795-GP5-2.0		Terrace Deposits to 16 feet	1102		0	2 inches of asphalt over 4 inches of base rock
9795-GP5-8.0	1120			5	grey silty clay with many inclusions and layers of gravel. Appears to be Terrace deposits extending to the full depth.  Gravel size ranges up to 2 inches.	
9795-GP5-12.0	1130			10	15	

Drilled February 21, 2006 using Geoprobe percussion technology. No groundwater indications during drilling. Boring terminated at 16 feet and grouted with neat cement.

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BORING LOG GP5  
3884 Martin Luther King Way  
Oakland, California

Project No. 9795

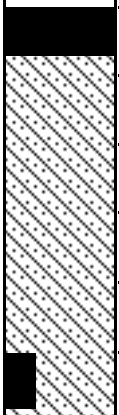
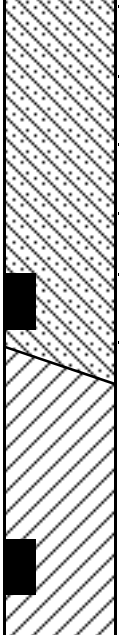
By: jnc

Not To Scale

March 2006

Figure 16



Sample Number	Blows per foot	Soil Type	Time	Log	Depth in feet	DESCRIPTION
9795-GP4-5.0		CL	1028		0	2 inches of asphalt over 4 inches of base rock
					5	brown silty clay with some minor gravel  various inclusions of sands and gravels . Inclusions range from less than one inch to 3 or 4 inches.
9795-GP4-10.0		GM	1035		10	Highest unstabilized Groundwater depth at 10.60 feet bgs
9795-GP4-14.0			1040		15	brown silty clay to sandy clay with gravel inclusions

Drilled February 21, 2006 using Geoprobe percussion technology. No groundwater indications during drilling. Casing installed and highest GW level was 10.60 ft bgs. Boring terminated at 16 feet. Groundwater sample 9795-GP4-W taken at 1430. Casing removed and GP grouted with neat cement.

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BORING LOG GP4  
3884 Martin Luther King Way  
Oakland, California

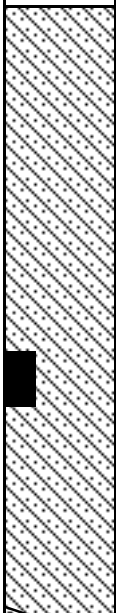
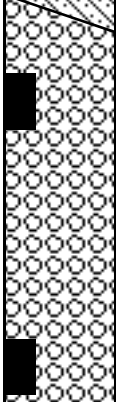

Project No. 9795

By: jnc

Not To Scale

March 2006

Figure 15

Sample Number	Blows per foot	Soil Type	Time	Log	Depth in feet	DESCRIPTION
9795-GP3-5.0		CL	0954		0 5	soil in planter area brown silty clay with some minor gravel various inclusions of sands and gravels . Inclusions range from less than one inch to 3 or 4 inches.
9795-GP3-10.0		GM	0956		10	brown silty clayey sandy GRAVEL  Highest unstabilized Groundwater depth at 15.54 feet bgs
9795-GP3-14.0			1003		15	

Drilled February 21, 2006 using Geoprobe percussion technology. No groundwater indications during drilling. Casing installed and highest GW level was 15.44 ft bgs. Boring terminated at 16 feet. Groundwater sample 9795-GP3-W taken at 1420. Casing removed and GP grouted with neat cement.

**JOHN CARVER CONSULTING**  
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BORING LOG GP3  
3884 Martin Luther King Way  
Oakland, California

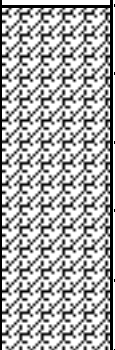
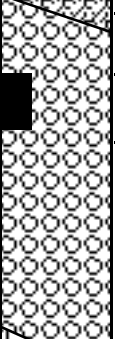
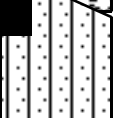

Project No. 9795

By: jnc

Not To Scale

March 2006

Figure 14

Sample Number	Blows per foot	Soil Type	Time	Log	Depth in feet	DESCRIPTION
9795-GP2-5.0		Terrace Deposits to 9 ft	0900		0	soil in planter area
					5	brown silty clay with some angular gravel  alternating layers of fine grained silts and clays with layers of coarser grained clayey, sandy gravels and gravelly sandy clays. Layers range from inches to about 0.5 feet
9795-GP2-10.0		GC	0904		10	brown silty clayey sandy GRAVEL
9795-GP2-14.0		ML	0910		15	brown clayey silt, wet, to saturated.
						 Highest unstabilized Groundwater depth at 13.36 feet bgs

Drilled February 21, 2006 using Geoprobe percussion technology. No groundwater indications during drilling. Casing installed and highest GW level was 13.36 ft bgs. Boring terminated at 16 feet. Groundwater sample 9795-GP2-W taken at 1410. Casing removed and GP grouted with neat cement.

**JOHN CARVER CONSULTING**  
415 235 4648

BORING LOG GP2  
3884 Martin Luther King Way  
Oakland, California

Project No. 9795

By: jnc

Not To Scale

March 2006

Figure 13

Sample Number	Blows per foot	Soil Type	Time	Log	Depth in feet	DESCRIPTION
9795-GP1-5.0		Terrace Deposits to 13 ft	0807		0	2 inches sidewalk concrete 4 inches sidewalk sub-grade gravel  brown silty clay with some angular gravel  alternating layers of fine grained silts and clays with layers of coarser grained clayey, sandy gravels and gravelly sandy clays. Layers range from inches to about 0.5 feet
9795-GP1-10.0			0813		10	ML  brown fine sandy silt, wet, to saturated.
9795-GP1-15.0		ML	0822			

Highest unstabilized Groundwater depth at 12.41 feet bgs

Drilled February 21, 2006 using Geoprobe percussion technology. No groundwater indications during drilling. Casing installed and highest GW level was 12.41 ft bgs. Boring terminated at 16 feet. Groundwater sample 9795-GP1-W taken at 1400. Casing removed and GP grouted with neat cement.

**JOHN CARVER CONSULTING**  
415 235 4648

BORING LOG GP1  
3884 Martin Luther King Way  
Oakland, California

Project No. 9795

By: jnc

Not To Scale

March 2006

Figure 12

39th Street

sidewalk

PROJECT  
NORTH

GP1  
ND

GP2  
10.1 ppb

S2  
4,700 ppb

S10  
4.4 ppb

S9  
88 ppb

S11  
2.3 ppb

GP3  
17,600 ppb

GP4  
294 ppb

S4  
260 ppb

Martin Luther King Way

sidewalk

NOTE: Locations are based on field measurements taken  
February 2006 by JCC.

⊕ URS geoprobes of 2004

● JCC geoprobes of 02/21/06

**JOHN CARVER CONSULTING**

415 235 4648

**BENZENE in GROUNDWATER**

3884 Martin Luther King Way  
Oakland, CA

Project 9795

by: jnc

Scale 1" = 10'

March 2006

Figure 11

39th Street

sidewalk

PROJECT  
NORTH

GP1  
ND

GP2  
554 ppb

S2  
22,000 ppb

S10  
97 ppb

S9  
1,200 ppb

S11  
66 ppb

GP3  
79,800 ppb

GP4  
1,980 ppb

S4  
950 ppb

Martin Luther King Way

sidewalk

NOTE: Locations are based on field measurements taken  
February 2006 by JCC.

⊕ URS geoprobes of 2004

● JCC geoprobes of 02/21/06

**JOHN CARVER CONSULTING**

415 235 4648

**TPH-G in GROUNDWATER**  
3884 Martin Luther King Way  
Oakland, CA

Project 9795

by: jnc

Scale 1" = 10'

March 2006

Figure 10

39th Street

sidewalk

PROJECT  
NORTH

GP1  
ND

S2  
3.2 ppm

GP2  
ND

GP5  
0.86 ppm  
(12')

S10  
0.019 ppm

S1  
0.11 ppm

S9  
1.5 ppm

GP6  
0.60 ppm

GP7  
ND

S5  
ND

S11  
0.94 ppm

GP3  
ND

GP4  
ND

GP8  
ND  
(12')

S4  
0.250 ppm

sidewalk

S3  
0.022 ppm

NOTE: Locations are based on field measurements taken  
February 2006 by JCC.

⊕ URS geoprobes of 2004

● JCC geoprobes of 02/21/06

**JOHN CARVER CONSULTING**

415 235 4648

**BENZENE at 14.0 FEET**

3884 Martin Luther King Way  
Oakland, CA

Project 9795

by: jnc

Scale 1" = 10'

March 2006

Figure 9

39th Street

sidewalk

PROJECT  
NORTH

GP1  
ND

GP2  
ND

GP5  
ND  
(8')

S9  
940 ppb

GP6  
ND ppm

GP7  
ND

GP8  
ND

GP3  
ND

sidewalk

GP4  
ND

Martin Luther King Way

**Benzene detected in the single URS sample from 10.0 feet.  
There was no Detectable Benzene in any of the JCC geoprobes  
at 10'. There was only 1 URS sample from about 10 feet**

NOTE: Locations are based on field measurements taken  
February 2006 by JCC.

⊕ URS geoprobes of 2004

● JCC geoprobes of 02/21/06

**JOHN CARVER CONSULTING**

415 235 4648

**BENZENE at 10.0 FEET**

3884 Martin Luther King Way  
Oakland, CA

Project 9795

by: jnc

Scale 1" = 10'

March 2006

Figure 8



39th Street

sidewalk

PROJECT NORTH

GP1

GP2

S2

GP5

S10

S1

S9

11 PPB

GP6

S11

GP7

0.007 PPM

S5

GP3

GP8

GP4

sidewalk

S4

S3

**BENZENE DETECTED IN ONLY TWO SAMPLES  
BETWEEN 0.0 TO 5.0 FEET -- NO APPARENT PATTERN**

NOTE: Locations are based on field measurements taken  
February 2006 by JCC.



URS geoprobes of 2004



JCC geoprobes of 02/21/06

**JOHN CARVER CONSULTING**

415 235 4648

**BENZENE 0.0 TO 5.0 FEET**

3884 Martin Luther King Way  
Oakland, CA

Project 9795

by: jnc

Scale 1" = 10'

March 2006

Figure 7

39th Street

sidewalk

PROJECT NORTH

GP1  
ND



GP2  
ND



S2  
170 ppm



GP5  
1.8 ppm  
(12')



S10  
ND



S1  
ND



S9  
20 ppm



GP6  
1.36 ppm



GP7  
2.85



S5  
ND



S11  
220 ppm



GP3  
ND



GP8  
ND  
(12')



GP4  
1.31



S4  
6.2



S3  
ND



sidewalk

Martin Luther King Way

NOTE: Locations are based on field measurements taken February 2006 by JCC.



URS geoprobes of 2004



JCC geoprobes of 02/21/06

**JOHN CARVER CONSULTING**

415 235 4648

**TPH-G at 14.0 FEET**

3884 Martin Luther King Way  
Oakland, CA

Project 9795

by: jnc

Scale 1" = 10'

March 2006

Figure 6

39th Street

sidewalk

PROJECT  
NORTH

GP1  
ND

GP2  
23.6 ppm

GP5  
176 ppm  
(8')

GP6  
18.3 ppm

GP7  
19.1

S11  
220 ppm

GP3  
ND

GP8  
ND

GP4  
30.7 ppm

Martin Luther King Way

sidewalk

**There was only 1 URS sample from about 10 feet (S11)**

NOTE: Locations are based on field measurements taken  
February 2006 by JCC.



URS geoprobes of 2004



JCC geoprobes of 02/21/06

**JOHN CARVER CONSULTING**

415 235 4648

**TPH-G at 10.0 FEET**  
3884 Martin Luther King Way  
Oakland, CA

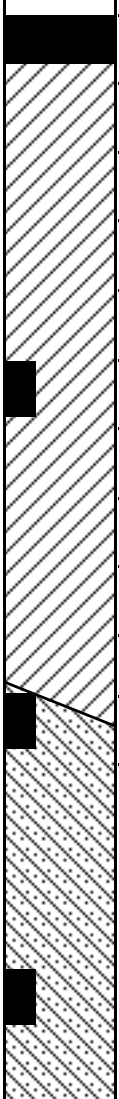
Project 9795

by: jnc

Scale 1" = 10'

March 2006

Figure 5

Sample Number	Blows per foot	Soil Type	Time	Log	Depth in feet	DESCRIPTION
9795-GP7-5.0		CL	1235		0	2 inches of asphalt over 4 inches of base rock
					5	brown and grey silty clay with minor amounts of gravel. Gravel to 1/2 inch.
					10	brown sandy silty clay, to clayey silty fine sand, wet to saturated
9795-GP7-10.0		CL	1240			
9795-GP7-14.0		CL/SC	1245		15	

Drilled February 21, 2006 using Geoprobe percussion technology. No groundwater indications during drilling. Boring terminated at 16 feet and grouted with neat cement.

**JOHN CARVER CONSULTING**  
415 235 4648

BORING LOG GP7  
3884 Martin Luther King Way  
Oakland, California

Project No. 9795

By: jnc

Not To Scale

March 2006

Figure 18

**APPENDIX B**

Laboratory Certificates  
Chain of Custody Forms

**REPORT  
OF  
SOIL AND GROUNDWATER INVESTIGATION**  
at  
3884 Martin Luther King Junior Way  
Oakland, California

March 10, 2006  
Project 9795

Mr. John Carver  
John Carver Consulting  
670 Vernon St., #401  
Oakland, CA 94610

2/27/2006

Project: 9795  
Project Site: 3884 Martin Luther King  
Sample Date: 2/21/2006  
Lab Job No.: J6B025

Dear Mr. John Carver:

Enclosed please find the analytical report for the samples received by ABC Environmental Laboratories on 2/23/06 and analyzed by the following EPA methods:

EPA 8015M (Gasoline)  
EPA 8260B (BTEX & Oxygenates)

All analyses have met the QA/QC criteria of this laboratory.

The sample(s) arrived in good conditions (i.e., chilled, intact) and with a chain of custody record attached.

ABC Environmental Laboratories is certified by the CA DHS (Certificate No.2584). Thank you for giving us the opportunity to serve you.

Please feel free to call me at (562) 699-7288 if our laboratory can be of further service to you.

Respectfully,

ABC Environmental Laboratories, Inc.

Ken Zheng, M.S.  
Laboratory Director

Enclosures

This cover letter is an integral part of this analytical report.

# INVOICE

(No. J6B025)

Client: . John Carver Consulting Lab Job No.: J6B025  
Address: 670 Vernon St., #401 Date Sampled: 2/21/2006  
Oakland, CA 94610 Date Reported: 2/27/2006  
Tel: (415)235-4648 Date of Invoice: 2/27/2006  
Fax: (510)595-6821

Project: 9795  
Project Site: 3884 Martin Luther King

Analysis Requested	Unit Price	Samples	Amount
EPA 8015M (Diesel)	\$ 25.00	29	\$ 725.00
EPA 8260B (BTEX & Oxy.)	\$ 65.00	29	\$ 1,885.00

Total Amount Due: \$ 2,610.00

|



Client: John Carver Consulting  
 Project: 9795  
 Project Site: 3884 Martin Luther King  
 Matrix: Soil  
 Batch No.: 0225-VOAS1

Lab Job No.:  
 Date Sampled:  
 Date Received:  
 Date Analyzed:  
 Date Reported:

### EPA 8260B (BTEX & Oxy. by GC/MS)

Reporting Unit: mg/kg (PPM)

Date Analyzed		02/25/06	02/25/06	02/25/06	02/25/06
Dilution Factor		1	1	1	1
Lab Sample I.D.		MB	J6B025-1	J6B025-2	J6B025-3
Client Sample I.D.			9795-GP1-5.0	9795-GP1-10.0	9795-GP1-15.0
Compound	RL				
Benzene	0.005	ND	ND	ND	ND
Toluene	0.005	ND	ND	ND	ND
Ethylbenzene	0.005	ND	ND	ND	ND
Total Xylene	0.010	ND	ND	ND	ND
MTBE	0.005	ND	ND	ND	ND
Ethyl-t-butyl Ether(ETBE)	0.005	ND	ND	ND	ND
Diisopropyl ether (DIPE)	0.005	ND	ND	ND	ND
TAME	0.005	ND	ND	ND	ND
t-Butanol (TBA)	0.020	ND	ND	ND	ND

Date Analyzed		02/25/06	02/25/06	02/25/06	02/25/06
Dilution Factor		25	1	1	1
Lab Sample I.D.		J6B025-5	J6B025-6	J6B025-7	J6B025-8
Client Sample I.D.		9795-GP2-10.0	9795-GP2-14.0	9795-GP3-5.0	9795-GP3-10.0
Compound	RL				
Benzene	0.005	ND	ND	ND	ND
Toluene	0.005	ND	ND	ND	ND
Ethylbenzene	0.005	0.315	ND	ND	ND
Total Xylene	0.010	0.243	ND	ND	ND
MTBE	0.005	ND	ND	ND	ND
Ethyl-t-butyl Ether(ETBE)	0.005	ND	ND	ND	ND
Diisopropyl ether (DIPE)	0.005	ND	ND	ND	ND
TAME	0.005	ND	ND	ND	ND
t-Butanol (TBA)	0.020	ND	ND	ND	ND

RL=Reporting Limit; MB=Method Blank; ND=Not Detected (Below Dilution Factor x RL)



Client: John Carver Consulting  
 Project: 9795  
 Project Site: 3884 Martin Luther King  
 Matrix: Soil  
 Batch No.: 0225-VOAS1

Lab Job No.:  
 Date Sampled:  
 Date Received:  
 Date Analyzed:  
 Date Reported:

### EPA 8260B (BTEX & Oxy. by GC/MS)

Reporting Unit: mg/kg (PPM)

Date Analyzed		02/25/06	02/25/06	02/25/06	02/25/06
Dilution Factor		1	200	10	1
Lab Sample I.D.		J6B025-10	J6B025-11	J6B025-12	J6B025-13
Client Sample I.D.		9795-GP4-5.0	9795-GP4-10.0	9795-GP4-14.0	9795-GP5-2.0
Compound	RL				
Benzene	0.005	ND	ND	0.61	ND
Toluene	0.005	ND	ND	ND	ND
Ethylbenzene	0.005	ND	1.38	0.083	ND
Total Xylene	0.010	ND	4.60	0.057	ND
MTBE	0.005	ND	ND	ND	ND
Ethyl-t-butyl Ether(ETBE)	0.005	ND	ND	ND	ND
Diisopropyl ether (DIPE)	0.005	ND	ND	ND	ND
TAME	0.005	ND	ND	ND	ND
t-Butanol (TBA)	0.020	ND	ND	ND	ND

Date Analyzed		02/25/06	02/25/06	02/25/06	02/25/06
Dilution Factor		10	1	1	100
Lab Sample I.D.		J6B025-15	J6B025-16	J6B025-17	J6B025-18
Client Sample I.D.		9795-GP5-12.0	9795-GP6-1.5	9795-GP6-6.0	9795-GP6-10.0
Compound	RL				
Benzene	0.005	0.86	ND	ND	ND
Toluene	0.005	0.14	ND	ND	ND
Ethylbenzene	0.005	0.11	ND	ND	0.48
Total Xylene	0.010	0.26	ND	ND	0.57
MTBE	0.005	ND	ND	ND	ND
Ethyl-t-butyl Ether(ETBE)	0.005	ND	ND	ND	ND
Diisopropyl ether (DIPE)	0.005	ND	ND	ND	ND
TAME	0.005	ND	ND	ND	ND
t-Butanol (TBA)	0.020	ND	ND	ND	ND

RL=Reporting Limit; MB=Method Blank; ND=Not Detected (Below Dilution Factor x RL)

J6B025

2/21/2006

2/23/2006

2/25/2006

2/27/2006

02/25/06
500
J6B025-14
9795-GP5-8.0
ND
ND
3.19
15.5
ND
ND
ND
ND
ND

02/25/06
2.5
J6B025-19
9795-GP6-14.0
0.60
0.079
0.10
0.07
ND
ND
ND
ND
ND

Client: John Carver Consulting  
 Project: 9795  
 Project Site: 3884 Martin Luther King  
 Matrix: Soil  
 Batch No.: 0225-VOAS2

Lab Job No.:  
 Date Sampled:  
 Date Received:  
 Date Analyzed:  
 Date Reported:

### EPA 8260B (BTEX & Oxy. by GC/MS)

Reporting Unit: mg/kg (PPM)

Date Analyzed		02/25/06	02/25/06	02/25/06	02/25/06
Dilution Factor		1	25	1	1
Lab Sample I.D.		J6B025-20	J6B025-21	J6B025-22	J6B025-23
Client Sample I.D.		9795-GP7-5.0	9795-GP7-10.0	9795-GP7-14.0	9795-GP8-5.0
Compound	RL				
Benzene	0.005	0.007	ND	ND	ND
Toluene	0.005	ND	ND	ND	ND
Ethylbenzene	0.005	ND	0.23	0.058	ND
Total Xylene	0.010	ND	ND	0.042	ND
MTBE	0.005	ND	ND	ND	ND
Ethyl-t-butyl Ether(ETBE)	0.005	ND	ND	ND	ND
Diisopropyl ether (DIPE)	0.005	ND	ND	ND	ND
TAME	0.005	ND	ND	ND	ND
t-Butanol (TBA)	0.020	ND	ND	ND	ND

Date Analyzed		02/25/06			
Dilution Factor		1			
Lab Sample I.D.		J6B025-25			
Client Sample I.D.		9795-GP8-12.0			
Compound	RL				
Benzene	0.005	ND			
Toluene	0.005	ND			
Ethylbenzene	0.005	ND			
Total Xylene	0.010	ND			
MTBE	0.005	ND			
Ethyl-t-butyl Ether(ETBE)	0.005	ND			
Diisopropyl ether (DIPE)	0.005	ND			
TAME	0.005	ND			
t-Butanol (TBA)	0.020	ND			

RL=Reporting Limit; MB=Method Blank; ND=Not Detected (Below Dilution Factor x RL)



Client: John Carver Consulting  
 Project: 9795  
 Project Site: 3884 Martin Luther King  
 Matrix: Water  
 Batch No.: 0225-VOAW

Lab Job No.: J6B025  
 Date Sampled: 2/21/2006  
 Date Received: 2/23/2006  
 Date Analyzed: 2/25/2006  
 Date Reported: 2/27/2006

**EPA 8260B (BTEX & Oxy. by GC/MS)**

Reporting Unit: ug/L (PPB)

Date Analyzed		02/25/06	02/25/06	02/25/06	02/25/06	02/25/06
Dilution Factor		1	1	1	200	10
Lab Sample I.D.		MB	J6B025-26	J6B025-27	J6B025-28	J6B025-29
Client Sample I.D.			9795-GP1-W	9795-GP2-W	9795-GP3-W	9795-GP4-W
<b>Compound</b>	<b>RL</b>					
Benzene	2	ND	ND	10.1	17,600	294
Toluene	2	ND	ND	ND	8,480	ND
Ethylbenzene	2	ND	ND	89.2	1,950	189
Total Xylene	4	ND	ND	114	10,200	523
MTBE	5	ND	ND	ND	ND	ND
Ethyl-t-butyl Ether(ETBE)	5	ND	ND	ND	ND	ND
Diisopropyl ether (DIPE)	5	ND	ND	ND	ND	ND
TAME	5	ND	ND	ND	ND	ND
t-Butanol (TBA)	15	ND	ND	ND	ND	ND

RL=Reporting Limit; MB=Method Blank; ND=Not Detected (Below Dilution Factor x RL)

**EPA 8260B (BTEX & Oxy.)  
Batch QA/QC Report**

Client: John Carver Consulting  
 Project: 9795  
 Matrix: Water  
 Batch No.: 0225-VOAW

Lab Job No.:  
 Lab Sample ID:  
 Date Analyzed:  
 Date Reported:

**LCS/LCSD Report**

Unit: PPB

Compound	Spike Conc.	LCS	LCSD	LCS %Rec.	LCSD %Rec.	%RPD	%RPD Accept Limit
1,1-Dichloroethene	20	20.2	22.4	101	112	10	20
Benzene	20	22.0	23.9	110	120	8	20
Trichloroethene	20	22.7	23.9	114	120	5	20
Toluene	20	22.3	22.4	112	112	0	20
Chlorobenzene	20	23.9	23.2	120	116	8	20

ND: Not Detected (Below RL x DF).



J6B025

LCS

2/25/2006

2/27/2006

%Rec. Accept Limit
80-120
80-120
80-120
80-120
80-120

**EPA 8260B (BTEX & Oxy.)  
Batch QA/QC Report**

Client:	John Carver Consulting	Lab Job No.:	J6B025
Project:	9795	Lab Sample ID:	J6B025-23
Matrix:	Soil	Date Analyzed:	2/25/2006
Batch No.:	0225-VOAS2	Date Reported:	2/27/2006

**I. MS/MSD Report**

Unit: PPB

Compound	Sample Conc.	Spike Conc.	MS	MSD	MS %Rec.	MSD %Rec.	%RPD	%RPD Accept Limit	%Rec. Accept Limit
1,1-Dichloroethene	ND	20	14.5	16.7	72.5	84	14	30	70-130
Benzene	ND	20	16.6	18.9	83	95	13	30	70-130
Trichloroethene	ND	20	17.1	20.0	86	100	16	30	70-130
Toluene	ND	20	17.7	19.3	88.5	97	9	30	70-130
Chlorobenzene	ND	20	19.2	20.9	96	105	8	30	70-130

**II. LCS Report**

Unit: PPB

Compound	Report Value	True Value	Rec. %	Accept Limit
1,1-Dichloroethene	19.5	20	98	80 -120
Benzene	21.8	20	109	80 -120
Trichloroethene	22.7	20	114	80 -120
Toluene	23.5	20	118	80 -120
Chlorobenzene	23.8	20	119	80 -120

ND: Not Detected (at the specified limit).

**EPA 8260B (BTEX & Oxy.)  
Batch QA/QC Report**

Client: John Carver Consulting  
 Project: 9795  
 Matrix: Soil  
 Batch No.: 0225-VOAS1

Lab Job No.:  
 Lab Sample ID:  
 Date Analyzed:  
 Date Reported:

**LCS/LCSD Report**

Unit: PPB

Compound	Spike Conc.	LCS	LCSD	LCS %Rec.	LCSD %Rec.	%RPD	%RPD Accept Limit
1,1-Dichloroethene	20	22.3	23.4	112	117	5	20
Benzene	20	23.2	24.0	116	120	3	20
Trichloroethene	20	22.5	24.0	113	120	6	20
Toluene	20	21.5	23.5	108	118	9	20
Chlorobenzene	20	21.0	23.2	105	116	8	20

ND: Not Detected (Below RL x DF).

J6B025

LCS

2/25/2006

2/27/2006

%Rec. Accept Limit
80-120
80-120
80-120
80-120
80-120

Client: John Carver Consulting  
 Project Site: 3884 Martin Luther King  
 Project: 9795  
 Matrix: Soil  
 Batch No.: AB24-GS

Lab Job No.: J6B025  
 Date Sampled: 2/21/2006  
 Date Received: 2/23/2006  
 Date Analyzed: 2/24/2006  
 Date Reported: 2/27/2006

**EPA 8015M (TPH-Gasoline)**

Reporting Unit: mg/kg (PPM)

Client Sample ID	Lab ID	DF	Gasoline		
			C4-C12		
Reporting Limit			1.0		
	Method Blank		ND		
9795-GP1-5.0	J6B025-1	1	ND		
9795-GP-1-10.0	J6B025-2	1	ND		
9795-GP1-15.0	J6B025-3	1	ND		
9795-GP2-5.0	J6B025-4	1	ND		
9795-GP2-10.0	J6B025-5	50	23.6		
9795-GP2-14.0	J6B025-6	1	ND		
9795-GP3-5.0	J6B025-7	1	ND		
9795-GP3-10.0	J6B025-8	1	ND		
9795-GP3-14.0	J6B025-9	1	ND		
9795-GP4-5.0	J6B025-10	1	ND		
9795-GP4-10.0	J6B025-11	50	30.7		
9795-GP4-14.0	J6B025-12	1	1.31		
9795-GP5-2.0	J6B025-13	1	ND		
9795-GP5-8.0	J6B025-14	100	176		
9795-GP5-12.0	J6B025-15	1	1.80		
9795-GP6-1.5	J6B025-16	1	ND		
9795-GP6-6.0	J6B025-17	1	ND		
9795-GP6-10.0	J6B025-18	25	18.3		
9795-GP6-14.0	J6B025-19	1	1.36		
9795-GP7-5.0	J6B025-20	1	ND		
9795-GP7-10.0	J6B025-21	25	19.1		
9795-GP7-14.0	J6B025-22	1	2.85		
9795-GP8-5.0	J6B025-23	1	ND		
9795-GP8-10.0	J6B025-24	1	ND		
9795-GP8-12.0	J6B025-25	1	ND		

ND: Not Detected (Below Reporting Limit)

Client: John Carver Consulting  
 Project Site: 3884 Martin Luther King  
 Project: 9795  
 Matrix: Water  
 Batch No.: AB25-GW

Lab Job No.: J6B025  
 Date Sampled: 2/21/2006  
 Date Received: 2/23/2006  
 Date Analyzed: 2/25/2006  
 Date Reported: 2/27/2006

### EPA 8015M (TPH-Gasoline)

Reporting Unit: ug/L (PPB)

Client Sample ID	Lab ID	DF	Gasoline		
			C4-C12		
Reporting Limit			50.0		
	Method Blank		ND		
9795-GP1-W	J6B025-26	1	ND		
9795-GP2-W	J6B025-27	1	554		
9795-GP3-W	J6B025-28	200	79,800		
9795-GP4-W	J6B025-29	1	1,980		

ND: Not Detected (Below Reporting Limit)

**EPA 8015M (TPH-Gasoline)  
Batch QA/QC Report**

Client: John Carver Consulting  
Project: 9795  
Matrix: Soil  
Batch No.: AB24-GS2

Lab Job No.:  
Lab Sample ID:  
Date Analyzed:  
Date Reported:

**LCS/LCSD Report**

Unit: PPB

Analyte	Spike Conc.	LCS	LCSD	LCS %Rec.	LCSD %Rec.	%RPD	%RPD Accept Limit
TPH-G	1,000	999	1,030	100	103	3	20

J6B025

LCS

2/24/2006

2/27/2006

%Rec
Accept
Limit
80-120



**EPA 8015M (TPH-Gasoline)  
Batch QA/QC Report**

Client: John Carver Consulting  
 Project: 9795  
 Matrix: Water  
 Batch No.: AB25-GW

Lab Job No.: J6B025  
 Lab Sample ID: LCS  
 Date Analyzed: 2/25/2006  
 Date Reported: 2/27/2006

**LCS/LCSD Report**

Unit: PPB

Analyte	Spike Conc.	LCS	LCSD	LCS %Rec.	LCSD %Rec.	%RPD	%RPD Accept Limit	%Rec Accept Limit
TPH-G	1,000	1,200	1,020	120	102	16	20	80-120

**EPA 8015M (TPH-Gasoline)  
Batch QA/QC Report**

Client: John Carver Consulting  
 Project: 9795  
 Matrix: Soil  
 Batch No.: AB24-GS1

Lab Job No.: J6B025  
 Lab Sample ID: J6B025-10  
 Date Analyzed: 2/24/2006  
 Date Reported: 2/27/2006

**I. LCS Report**

Unit: PPB

Analyte	Report Value	True Value	Rec.%	Accept Limit
TPH-g	1,000	1,000	100	80-120

**II. MS/MSD Report**

Unit: PPB

Analyte	Sample Conc.	Spike Conc.	MS	MSD	MS %Rec.	MSD %rec.	%RPD	%RPD Accept Limit	%Rec Accept Limit
TPH-g	ND	1,000	1,300	1,220	130	122	6	30	70--130

ND: Not Detected (at the specified limit).



**Environmental  
Laboratories, Inc.**

3701 San Gabriel River Pkwy., Pico Rivera, CA 90660  
Tel: 562-413-8343  
Tel/ Fax: 562-699-7288

Page 1 of 2  
Lab Job Number J6B025

# CHAIN OF CUSTODY

Client Name <u>John Carver Consulting</u>					Analyses Requested										Turn Around Time Requested									
Address <u>670 Vernon St #401 Oakland CA</u>					EPA8260B (VOCs & Oxygenates)	EPA8260B(BTEX & Oxygenates)	EPA8021B (BTEX & MTBE)	EPA8015M / 8015B (Gasoline)	EPA8015M / 8015B (Diesel)	EPA8081A (Organochlorine Pesticides)	EPA 8082 (PCBs)	EPA418.1 (TRPH)	EPA9040/9045 (PH)	EPA 7000s (Metals)	CAM 17 Metals	<input type="checkbox"/> Rush 8 12 24 Hours <input type="checkbox"/> 2-3 days <input checked="" type="checkbox"/> Normal								
Report Attention <u>John Carver</u>		Phone # <u>415-355-4678</u> Fax: # <u>510-595-6821</u>		Sampled By <u>J. Carver</u>												Sample Receipt Conditions <input checked="" type="checkbox"/> Chilled <input checked="" type="checkbox"/> Intact <input type="checkbox"/> Sample Seals								
Project No./ Name <u>5795</u>		Project Site <u>3884 Mart. Luther King</u>			Client Sample ID	Sample Collection		Matrix Type	Sample Preserve	No., type* & size of container	EPA8260B (VOCs & Oxygenates)	EPA8260B(BTEX & Oxygenates)	EPA8021B (BTEX & MTBE)	EPA8015M / 8015B (Gasoline)	EPA8015M / 8015B (Diesel)	EPA8081A (Organochlorine Pesticides)	EPA 8082 (PCBs)	EPA418.1 (TRPH)	EPA9040/9045 (PH)	EPA 7000s (Metals)	CAM 17 Metals	Lab Sample ID	Remarks	
Date	Time																							
<u>5795-GP1-5.0</u>	<u>2/16</u>	<u>0807</u>	<u>S</u>	<u>Cool</u>	<u>1 B</u>																		<u>J6B025-1</u>	
<u>5795-GP1-10.0</u>		<u>0813</u>																					<u>-2</u>	
<u>5795-GP1-15.0</u>		<u>0822</u>																					<u>-3</u>	
<u>5795-GP2-5.0</u>		<u>0900</u>																					<u>-4</u>	
<u>5795-GP2-10.0</u>		<u>0904</u>																					<u>-5</u>	
<u>5795-GP2-14.0</u>		<u>0910</u>																					<u>-6</u>	
<u>5795-GP3-5.0</u>		<u>0954</u>																					<u>-7</u>	
<u>5795-GP3-10.0</u>		<u>0956</u>																					<u>-8</u>	
<u>5795-GP3-14.0</u>		<u>1003</u>																					<u>-9</u>	
<u>5795-GP4-5.0</u>		<u>1028</u>																					<u>-10</u>	
<u>5795-GP4-10.0</u>		<u>1035</u>																					<u>-11</u>	
<u>5795-GP4-14</u>		<u>1040</u>																					<u>-12</u>	
<u>5795-GP5-20</u>		<u>1102</u>																					<u>-13</u>	
<u>5795-GP5-80</u>		<u>1120</u>																					<u>-14</u>	
<u>5795-GP5-12</u>		<u>1130</u>																					<u>-15</u>	
Relinquished By <u>[Signature]</u>		Company		Date <u>2/23/06</u>	Time <u>9:30am</u>	Received By <u>J. Fiang</u>		Company <u>ABC Labs</u>		Note: Samples are discarded 30 days after results are reported unless other arrangements are made.														
Relinquished By		Company		Date	Time	Received By		Company																

Matrix Code:	DW=Drinking Water GW=Ground Water WW=Waste Water SD=Solid Waste	SL=Sludge SS=Soil/Sediment AR=Air PP=Pure Product	Preservative Code	IC=Ice HC=HCl HN=HNO <sub>3</sub>	SH=NaOH ST=Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> HS=H <sub>2</sub> SO <sub>4</sub>	* Sample Container Types: T= Tedlar Air Bag G= Glass Container ST= Steel Tube	B= Brass Tube P= Plastic Bottle V= VOA Vial	E= EnCore
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**Environmental  
Laboratories, Inc.**

3701 San Gabriel River Pkwy., Pico Rivera, CA 90660  
Tel: 562-413-8343  
Tel/ Fax: 562-699-7288

# CHAIN OF CUSTODY

Page 2 of 2  
Lab Job Number J6B025

Client Name <u>John Carver Consulting</u>						Analyses Requested										Turn Around Time Requested		
Address <u>670 Vermont St #401 Oakland CA</u>						<input type="checkbox"/> Rush 8 12 24 Hours <input type="checkbox"/> 2-3 days <input checked="" type="checkbox"/> Normal										Sample Receipt Conditions		
Report Attention <u>John Carver</u>		Phone # <u>415 235 4648</u> Fax: # <u>510 555 6821</u>		Sampled By <u>J Carver</u>												Project No./ Name <u>9795</u>		Project Site <u>3884 Martin Luther King</u>
Client Sample ID	Sample Collection		Matrix Type	Sample Preserve	No., type* & size of container	EPA8260B (VOCs & Oxygenates)	EPA8260B (BTEX & Oxygenates)	EPA8021B (BTEX & MTBE)	EPA8015M / 8015B (Gasoline)	EPA8015M / 8015B (Diesel)	EPA8081A (Organochlorine Pesticides)	EPA 8082 (PCBs)	EPA418.1 (TRPH)	EPA9040/9045 (PH)	EPA 7000s (Metals)	CAM 17 Metals	Lab Sample ID	Remarks
<u>9795-GP6-1.S</u>	<u>1140</u>	<u>2/21/6</u>	<u>S</u>	<u>Cod</u>	<u>1 B</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>									<u>J6B025-16</u>	
<u>9795-GP6-6.0</u>	<u>1145</u>					<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>									<u>-17</u>	
<u>9795-GP6-10.0</u>	<u>1150</u>					<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>									<u>-18</u>	
<u>9795-GP6-14.0</u>	<u>1155</u>					<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>									<u>-19</u>	
<u>9795-GP7-50</u>	<u>1235</u>					<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>									<u>-20</u>	
<u>9795-GP7-10.0</u>	<u>1240</u>					<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>									<u>-21</u>	
<u>9795-GP7-14.0</u>	<u>1245</u>					<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>									<u>-22</u>	
<u>9795-GP8-50</u>	<u>1300</u>					<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>									<u>-23</u>	
<u>9795-GP8-10.0</u>	<u>1305</u>					<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>									<u>-24</u>	
<u>9795-GP8-12.0</u>	<u>1308</u>					<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>									<u>-25</u>	
<u>9795-GP1-W</u>	<u>2/21/6</u>	<u>1400</u>	<u>GW</u>	<u>Cool HCL</u>	<u>2 VOA's</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>										<u>J6B025-26</u>	
<u>9795-GP2-W</u>		<u>1410</u>				<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>										<u>-27</u>	
<u>9795-GP3-W</u>		<u>1420</u>				<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>										<u>-28</u>	
<u>9795-GP4-W</u>		<u>1430</u>				<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>										<u>-29</u>	
Relinquished By <u>[Signature]</u>		Company		Date <u>2/23/06</u>	Time <u>9:30am</u>	Received By <u>J. Jiang</u>		Company <u>ABC Labs</u>		Note: Samples are discarded 30 days after results are reported unless other arrangements are made.								
Relinquished By		Company		Date	Time	Received By		Company										

Matrix Code:	DW=Drinking Water GW=Ground Water WW=Waste Water SD=Solid Waste	SL=Sludge SS=Soil/Sediment AR=Air PP=Pure Product	Preservative Code	IC=Ice HC=HCl HN=HNO3	SH=NaOH ST=Na2S2O3 HS=H2SO4	* Sample Container Types: T=Tedlar Air Bag G=Glass Container ST=Steel Tube	B=Brass Tube P=Plastic Bottle V=VOA Vial	E=EnCore
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