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Alameda County  
Environmental Health



July 21, 2008

Mr. Jerry Wickham  
Alameda County  
Department of Environmental Health Services  
1131 Harbor Bay Parkway, Suite 250  
Alameda, California 94502-6577

Subject: **StID#3337**

Site Address: 3609 International Blvd., Oakland, California

Dear Mr. Wickham:

SOMA's "Second Quarter 2008 Groundwater Monitoring and Remediation System Operation Report" for the subject property has been uploaded to the State's GeoTracker database and Alameda County's FTP site for your review.

Thank you for your time in reviewing our report. If you have any questions or comments, please call me at (925) 734-6400.

Sincerely,

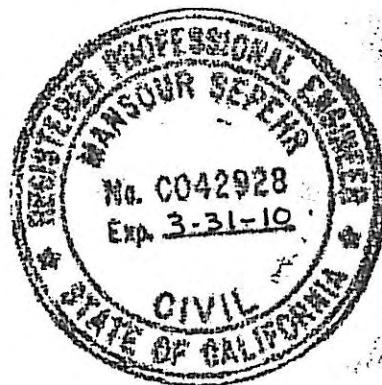
A handwritten signature in black ink, appearing to read "Mansour Sepehr".

Mansour Sepehr, Ph.D., PE  
Principal Hydrogeologist

Enclosure

cc: Mr. Abolghassem Razi w/report enclosure  
Tony's Express Auto Service

Mr. Vince Tong w/report enclosure  
Traction International



**Second Quarter 2008  
Groundwater Monitoring and  
Remediation System Operation Report  
With Evaluation of Effectiveness  
of Monthly MPE**

**Tony's Express Auto Service  
3609 International Boulevard  
Oakland, California**

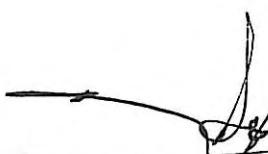
**July 21, 2008**

**Project 2331**

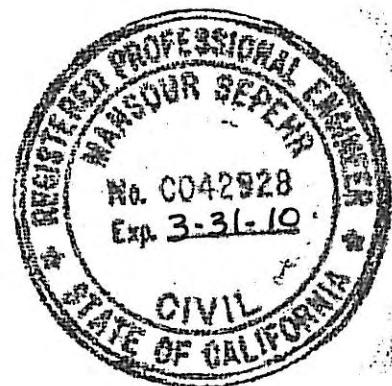
**Prepared for  
Mr. Abolghassem Razi  
3609 International Boulevard  
Oakland, California 94601**

## CERTIFICATION

SOMA Environmental Engineering, Inc. has prepared this report on behalf of Mr. Abolghassem Razi, property owner of 3609 International Boulevard, Oakland, California, to comply with Alameda County Environmental Health Services requirements for the Second Quarter 2008 groundwater monitoring event.



Mansour Sepehr, PhD, PE  
Principal Hydrogeologist



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## **1. INTRODUCTION**

SOMA Environmental Engineering, Inc. (SOMA) has prepared this monitoring and groundwater remediation report on behalf of Mr. Abolghassem Razi, owner of the property at 3609 International Boulevard at the intersection of 36<sup>th</sup> Avenue and International Boulevard in Oakland, California (Figure 1). Tony's Express Auto Service operates on the property.

This report summarizes results of the Second Quarter 2008 groundwater monitoring event conducted at the site on May 6 and 7, 2008, and includes laboratory analytical results for the groundwater samples.

This report also describes operation of the groundwater remediation systems comprised of groundwater-pump-and treat, groundwater air sparging and the results of four monthly multi-phase extraction (MPE) events conducted at the site, each with a duration of 5-days. The locations of groundwater remediation systems are shown in Figure 2.

### **1.1 Summary of Field Activities**

On May 6, 2008 eight on-site monitoring wells (MW-1 through MW-3, MW-4R, MW-5 through MW-8), two off-site wells (MW-10, MW-12), three French drain risers (FD Center, FD East, and FD West), and one extraction well (EX-1) were measured for depth to groundwater.

On May 6 and 7, 2008, additional field measurements and grab groundwater samples were collected from all monitoring wells except MW-11. SOMA field crew was unable to monitor well MW-11 because the gate for access to this well was locked.

Groundwater monitoring activities were performed in accordance with general guidelines of the California Regional Water Quality Control Board (CRWQCB) and the Alameda County Environmental Health Services (ACEHS). A description of groundwater monitoring procedures followed is included in Appendix A. Figure 2 shows well and riser locations.

A natural attenuation study was conducted during this monitoring event to evaluate whether petroleum hydrocarbons found in the groundwater were biodegrading.

### **1.2 Summary of Laboratory Analysis**

Pacific Analytical Laboratory, a state-certified laboratory, analyzed groundwater samples for the following:

- Total petroleum hydrocarbons as gasoline (TPH-g)
- Benzene, toluene, ethylbenzene, total xylenes (BTEX)
- Methyl tertiary-butyl ether (MtBE)

Samples were prepared using EPA Method 5030 and analyzed using EPA Method 8260B.

## 2. RESULTS

Following are results of field measurements and laboratory analyses for the May 6 and 7, 2008 groundwater monitoring event.

### 2.1 Field Measurements

As shown in Table 1, depths to groundwater for the monitoring wells ranged from 10.19 feet in well MW-10 to 12.69 feet in MW-3. Corresponding groundwater elevations ranged from 25.99 feet in MW-12 to 29.10 feet in MW-5. Groundwater elevations for the center, east, and west risers and extraction well EX-1 were 24.40 feet, 27.64 feet, 27.15 feet, and 23.13 feet, respectively.

Figure 3 shows the groundwater elevation contour map. Groundwater flows toward extraction well EX-1 at an approximate gradient of 0.110 feet/feet. The lowest site-wide groundwater elevation was measured in EX-1, which is providing a capture zone within the region of the UST cavity and in general has reduced off-site contaminant migration.

Field notes for physical, chemical and biodegradation parameters measured during this monitoring event are included in Appendix B.

The most energetically preferred electron acceptor for redox reactions is dissolved oxygen (DO). Evaluating distribution of electron acceptors can provide evidence of where, and to what extent, hydrocarbon biodegradation is occurring.

Upon equalization of the surrounding aquifer, when the purge cycle was terminated, DO concentrations ranged from 0.08 mg/L in well MW-8 to 0.81 mg/L in well MW-1. Oxidation-reduction potential (ORP) showed negative redox potentials in all monitoring wells. Oxidation of petroleum hydrocarbons could have occurred in these monitoring wells with negative redox potential, because it indicates that contaminants in groundwater are conducive to anaerobic biodegradation.

Ferrous iron concentrations were detected throughout the site except in wells MW-4R and MW-10. Detectable Ferrous iron concentrations, which can indicate

anaerobic biodegradation, ranged from 0.05 mg/L in well MW-5 to 3.15 mg/L in MW-3.

Nitrate concentrations were non-detectable throughout the site.

High ferrous iron concentrations in combination with non-detectable nitrate levels indicate anaerobic biodegradation beneath the site.

The absence of sulfate in groundwater samples may indicate an anaerobic methanogenesis process. Sulfate was below the equipment tolerance level in all monitoring wells except for MW-5 and MW-7, where it was detected at 9 mg/L and 17 mg/L respectively.

## 2.2 Laboratory Analysis

Table 1 presents laboratory analysis results for groundwater samples collected during this monitoring event, and Appendix C contains chain of custody documentation and laboratory analytical reports.

TPH-g was detected throughout the site except at well MW-7. Detectable TPH-g concentrations ranged from 68.9 µg/L in MW-4R to 8,700 µg/L in MW-6.

In the more impacted wells MW-1, MW-3, MW-6 and MW-8 the following concentration trends were observed.

- At MW-1 in the vicinity of the UST cavity, TPH-g has increased slightly since the previous monitoring event; however, the current TPH-g concentration is significantly lower than in Fourth Quarter 2006.
- At MW-3 in the vicinity of the UST cavity, TPH-g has increased since the previous monitoring event.
- Since the previous monitoring event, TPH-g has increased at MW-6.
- The groundwater sample collected from MW-8 indicated a decrease in TPH-g concentrations.

Refer to Table 1 for detailed TPH-g site concentration trends.

Figure 4 displays the contour map of TPH-g concentrations in groundwater. The majority of the TPH-g plume was in the vicinity of the UST cavity at wells MW-3, MW-6 and MW-1, as well as in MW-8 southwest of MW-1 and MW-3. Capture zones have been established at the French drain and extraction well, which have decreased off-site migration. TPH-g decreased at both off-site wells, MW-10 and MW-12, since First Quarter 2007.

The following BTEX concentration trends were observed during this monitoring event:

- All BTEX analytes were below laboratory-reporting limits in wells MW-5 and MW-7.
- In well MW-12, all BTEX analytes were below laboratory-reporting limits, except ethylbenzene, which was at low level.
- In MW-4R, toluene and xylenes were non-detectable and in MW-10, xylenes were non-detectable.
- The highest benzene, toluene, and total xylenes were detected in MW-3 at 232 µg/L, 66.7 µg/L, and 942 µg/L, respectively. The highest ethylbenzene concentration was detected in MW-6 at 365 µg/L.

Figure 5 shows the contour map of benzene concentrations in the groundwater. The majority of the benzene plume appears to be in the vicinity of the pump islands and USTs, at well MW-3. Refer to Table 1 for benzene concentration trends.

MtBE was below the laboratory-detection limit in wells MW-2, MW-4R, MW-6, and MW-7. Detectable MtBE concentrations ranged from 0.52 µg/L in MW-5 to 23 µg/L in MW-10. Figure 6 shows the contour map of MtBE concentrations in the groundwater.

### **3. GROUNDWATER TREATMENT SYSTEM OPERATION**

The treatment system began operating on December 9, 1999. Since startup, 3,927,778 gallons of groundwater have been treated and discharged (as of June 9, 2008) into the East Bay Municipal Utility District (EBMUD) sewer system under the existing discharge permit.

As of January 9, 2004, the previously installed pneumatic downhole pumps in the western and center French drain risers were removed and replaced with electrical submersible pumps. On May 4, 2005, to maintain accurate recordings of the total flow through the system, a newer totalizer meter was installed. On September 29, 2005, the existing 2,000-pound carbon vessel was replaced with a newer 2,000-pound carbon vessel that was refurbished with new carbon; the 200-pound carbon drum was also replaced. The former 2,000-pound vessel had become rusted from prolonged use. A schematic diagram of the remediation system is displayed in Figure 7.

On February 19, 2007, a carbon change-out was conducted on the remedial system, during which the 2,000-pound vessel was refurbished with new carbon and the 200-pound carbon drum was replaced.

To reduce the hydrocarbon source region in the vicinity of the UST cavity, SOMA oversaw installation of extraction well EX-1 by Gregg Drilling & Testing, Inc. on

February 5, 2007. On April 20, 2007, SOMA installed an electric submersible pump in well EX-1, connected it to the existing groundwater remediation system, and began extracting groundwater from the well. The pump is powered on the same electrical circuit as the two existing pumps inside the French drain risers. Underground piping to the existing system influent surge tank conveys the extracted groundwater, which is then treated using GAC and discharged to the local sanitary sewer system, in accordance with the site EBMUD discharge permit. Figure 2 shows the location of EX-1.

Table 2 presents the total volume of treated groundwater and the groundwater analytical results. The table shows that all effluent samples have remained below discharge limits set forth by EBMUD. The most current laboratory reports for the groundwater treatment system are included in Appendix D.

Since startup, the treatment system has removed approximately 240.82 pounds of hydrocarbons and 87.59 pounds of MtBE from groundwater at the site. Figure 8 shows approximate masses of TPH-g and MtBE removed from impacted groundwater during operation of the treatment system.

#### **4. OPERATION OF AIR SPARGING SYSTEM**

From February 22, 2006 to March 6, 2006, SOMA oversaw installation of the air sparging system, which consists of nine vapor extraction wells and three air sparge wells. The air sparge wells were installed in the vicinity of the UST cavity, pump islands, and near MW-6 (Figure 2). Figures 9 and 10 show the block diagrams of the air sparging and vapor extraction units. The operating permit for the soil vapor extraction (SVE) system was extended to August 2008 by the Bay Area Air Quality Management District (BAAQMD).

Prior to installation of the air sparging wells in November 2005, SOMA collected air samples from previously existing SVE wells. Based on sampling results, which were non-detectable, the lines from SVE wells P-4 and ISL-1 to the vacuum pump were closed. This allowed for greater vacuum at the more impacted SVE wells.

The air sparging system was initially started on March 15, 2006. However, due to close proximity of the system to a residential area, the system was modified to reduce noise level. Specifically, a timer was installed on the compressor to control operation hours of the air sparging system and limit operation to daytime hours. To further suppress noise, the existing blower unit, installed in 2000, was rebuilt and foam was placed around it as a noise suppressant.

To more effectively increase removal of contaminants in the soil, an additional vacuum blower was installed in series to the existing vacuum blower on July 24, 2006. Rain causes the water table to rise, thereby decreasing the actual layer of

the unsaturated zone. Therefore, the actual mass of contaminants in the soil that can be removed by the remedial system is greatly reduced. Based on the reduction in the unsaturated region, as well as a reduction in the mass of contaminant vapors removed from the soil, the remedial system was shut down on November 7, 2006.

On May 23, 2007, SOMA restarted the SVE and air sparge systems and resumed recording of field readings for these systems. Based on field measurements, it appeared that using both vacuum blowers in series on the same extraction manifold had little effect on the air flow rate into the system or the concentrations of hydrocarbons in the extracted gases. Therefore, the inlet piping from the well field was divided into two manifolds with the intent to use each vacuum pump to extract from a separate set of wells. However, due to alterations in the facility's main electrical supply panel made by non-SOMA personnel without SOMA's knowledge, the operation of both vacuum pumps at the same time was not possible because the resultant electrical load tripped the circuit breaker that includes the SVE system. Subsequent operation of the SVE system has been limited to one blower at a time.

As shown in Table 3, approximately 967.2 pounds of hydrocarbons as vapor have been removed from the impacted soil, as of September 28, 2007. Table 3 also outlines the history of the SVE system. The remedial system has been shut down since then because of wet weather.

## 5. MULTI-PHASE EXTRACTION EVENTS

### 5.1 March 2008 Event

The March 2008 multi-phase extraction (MPE) event took place between March 24 and 28, 2008 utilizing wells MW-1 and MW-3. MPE operational data is presented in Table 4. Extraction data is presented in Appendix E. Field data sheets are presented in Table A. A representative sample was analyzed from the stack of the thermal oxidizer to show compliance with the BAAQMD permit. Table 6 lists sample identifiers and analysis results.

MPE was performed at wells MW-1 and MW-3, starting on Monday, March 24, 2008, at 09:45 and ending on March 28, 2008, at 13:00. Total MPE time at wells MW-1 and MW-3 was 5,415 minutes, or 90.25 hours.

The estimated mass of VOCs removed from the soil vapor extracted from MW-1 and MW-3 during the MPE event was 24.3 lbs. The estimated VOC mass removal rate was 6.46 lbs/day.

As of the March 2008 MPE event, the cumulative total mass of VOCs extracted by MPE from extraction wells is 88.3 lbs; this includes 64 lbs extracted during the December 2007 pilot test and 24.3 lbs during the March 2008 event.

Listed in Table 7 are analysis results for groundwater samples collected from MW-1 and MW-3 before and after conducting the March 2008 MPE event. Also listed in Table 7 are analysis results for groundwater samples collected from MW-1 and MW-3 during the December 2007 pilot test. Comparison of analysis results before and after the March 2008 MPE event indicates that concentrations of TPH-g increased at MW-1 and MW-3. In the same comparison, concentrations of BTEX and MtBE increased at wells MW-1 and MW-3 except for a decrease in MtBE concentration at MW-3. Decreases in constituent concentrations illustrate that fuel hydrocarbons are being stripped and removed from the smear zone. Increases in constituent concentrations illustrate that significant fuel hydrocarbons are still adsorbed to the smear zone.

## 5.2 April 2008 Event

The April 2008 event took place between April 14 and 18, 2008 utilizing wells MW-1 and MW-3. MPE operational data is presented in Table 4. Extraction data is presented in Table 5. Field data sheets are presented in Appendix E. A representative sample was analyzed from the stack of the thermal oxidizer to show compliance with the BAAQMD permit. Table 6 lists sample identifiers and analysis results.

MPE was performed at wells MW-1 and MW-3, starting on Monday, April 14, 2008, at 10:00 and ending on April 18, 2008, at 14:30. Total MPE time at wells MW-1 and MW-3 was 5,670 minutes, or 94.5 hours.

The estimated mass of VOCs removed from the soil vapor extracted from MW-1 and MW-3 during the MPE event was 43.06 lbs. The estimated VOC mass removal rate was 10.94 lbs/day.

As of the April 2008 MPE event, the cumulative total mass of VOCs extracted by MPE from extraction wells is 131.36 lbs (Figure 17); this includes 64 lbs extracted during the December 2007 pilot test, 24.3 lbs during the March 2008 event, and 43.06 lbs during the April 2008 event. Figure 18 illustrates the mass of VOCs removed during each MPE event. The increase in removal rate of contaminants during this event in comparison with the March 2008 event can be attributed to the lack of rainfall in April 2008.

Listed in Table 7 are analysis results for groundwater samples collected from MW-1 and MW-3 before and after conducting the April 2008 MPE event. Also listed in Table 7 are analysis results for groundwater samples collected from MW-1 and MW-3 during previous events. Figures 11 through 16 illustrate results

of groundwater analysis. Comparison of analysis results before and after the April 2008 MPE event indicates that concentrations of TPH-g increased at MW-1 and decreased at MW-3. In the same comparison, concentrations of BTEX and MtBE increased at well MW-1. Also in the same comparison, concentrations of benzene, toluene, total xylenes, and MtBE increased at MW-3 while concentrations of ethylbenzene decreased at MW-3. Decreases in constituent concentrations illustrate that fuel hydrocarbons are being stripped and removed from the smear zone. Increases in constituent concentrations illustrate that significant fuel hydrocarbons are still adsorbed to the smear zone.

### 5.3 May 2008 Event

The May 2008 event took place between May 12 and 16, 2008 utilizing wells MW-1 and MW-3. MPE operational data is presented in Table 4. Extraction data is presented in Table 5. Field data sheets are presented in Appendix E. A representative sample was analyzed from the stack of the thermal oxidizer to show compliance with the BAAQMD permit. Table 6 lists sample identifiers and analysis results.

MPE was performed at wells MW-1 and MW-3, starting on Monday, May 12, 2008, at 09:30 and ending on May 16, 2008, at 13:00. Total MPE time at wells MW-1 and MW-3 was 4,837 minutes, or 80.62 hours.

A delay in MPE operations was encountered on Monday, May 12, 2008, at 13:37 due to low propane levels in the thermal oxidizer system. Propane was delivered the same day at 15:30 and MPE operations continued at 16:00. Another delay in MPE operations occurred due to overheating of the electric generator. High ambient temperatures of over 100°F were observed during the day through the early evening on Thursday, May 15, 2008. Consequently, the generator shut down later that evening. The MTS was restarted and MPE operations continued at 0800 the next morning on May 16, 2008.

The estimated mass of VOCs removed from the soil vapor extracted from MW-1 and MW-3 during the MPE event was 46.19 lbs. The estimated VOC mass removal rate was 13.75 lbs/day.

As of the May 2008 MPE event, the cumulative total mass of VOCs extracted by MPE from extraction wells is 177.55 lbs (Figure 17); this includes 64 lbs extracted during the December 2007 pilot test, 24.3 lbs during the March 2008 event, 43.06 lbs during the April 2008 event, and 46.19 lbs during the May 2008 event. Figure 18 illustrates the mass of VOCs removed during each MPE event.

Listed in Table 7 are analysis results for groundwater samples collected from MW-1 and MW-3 before and after conducting the April 2008 MPE event. Also listed in Table 7 are analysis results for groundwater samples collected from

MW-1 and MW-3 during previous events. Figures 11 through 16 illustrate the results of groundwater analysis. Comparison of analysis results before and after the May 2008 MPE event indicates that concentrations of TPH-g increased at MW-1 and MW-3. In the same comparison, concentrations of BTEX and MtBE increased at well MW-1 and MW-3. Increases in constituent concentrations illustrate that fuel hydrocarbons are still adsorbed to the smear zone.

#### 5.4 June 2008 Event

The June 2008 event took place between June 9 and 13, 2008 utilizing wells MW-1 and MW-3. MPE operational data is presented in Appendix E. Extraction data is presented in Table 5. Field data sheets are presented in Table A. A representative sample was analyzed from the stack of the thermal oxidizer to show compliance with the BAAQMD permit. Table 6 lists sample identifiers and analysis results of vapor samples.

MPE was performed at wells MW-1 and MW-3, starting on Monday, June 9, 2008, at 10:30 and ending on June 13, 2008, at 15:00. Total MPE time at wells MW-1 and MW-3 was 6,030 minutes, or 100.5 hours.

The estimated mass of VOCs removed from the soil vapor extracted from MW-1 and MW-3 during the MPE event was 58.0 lbs. The estimated VOC mass removal rate was 13.85 lbs/day.

Laboratory analysis results of vapor samples taken at wells MW-1 and MW-3 show a decrease in concentrations of TPH-g, benzene, and MtBE over the length of the MPE event. The total mass of TPH-g, benzene and MtBE removed by the June 2008 event is estimated using average values of soil vapor analytical results for the event and the median flow rate for the extraction wells. The estimated total mass of TPH-g removed from extracted soil vapor by the June 2008 event conducted on wells MW-1 and MW-3 was 37.91 lbs; of benzene removed, 0.15 lbs; and of MtBE removed, 0.0056 lbs

(\*Note: The discrepancy between the estimated total mass of VOCs removed and the total mass of TPH-g, benzene, and MtBE removed is based on the difference between PID measurements as hexane and laboratory analyses of the extracted vapor stream. The concentrations based on laboratory analysis are representative only of that moment in the pilot test at which the extracted vapor stream was sampled. Since the laboratory analytical results are not representative of the entire length of the pilot test, unlike the PID measurements which are collected continuously over the length of the pilot test, the total mass of VOCs removed as measured by PID is used to estimate mass removals.)

As of the June 2008 MPE event, the cumulative total mass of VOCs extracted by MPE from extraction wells is 235.55 lbs (Figure 17); this includes 64 lbs

extracted during the December 2007 pilot test, 24.3 lbs during the March 2008 event, 43.06 lbs during the April 2008 event, 46.19 lbs during the May 2008 event, and 58.0 lbs during the June 2008 event. Figure 18 illustrates the mass of VOCs removed during each MPE event.

Listed in Table 7 are analysis results for groundwater samples collected from MW-1 and MW-3 before and after conducting the June 2008 MPE event. Also listed in Table 7 are analysis results for groundwater samples collected from MW-1 and MW-3 during previous events. Figures 11 through 16 illustrate the results of groundwater analysis. Comparison of analysis results before and after the June 2008 MPE event indicates that concentrations of TPH-g increased at MW-1 and MW-3. In the same comparison, concentrations of BTEX and MtBE increased at wells MW-1 and MW-3. Increases in constituent concentrations illustrate that fuel hydrocarbons are still adsorbed to the smear zone.

Figures 19 through 21 illustrate the concentrations of TPH-g, benzene, and MtBE in monitoring well MW-1 from the Fourth Quarter 2007 monitoring event to June 2008 MPE event. Figures 21 through 24 illustrate the concentrations of TPH-g, benzene, and MtBE in monitoring well MW-3 from the Fourth Quarter 2007 monitoring event to June 2008 MPE event. Comparison of these analytical results indicates a decreasing trend of contaminant concentrations in these wells.

## 6. CONCLUSIONS AND RECOMMENDATIONS

Findings of the Second Quarter 2008 groundwater monitoring event are summarized below.

1. In general, based on low groundwater elevations observed at EX-1, a capture zone remains established at this location.
2. Compared with the previous monitoring event, TPH-g concentrations have remained almost the same. It appears that MW-3 and MW-6 are located within the remaining hotspots of the groundwater chemical plume.
3. It appears that MtBE concentrations in groundwater are diminishing across the site and that current maximum concentrations are below the Environmental Screening Levels (ESLs) for industrial land use type where groundwater is not a potential drinking water source.
4. The bioattenuation study confirmed occurrence of biodegradation beneath the site. Based on this study, affected areas appear to be in the vicinity of the USTs, around wells MW-1 and MW-3 and the eastern section of the Site, around MW-6.
5. The source area remains in the vicinity of the UST cavity, pump islands, and eastern section of the mechanic shop at wells MW-1, MW-3, and MW-6. During this monitoring event the highest benzene, toluene, and total xylenes were detected at MW-3 at 232 µg/L, 66.7 µg/L, and 942 µg/L,

respectively. The highest ethylbenzene concentration was detected in MW-6 at 365 µg/L.

6. In general, the GAC and SVE systems have effectively reduced the peak contaminant levels beneath the site. Since initial startup, approximately 240.82 pounds of hydrocarbons and 87.59 pounds of MtBE have been removed from the groundwater. Approximately 967.2 pounds of petroleum hydrocarbons have been removed from the vadose zone.
7. Implementation of MPE events at the site has been effective in reducing the contaminant concentrations at the site. The cumulative total mass of VOCs extracted by MPE during the pilot test followed by four MPE events was 235.55 lbs. Comparison of current benzene concentration with pre-MPE events shows a dramatic reduction in contaminant levels in source area wells such as MW-3 and MW-1.

Based on results of this monitoring event, SOMA recommends:

1. Continuing operation of the pump-and-treat system to maintain the removal rate of contaminant masses in groundwater.
2. Temporarily discontinuing testing for ferrous iron, nitrate, and sulfate parameters. Due to the extent of biodegradation data generated during quarterly monitoring events, SOMA has adequately characterized Site groundwater.
3. We recommend reducing the number of groundwater monitoring wells during the quarterly events. Monitoring the source area wells such as MW-1, MW-3 and MW-6 will be sufficient to evaluate the effectiveness of MPE events and determine if the site is eligible for the regulatory closure. This will allow SOMA to focus the available funds for remediating the site and spend the remaining budget in removing the source.
4. Continued monthly MPE events. MPE events were conducted in March, April, May, and June 2008. A total of approximately 235.55 lbs of volatile organic compounds (VOCs) were removed during the MPE tests conducted on site.

## 7. REPORT LIMITATIONS

This report is the summary of work done by SOMA including observations and descriptions of site conditions. It includes analytical results produced by state-certified laboratories for the current and previous monitoring events and summaries of data produced by environmental consultants for previous monitoring events. Quantities and locations of wells were selected to provide the required information, but may not be completely representative of entire site conditions. All conclusions and recommendations are based on laboratory

analysis results. Conclusions beyond those specifically stated in this document should not be inferred from this report.

SOMA warrants that the services were provided in accordance with generally accepted practices in the environmental engineering and consulting field at the time of this sampling.

# **TABLES**

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Second Quarter 2008: Groundwater Monitoring and Remediation System Operation Report  
with Evaluation of Effectiveness of Monthly MPE

SOMA Environmental Engineering, Inc.

**Table 1**  
**Historical Groundwater Elevation Data & Analytical Results**  
**3609 International Boulevard, Oakland, California**

Monitoring Well	Date	Top Of Casing Elevation <sup>1</sup> (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	TPH-g ( $\mu\text{g/L}$ )	Benzene ( $\mu\text{g/L}$ )	Toluene ( $\mu\text{g/L}$ )	Ethyl-Benzene ( $\mu\text{g/L}$ )	Total Xylenes ( $\mu\text{g/L}$ )	MtBE <sup>2</sup> EPA 8260B ( $\mu\text{g/L}$ )
MW-1	10/5/1994	97.99	15.39	82.60	320,000	24,000	21,000	2,600	15,000	NA
	12/5/1994	97.99	9.32	88.67	80,000	3,800	6,600	2,300	11,000	NA
	3/2/1995	97.99	8.07	89.92	32,000	190	160	150	490	NA
	6/6/1995	97.99	9.53	88.46	21,000	950	650	570	150	NA
	10/5/1995	97.99	13.29	84.70	59,000	140	130	140	390	NA
	1/2/1996	97.99	10.07	87.92	30,000	71	73	50	120	NA
	4/1/1996	97.99	8.29	89.70	31,000	98	120	63	170	NA
	12/3/1996	97.99	11.67	86.32	NA	NA	NA	NA	NA	NA
	4/9/1997	97.99	11.14	86.85	NA	NA	NA	NA	NA	NA
	12/10/1997	97.99	9.30	88.69	27,000	2,300	2,100	1,400	5,100	NA
	9/10/1998	97.99	13.58	84.41	NA	NA	NA	NA	NA	NA
	12/16/1998	97.99	11.10	86.89	65,000	2,500	2,400	2,300	9,500	160
	3/16/1999	97.99	9.91	88.08	17,000	480	860	850	3,000	190
	6/10/1999	97.99	11.10	86.89	25,000	1,110	1,460	1,330	5,265	77
	8/23/1999	97.99	13.35	84.64	19,750	678	463	893	2,938	38
	11/9/1999	97.99	14.45	83.54	10,000	693	15	<5	3,471	50
	2/7/2000	97.99	11.20	86.79	40,000	2,280	1,380	8	6,130	47
	5/31/2000	97.99	11.49	86.50	15,610	610	350	310	1,400	<5
	8/9/2000	97.99	13.36	84.63	11,000	638	<5	<5	<5	17.1
	11/2/2000	97.99	13.20	84.79	7,050	435	52	ND	689	10

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MW-1 cont.	3/13/2001	97.99	8.96	89.03	14,570	1,005	440	108	2,030	16
	5/22/2001	97.99	11.50	86.49	4,900	310	81	82	388	150
	8/8/2001	97.99	13.51	84.48	14,820	852	342	568	1,606	2,000
	11/19/2001	97.99	14.01	83.98	41,000	2,700	5,100	1,000	4,570	74,000
	2/21/2002	97.99	10.11	87.88	260,000	3,700	12,000	3,700	19,200	23,000
	5/7/2002	97.99	10.86	87.13	53,000	4,400	5,100	1300	7,000	32,000
	7/30/2002	40.11	12.80	27.31	29,000	2,400	2,500	920	4,400	13,000
	10/2/2002	40.11	15.50	24.61	27,000	2,200	2,400	950	4,500	34,000
	1/3/2003	40.11	9.73	30.38	62,000	3,500	6,000	1600	9,700	48,000
	5/3/2003	40.11	9.71	30.40	59,000	3,100	2,700	1500	7,000	14,000
	7/24/2003	40.11	12.44	27.67	36,000	4,800	1,800	1300	5,600	25,000
	10/22/2003	40.11	13.89	26.22	630,000 H	3,300	1900 C	3600	27,700	15,000
	1/22/2004	40.11	10.45	29.66	39,000	3,100	1,600	950	4,300	8,500
	4/1/2004	40.11	11.49	28.62	41,000	1,200	350C	830	2,740	4,300
	8/20/2004	40.11	13.81	26.30	22,000	2,000	220	560	3,090	6,900
	12/8/2004	40.11	11.10	29.01	22,790	1,634	319	895	2,851	5,504
	3/16/2005	40.11	8.40	31.71	44,400	3,150	811	1,090	2,856	7,180
	5/16/2005	40.11	9.72	30.39	33,900	3,440	1,700	1,090	2,276	3,210
	7/14/2005	40.11	11.31	28.80	50,100	4,350	1,760	1,500	2,853	3,980
	10/13/2005	40.11	13.51	26.60	43,100	1,960	325	639	3,080	3,000
	1/3/2006	40.11	8.82	31.29	55,000	1,100	510	1,100	4,070	2,200
	4/7/2006	40.11	7.12	32.99	42,500	1,780	1,010	1,610	2,449	2,110
	9/8/2006	40.11	12.64	27.47	37,200	3,280	1,460	1,290	2,685	2,180
	11/29/2006	40.11	12.49	27.62	29,400	2,490	782	1,510	1,815	1,540
	2/27/2007	40.11	9.68	30.43	17,000	1,400	452	989	1,583	1,150
	5/24/2007	40.11	11.58	28.53	8,630	575	121	306	687	235
	8/21/2007	40.11	13.34	26.77	7,480	544	87	356	537	172
	11/15/2007	40.11	12.73	27.38	18,500	413	93.1	523	627	86.6
	2/22/2008	40.11	9.82	30.29	3,450	20.7	3.73	60.2	78.0	8.11
	5/7/2008	40.11	12.09	28.02	4,470	26.1	14.80	57.6	464.6	10.60

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**3609 International Boulevard, Oakland, California**

Monitoring Well	Date	Top Of Casing Elevation <sup>1</sup> (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	TPH-g ( $\mu\text{g/L}$ )	Benzene ( $\mu\text{g/L}$ )	Toluene ( $\mu\text{g/L}$ )	Ethyl-Benzene ( $\mu\text{g/L}$ )	Total Xylenes ( $\mu\text{g/L}$ )	MtBE <sup>2</sup> EPA 8260B ( $\mu\text{g/L}$ )
MW-2	10/1/1994	98.58	15.36	83.22	NA	NA	NA	NA	NA	NA
	12/1/1994	98.58	8.60	89.98	NA	NA	NA	NA	NA	NA
	3/6/1995	98.58	7.68	90.90	490	3	3	3	1	NA
	6/5/1995	98.58	9.59	88.99	8,000	220	330	350	660	NA
	10/2/1995	98.58	13.42	85.16	46,000	160	130	93	240	NA
	1/3/1996	98.58	9.93	88.65	46,000	160	130	93	240	NA
	4/3/1996	98.58	8.13	90.45	27,000	0.1	92	44	13	NA
	12/9/1996	98.58	11.67	86.91	6,200	11	7	2	14	ND
	4/10/1997	98.58	11.40	87.18	53,000	150	110	37	0.12	ND
	12/30/1997	98.58	9.04	89.54	35,000	4,900	4,900	1,600	7,000	NA
	6/30/1998	98.58	NM	NM	25,000	2,000	2,000	1,300	4,300	NA
	9/29/1998	98.58	13.58	85.00	29,000	290	180	160	360	<0.5
	12/16/1998	98.58	10.94	87.64	26,000	1,400	1,600	880	9,500	<5
	3/16/1999	98.58	7.60	90.98	7,600	730	830	610	1,900	55
	6/10/1999	98.58	11.24	87.34	3,500	290	428	211	744	ND
	8/23/1999	98.58	13.50	85.08	60	6	9	4	11	ND
	11/9/1999	98.58	14.10	84.48	<50	<5	<5	<5	<5	<5
	2/7/2000	98.58	9.85	88.73	6,400	372	639	46	134	8
	5/31/2000	98.58	10.88	87.70	2,930	130	330	130	570	<5
	8/9/2000	98.58	13.03	85.55	<50	<5	<5	<5	<5	<5
	11/2/2000	98.58	12.60	85.98	ND	ND	ND	ND	ND	ND
	3/13/2001	98.58	8.55	90.03	932	18	34	1.3	225	ND
	5/22/2001	98.58	11.00	87.58	870	37	75	55	179	2.7
	8/8/2001	98.58	13.53	85.05	125	4	4	3	11	ND
	11/19/2001	98.58	13.43	85.15	470	13	64	22	83	14
	2/21/2002	98.58	8.99	89.59	1,700	26	180	95	360	<2
	5/7/2002	98.58	10.59	87.99	1,800	31	140	110	348	<2
	7/30/2002	40.71	12.70	28.01	180	11	6.3	9.4	27	<2.0
	10/2/2002	40.71	14.23	26.48	<50	<0.5	<0.5	<0.5	0.64	<2.0

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MW-2 cont.	1/3/2003	40.71	8.66	32.05	510	5	30.0	24.0	92	<2.0
	5/3/2003	40.71	9.17	31.54	1,300	14	88.0	78.0	271	<2.0
	7/24/2003	40.71	12.23	28.48	220	3.9	4.3	7	14.5	<2.0
	10/22/2003	40.71	13.65	27.06	170 H	1.9	<0.5	2.2	2.2	<2.0
	1/22/2004	40.71	9.54	31.17	860	7.2	37	50	151	<2.0
	4/1/2004	40.71	10.80	29.91	730	6.6	19	38	87	<2.0
	8/20/2004	40.71	13.54	27.17	220	2.2	1.9	7	11.7	<0.5
	12/8/2004	40.71	10.52	30.19	99	1.7	3.3	8.3	25.1	<0.5
	3/15/2005	40.71	8.06	32.65	5,690	18.7	120	315	876	<1.0
	5/17/2005	40.71	9.10	31.61	6,320	12.5	75	429	557	<2.15
	7/14/2005	40.71	11.10	29.61	7,680	14.1	46.3	522	471	<2.15
	10/13/2005	40.71	13.25	27.46	562	4.25	3.28	15	8.29	<0.50
	1/3/2006	40.71	6.72	33.99	340	2.5	4.4	22	50.2	<0.5
	4/7/2006	40.71	5.75	34.96	6,160	24	84.8	385	474	<2.15
	9/7/2006	40.71	12.58	28.13	114	2.45	<2.0	8.62	6.85	<0.5
	11/29/2006	40.71	12.26	28.45	293	5.02	3.25	24	15.15	<0.5
	2/27/2007	40.71	8.78	31.93	3,190	18.30	49.20	396	466	<1.0
	5/23/2007	40.71	11.09	29.62	<50.0	<0.500	<2.00	6.22	4.68	<0.500
	8/21/2007	40.71	13.31	27.40	241	3.12	<2.00	17.6	7.59	<0.500
	11/16/2007	40.71	12.59	28.12	61.1	5.09	<2.00	1.67	<2.00	<0.5
	2/21/2008	40.71	8.56	32.15	<50	<0.5	<2.00	1.41	<2.00	<0.5
	<b>5/7/2008</b>	<b>40.71</b>	<b>11.81</b>	<b>28.90</b>	<b>1,510</b>	<b>3.80</b>	<b>5.55</b>	<b>135</b>	<b>92.18</b>	<b>&lt;0.5</b>
MW-3	10/5/1994	97.78	15.79	81.99	3,000,000	190,000	740,000	310,000	130,000	NA
	12/2/1994	97.78	9.79	87.99	250,000	19,000	22,000	4,400	28,000	NA
	3/6/1995	97.78	8.69	89.09	350,000	20,000	42,000	5,800	36,000	NA
	6/5/1995	97.78	10.25	87.53	350,000	20,000	42,000	5,800	36,000	NA
	10/2/1995	97.78	12.91	84.87	150,000	510	410	210	65	NA
	1/3/1996	97.78	10.55	87.23	150,000	510	410	210	650	NA
	4/3/1996	97.78	8.76	89.02	NA	NA	NA	NA	NA	NA
	12/3/1996	97.78	12.02	85.76	NA	NA	NA	NA	NA	NA

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MW-3 cont.	4/1/1997	97.78	11.73	86.05	NA	NA	NA	NA	NA	NA
	12/1/1997	97.78	NM	NM	NA	NA	NA	NA	NA	NA
	9/1/1998	97.78	14.68	83.10	NA	NA	NA	NA	NA	NA
	12/16/1998	97.78	11.55	86.23	51,000	5,700	3,900	1,200	6,300	410
	3/16/1999	97.78	8.44	89.34	45,000	4,100	6,400	1,000	6,100	470
	6/10/1999	97.78	11.8	85.98	46,000	8,245	6,425	1,015	7,173	274
	8/23/1999	97.78	13.85	83.93	64,000	7,484	8,052	1,744	9,749	141
	11/9/1999	97.78	14.7	83.08	26,000	3,218	1,319	<5	6,697	126
	2/7/2000	97.78	10.95	86.83	44,000	6,090	3,360	<5	5,780	276
	5/31/2000	97.78	11.68	86.10	68,000	15,000	8,900	1,500	7,400	<5
	8/9/2000	97.78	13.73	84.05	76,000	8,900	5,636	883	7,356	176
	11/2/2000	97.78	13.4	84.38	48,000	6,789	4,816	676	7,258	83
	3/13/2001	97.78	9.43	88.35	14,754	2,250	140	ND	1,284	110
	5/22/2001	97.78	11.81	85.97	44,000	5,400	3,100	1,400	6,400	200
	8/8/2001	97.78	14.1	83.68	41,750	3,485	2,670	1,255	5,420	52
	11/19/2001	97.78	14.32	83.46	NA	NA	NA	NA	NA	NA
	2/21/2002	97.78	10.01	87.77	62,000	6,000	7,600	1,900	9,200	12,000
	5/7/2002	97.78	11.28	86.50	54,000	6,700	3,200	1,800	7,100	9,100
	7/30/2002	40.91	13.25	27.66	45,000	8,900	1,700	1,600	5,600	2,600
	10/2/2002	40.91	14.98	25.93	70,000	4,900	5,100	2,100	11,900	21,000
	1/3/2003	40.91	9.79	31.12	35,000	2,900	1,300	860	5,200	13,000
	5/3/2003	40.91	10.01	30.90	48,000	5,800	1,400	1,600	7,400	5,900
	7/24/2003	40.91	12.94	27.97	31,000	4,700	990	1,400	5,200	16,000
	10/22/2003	40.91	14.29	26.62	30,000	4,400	930	1,600	5,400	7,400
	1/22/2004	40.91	10.57	30.34	45,000	2,100	850	1,500	5,700	2,900
	4/1/2004	40.91	11.84	29.07	31,000	4,200	590	1,600	4,370	900
	8/20/2004	40.91	14.24	26.67	21,000	3,400	370	1,000	2,350	1,100
	12/8/2004	40.91	11.32	29.59	6,441	978	109	490	941	201
	3/16/2005	40.91	8.87	32.04	22,300	1,280	456	729	1,870	2,400
	5/17/2005	40.91	9.96	30.95	17,600	764	302	735	1,227	1,800
	7/14/2005	40.91	11.50	29.41	34,600	1,390	492	1,460	2,054	1,090
	10/13/2005	40.91	13.78	27.13	15,000	1,290	267	675	838	893

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MW-3 cont.	1/3/2006	40.91	7.50	33.41	8,700	650	98	330	860	280
	4/7/2006	40.91	6.74	34.17	16,800	677	239	802	1,018	564
	9/8/2006	40.91	12.95	27.96	26,400	1,660	381	933	1,545	332
	11/29/2006	40.91	12.78	28.13	15,100	2,080	381	1,290	1,624	247
	2/27/2007	40.91	9.43	31.48	5,950	1,100	116	531	500	170
	5/24/2007	40.91	11.63	29.28	8,240	1,360	116	540	696	37
	8/21/2007	40.91	13.75	27.16	13,200	2,240	119	868	983	36.4
	11/16/2007	40.91	13.25	27.66	5,490	2,360	52	523	213.9	43
	2/22/2008	40.91	10.07	30.84	7,840	402	64.5	496	430	<1
	5/7/2008	40.91	12.69	28.22	8,180	232	66.7	208	942	5.11
MW-4	1/3/1996	97.85	10.11	87.74	9,300	230	110	10	29	NA
	4/3/1996	97.85	8.35	89.50	1,900	12	8	5	14	NA
	12/9/1996	97.85	11.58	86.27	4,000	14	6	4	12	ND
	4/10/1997	97.85	11.23	86.62	ND	ND	ND	ND	ND	ND
	12/30/1997	97.85	9.43	88.42	2,300	410	270	100	1,500	NA
	6/30/1998	97.85	NM	NM	1,700	780	160	54	200	NA
	9/29/1998	97.85	13.64	84.21	6,200	910	77	68	200	18
	12/16/1998	97.85	11.13	86.72	1,400	590	33	28	94	24
	3/16/1999	97.85	8.46	89.39	600	200	35	19	56	11
	6/10/1999	97.85	11.30	86.55	1,000	298	44	19	64	13
	8/23/1999	97.85	13.20	84.65	660	497	41	54	145	6
	11/9/1999	97.85	14.10	83.75	<50	<5	<5	<5	<5	<5
	2/7/2000	97.85	11.25	86.60	7,800	1,200	61	<5	781	<5
	5/31/2000	97.85	11.46	86.39	552	42	19	16	67	<5
	8/9/2000	97.85	13.35	84.50	370	5.08	<5	<5	<5	<5
	11/2/2000	97.85	13.05	84.80	ND	5.30	ND	ND	8	ND
	3/13/2001	97.85	9.24	88.61	62	ND	ND	3.2	8.7	ND
	5/22/2001	97.85	11.50	86.35	80	12	1.9	4.1	9.8	ND
	8/8/2001	97.85	13.80	84.05	133	12	2.2	3.9	9	ND
	11/19/2001	97.85	13.68	84.17	670	180	5	17	53	ND

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<b>MW-4 cont.</b>	2/21/2002	97.85	9.97	87.88	450	63	4.1	22	28.7	<2
	5/7/2002	97.85	10.81	87.04	570	72	29	27	74	<2
	7/30/2002	40.01	12.62	27.39	450	20	24	19	74	<2.0
	10/2/2002	40.01	14.34	25.67	320	69	0.99	9	5.49	<2.0
	1/3/2003	40.01	9.79	30.22	310	49	2.5	13	26.7	<2.0
	7/24/2003	40.01	12.44	27.57	<50	1	<0.5	<0.5	<0.5	<0.5
	10/22/2003	40.01	13.72	26.29	70	12	<0.5	4.7	3.0	<2.0
	1/22/2004	40.01	10.55	29.46	230	18	2.1	8.1	17.1	<2.0
	4/1/2004	40.01	11.39	28.62	<50	3.8	<0.5	1.6	1.9	<2.0
	8/20/2004	40.01	13.68	26.33	<50	1.6	<0.5	0.66	0.53	<2.0
	12/7/2004	40.01	10.95	29.06	<50	1.3	<0.5	2.80	<1.0	<0.5
	3/15/2005	40.01	8.61	31.40	661	72	4.13	39.7	48.42	<0.5
<b>MW-4R</b>	5/17/2005	40.34	9.88	30.46	7,780	170	11.1	192	121.2	<0.5
	7/14/2005	40.34	11.61	28.73	847	25.3	<2.0	28.2	10.9	<0.5
	10/13/2005	40.34	13.73	26.61	785	35.5	<2.0	48.2	8.35	<0.50
	1/3/2006	40.34	9.18	31.16	2,500	65	3.8	70	62	<0.5
	4/6/2006	40.34	7.70	32.64	852	42.4	2.25	28.4	17.13	<0.5
	9/7/2006	40.34	12.96	27.38	97.7	9.29	<2.0	4.05	1.03	<0.5
	11/28/2006	40.34	12.70	27.64	914	87	<2.0	15.10	10.40	<0.5
	2/26/2007	40.34	9.78	30.56	561	38.4	<2.0	41.30	9.67	<0.5
	5/23/2007	40.34	11.36	28.98	351	35.8	<2.0	23.20	4.82	<0.5
	8/20/2007	40.34	13.45	26.89	223	24.7	<2.0	9.15	2.54	<0.5
	11/15/2007	40.34	13.01	27.33	1,740	94.5	<2.0	41	15.52	<0.5
<b>MW-5</b>	2/22/2008	40.34	9.68	30.66	122	8.12	<2.0	3.14	<2.0	<0.5
	5/6/2008	40.34	12.17	28.17	68.9	3.12	<2.0	0.65	<2.0	<0.5
	10/2/1995	99.04	13.57	85.47	1,500	1	1	4	5	NA
	1/3/1996	99.04	10.03	89.01	1,500	1	1	4	5	NA
	4/3/1996	99.04	8.24	90.80	780	1	1	5	4	NA
	12/9/1996	99.04	11.48	87.56	NA	NA	NA	NA	NA	NA
	4/10/1997	99.04	11.35	87.69	NA	NA	NA	NA	NA	NA

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MW-5 cont.	12/30/1997	99.04	9.15	89.89	790	82	66	59	160	NA
	6/30/1998	99.04	NM	NM	400	<5	<5	15	<10	NA
	9/29/1998	99.04	13.82	85.22	270	2	1	3	3	<.5
	12/16/1998	99.04	11.20	87.84	1,400	1	1	ND	2	ND
	3/16/1999	99.04	7.73	91.31	650	3	1	16	2	10
	6/10/1999	99.04	11.50	87.54	270	4	3	6	4	ND
	8/23/1999	99.04	13.55	85.49	120	ND	4	ND	4	ND
	11/9/1999	99.04	14.30	84.74	<50	<5	<5	<5	<5	<5
	2/7/2000	99.04	9.85	89.19	70	<5	<5	<5	7	<5
	5/31/2000	99.04	11.03	88.01	627.4	7.4	24	12	32.4	<5
	8/9/2000	99.04	13.22	85.82	<50	<5	<5	<5	<5	<5
	11/2/2000	99.04	13.55	85.49	ND	ND	ND	ND	ND	ND
	3/13/2001	99.04	8.67	90.37	382	6.1	1.9	6.6	5.9	ND
	5/22/2001	99.04	11.12	87.92	180	ND	ND	2.1	0.57	4.4
	8/8/2001	99.04	13.79	85.25	258	1	1.1	3.4	7.3	1.4
	11/19/2001	99.04	13.72	85.32	920	17	160	26	135	40
	2/21/2002	99.04	9.04	90.00	290	3.5	2	6.2	6.2	<0.5
	5/7/2002	99.04	10.69	88.35	160	<0.5	0.78 C	2	2.15	2.3
	7/30/2002	41.16	12.94	28.22	110	<0.5	<0.5	0.77	<0.5	<0.5
	10/20/2002	41.16	14.51	26.65	77	<0.5	<0.5	<0.5	<0.5	<2.0
	1/3/2003	41.16	8.73	32.43	450 Y	<0.5	<0.5	4	0.54	2.1
	5/3/2003	41.16	9.24	31.92	130	<0.5	<0.5	1	<0.5	3.1
	7/24/2003	41.16	12.45	28.71	300	<0.5	1.9 C	0.76	<0.5	<2.0
	10/22/2003	41.16	13.89	27.27	460 H	<0.5	<0.5	<0.5	<0.5	1.9
	1/22/2004	41.16	9.60	31.56	160	<0.5	<0.5	0.55 C	<0.5	<5.0
	4/1/2004	41.16	11.06	30.10	280	<0.5	0.74C	0.62	<0.5	2.1
	8/20/2004	41.16	13.75	27.41	250	<0.5	<0.5	<0.5	<0.5	2
	12/7/2004	41.16	10.73	30.43	150	<0.5	<0.5	<0.5	<1.0	2.6

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<b>MW-5 cont.</b>	3/15/2005	41.16	8.18	32.98	496	<0.5	<0.5	<0.5	<1.0	1.91
	5/17/2005	41.16	9.22	31.94	360	<0.5	<0.5	<0.5	<1.0	1.72
	7/14/2005	41.16	11.30	29.86	267	<0.5	<2.0	<0.5	<1.0	1.74
	10/13/2005	41.16	13.57	27.59	404	<0.50	<2.0	<0.50	<1.0	0.93
	1/3/2006	41.16	6.81	34.35	170	2.2	<0.5	1.8	3.1	1.1
	4/7/2006	41.16	5.81	35.35	449	<0.5	<2.0	0.53	<1.0	1.16
	9/7/2006	41.16	12.78	28.38	185	<0.5	<2.0	2.02	<1.0	<0.5
	11/28/2006	41.16	12.62	28.54	158	0.64	<2.0	<0.5	<2.0	<0.5
	2/26/2007	41.16	8.92	32.24	78.2	<0.5	<2.0	<0.5	<2.0	0.52
	5/23/2007	41.16	11.36	29.80	58.4	<0.5	<2.0	4.36	<2.0	<0.5
	8/20/2007	41.16	13.52	27.64	82.4	0.52	<2.0	4.49	2.3	<0.5
	11/16/2007	41.16	12.74	28.42	<50	3.45	<2.00	<0.5	<2.0	0.58
	2/21/2008	41.16	8.67	32.49	131	<0.5	<2.0	<0.5	<2.0	<0.5
	<b>5/6/2008</b>	<b>41.16</b>	<b>12.06</b>	<b>29.10</b>	<b>300</b>	<b>&lt;0.5</b>	<b>&lt;2.0</b>	<b>&lt;0.5</b>	<b>&lt;2.0</b>	<b>0.52</b>
<b>MW-6</b>	10/1/1995	98.77	13.94	84.83	NA	NA	NA	NA	NA	NA
	1/1/1996	98.77	10.55	88.22	120,000	350	310	200	610	NA
	4/1/1996	98.77	8.76	90.01	NA	NA	NA	NA	NA	NA
	12/1/1996	98.77	12.04	86.73	NA	NA	NA	NA	NA	NA
	4/1/1997	98.77	11.76	87.01	NA	NA	NA	NA	NA	NA
	12/1/1997	98.77	9.30	89.47	NA	NA	NA	NA	NA	NA
	9/1/1998	98.77	14.10	84.67	NA	NA	NA	NA	NA	NA
	12/1/1998	98.77	11.60	87.17	NA	NA	NA	NA	NA	NA
	3/16/1999	98.77	8.40	90.37	37,000	3,900	4,300	1,600	7,000	180
	6/10/1999	98.77	11.90	86.87	18,500	2,060	1,650	735	3,170	ND
	8/23/1999	98.77	13.90	84.87	42,000	3,806	3,649	1,554	7,996	10
	11/9/1999	98.77	14.75	84.02	40,000	1,084	130	<5	10,940	<5
	2/7/2000	98.77	10.95	87.82	17,000	1,360	521	<5	4,150	6
	8/9/2000	98.77	13.78	84.99	24,000	1,306	870	<5	5,162	<5
	11/2/2000	98.77	13.40	85.37	19,000	1,387	618	ND	5,250	ND

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MW-6 cont.	3/13/2001	98.77	9.49	89.28	15,637	713	459	238	2,363	ND
	5/22/2001	98.77	11.82	86.95	27,000	760	450	1,600	4,270	ND
	8/8/2001	98.77	NM	NM	NA	NA	NA	NA	NA	NA
	11/19/2001	98.77	NM	NM	NA	NA	NA	NA	NA	NA
	2/21/2002	98.77	9.92	88.85	14,000	440	180	750	1,020	<10
	5/7/2002	98.77	11.33	87.44	10,000	400	160	470	970	<2
	7/30/2002	40.92	13.28	27.64	24,000	1,000	410	1,400	3,770	<20
	10/20/2002	40.92	14.93	25.99	22,000	1,200	620	1,300	2,800	<20
	1/3/2003	40.92	9.78	31.14	12,000	730	230	740	1,690	<20
	5/3/2003	40.92	9.92	31.00	150,000 H	1,400	780	2,500	8,700	<40
	7/24/2003	40.92	12.98	27.94	29,000	1,600	520	1,500	4,400	<200
	10/22/2003	40.92	14.35	26.57	36,000	1,300	430	1,600	4,570	<40
	1/22/2004	40.92	10.60	30.32	30,000	1,300	320	1,500	3,040	<50
	4/1/2004	40.92	11.80	29.12	99,000	1,700	580 C	2,200	5,200	<50
	8/20/2004	40.92	14.36	26.56	12,000	580	130	520	1,020	<10
	12/8/2004	40.92	11.22	29.70	12,631	649	134	1,009	2,037	<2.15
	3/16/2005	40.92	8.94	31.98	18,300	546	126	705	1,069	<2.15
	5/17/2005	40.92	10.02	30.90	38,500	1,290	395	1,550	1,652	<5.50
	7/15/2005	40.92	11.78	29.14	50,100	1,510	409	1,900	1,920	<5.50
	10/13/2005	40.92	14.04	26.88	9,620	513	97.4	523	422.3	<2.15
	1/3/2006	40.92	7.86	33.06	13,000	260	79.0	680	750	<4.2
	4/7/2006	40.92	6.93	33.99	18,200	650	151	918	715	<5.5
	9/8/2006	40.92	13.12	27.80	18,600	604	98.80	639	659	<2.15
	11/28/2006	40.92	12.95	27.97	20,300	656	96.30	1,060	760	7.86
	2/27/2007	40.92	9.68	31.24	8,440	249	36.30	697	316.8	<2.15
	5/24/2007	40.92	11.59	29.33	11,400	292	34.8	493	278.5	<2.15
	8/21/2007	40.92	13.88	27.04	9,480	727	87.6	761	590	<2.15
	11/16/2007	40.92	13.29	27.63	5,430	436	29.8	439	147.8	<2.15
	2/22/2008	40.92	9.41	31.51	4,870	100	9.56	331	76.9	<1.0
	5/7/2008	40.92	12.47	28.45	8,700	125	10.30	365	209.3	<1.0

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MW-7	10/2/1995	97.83	12.95	84.88	NA	10	12	17	NA	3,300
	1/3/1996	97.83	9.57	88.26	3,300	9	12	17	45	NA
	4/3/1996	97.83	7.75	90.08	1,900	2	3	5	7	NA
	12/9/1996	97.83	10.97	86.86	NA	NA	NA	NA	NA	NA
	4/10/1997	97.83	12.95	84.88	NA	NA	NA	NA	NA	NA
	12/30/1997	97.83	8.65	89.18	1,400	130	98	75	200	NA
	6/30/1998	97.83	NM	NM	620	4	<5	9	<10	NA
	9/29/1998	97.83	13.09	84.74	1,800	1	1	1	2	68
	12/16/1998	97.83	10.52	87.31	990	5	10	5	20	160
	3/16/1999	97.83	7.00	90.83	300	3	1	1	1	62
	6/10/1999	97.83	10.70	87.13	320	3	7	4	3	26
	8/23/1999	97.83	12.80	85.03	570	5	10	ND	ND	ND
	11/9/1999	97.83	13.25	84.58	290	<5	9	<5	<5	12
	2/7/2000	97.83	9.50	88.33	80	<5	<5	<5	<5	23
	5/31/2000	97.83	10.52	87.31	494.9	4.9	22	4.2	21.9	29
	8/9/2000	97.83	12.63	85.20	80	<5	<5	<5	<5	11.7
	11/2/2000	97.83	11.95	85.88	50	ND	ND	ND	ND	9.1
	3/13/2001	97.83	8.04	89.79	82	0.97	ND	0.76	ND	78
	5/22/2001	97.83	10.60	87.23	370	ND	9.1	1.3	2.3	28
	8/8/2001	97.83	13.02	84.81	610	3.7	3	6.2	18.9	10
	11/19/2001	97.83	12.83	85.00	1,700	24	220	41	205	69
	2/21/2002	97.83	8.91	88.92	380	<0.5	2.5	2	3.8	78
	5/7/2002	97.83	10.13	87.70	560	15	28.0	9.2	44.0	37
	7/30/2002	39.94	12.15	27.79	270	5.3	1.3 C	2.3	8.1	46
	10/20/2002	39.94	13.74	26.20	350	<0.5	2.1 C	<0.5	3.1 C	43
	1/3/2003	39.94	8.45	31.49	220 Y	<0.5	<0.5	0.78	0.55	19
	5/3/2003	39.94	7.69	32.25	280	<0.5	<0.5	<0.5	<0.5	11
	7/24/2003	39.94	11.72	28.22	230	<0.5	1.3 C	<0.5	0.63	5.9
	10/22/2003	39.94	13.10	26.84	460	<0.5	<0.5	<0.5	<0.5	5.0

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<b>MW-7 cont.</b>	1/22/2004	39.94	9.23	30.71	380	<0.5	1.4 C	<0.5	<0.5	<5.0
	4/1/2004	39.94	10.40	29.54	480	<0.5	2.5 C	<0.5	0.90	0.62
	8/20/2004	39.94	12.92	27.02	410	<0.5	.81 C	<0.5	<0.5	1.70
	12/7/2004	39.94	10.28	29.66	96	<0.5	<0.5	<0.5	<1.0	<0.5
	3/16/2005	39.94	7.44	32.50	209	<0.5	<0.5	<0.5	<1.0	1.74
	5/16/2005	39.94	8.53	31.41	262	4.85	2.19	2.36	4.24	0.73
	7/14/2005	39.94	10.61	29.33	753	20.6	11.9	16.8	33.23	2.36
	10/13/2005	39.94	12.80	27.14	1,690	5.3	2.71	12.6	54	1.93
	1/3/2006	39.94	6.39	33.55	250 Y	0.80	<0.5	0.61	<0.5	1.1
	4/7/2006	39.94	8.10	31.84	3,440	0.64	<2.0	17	<1.0	<0.5
	9/7/2006	39.94	14.52	25.42	320	2.87	<2.0	4.76	1.34	<0.5
	11/28/2006	39.94	12.17	27.77	774	1.81	<2.0	6.76	3.03	<0.5
	2/26/2007	39.94	10.41	29.53	1,240	<0.5	<2.0	6.83	<2.0	<0.5
	5/23/2007	39.94	10.16	29.78	265	<0.5	<2.0	5.38	<2.0	<0.5
	8/20/2007	39.94	12.98	26.96	<50.0	0.78	<2.0	4.87	2.36	<0.5
	11/15/2007	39.94	12.45	27.49	135	<0.5	<2.00	0.54	<2.0	<0.5
	2/21/2008	39.94	8.79	31.15	<50	3.18	<2.0	1.69	<2.0	<0.5
	5/6/2008	<b>39.94</b>	<b>11.31</b>	<b>28.63</b>	<b>&lt;50</b>	<b>&lt;0.5</b>	<b>&lt;2.0</b>	<b>&lt;0.5</b>	<b>&lt;2.0</b>	<b>&lt;0.5</b>
<b>MW-8</b>	10/2/1995	97.25	12.86	84.39	NA	NA	NA	NA	NA	NA
	1/3/1996	97.25	9.79	87.46	94,000	310	250	180	480	NA
	4/3/1996	97.25	7.98	89.27	58,000	250	170	140	330	NA
	12/9/1996	97.25	11.13	86.12	27,000	88	43	44	80	ND
	4/10/1997	97.25	12.95	84.30	24,000	86	55	50	100	ND
	12/30/1997	97.25	8.95	88.30	28,000	6,000	1,600	2,100	4,700	NA
	6/30/1998	97.25	NM	NM	54,000	4,600	2,800	3,500	7,300	NA
	9/29/1998	97.25	13.02	84.23	NA	NA	NA	NA	NA	NA
	12/16/1998	97.25	10.75	86.50	61,000	6,300	1,700	2,200	4,400	1,300
	3/16/1999	97.25	7.58	89.67	22,000	1,800	470	2,000	2,000	820
	6/10/1999	97.25	10.80	86.45	39,500	3,610	1,635	2,175	5,913	988
	8/23/1999	97.25	12.75	84.50	58,000	5,379	2,438	3,001	6,960	639
	11/9/1999	97.25	13.65	83.60	10,500	92	<5	<5	3,414	769
	2/7/2000	97.25	10.85	86.40	44,200	1,080	617	<5	4,160	240
	5/31/2000	97.25	11.15	86.10	25,940	940	130	1,600	3,960	75
	8/9/2000	97.25	12.87	84.38	22,000	632	5.38	<5	2,686	37.3
	11/2/2000	97.25	12.55	84.70	3,000	278	350	209	980	21

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**Historical Groundwater Elevation Data & Analytical Results**  
**3609 International Boulevard, Oakland, California**

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MW-8 cont.	3/13/2001	97.25	8.75	88.50	2,360	81	16	71	270	221
	8/8/2001	97.25	12.97	84.28	5,620	153	46	373	345	174
	11/19/2001	97.25	13.19	84.06	13,000	600	270	750	1,200	400
	2/21/2002	97.25	9.88	87.37	240,000	1,400	<25	4,200	6,560	<100
	5/7/2002	97.25	10.32	86.93	9,000	360	56	560	622	2,100
	7/30/2002	39.38	11.79	27.59	8,400	340	78	530	517	1,200
	10/20/2002	39.38	13.80	25.58	18,000	950	75	1,400	1,269	700
	1/3/2003	39.38	9.48	29.90	8,100	300	29	370	302	1,100
	5/3/2003	39.38	9.48	29.90	18,000	380	33 C	1,000	516	540
	7/24/2003	39.38	11.92	27.46	12,000	460	54 C	910	435	890
	10/22/2003	39.38	13.09	26.29	16,000	830	87	2,000	675	280
	1/22/2004	39.38	10.32	29.06	18,000	330	37 C	860	239	500
	4/1/2004	39.38	11.23	28.15	12,000	240	26 C	650	128.8 C	<4
	8/20/2004	39.38	13.02	26.36	6,000	310	27	660	56.8 C	<4
	12/8/2004	39.38	10.79	28.59	6,650	171	15	360	35	166
	3/15/2005	39.38	7.62	31.76	11,400	125	21	418	55.3	865
	5/16/2005	39.38	9.15	30.23	10,100	122	13.2	440	34.73	406
	7/14/2005	39.38	10.81	28.57	11,600	213	27.8	854	71.51	184
	10/13/2005	39.38	12.81	26.57	6,590	256	27.7	655	48.50	375
	1/3/2006	39.38	7.40	31.98	4,800	53	5.2	130	21	210
	4/6/2006	39.38	6.04	33.34	8,240	82.5	14.6	364	28.06	771
	9/7/2006	39.38	12.15	27.23	4,130	86.80	7.32	173	19.73	48.60
	11/28/2006	39.38	11.92	27.46	3,680	198	15.10	313	23.82	149
	2/27/2007	39.38	8.52	30.86	5,690	122	15.10	455	33.62	203
	5/24/2007	39.38	10.79	28.59	3,400	32.60	4.35	177	14.65	69.5
	8/20/2007	39.38	12.71	26.67	1,310	58.60	4.22	106	7.20	26.8
	11/15/2007	39.38	12.13	27.25	10,300	169	11.1	281	12.0	60.4
	2/22/2008	39.38	8.51	30.87	5,130	33.3	4.12	218	5.87	<0.5
	5/6/2008	39.38	11.41	27.97	3,490	20.3	2.38	90.3	0.77	21.8
MW-10	12/1/1996	94.54	10.44	84.10	NA	NA	NA	NA	NA	NA
	4/10/1997	94.54	10.07	84.47	1,000	21	9	3	3	ND
	12/30/1997	94.54	8.78	85.76	10,000	5,300	76	1,100	780	NA

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MW-10 cont.	9/29/1998	94.54	11.93	82.61	9,900	5,400	66	970	620	2,600
	12/16/1998	94.54	10.19	84.35	8,700	3,800	51	790	420	1,800
	3/16/1999	94.54	7.30	87.24	4,100	15	28	420	250	2,800
	6/10/1999	94.54	9.95	84.59	4,200	1,168	34	264	154	1,195
	8/23/1999	94.54	11.60	82.94	3,250	2,135	97	600	248	1,800
	11/9/1999	94.54	12.50	82.04	2,950	1,134	20	<5	70	652
	2/7/2000	94.54	9.25	85.29	<50	<5	<5	<5	<5	448
	5/31/2000	94.54	9.45	85.09	4,400	1,500	25	390	107.1	580
	8/9/2000	94.54	11.52	83.02	6,800	1,055	26	54	53.8	1,283
	11/2/2000	94.54	11.35	83.19	ND	ND	ND	ND	ND	145
	3/13/2001	94.54	8.07	86.47	4,935	969	18	41	72	630
	5/22/2001	94.54	9.80	84.74	2,900	630	11	200	31	270
	8/8/2001	94.54	11.64	82.90	242	35	1	11	2	64
	11/19/2001	94.54	12.06	82.48	3,500	900	260	310	258	410
	2/21/2002	94.54	8.28	86.26	4,700	1,100	20	370	63.7	500
	5/7/2002	94.54	9.49	85.05	3,400	660	13	260	48.0	270
	7/30/2002	36.71	10.93	25.78	160	26	0.55	8.1	1.0	72
	10/20/2002	36.71	12.54	24.17	550	130	3.00	31.0	2.7	70
	1/3/2003	36.71	8.23	28.48	17,000	870	11	290	27	270
	5/3/2003	36.71	8.30	28.41	2,500	650	10	190	15.81 C	180
	7/24/2003	36.71	10.76	25.95	750	160	4	58	6.66 C	79
	10/22/2003	36.71	11.91	24.80	2,000	410	11	170	9.14 C	110
	1/22/2004	36.71	8.91	27.80	4,000	600	15	280	15.3 C	110
	4/1/2004	36.71	9.62	27.09	5,100	580	<1	330	26.4	160
	8/20/2004	36.71	11.50	25.21	3,400	550	13	240	17.0	100
	12/7/2004	36.71	9.29	27.42	2,524	556	10	184	16.0	144

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MW-10 cont.	3/15/2005	36.71	7.48	29.23	4,340	354	6.07	166	17.1	258
	5/16/2005	36.71	8.24	28.47	4,750	415	6.87	254	10.4	126
	7/14/2005	36.71	9.78	26.93	6,050	594	9.53	297	10.7	190
	10/13/2005	36.71	11.32	25.39	6,230	811	11.3	355	5.6	167
	1/3/2006	36.71	6.81	29.90	2,000	350	6.0	210	16	88
	4/6/2006	36.71	6.03	30.68	600	86.5	<2.0	59.1	2.36	30.4
	9/7/2006	36.71	10.90	25.81	6,960	360	<8.60	253	11.30	103
	11/28/2006	36.71	10.92	25.79	2,800	305	<8.6	228	<8.6	72.8
	2/26/2007	36.71	8.02	28.69	9,470	1,400	29.3	1,260	32.60	263.0
	5/23/2007	36.71	9.54	27.17	860	138	2.45	69.2	4.65	30.9
	8/20/2007	36.71	11.47	25.24	86.6	2.88	<2.00	5.98	2.30	2.68
	11/15/2007	36.71	11.12	25.59	492	104	<2.00	41.2	<2.0	18.7
	2/21/2008	36.71	7.85	28.86	2,040	228	4.44	193	2.68	11
	5/6/2008	36.71	10.19	26.52	2,510	161	3.36	130	<2.0	23
MW-11	12/1/1996	95.94	11.99	83.95	NA	NA	NA	NA	NA	NA
	4/1/1997	95.94	11.47	84.47	NA	NA	NA	NA	NA	NA
	12/30/1997	95.94	10.40	85.54	710	66	97	59	190	NA
	6/30/1998	95.94	NM	NM	1,100	45	24	71	100	NA
	9/29/1998	95.94	13.24	82.70	170	7	1	4	9	22
	12/16/1998	95.94	11.58	84.36	650	27	4	25	33	>0.5
	3/16/1999	95.94	8.81	87.13	710	30	6	53	84	8
	6/10/1999	95.94	11.50	84.44	4,600	1,240	35	290	159	1,291
	8/23/1999	95.94	12.75	83.19	170	4	4	ND	6	ND
	11/9/1999	95.94	13.85	82.09	<50	<5	<5	<5	<5	<5
	2/7/2000	95.94	13.60	82.34	700	20	15	<5	35	<5
	8/9/2000	95.94	14.87	81.07	590	10.5	5.94	<5	7.75	<5
	11/2/2000	95.94	12.55	83.39	60	ND	ND	ND	ND	ND
	3/13/2001	95.94	9.61	86.33	273	8.6	2.1	10	14	ND
	5/22/2001	95.94	11.15	84.79	280	12	8.3	3.3	9.8	12
	8/8/2001	95.94	13.04	82.90	NA	NA	NA	NA	NA	NA
	11/19/2001	95.94	13.48	82.46	300	7.9	26	5.1	28.9	ND
	2/21/2002	95.94	9.69	86.25	560	34	20	32	37.3	<0.5
	5/7/2002	95.94	10.99	84.95	280	16	3	7.6	7.6	<2
	7/30/2002	NS	13.24	NC	120	5.6	<0.5	0.61	0.53	<2.0
	10/20/2002	NS	NM	NC	NA	NA	NA	NA	NA	NA

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<b>MW-11 cont.</b>	1/3/2003	NS	9.76	NC	700	32	5.7	25	14.10	<2.0
	5/3/2003	NS	9.66	NC	280	17	1.5 C	8	4.10	<2.0
	7/24/2003	NS	12.30	NC	340	19 C	3.2	0.58	0.89	<2.0
	10/22/2003	NS	13.38	NC	210	5.0 C	<0.5	<0.5	<0.5	<0.5
	1/22/2004	NS	NM	NC	NA	NA	NA	NA	NA	NA
	4/1/2004	NS	NM	NC	NA	NA	NA	NA	NA	NA
	8/20/2004	NS	NM	NC	NA	NA	NA	NA	NA	NA
	12/7/2004	NS	10.54	NC	486	24	3.0	18	4.00	<0.5
	3/15/2005	NS	NM	NC	NA	NA	NA	NA	NA	NA
	5/16/2005	NS	NM	NC	NA	NA	NA	NA	NA	NA
	7/14/2005	NS	NM	NC	NA	NA	NA	NA	NA	NA
	10/13/2005	NS	NM	NC	NA	NA	NA	NA	NA	NA
	1/3/2006	NS	NM	NC	NA	NA	NA	NA	NA	NA
	4/6/2006	NS	7.72	NC	872	19.8	3.63	37.5	3.28	<0.5
	<b>5/6/2008</b>	<b>NS</b>	<b>NM</b>	<b>NC</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>
<b>MW-12</b>	11/9/1999	94.84	13.20	81.64	80	<5	<5	<5	<5	229
	2/7/2000	94.84	10.20	84.64	4,000	351	37	<5	24	513
	5/31/2000	94.84	10.48	84.36	3,930	230	10	34	12	200
	8/9/2000	94.84	12.07	82.77	1,730	15.4	12.4	<5	<5	185
	11/2/2000	94.84	12.05	82.79	1,010	9.3	19.0	ND	7.40	215
	3/13/2001	94.84	9.04	85.80	1,517	13	5.6	5.5	11	214
	5/22/2001	94.84	10.52	84.32	31,000	1,200	ND	95	165	1,900
	8/8/2001	94.84	12.24	82.60	2,090	71	1.8	3	4	142
	11/19/2001	94.84	12.76	82.08	3,000	81	69	13	73	120
	2/21/2002	94.84	8.78	86.06	2,500	77	<0.5	5.7	7.4	95
	5/7/2002	94.84	10.26	84.58	2,700	74	<0.5	20	5.1	94
	7/30/2002	36.84	10.93	25.91	2,200	57	<0.5	11	2.6	100
	10/20/2002	36.84	13.13	23.71	2,600	71	<0.5	<0.5	10.3	84

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<b>MW-12 cont.</b>	1/3/2003	36.84	9.23	27.61	2,300	65	<0.5	1	4.00	86
	5/3/2003	36.84	9.24	27.60	2,200	58	<0.5	4.2 C	4.1 C	96
	7/24/2003	36.84	11.44	25.40	2,200	32 C	16 C	<0.5	9.20	66
	10/22/2003	36.84	12.50	24.34	2200 H	31 C	<0.5	<0.5	3.5 C	49
	1/22/2004	36.84	9.56	27.28	1,700	24 C	14 C	3	5.00	72
	4/1/2004	36.84	10.21	26.63	2,000	11 C	<0.5	<0.5	5 C	36
	8/20/2004	36.84	12.00	24.84	1,900	8.9 C	<0.5	<0.5	1.1 C	26
	12/7/2004	36.84	10.03	26.81	1,018	2	<0.5	<0.5	<1.0	26
	3/15/2005	36.84	8.49	28.35	1,890	4.25	<0.5	6.38	<1.0	30.6
	5/16/2005	36.84	9.07	27.77	1,080	<0.5	<0.5	<0.5	<1.0	20.6
	7/14/2005	36.84	10.43	26.41	1,580	2.71	<2.0	3.33	<1.0	29.3
	10/13/2005	36.84	12.08	24.76	1,560	0.74	<2.0	<0.50	<1.0	28.1
	1/3/2006	36.84	7.89	28.95	480 Y	13	<0.5	<0.5	<0.5	30
	4/6/2006	36.84	7.92	28.92	1,310	<0.5	<2.0	<0.5	<1.0	31.1
	9/7/2006	36.84	11.44	25.40	1,220	0.61	<2.0	2.69	<1.0	23.7
	11/28/2006	36.84	11.61	25.23	543	2.15	<2.0	1.72	<2.0	27.6
	2/26/2007	36.84	9.04	27.80	5,580	9.81	11	8.52	31.3	14.2
	5/23/2007	36.84	10.37	26.47	350	<0.5	<2.0	4.74	2.32	18.9
	8/20/2007	36.84	12.03	24.81	556	0.68	<2.0	4.81	2.41	20.3
	11/15/2007	36.84	11.84	25.00	678	0.79	<2.0	0.51	<2.0	20.4
	2/21/2008	36.84	8.86	27.98	375	0.59	<2.0	1.06	<2.0	2.52
	<b>5/6/2008</b>	<b>36.84</b>	<b>10.85</b>	<b>25.99</b>	<b>742</b>	<b>&lt;0.5</b>	<b>&lt;2.0</b>	<b>0.70</b>	<b>&lt;2.0</b>	<b>8.92</b>
<b>FDC</b>	2/7/2000	97.10	15.40	81.70	NA	NA	NA	NA	NA	NA
	5/31/2000	97.10	12.41	84.69	NA	NA	NA	NA	NA	NA
	8/9/2000	97.10	15.70	81.40	NA	NA	NA	NA	NA	NA
	11/2/2000	97.10	16.85	80.25	NA	NA	NA	NA	NA	NA
	3/13/2001	97.10	9.39	87.71	NA	NA	NA	NA	NA	NA
	5/22/2001	97.10	15.85	81.25	NA	NA	NA	NA	NA	NA
	8/8/2001	97.10	13.30	83.80	NA	NA	NA	NA	NA	NA
	11/19/2001	97.10	17.82	79.28	NA	NA	NA	NA	NA	NA

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FDC cont.	2/21/2002	97.10	16.74	80.36	NA	NA	NA	NA	NA	NA
	5/7/2002	97.10	10.36	86.74	NA	NA	NA	NA	NA	NA
	7/30/2002	39.35	11.93	27.42	NA	NA	NA	NA	NA	NA
	10/20/2002	39.35	13.74	25.61	NA	NA	NA	NA	NA	NA
	1/3/2003	39.35	15.18	24.17	NA	NA	NA	NA	NA	NA
	5/3/2003	39.35	16.20	23.15	NA	NA	NA	NA	NA	NA
	7/24/2003	39.35	16.45	22.90	NA	NA	NA	NA	NA	NA
	10/22/2003	39.35	16.53	22.82	NA	NA	NA	NA	NA	NA
	1/22/2004	39.35	13.74	25.61	NA	NA	NA	NA	NA	NA
	4/1/2004	39.35	16.30	23.05	NA	NA	NA	NA	NA	NA
	8/20/2004	39.35	16.05	23.30	NA	NA	NA	NA	NA	NA
	12/7/2004	39.35	14.56	24.79	NA	NA	NA	NA	NA	NA
	3/16/2005	39.35	13.55	25.80	NA	NA	NA	NA	NA	NA
	5/17/2005	39.35	14.88	24.47	NA	NA	NA	NA	NA	NA
	7/14/2005	39.35	14.32	25.03	NA	NA	NA	NA	NA	NA
	10/13/2005	39.35	14.99	24.36	NA	NA	NA	NA	NA	NA
	1/3/2006	39.35	11.82	27.53	NA	NA	NA	NA	NA	NA
	4/6/2006	39.35	13.60	25.75	NA	NA	NA	NA	NA	NA
	9/7/2006	39.35	15.05	24.30	NA	NA	NA	NA	NA	NA
	11/28/2006	39.35	15.47	23.88	NA	NA	NA	NA	NA	NA
	2/26/2007	39.35	13.01	26.34	NA	NA	NA	NA	NA	NA
	5/23/2007	39.35	14.23	25.12	NA	NA	NA	NA	NA	NA
	8/20/2007	39.35	15.92	23.43	NA	NA	NA	NA	NA	NA
	11/15/2007	39.35	15.98	23.37	NA	NA	NA	NA	NA	NA
	2/21/2008	39.35	10.22	29.13	NA	NA	NA	NA	NA	NA
FDE	5/6/2008	39.35	14.95	24.40	NA	NA	NA	NA	NA	NA
	5/31/2000	97.90	13.22	84.68	NA	NA	NA	NA	NA	NA
	8/9/2000	97.90	NM	NM	NA	NA	NA	NA	NA	NA
	11/2/2000	97.90	12.75	85.15	NA	NA	NA	NA	NA	NA
	3/13/2001	97.90	9.14	88.76	NA	NA	NA	NA	NA	NA
	5/22/2001	97.90	13.05	84.85	NA	NA	NA	NA	NA	NA
	8/8/2001	97.90	13.69	84.21	NA	NA	NA	NA	NA	NA
	11/19/2001	97.90	13.92	83.98	NA	NA	NA	NA	NA	NA

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**Historical Groundwater Elevation Data & Analytical Results**  
**3609 International Boulevard, Oakland, California**

Monitoring Well	Date	Top Of Casing Elevation <sup>1</sup> (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	TPH-g ( $\mu\text{g/L}$ )	Benzene ( $\mu\text{g/L}$ )	Toluene ( $\mu\text{g/L}$ )	Ethyl-Benzene ( $\mu\text{g/L}$ )	Total Xylenes ( $\mu\text{g/L}$ )	MtBE <sup>2</sup> EPA 8260B ( $\mu\text{g/L}$ )
FDE cont.	2/21/2002	97.90	13.18	84.72	NA	NA	NA	NA	NA	NA
	5/7/2002	97.90	11.18	86.72	NA	NA	NA	NA	NA	NA
	7/30/2002	40.06	12.81	27.25	NA	NA	NA	NA	NA	NA
	10/20/2002	40.06	14.53	25.53	NA	NA	NA	NA	NA	NA
	1/3/2003	40.06	13.13	26.93	NA	NA	NA	NA	NA	NA
	5/3/2003	40.06	11.79	28.27	NA	NA	NA	NA	NA	NA
	7/24/2003	40.06	13.10	26.96	NA	NA	NA	NA	NA	NA
	10/22/2003	40.06	13.85	26.21	NA	NA	NA	NA	NA	NA
	1/22/2004	40.06	13.27	26.79	NA	NA	NA	NA	NA	NA
	4/1/2004	40.06	13.20	26.86	NA	NA	NA	NA	NA	NA
	8/20/2004	40.06	14.97	25.09	NA	NA	NA	NA	NA	NA
	12/7/2004	40.06	14.25	25.81	NA	NA	NA	NA	NA	NA
	3/16/2005	40.06	12.50	27.56	NA	NA	NA	NA	NA	NA
	5/17/2005	40.06	13.93	26.13	NA	NA	NA	NA	NA	NA
	7/14/2005	40.06	13.98	26.08	NA	NA	NA	NA	NA	NA
	10/13/2005	40.06	13.60	26.46	NA	NA	NA	NA	NA	NA
	1/3/2006	40.06	9.83	30.23	NA	NA	NA	NA	NA	NA
	4/6/2006	40.06	11.30	28.76	NA	NA	NA	NA	NA	NA
	9/7/2006	40.06	13.52	26.54	NA	NA	NA	NA	NA	NA
	11/28/2006	40.06	13.73	26.33	NA	NA	NA	NA	NA	NA
	2/26/2007	40.06	11.20	28.86	NA	NA	NA	NA	NA	NA
	5/23/2007	40.06	12.72	27.34	NA	NA	NA	NA	NA	NA
	8/20/2007	40.06	13.49	26.57	NA	NA	NA	NA	NA	NA
	11/15/2007	40.06	13.28	26.78	NA	NA	NA	NA	NA	NA
	2/21/2008	40.06	9.86	30.20	NA	NA	NA	NA	NA	NA
	<b>5/6/2008</b>	<b>40.06</b>	<b>12.42</b>	<b>27.64</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>
FDW	5/31/2000	96.90	12.20	84.70	NA	NA	NA	NA	NA	NA
	8/9/2000	96.90	NM	NM	NA	NA	NA	NA	NA	NA
	11/2/2000	96.90	15.50	81.40	NA	NA	NA	NA	NA	NA
	3/13/2001	96.90	10.12	86.78	NA	NA	NA	NA	NA	NA
	5/22/2001	96.90	13.50	83.40	NA	NA	NA	NA	NA	NA
	8/8/2001	96.90	13.08	83.82	NA	NA	NA	NA	NA	NA
	11/19/2001	96.90	14.31	82.59	NA	NA	NA	NA	NA	NA

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**Historical Groundwater Elevation Data & Analytical Results**  
**3609 International Boulevard, Oakland, California**

Monitoring Well	Date	Top Of Casing Elevation <sup>1</sup> (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	TPH-g ( $\mu\text{g}/\text{L}$ )	Benzene ( $\mu\text{g}/\text{L}$ )	Toluene ( $\mu\text{g}/\text{L}$ )	Ethyl-Benzene ( $\mu\text{g}/\text{L}$ )	Total Xylenes ( $\mu\text{g}/\text{L}$ )	MtBE <sup>2</sup> EPA 8260B ( $\mu\text{g}/\text{L}$ )
FDW cont.	2/21/2002	96.90	12.78	84.12	NA	NA	NA	NA	NA	NA
	5/7/2002	96.90	10.14	86.76	NA	NA	NA	NA	NA	NA
	7/30/2002	39.16	11.79	27.37	NA	NA	NA	NA	NA	NA
	10/20/2002	39.16	13.50	25.66	NA	NA	NA	NA	NA	NA
	1/3/2003	39.16	12.13	27.03	NA	NA	NA	NA	NA	NA
	5/3/2003	39.16	10.84	28.32	NA	NA	NA	NA	NA	NA
	7/24/2003	39.16	12.12	27.04	NA	NA	NA	NA	NA	NA
	10/22/2003	39.16	13.48	25.68	NA	NA	NA	NA	NA	NA
	1/22/2004	39.16	13.58	25.58	NA	NA	NA	NA	NA	NA
	4/1/2004	39.16	13.90	25.26	NA	NA	NA	NA	NA	NA
	8/20/2004	39.16	15.69	23.47	NA	NA	NA	NA	NA	NA
	12/7/2004	39.16	14.85	24.31	NA	NA	NA	NA	NA	NA
	3/16/2005	39.16	13.10	26.06	NA	NA	NA	NA	NA	NA
	5/17/2005	39.16	14.60	24.56	NA	NA	NA	NA	NA	NA
	7/14/2005	39.16	15.10	24.06	NA	NA	NA	NA	NA	NA
	10/13/2005	39.16	13.34	25.82	NA	NA	NA	NA	NA	NA
	1/3/2006	39.16	12.61	26.55	NA	NA	NA	NA	NA	NA
	4/6/2006	39.16	12.80	26.36	NA	NA	NA	NA	NA	NA
	9/7/2006	39.16	15.80	23.36	NA	NA	NA	NA	NA	NA
	11/28/2006	39.16	14.10	25.06	NA	NA	NA	NA	NA	NA
	2/26/2007	39.16	10.21	28.95	NA	NA	NA	NA	NA	NA
	5/23/2007	39.16	12.44	26.72	NA	NA	NA	NA	NA	NA
	8/20/2007	39.16	15.08	24.08	NA	NA	NA	NA	NA	NA
	11/15/2007	39.16	15.12	24.04	NA	NA	NA	NA	NA	NA
	2/21/2008	39.16	8.93	30.23	NA	NA	NA	NA	NA	NA
	5/6/2008	<b>39.16</b>	<b>12.01</b>	<b>27.15</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>
EX-1	2/27/2007	40.51	9.05	31.46	15,900	1,400	1,190	725	2,880	185
	5/23/2007	40.51	15.37	25.14	NA	NA	NA	NA	NA	NA
	8/20/2007	40.51	17.42	23.09	NA	NA	NA	NA	NA	NA
	11/15/2007	40.51	13.28	27.23	NA	NA	NA	NA	NA	NA
	2/21/2008	40.51	16.91	23.60	NA	NA	NA	NA	NA	NA
	5/6/2008	<b>40.51</b>	<b>17.38</b>	<b>23.13</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>

**Table 1**  
**Historical Groundwater Elevation Data & Analytical Results**  
**3609 International Boulevard, Oakland, California**

Monitoring Well	Date	Top Of Casing Elevation <sup>1</sup> (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-Benzene (µg/L)	Total Xylenes (µg/L)	MtBE <sup>2</sup> EPA 8260B (µg/L)
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Notes:

<sup>1</sup> Top of casing elevations were re-surveyed to comply with the EDF requirements for electronic reporting of data to the State Water Resources Control Board Database on August 9, 2002.

<sup>2</sup> MtBE was analyzed using the EPA Method 8021B and confirmed using 8260B.

C: Presence confirmed, but confirmation concentration differed by more than a factor of two.

H: Heavier hydrocarbons may have contributed to the quantitation.

NA: Not Analyzed

NA: Not Applicable, Well/Drain did not exist at time of sampling

NC: Not calculated. No top of casing elevation was available for MW-11.

ND, < : Not Detected above laboratory reporting limits.

NM: Not Measured

NS: Not Surveyed.

Y: Sample exhibits fuel pattern which does not resemble standard.

FDC: French drain center riser.

FDE: French drain east riser.

FDW: French drain west riser.

Well MW-4R replaced damaged well MW-4 on April 11, 2005. The first time well MW-4R was monitored was in the Second Quarter 2005

NS: Not surveyed. Well MW-11 was not surveyed due to obstructions surrounding well.

Well EX-1 was installed in the First Quarter 2007 and initially monitored in February 2007.

**Table 2**  
**Total Volume of Water Treated, Historical Operational Data,**  
**and Laboratory Analytical Results for PSP #1 and GAC-1 Samples**  
**3609 International Boulevard, Oakland, California**

Month	Date	Effluent Totalizer Reading (gallons)	Lab Results For PSP #1 <sup>1</sup> and GAC-1 Samples					
			MtBE <sup>2</sup> (ug/L)	TPH-g (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Total Xylenes (ug/L)
<b>2008</b>								
June	6/9/2008	3,927,778	<0.5  <0.5	<50  <50	<0.5  <0.5	<2.0  <2.0	<0.5  <0.5	<2.0  <2.0
March	3/4/2008	3,839,508	<0.5  <0.5	<50  <50	<0.5  <0.5	<2.0  <2.0	<0.5  <0.5	<2.0  <2.0
<b>2007</b>								
October	10/31/2007	3,673,410	<0.5  <0.5	<50  <50	<0.5  <0.5	<2.0  <2.0	<0.5  <0.5	<2.0  <2.0
July	7/27/2007	3,643,880	<0.5  <0.5	<50  <50	<0.5  <0.5	<2.0  <2.0	<0.5  <0.5	<2.0  <2.0
May	5/17/2007	3,590,070	<0.5  <0.5	<50  <50	<0.5  <0.5	<2.0  <2.0	<0.5  <0.5	<2.0  <2.0
April	4/27/2007	3,561,230	<0.5  <0.5	<50  <50	<0.5  <0.5	<2.0  <2.0	<0.5  <0.5	<2.0  <2.0
	4/20/2007	3,546,800	Startup of groundwater extraction from the new extraction well EX-1. As of this date, groundwater is being extracted from three wells at the site (EX-1, West Riser, and Center Riser).					
March	3/16/2007	3,528,090	<0.5  <0.5	<50  <50	<0.5  <0.5	<2.0  <2.0	<0.5  <0.5	<2.0  <2.0
February	2/22/2007	3,510,560	<0.5  <0.5	<50  <50	<0.5  <0.5	<2.0  <2.0	<0.5  <0.5	<2.0  <2.0
	2/19/2007	3,508,300	Carbon Change-out of 2000 lb vessel and 55 gallon polishing vessel					
January	1/16/2007	3,488,140	<0.5  1.37	<50  <50	<0.5  1.68	<2.0  <2.0	<0.5  1.25	<2.0  <2.0

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**3609 International Boulevard, Oakland, California**

Month	Date	Effluent Totalizer Reading (gallons)	Lab Results For PSP #1 <sup>1</sup> and GAC-1 Samples					
			MtBE <sup>2</sup> (ug/L)	TPH-g (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Total Xylenes (ug/L)
<b>2006</b>								
December	12/22/2006	3,469,890	<0.5 <0.5	<50 <50	<0.5 <0.5	<0.5 <0.5	<0.5 <0.5	<0.5 <0.5
November	11/20/2006	3,455,980	<0.5 <0.5	<50 <50	<0.5 <0.5	<2.0 <2.0	<0.5 <0.5	<2.0 <2.0
October	10/18/2006	3,447,850	<0.5 <0.5	<50 <50	<0.5 <0.5	<2.0 <2.0	<0.5 <0.5	<1.0 <1.0
September	9/27/2006	3,441,500	<0.5 <0.5	<50 <50	<0.5 <0.5	<0.5 <0.5	<0.5 <0.5	<0.5 <0.5
August	8/14/2006	3,425,340	<0.5 <0.5	<50 <50	<0.5 <0.5	<2.0 <2.0	<0.5 <0.5	<1.0 <1.0
July	7/24/2006	3,414,800	<0.5 <0.5	<50 <50	<0.5 0.94	<2.0 <2.0	<0.5 <0.5	<1.0 <1.0
June	6/15/2006	3,387,940	Carbon Change-out of 2000 lb vessel and 55 gallon polishing vessel					
	6/7/2006	3,379,880	<0.5 2.89	<50 <50	<0.5 5.3	<2.0 <2.0	<0.5 1.24	<1.0 4.91
May	5/18/2006	3,350,260	replaced existing 200 gallon holding tank with newer 200 gallon tank					
May	5/11/2006	3,337,750	<0.5 0.61	<50 <50	<0.5 <0.5	<2.0 <2.0	<0.5 <0.5	<1.0 <1.0
April	4/19/2006	3,268,110	<0.5 1.66	<50 <50	<0.5 <0.5	<2.0 <2.0	<0.5 <0.5	<1.0 <1.0
	4/10/2006	3,236,770	Carbon Change-out of 2000 lb vessel and 55 gallon polishing vessel					

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**3609 International Boulevard, Oakland, California**

Month	Date	Effluent Totalizer Reading (gallons)	Lab Results For PSP #1 <sup>1</sup> and GAC-1 Samples					
			MtBE <sup>2</sup> (ug/L)	TPH-g (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	
		2006						
March	3/10/2006	3,220,570	<0.5 <0.5	<50 <50	<0.5 <0.5	<2.0 <2.0	<0.5 <0.5	<1.0 <1.0
February	2/10/2006	3,186,590	<0.5 <0.5	<50 <50	<0.5 <0.5	<2.0 <2.0	<0.5 <0.5	<1.0 <1.0
January	1/4/2006	3,122,610	<0.5 <0.5	<50 <50	<0.5 <0.5	<0.5 <0.5	<0.5 <0.5	<0.5 <0.5
2005								
December	12/9/2005	3,081,750	<0.5 <0.5	<50 <50	<0.5 <0.5	<2.0 <2.0	<0.5 <0.5	<1.0 <1.0
November	11/14/2005	3,072,540	<0.5 <0.5	<50 <50	<0.5 <0.5	<2.0 <2.0	<0.5 <0.5	<1.0 <1.0
October	10/17/2005	3,065,260	<0.5 <0.5	<50 <50	<0.5 <0.5	<2.0 <2.0	<0.5 <0.5	<1.0 <1.0
September	9/29/2005	3,060,640	Replaced existing 2000 lb carbon vessel with newer 2000 lb vessel, also replaced 55 gallon polishing vessel					
	9/12/2005	3,055,676	<0.5 <0.5	<50 <50	<0.5 <0.5	<2.0 <2.0	<0.5 <0.5	<1.0 <1.0
August	8/8/2005	3,042,586	<0.5 0.51	<200 <200	<0.5 <0.5	<2.0 <2.0	<0.5 <0.5	<1.0 <1.0
July	7/7/2005	3,026,010	<0.5 <0.5	<200 <200	<0.5 <0.5	<2.0 <2.0	<0.5 <0.5	<1.0 <1.0
June	6/9/2005	3,000,386	<0.5 0.61	<200 <200	<0.5 <0.5	<2.0 <2.0	<0.5 <0.5	<1.0 <1.0
May	5/9/2005	2,971,430	<0.5 <0.5	<200 <200	<0.5 <0.5	<0.5 <0.5	<0.5 <0.5	<1.0 <1.0
	5/4/2005	2,964,270	Carbon Change-out of 2000 lb vessel and 55 gallon polishing vessel totalizer changed at meter reading of 2,189,270					
April	4/4/2005	2,904,500	<0.5 <0.5	<200 <200	<0.5 <0.5	<0.5 <0.5	<0.5 <0.5	<1.0 <1.0

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**3609 International Boulevard, Oakland, California**

Month	Date	Effluent Totalizer Reading (gallons)	Lab Results For PSP #1 <sup>1</sup> and GAC-1 Samples					
			MtBE <sup>2</sup> (ug/L)	TPH-g (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Total Xylenes (ug/L)
<b>2005</b>								
March	3/21/2005	2,874,170	<0.5 <0.5	<200 <200	<0.5 <0.5	<0.5 <0.5	<0.5 <0.5	<1.0 <1.0
February	2/14/2005	2,828,000			55 Gallon Drum Changed Out			
	2/7/2005	2,819,000	<5.0 <5.0	<50 <50	<5.0 <5.0	<5.0 <5.0	<5.0 <5.0	<5.0 <5.0
January	1/19/2005	2,775,000		Carbon Change-out of 2000 lb vessel and 55 gallon polishing vessel				
	1/3/2005	2,730,480	3.6 3.8	<50 <50	<0.5 <0.5	<0.5 <0.5	<0.5 <0.5	<0.5 <0.5
<b>2004</b>								
December	12/6/2004	2,667,620	<0.5 <0.5	<50 <50	<0.5 <0.5	<0.5 <0.5	<0.5 <0.5	<1.0 <1.0
November	11/8/2004	2,631,600	<0.5 <0.5	<50 <50	<0.5 <0.5	<0.5 <0.5	<0.5 <0.5	<0.5 <0.5
October	10/13/2004	2,606,420	<2.0 <2.0	<50 <50	<0.5 <0.5	<0.5 <0.5	<0.5 <0.5	<0.5 <0.5
September	9/13/2004	2,594,390	<2.0 <2.0	<50 <50	<0.5 <0.5	<0.5 <0.5	<0.5 <0.5	<0.5 <0.5
August	8/25/2004	2,586,010			55 Gallon Drum Changed Out			
	8/9/2004	2,581,250	<2.0 <2.0	<50 <50	<0.5 <0.5	<0.5 <0.5	<0.5 <0.5	<0.5 <0.5
July	7/13/2004	2,568,830	<2.0 <2.0	<50 <50	<0.5 <0.5	<0.5 <0.5	<0.5 <0.5	<0.5 <0.5
	7/21/2004	2,564,710			55 Gallon Drum Changed Out			
June	6/14/2004	2,549,470	<2.0 <2.0	<50 <50	<0.5 <0.5	<0.5 <0.5	<0.5 <0.5	<0.5 <0.5
May	5/26/2004	2,530,000		Carbon Change-out of 2000 lb vessel and 55 gallon polishing vessel				
	5/10/2004	2,488,760		Semi Annual Treatment System Meeting With EBMUD				
	5/17/2004	2,518,910		Replaced 55-gallon polishing vessel and restarted the system				
	5/5/2004	2,500,650		Carbon Changed Out and 55 Gallon Drum Changed Out				
	5/3/2004	2,497,350	<2.0 <2.0	<50 <50	<0.5 <0.5	<0.5 <0.5	<0.5 <0.5	<0.5 <0.5
April	4/15/2004	2,436,190	<5.0 <5.0	<50 <50	<5.0 <5.0	<5.0 <5.0	<5.0 <5.0	<5.0 <5.0

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**3609 International Boulevard, Oakland, California**

Month	Date	Effluent Totalizer Reading (gallons)	Lab Results For PSP #1 <sup>1</sup> and GAC-1 Samples						
			MtBE <sup>2</sup> (ug/L)	TPH-g (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Total Xylenes (ug/L)	
<b>2004</b>									
March	3/17/2004	2,376,200		Carbon Change-out of 2000 lb vessel and 55 gallon polishing vessel					
February	2/24/2004	2,276,770	< 5.0 <5.0	< 5.0 < 50	< 5.0 < 50	< 5.0 < 50	< 5.0 < 5.0	< 5.0 < 5.0	
January	1/27/2004	2,165,220	< 5.0 <5.0	< 50 < 50	< 5.0 < 50	< 5.0 < 50	< 5.0 < 5.0	< 5.0 < 5.0	
	1/13/2004	2,116,720	< 5.0 <5.0	< 50 < 50	< 5.0 < 50	< 5.0 < 50	< 5.0 < 5.0	< 5.0 < 5.0	
<b>2003</b>									
December	12/8/2003	2,092,330	< 5.0 <5.0	< 50 < 50	< 5.0 < 50	< 5.0 < 50	< 5.0 < 5.0	< 5.0 < 5.0	
November	11/17/2003	2,087,670	< 5.0 <5.0	< 50 < 50	< 5.0 < 50	< 5.0 < 50	< 5.0 < 5.0	< 5.0 < 5.0	
	11/3/2003	2,079,460	< 5.0 <5.0	< 50 < 50	< 5.0 < 50	< 5.0 < 50	< 5.0 < 5.0	< 5.0 < 5.0	
October	10/13/2003	2,073,060	5.3 <5.0	< 50 < 50	< 5.0 < 50	< 5.0 < 50	< 5.0 < 5.0	< 5.0 < 5.0	
	10/1/2003	2,072,610		Carbon Change-out of 2000 lb vessel and 55 gallon polishing vessel					
September	9/15/2003	2,056,910	<5.0 6	< 50 < 50	< 5.0 < 50	< 5.0 < 50	< 5.0 < 5.0	< 5.0 < 5.0	
	9/2/2003	2,040,040	<5.0 <5.0	< 50 < 50	< 5.0 < 50	< 5.0 < 50	< 5.0 < 5.0	< 5.0 < 5.0	
August	8/19/2003	2,021,040	<5.0 <5.0	< 50 < 50	< 5.0 < 50	< 5.0 < 50	< 5.0 < 5.0	< 5.0 < 5.0	
July	7/21/2003	1,995,240	< 5.0 40	< 50 < 50	< 5.0 < 50	< 5.0 < 50	< 5.0 < 5.0	< 5.0 < 5.0	
	7/9/2003	1,990,260	< 5.0 36	< 50 < 50	< 5.0 < 50	< 5.0 < 50	< 5.0 < 5.0	< 5.0 < 5.0	
June	6/18/2003	1,978,560		Carbon Change-out of 2000 lb vessel and 55 gallon polishing vessel					
	6/10/2003	1,972,780	< 5.0 < 5.0	< 50 < 50	< 5.0 < 50	< 5.0 < 50	< 5.0 < 5.0	< 5.0 < 5.0	
May	5/21/2003	1,951,830	< 5.0 < 5.0	< 50 < 50	< 5.0 < 50	< 5.0 < 50	< 5.0 < 5.0	< 5.0 < 5.0	
	5/1/2003	1,918,270	< 5.0 < 5.0	< 50 < 50	< 5.0 < 50	< 5.0 < 50	< 5.0 < 5.0	< 5.0 < 5.0	
April	4/11/2003	1,882,440	< 5.0 < 5.0	< 50 < 50	< 5.0 < 50	< 5.0 < 50	< 5.0 < 5.0	< 5.0 < 5.0	

**Table 2**  
**Total Volume of Water Treated, Historical Operational Data,**  
**and Laboratory Analytical Results for PSP #1 and GAC-1 Samples**  
**3609 International Boulevard, Oakland, California**

Month	Date	Effluent Totalizer Reading (gallons)	Lab Results For PSP #1 <sup>1</sup> and GAC-1 Samples						
			MtBE <sup>2</sup> (ug/L)	TPH-g (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Total Xylenes (ug/L)	
<b>2003</b>									
March	3/19/2003	1,846,490	< 5.0 < 5.0	< 50 < 50	< 5.0 < 5.0	< 5.0 < 5.0	< 5.0 < 5.0	< 5.0 < 5.0	
February	2/25/2003 2/19/2003	1,804,960 1,791,720		replaced 55-gallon polishing vessel with new 55 gallon carbon drum					
January	1/27/2003 1/2/2003	1,733,500 1,675,600	< 5.0 < 5.0 < 5.0 < 5.0	< 50 < 50 < 50 < 50	< 5.0 < 5.0 < 5.0 < 5.0				
<b>2002</b>									
December	12/10/2002	1,672,870	< 5.0 < 5.0	< 50 < 50	< 5.0 < 5.0	< 5.0 < 5.0	< 5.0 < 5.0	< 5.0 < 5.0	
November	11/22/2002 11/13/2002 11/7/2002	1,668,650 1,664,780 1,663,880	< 5.0 < 5.0	< 50 < 50	< 5.0 < 5.0	< 5.0 < 5.0	< 5.0 < 5.0	< 5.0 < 5.0	
October	10/16/02 <sup>3</sup>	1,661,590	< 310 < 0.5	2,000 Y Z < 50	< 310 < 0.5	< 310 < 0.5	< 310 < 0.5	< 310 < 0.5	
September	9/19/2002	1,653,600	< 5 < 5	< 50 < 50	< 5 < 5	< 5 < 5	< 5 < 5	< 5 < 5	
August	8/23/2002	1,641,650	1 < 0.5	< 50 < 50	< 0.5 < 0.5	< 0.5 < 0.5	< 0.5 < 0.5	< 0.5 < 0.5	
July	7/23/2002	1,632,834	<5.0 < 5.0	< 50 < 50	<5.0 < 5.0	<5.0 < 5.0	<5.0 < 5.0	<5.0 < 5.0	
June	6/24/2002	1,610,050	1.7 < 0.5	< 50 < 50	< 0.5 < 0.5	< 0.5 < 0.5	< 0.5 < 0.5	< 0.5 < 0.5	
May	5/30/2002 5/20/2002 5/8/2002 5/1/2002	1,571,630 1,548,000 1,538,850 1,529,650	< 0.5 < 0.5	< 50 < 50	< 0.5 < 0.5	< 0.5 < 0.5	< 0.5 < 0.5	< 0.5 < 0.5	
April	4/24/2002 4/1/2002	1,528,740 1,478,500	< 0.5 < 0.5	< 50 < 50	< 0.5 < 0.5	< 0.5 < 0.5	< 0.5 < 0.5	< 0.5 < 0.5	
				removed newly installed compressor, installed another compressor installed new compressor installed new 55 gallon GAC Vessel					
				repaired valve plate assembly on compressor					

**Table 2**  
**Total Volume of Water Treated, Historical Operational Data,**  
**and Laboratory Analytical Results for PSP #1 and GAC-1 Samples**  
**3609 International Boulevard, Oakland, California**

Month	Date	Effluent Totalizer Reading (gallons)	Lab Results For PSP #1 <sup>1</sup> and GAC-1 Samples				
			MtBE <sup>2</sup> (ug/L)	TPH-g (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)
		<b>2002</b>					
March	3/25/2002	1,478,420					
	3/18/2002	NR					
	3/14/2002	1,478,330					
			performed carbon change-out on treatment system replaced piston on compressor compressor not building up pressure				
February	2/27/2002	1,449,830	< 0.5 1.1	< 50 < 50	< 0.5 < 0.5	< 0.5 < 0.5	< 0.5 < 0.5
January	1/22/2002	1,381,370	< 2.0 < 2.0	< 50 < 50	< 0.5 < 0.5	< 0.5 < 0.5	< 0.5 < 0.5
			<b>2001</b>				
December	12/12/2001	1,311,340	ND ND	ND ND	ND ND	ND ND	ND ND
November	11/2/2001	1,272,660	ND 0.6	ND ND	ND ND	ND ND	ND ND
September	9/28/2001	NA	ND ND	ND ND	ND ND	ND ND	ND ND
August	8/22/2001	1,243,100	ND ND	ND ND	ND ND	ND ND	ND ND
July	7/26/2001	1,227,270	ND ND	ND ND	ND ND	ND ND	ND ND
	7/11/2001	1,226,730	NA NA	NA NA	NA NA	NA NA	NA NA
			NA NA	NA NA	NA NA	NA NA	NA NA
June	6/29/2001	1,224,600	NA ND	NA ND	NA ND	NA ND	NA ND
	6/26/2001	NR					
	6/16/2001	1,216,580	NA NA	NA NA	NA NA	NA NA	NA NA
			installed new compressor compressor not working, repaired compressor				
	6/7/2001	1,216,580	NA NA	NA NA	NA NA	NA NA	NA NA
May	5/30/2001	1,205,198	NA NA	NA NA	NA NA	NA NA	NA NA
	5/23/2001	1,194,390	NA NA	NA NA	NA NA	NA NA	NA NA
	5/17/2001	1,182,360	ND ND	ND ND	ND ND	ND ND	ND ND
	5/10/2001	1,166,850	NA NA	NA NA	NA NA	NA NA	NA NA
	5/5/2001	1,151,600	NA NA	NA NA	NA NA	NA NA	NA NA
April	4/28/2001	1,135,690	NA NA	NA NA	NA NA	NA NA	NA NA
	4/21/2001	1,113,570	NA NA	NA NA	NA NA	NA NA	NA NA
	4/11/2001	1,082,700	NA ND	ND ND	ND ND	ND ND	ND ND
	4/6/2001	1,065,540	NA NA	NA NA	NA NA	NA NA	NA NA

**Table 2**  
**Total Volume of Water Treated, Historical Operational Data,**  
**and Laboratory Analytical Results for PSP #1 and GAC-1 Samples**  
**3609 International Boulevard, Oakland, California**

Month	Date	Effluent Totalizer Reading (gallons)	Lab Results For PSP #1 <sup>1</sup> and GAC-1 Samples									
			MtBE <sup>2</sup> (ug/L)	TPH-g (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Total Xylenes (ug/L)				
<b>2001</b>												
March	3/29/2001	1,036,330	NA NA	NA NA	NA NA	NA NA	NA NA	NA NA				
	3/21/2001	1,036,070	NA NA	NA NA	NA NA	NA NA	NA NA	NA NA				
	3/17/2001	1,035,100	NA NA	NA NA	NA NA	NA NA	NA NA	NA NA				
	3/13/2001	1,032,500	ND NA	ND NA	ND NA	ND NA	ND NA	ND NA				
	3/2/2001	996,520	NA NA	NA NA	NA NA	NA NA	NA NA	NA NA				
	3/1/2001	NR			system re-started after carbon change-out							
February	2/28/2001	NR	Carbon Change-out was performed on GAC-1, washed algae from holding tank, cleaned 2000 lb GAC, re-started system									
	2/10/2001	975,490	System shut down for maintenance and cleaning.									
January	1/29/2001	957,880	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND				
<b>2000</b>												
December	12/5/2000	883,000	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND				
November	11/24/2000	NR	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND				
	11/1/2000	842,000	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND				
October	10/1/2000	809,000	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND				
August	8/27/2000 8/24/2000	781,000 778,000	ND	ND	ND	ND	ND	ND				
			totalizer changed at meter reading of 775,000									
July	7/26/2000 7/19/2000 7/13/2000 7/7/2000	726,000 718,000 712,000 706,000	ND ND ND ND	ND ND ND ND	ND ND ND ND	ND ND ND ND	ND ND ND ND	ND ND ND ND				

**Table 2**  
**Total Volume of Water Treated, Historical Operational Data,**  
**and Laboratory Analytical Results for PSP #1 and GAC-1 Samples**  
**3609 International Boulevard, Oakland, California**

Month	Date	Effluent Totalizer Reading (gallons)	Lab Results For PSP #1 <sup>1</sup> and GAC-1 Samples					
			MtBE <sup>2</sup> (ug/L)	TPH-g (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Total Xylenes (ug/L)
<b>2000</b>								
June	6/29/2000	700,000	ND	ND	ND	ND	ND	ND
	6/21/2000	682,220	ND	ND	ND	ND	ND	ND
	6/16/2000	669,720	ND	ND	ND	ND	ND	ND
	6/10/2000	651,200	ND	ND	ND	ND	ND	ND
	5/31/2000	629,000	ND	ND	ND	ND	ND	ND
May	5/23/2000	603,700	ND	ND	ND	ND	ND	ND
	5/18/2000	570,000	ND	ND	ND	ND	ND	ND
	5/10/2000	530,400	ND	ND	ND	ND	ND	ND
April	4/30/2000	488,300	ND	ND	ND	ND	ND	ND
	4/18/2000	485,300	ND	ND	ND	ND	ND	0.51
	4/10/2000	440,200	ND	ND	ND	ND	ND	ND
	4/4/2000	390,100	ND	ND	ND	ND	ND	ND
	4/2/2000	NR						performed a carbon change-out on GAC-1
March	3/31/2000	NR	replaced GAC-2 with a special GAC designed for removal of MtBE					
	3/24/2000	388,000	ND	ND	ND	ND	ND	ND
	3/17/2000	357,100	ND	ND	ND	ND	ND	ND
	3/10/2000	329,000	ND	ND	ND	ND	ND	ND
	3/3/2000	300,000	transfer overheated, repaired pump, restarted system 3/6/00					
February	2/25/2000	274,000	ND	ND	ND	ND	ND	ND
	2/18/2000	233,000	ND	ND	ND	ND	ND	ND
	2/11/2000	190,000	ND	ND	ND	ND	ND	ND
	2/4/2000	160,800	ND	ND	ND	ND	ND	ND
January	1/28/2000	130,600	ND	ND	ND	ND	ND	ND
	1/21/2000	103,435	ND	ND	ND	ND	ND	ND
	1/17/2000	NR	GAC-1 was replaced with 2,000 lb GAC unit					
	1/14/2000	83,500	185	ND	ND	ND	ND	ND
<b>1999</b>								
December	12/23/1999	51,680	1486	NA	ND	ND	ND	ND
	12/16/1999	30,450	963	NA	ND	ND	ND	ND
	12/9/1999	9,000	230	ND	ND	ND	ND	ND
Pumping began on December 6, 1999								

Notes:

1 The designator "Effluent" used on sampling and laboratory documents refers to samples collected from PSP #1.

2 MTBE was analyzed using EPA Method 8260B, prior to the September 2003. After September 2003, MtBE was only analyzed by EPA Method 8021B.

3 Lab data as shown for Oct. 2002 is erroneous data. During lab analysis a high detection of 2-Butanone was detected in only the effluent sample. The influent sample for 2-Butanone was at only 20 ppb. This caused a high dilution factor causing a high non-detectable value. The high TPH-g value was misrepresentative due to the Y and Z flags.

ND, < : Not Detected above laboratory reporting limits

NA: Not Analyzed

NR: Not recorded. Totalizer reading not recorded.

Y: Sample exhibits fuel pattern which does not resemble standard

Z: Sample exhibits unknown single peak or peaks

**Table 3**  
**Total Mass of Petroleum Hydrocarbons Removed**  
**by the Vapor Extraction System & Historical Operational Data**  
**3609 International Boulevard, Oakland, California**

Date	Time	PID (ppmv)		Flow Rate (ft^3/min)	Time Elapsed (Hours)	Air Flow (Liters)	Air Flow (ft^3)	Mass Removed <sup>1</sup> (Pounds)
		Influent	Effluent					
<b>2000</b>								
7/24/2000	5:00 PM	394	0	85	0.0	0	0	0.00
7/25/2000	5:15 PM	38	2	95	24.3	3,911,768	138,225	1.35
7/26/2000	5:05 PM	207	1	80	24.0	3,260,160	115,200	6.15
7/27/2000	9:00 AM	160	5	92	16.0	2,499,456	88,320	3.64
7/28/2000	4:30 PM	141	7	87	31.5	4,653,369	164,430	5.98
7/29/2000	1:30 PM	225	8	85	21.0	3,030,930	107,100	6.21
7/30/2000	9:00 AM	226	12	85	19.5	2,814,435	99,450	5.79
7/31/2000	3:00 PM	141	5	85	30.0	4,329,900	153,000	5.56
8/1/2000	5:00 PM	135	4	80	26.0	3,531,840	124,800	4.34
8/2/2000	4:00 PM	80	4	80	23.0	3,124,320	110,400	2.28
8/3/2000	5:00 PM	60	5	85	25.0	3,608,250	127,500	1.97
8/4/2000	3:00 PM	57	4	85	22.0	3,175,260	112,200	1.65
8/5/2000	2:00 PM	97	8	87	23.0	3,397,698	120,060	3.00
8/6/2000	12:00 PM	114	8	80	22.0	2,988,480	105,600	3.10
8/7/2000	12:00 PM	93	9	85	24.0	3,463,920	122,400	2.93
8/8/2000	4:30 PM	152	10	85	28.5	4,113,405	145,350	5.70
8/10/2000	10:00 AM	173	1	85	41.5	5,989,695	211,650	9.44
8/11/2000	7:00 AM	78	4	70	21.0	2,496,060	88,200	1.77
8/12/2000	9:00 AM	100	6	70	26.0	3,090,360	109,200	2.82
8/13/2000	5:00 PM	107	9	70	32.0	3,803,520	134,400	3.71
8/14/2000	12:30 PM	122	5	70	19.5	2,317,770	81,900	2.58
8/15/2000	6:00 PM	103	12	70	29.5	3,506,370	123,900	3.29
8/16/2000	12:30 PM	112	0	70	18.5	2,198,910	77,700	2.24
8/18/2000	9:00 AM	90	0	75	44.5	5,667,075	200,250	4.65
8/21/2000	12:00 PM	74	5	80	75.0	10,188,000	360,000	6.87
8/24/2000	12:00 PM	68	13	80	72.0	9,780,480	345,600	6.06
8/27/2000	12:30 PM	68.5	2	80	72.5	9,848,400	348,000	6.15
8/31/2000	1:30 PM	52	6	80	97.0	13,176,480	465,600	6.24

**Table 3**  
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**3609 International Boulevard, Oakland, California**

Date	Time	PID (ppmv)		Flow Rate (ft^3/min)	Time Elapsed (Hours)	Air Flow (Liters)	Air Flow (ft^3)	Mass Removed <sup>1</sup> (Pounds)
		Influent	Effluent					
<b>2000</b>								
9/4/2000	12:30 PM	54	5	80	95.0	12,904,800	456,000	6.35
9/7/2000	12:00 PM	55	3	80	71.5	9,712,560	343,200	4.87
9/11/2000	4:30 PM <sup>2</sup>	141	0	80	100.5	13,651,920	482,400	17.54
9/14/2000	9:30 AM	56	5	80	65.0	8,829,600	312,000	4.50
9/18/2000	2:00 PM	46	9.5	80	100.5	13,651,920	482,400	5.72
9/18/2000	4:30 PM <sup>3</sup>	34	0	80	2.5	339,600	12,000	0.11
9/21/2000	4:30 PM	43	1	80	72.0	9,780,480	345,600	3.83
9/25/2000	5:30 PM	55	6	80	97.0	13,176,480	465,600	6.60
9/28/2000	9:00 AM	47.5	7.5	80	63.5	8,625,840	304,800	3.73
10/1/2000	1:00 PM	38.5	6	80	76.0	10,323,840	364,800	3.62
10/5/2000	3:00 PM <sup>4</sup>	28.5	3	80	98.0	13,312,320	470,400	3.46
10/5/2000	5:00 PM	36	0	80	2.0	271,680	9,600	0.09
10/8/2000	3:00 PM	28.5	3	80	70.0	9,508,800	336,000	2.47
10/14/2000	3:00 PM	24.5	2.5	80	144.0	19,560,960	691,200	4.37
10/17/2000	2:00 PM	36.5	3.5	80	71.0	9,644,640	340,800	3.21
10/20/2000	8:30 AM	18.5	3.5	80	66.5	9,033,360	319,200	1.52
10/25/2000	2:00 PM	38	3.7	80	125.5	17,047,920	602,400	5.90
10/29/2000	10:00 AM	35	4	80	93.0	12,633,120	446,400	4.03
11/2/2000	4:00 PM	30.5	4	80	102.0	13,855,680	489,600	3.85
11/7/2000	4:00 PM	30	6	80	120.0	16,300,800	576,000	4.46
11/19/2000	12:00 PM	92.7	5.5	80	284.0	38,578,560	1,363,200	32.57
11/24/2000	1:30 PM	25	6.5	80	121.5	16,504,560	583,200	3.76
11/29/2000	3:00 PM	14.5	3.5	80	121.5	16,504,560	583,200	2.18
12/4/2000	4:30 PM	10.7	1	80	121.5	16,504,560	583,200	1.61
12/13/2000	3:30 PM	24	3	80	263.0	35,725,920	1,262,400	7.81
12/28/2000	2:30 PM	10	6	85	359.0	51,814,470	1,830,900	4.72

**Table 3**  
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**3609 International Boulevard, Oakland, California**

Date	Time	PID (ppmv)		Flow Rate (ft^3/min)	Time Elapsed (Hours)	Air Flow (Liters)	Air Flow (ft^3)	Mass Removed <sup>1</sup> (Pounds)
		Influent	Effluent					
<b>2001</b>								
1/4/2001 <sup>5</sup>	2:00 PM	8.7	3.7	85	167.5	24,175,275	854,250	1.92
8/8/2001	3:00 PM	217	0	85	0.5	72,165	2,550	0.14
9/6/2001	12:00 PM	85	0	85	693.0	100,020,690	3,534,300	77.45
9/13/2001	4:00 PM	186	8	85	172.0	24,824,760	877,200	42.07
9/18/2001	3:00 PM	184	9	85	119.0	17,175,270	606,900	28.79
9/21/2001 <sup>6</sup>	--	--	--	--	NC	NC	NC	NC
10/12/01 <sup>7</sup>	--	--	--	--	NC	NC	NC	NC
10/23/2001	5:00 PM	114	58	87	0.5	73,863	2,610	0.08
10/25/01 <sup>4</sup>	3:00 PM	133	0	85	46.0	6,639,180	234,600	8.04
10/29/2001 <sup>8</sup>	1:20 PM	569	0	85	94.5	13,639,185	481,950	70.70
11/7/2001	3:30 PM	177	0	87	218.0	32,204,268	1,137,960	51.93
11/16/2001	3:00 PM	117	0	87	215.5	31,834,953	1,124,910	33.93
11/21/01 <sup>9</sup>	12:00 PM	85	72	87	117.0	17,283,942	610,740	13.38
<b>2002</b>								
2/15/02 <sup>10</sup>	4:30 PM	49	0	80	0.5	67,920	2,400	0.03
2/16/2002	3:45 PM	50	0	80	23.3	3,158,280	111,600	1.44
2/21/2002	4:00 PM	37	4	80	120.3	16,334,760	577,200	5.51
2/27/2002	10:30 AM	11	0	83	138.5	19,519,359	689,730	1.96
3/7/02 <sup>11</sup>	12:20 PM	10		80	194.0	26,352,960	931,200	2.40
6/12/2002 <sup>12</sup>	4:15 PM	53	2	75	NA	NA	NA	NA
6/17/2002	11:00 AM	28	2	80	120.0	16,306,560	576,204	4.16
6/24/2002	11:20 AM	24	3.1	80	168.3	22,866,400	808,000	5.00
7/5/2002	1:25 PM	20	5	80	266.0	36,133,440	1,276,800	6.58
7/11/2002	3:30 PM	26	8.0	80	146.0	19,832,640	700,800	4.70
7/23/2002	10:10 AM	28	7.5	83	282.8	39,849,089	1,408,095	10.16
8/9/2002	12:20 PM	7.5	0	80	410.3	55,728,360	1,969,200	3.81
8/15/2002 <sup>11</sup>	3:00 PM	7.0	1	80	146.5	19,900,560	703,200	1.27
8/23/2002 <sup>13</sup>	3:20 PM	NC	NC	NC	NC	NC	NC	NC
8/26/2002	11:15 AM	14.0	2.0	80	71.0	9,644,640	340,800	1.23
9/11/2002	10:10 AM	34.4	0	80	383.0	52,020,588	1,838,183	16.30
9/19/2002	10:55 AM	8.8	1.1	80	192.8	26,183,160	925,200	2.10
9/25/2002	10:30 AM	18.8	1.8	80	143.5	19,493,040	688,800	3.34

**Table 3**  
**Total Mass of Petroleum Hydrocarbons Removed**  
**by the Vapor Extraction System & Historical Operational Data**  
**3609 International Boulevard, Oakland, California**

Date	Time	PID (ppmv)		Flow Rate (ft^3/min)	Time Elapsed (Hours)	Air Flow (Liters)	Air Flow (ft^3)	Mass Removed <sup>1</sup> (Pounds)
		Influent	Effluent					
<b>2002</b>								
10/2/2002	8:10 AM	17.1	2.5	80	165.70	22,508,688	795,360	3.51
10/9/2002		PID malfunction		80	NC	NC	NC	NC
10/16/2002	1:45 PM	17.0	4.0	80	341.50	46,389,360	1,639,200	7.18
10/24/2002	10:00 AM	16.5	6.4	80	188.25	25,571,880	903,600	3.84
11/1/2002	10:00 AM	21.1	0.0	85	192.00	27,711,360	979,200	5.33
11/6/2002	10:12 AM	PID malfunction		87	NC	NC	NC	NC
11/7/2002	11:00 AM	17.5	0.0	85	24.75	3,572,168	126,225	0.57
11/13/2002	11:30 AM	15.0	0.0	85	144.50	20,855,685	736,950	2.85
11/22/2002	2:30 PM	6.6	0.0	80	219.00	29,748,960	1,051,200	1.79
11/22/2002 system shut-down due to rainy season and low influent readings								
<b>2003</b>								
5/9/2003	10:30 AM	0.1	0.0	82	0.5	69,618	2,460	0.00
5/12/2003	10:30 AM	0.4	0.3	85	72.00	10,391,760	367,200	0.04
5/21/2003	11:00 AM	2.2	2.2	83	216.50	30,512,211	1,078,170	0.61
6/4/2003	10:30 AM	2.5	0.1	82	335.50	46,713,678	1,650,660	1.06
6/10/2003	10:30 AM	2.2	0.08	82	144.00	20,049,984	708,480	0.40
6/16/2003	12:15 PM	2.1	0.07	82	146.25	20,363,265	719,550	0.39
6/24/2003	4:55 PM	2.6	0.08	82	196.75	27,394,683	968,010	0.65
6/30/2003	11:30 AM	2.2	0.1	82	138.50	19,284,186	681,420	0.39
7/16/2003	12:00 PM	2.2	0.22	82	384.50	53,536,242	1,891,740	1.07
7/21/2003	10:50 AM	2.1	0.21	82	119.00	16,569,084	585,480	0.32
7/28/2003	11:15 AM	2.2	0.22	82	168.25	23,426,457	827,790	0.47
8/11/2003	12:15 PM	2.1	0.21	82	337.00	46,922,532	1,658,040	0.90
8/19/2003	10:05 AM	2.1	0.22	82	190.00	26,454,840	934,800	0.51
8/25/2003	11:30 AM	2.2	0.23	81	145.50	20,011,779	707,130	0.40
9/2/2003	10:50 AM	2.1	0.21	80	191.50	26,013,360	919,200	0.50
9/8/2003	2:10 PM	9.1	3.19	83	147.30	20,759,578	733,554	1.72
9/11/2003	10:00 AM				All 4 SVE carbon drums changed-out			
9/22/2003	1:30 PM	7	0.2	88	334.25	49,944,972	1,764,840	3.19

**Table 3**  
**Total Mass of Petroleum Hydrocarbons Removed**  
**by the Vapor Extraction System & Historical Operational Data**  
**3609 International Boulevard, Oakland, California**

Date	Time	PID (ppmv)		Flow Rate (ft^3/min)	Time Elapsed (Hours)	Air Flow (Liters)	Air Flow (ft^3)	Mass Removed <sup>1</sup> (Pounds)
		Influent	Effluent					
<b>2003</b>								
10/1/2003	10:30 AM	6.5	0.2	85	213.00	30,742,290	1,086,300	1.82
10/6/2003	11:00 AM	7	0.3	85	120.50	17,391,765	614,550	1.11
10/13/2003	11:15 AM	5	0.2	85	168.25	24,283,523	858,075	1.11
10/29/2003	10:00 AM	2.4	0	85	382.75	55,242,308	1,952,025	1.21
11/3/2003	11:30 AM	3	0	85	121.50	17,536,095	619,650	0.48
11/10/2003	11:10 AM	3.5	0	85	167.67	24,199,330	855,100	0.77
11/17/2003	1:50 PM	4.1	0	85	170.70	24,637,131	870,570	0.92
11/24/2003	11:00 AM	3.8	0	85	165.20	23,843,316	842,520	0.83
11/24/2003	system shut-down due to rainy season and low influent readings							
<b>2004</b>								
4/5/2004	1:00 PM	5.6	0.11	85	0.5	72165	2550	0.004
4/12/2004	10:30 AM	6.5	0.2	83	165.5	23,324,577	824,190	1.38
4/20/2004	12:00 PM	7.1	0.9	84	193.5	27,599,292	975,240	1.79
4/23/2004	11:00 AM	7.2	2.3	80	71	9,644,640	340,800	0.63
5/3/2004	12:00 PM	7.1	3.4	80	241	32,737,440	1,156,800	2.12
5/5/2004	11:00 PM	All 4 SVE carbon drums changed-out						
5/17/2004	12:00 PM	2.7	0.8	82	336	46,783,296	1,653,120	1.15
5/26/2004	11:00 AM	3.8	0.5	82	215	29,935,740	1,057,800	1.04
6/1/2004	1:00 PM	3.6	0.9	82	146	20,328,456	718,320	0.67
6/7/2004	11:50 AM	3.2	0	82	142.75	19,875,939	702,330	0.58
6/14/2004	11:50 AM	10.9	0	86	168	24,532,704	866,880	2.44
6/21/2004	10:50: AM	13.5	0	83	167	23,535,978	831,660	2.89
6/28/2004	11:50 AM	10.9	0.5	85	169	24,391,770	861,900	2.42
7/2/2004	11:30 AM	8.7	0	85	95.8	13,826,814	488,580	1.10
7/13/2004	2:00 PM	9.1	0.22	85	266.5	38,463,945	1,359,150	3.19
7/21/2004	12:00 PM	8.9	0.5	85	190	27,422,700	969,000	2.22
7/26/2004	11:50 AM	8.5	0.4	85	119.5	17,247,435	609,450	1.34
8/2/2004	11:30 AM	4.9	0.1	85	167.8	24,218,574	855,780	1.08
8/9/2004	11:50 AM	5.6	0.2	85	168.3	24,290,739	858,330	1.24
8/16/2004	12:00 PM	6	0.4	85	168.1	24,261,873	857,310	1.33
8/24/2004	11:50 AM	6.2	1.2	85	191.9	27,696,927	978,690	1.56
8/30/2004	11:30 AM	6	0.4	85	143.66	20,734,448	732,666	1.13
9/7/2004	1:05 PM	5.5	0.8	85	193.5	27,927,855	986,850	1.40
9/13/2004	12:05 PM	5.3	0.9	85	143	20,639,190	729,300	1.00
9/20/2004	11:08 AM	7	2.9	85	167	24,103,110	851,700	1.54
9/27/2004	2:50 PM	6.5	2.1	85	171.75	24,788,678	875,925	1.47

**Table 3**  
**Total Mass of Petroleum Hydrocarbons Removed**  
**by the Vapor Extraction System & Historical Operational Data**  
**3609 International Boulevard, Oakland, California**

Date	Time	PID (ppmv)		Flow Rate (ft^3/min)	Time Elapsed (Hours)	Air Flow (Liters)	Air Flow (ft^3)	Mass Removed <sup>1</sup> (Pounds)
		Influent	Effluent					
<b>2004</b>								
10/4/2004	11:30 AM	6.9	3	85	164.55	23,749,502	839,205	1.49
10/13/2004	10:30 AM	6.5	2.9	85	215	31,030,950	1,096,500	1.84
10/18/2004	2:30 PM	6	1.5	85	124	17,896,920	632,400	0.98
10/28/2004	2:00 PM	3.1	0.9	85	239.5	34,567,035	1,221,450	0.98
10/28/2004 system shut-down due to rainy season and low influent readings								
<b>2005</b>								
4/11/2005	system re-started, all four vapor phase carbon drums replaced with new carbon							
	10:50 AM	6.5	0.8	85	167.83	24,223,481	855,953	1.43
4/25/2005	5:30 PM	6	0.7	85	174.33	25,161,626	889,103	1.38
5/4/2005	11:20 AM	0.4	0	85	209.83	30,285,341	1,070,153	0.11
5/9/2005	11:00 AM	1	0.4	85	119.67	17,271,538	610,302	0.16
5/16/2005	10:15 AM	3	0	85	167.25	24,139,193	852,975	0.66
5/23/2005	11:05 AM	0.4	0	90	168.83	25,801,110	911,700	0.09
6/3/2005	3:30 PM	0.2	0	90	268.48	41,029,114	1,449,792	0.07
6/9/2005	3:00 PM	0.2	0	90	143.50	21,929,670	774,900	0.04
6/15/2005	2:15 PM	1	0	85	143.25	20,675,273	730,575	0.19
6/20/2005	12:00 PM	0.6	0	88	117.75	17,594,676	621,720	0.10
6/26/2005	12:00 PM	0.5	0	85	144.00	20,783,520	734,400	0.09
7/7/2005	2:45 PM	0.2	0	90	266.75	40,764,735	1,440,450	0.07
7/11/2005	3:00 PM	0.3	0	90	96.25	14,708,925	519,750	0.04
7/18/2005	1:00 PM	1	0	85	166.00	23,958,780	846,600	0.22
7/25/2005	12:00 PM	1.5	0	87	167.00	24,670,242	871,740	0.34
8/1/2005	1:30 PM	1	0	85	169.50	24,463,935	864,450	0.22
8/8/2005	11:50 AM	0.7	0	80	166.40	22,603,776	798,720	0.14
8/15/2005	1:30 PM	0.9	0	83	169.60	23,902,406	844,608	0.20
8/24/2005	12:00 PM	0.8	0	85	214.50	30,958,785	1,093,950	0.23
8/29/2005	11:45 AM	0.7	0	85	119.75	17,283,518	610,725	0.11
9/6/2005	12:15 PM	0.8	0	85	192.50	27,783,525	981,750	0.20
9/12/2005	12:10 PM	1.2	0	85	144.00	20,783,520	734,400	0.23
9/20/2005	11:30 AM	1.1	0	84	192.60	27,470,923	970,704	0.28

**Table 3**  
**Total Mass of Petroleum Hydrocarbons Removed**  
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**3609 International Boulevard, Oakland, California**

Date	Time	PID (ppmv)		Flow Rate (ft^3/min)	Time Elapsed (Hours)	Air Flow (Liters)	Air Flow (ft^3)	Mass Removed <sup>1</sup> (Pounds)						
		Influent	Effluent											
<b>2005</b>														
10/6/2005 3:00 PM														
10/14/2005	3:30 PM	33	5	83	192.5	27,129,795	958,650	8.16						
10/17/2005	12:00 PM	33	5	86	68.5	10,002,918	353,460	3.01						
10/28/2005	11:00 AM	77	1.5	83	263	37,065,642	1,309,740	26.00						
11/1/2005	9:40 AM	33	7	86	94.75	13,836,153	488,910	4.16						
11/3/2005	3:30 PM	33	7	87	54	7,977,204	281,880	2.40						
11/9/2005	3:15 PM	all 4 vapor phase carbon drums replaced with new carbon drums												
11/14/2005	11:30 AM	0.3	0	89	260	39,291,720	1,388,400	0.11						
11/22/2005	2:40 PM	0.8	0	88	195	29,137,680	1,029,600	0.21						
11/17/2005-11/23/2005														
3 new vapor wells installed onsite														
<b>2006</b>														
1/6/2006	10:00 AM	System shut-down due to rainy conditions												
2/22/2006-3/6/2006														
4/8/2006		Existing vacuum eductor, which was built and installed in 2000, was rebuilt. To reduce the noise level, foam was placed around the vacuum eductor to act as a noise suppressant												
4/14/2006	2:00 PM	system re-started, all 4 vapor phase carbon drums replaced with new carbon drums												
4/14/2006	2:30 PM	33	0	85	0.5	72,165	2,550	0.02						
5/18/2006	12:00 PM	14	0	87	813.5	120,175,101	4,246,470	15.33						
5/31/2006	12:30 PM	15	2	83	312.5	44,041,875	1,556,250	6.02						
6/7/2006	10:00 AM	17.7	5.8	85	165.5	23,886,615	844,050	3.85						
6/14/2006	10:00 AM	8.2	0	89	168	25,388,496	897,120	1.90						
6/19/2006	2:30 PM	220	0	88	124.5	18,603,288	657,360	37.29						
6/22/2006	11:00 AM	18	0	85	68.5	9,886,605	349,350	1.62						
7/6/2006	2:45 PM	3.2	0	80	339.75	46,151,640	1,630,800	1.35						
7/24/2006	2:00 PM	Additional vacuum eductor installed in series with the existing blower												
8/2/2006	11:00 AM	25	0	65	644.25	71,105,873	2,512,575	16.19						
8/9/2006	11:30 AM	7.3	3.5	110	168.5	31,472,430	1,112,100	2.09						
8/14/2006	12:00 PM	8	2.3	100	120.5	20,460,900	723,000	1.49						
8/25/2006	12:30 PM	2	0	100	264.5	44,912,100	1,587,000	0.82						
8/28/2006	2:30 PM	2.5	0	110	74.5	13,915,110	491,700	0.32						
9/7/2006	2:30 PM	1.4	0	105	240	42,789,600	1,512,000	0.55						
9/13/2006	12:45 PM	1.6	0	105	142.25	25,361,753	896,175	0.37						
9/22/2006	3:00 PM	1.3	0	115	219.25	42,812,948	1,512,825	0.51						
9/27/2006	2:15 PM	5.6	1.1	110	119.25	22,273,515	787,050	1.14						

**Table 3**  
**Total Mass of Petroleum Hydrocarbons Removed**  
**by the Vapor Extraction System & Historical Operational Data**  
**3609 International Boulevard, Oakland, California**

Date	Time	PID (ppmv)		Flow Rate (ft^3/min)	Time Elapsed (Hours)	Air Flow (Liters)	Air Flow (ft^3)	Mass Removed (Pounds)
		Influent	Effluent					
<b>2006</b>								
10/4/2006	11:15 AM	5.9	1.6	105	165	29,417,850	1,039,500	1.58
10/10/2006	11:30 AM	0.9	0	105	144.25	25,718,333	908,775	0.21
10/18/2006	3:15 PM	0.9	0	105	195.75	34,900,268	1,233,225	0.29
10/27/2006	10:00 AM	303	0	60	210.75	21,471,210	758,700	59.27
11/1/2006	10:00 AM	0.2	0	90	120	18,338,400	648,000	0.03
11/7/2006	12:00 PM	0.2	0	80	146	19,832,640	700,800	0.04
11/7/2006	12:00 PM	System shut-down due to rainy conditions						
<b>2007</b>								
5/23/2007					System Re-started			
5/23/2007	10:45 AM	31.3	0	85	1	144,330	5,100	0.04
5/29/2007	11:00 AM	11.2	1.7	80	144.25	19,594,920	692,400	2.00
6/11/2007	12:00 PM	8.1	1.1	80	313	42,517,920	1,502,400	3.14
6/20/2007	3:00 PM	1.4	0.5	75	219	27,889,650	985,500	0.36
7/3/2007	12:00 PM	1.5	0.4	75	1	127,350	4,500	0.00
7/12/2007	12:00 PM	8	0.3	80	144.25	19,594,920	692,400	1.43
7/27/2007	9:30 AM	8.5	0.4	85	313	45,175,290	1,596,300	3.50
8/7/2007	3:30 PM	14	0.9	105	219	39,045,510	1,379,700	4.98
8/21/2007	2:00 PM	16.5	0	110	1	186,780	6,600	0.03
9/7/2007	12:30 PM	12.2	0.1	105	144.25	25,718,333	908,775	2.86
9/21/2007	10:00 AM	1.9	0.3	84	313	44,643,816	1,577,520	0.77
9/28/2007	11:00 AM	1.9	0.3	85	219	31,608,270	1,116,900	0.55

## Notes:

<sup>1</sup> The representative molecular weight of hydrocarbons was assumed to be 150 gram/mole and used the measured temperature of Vapor (25°C) in converting ppm-v to ppm on mass basis.

<sup>2</sup> System accidentally shut down from main box, readings taken 30 minutes after startup.

### <sup>3</sup> GAC Replaced

<sup>4</sup> GAC-1 removed, new GAC installed at effluent end

<sup>5</sup> SVE System turned off for rainy season due to low influent concentration

<sup>6</sup> system down, hoses disconnected and GAC moved for replacement.

<sup>7</sup> system down for electrical repair

<sup>8</sup> Carbon change-out of three drums, moved new effluent drum on 10/25/01 to GAC-

<sup>9</sup> system shut-down due to high effluent values

<sup>10</sup> System re-started (since November 21, 2001), installed new 4-55 gallon vapor phase carbon vessels, repaired blow

<sup>11</sup> System was shut-down due to low influent reading.

<sup>12</sup> System was restarted on 6/12/02

<sup>13</sup> System was re-sta

System Web Data for Octo

NC: Not Calcd

NC: Not Calculated  
Calculations

Airflow: Flowrate (ft<sup>3</sup>/min) \* 60 min \* Time Elapsed (hrs) \* 28.3 liters/ft<sup>3</sup>

Mass Removed: Time Elapsed (hrs) \* 60 min\* Flowrate ( $\text{ft}^3/\text{min}$ )\* ( $28.3 \text{ m}^3/\text{ft}^3$ )\*

Mass Removed: Time Elapsed (ms) = 60 min Flowrate (l/P·S) = (26.3 l/P·S) / (102 g TPH-a/mole) \* ((1 mole / (24.4 l)) \* (1/lb/454 grams))

**Table 4**

## **March 2008 MPE Event Operational Data**

3609 International Boulevard  
Oakland, California

**Table 4**
**March 2008 MPE Event  
Operational Data**

 3609 International Boulevard  
 Oakland, California

DATE	TIME	PID (ppmv)	WELL MANIFOLD VACUUM (In of Hg)	OXIDIZER TEMPERATURE (°F)	WELL FIELD VAPOR FLOW RATE (scfm)	TOTAL SYSTEM VAPOR FLOW RATE (scfm)	DILUTION AIR FLOW RATE (scfm)	SYSTEM (BLOWER) VACUUM (In of Hg)	SYSTEM TOTALIZER READING (gallons)	COMMENTS
3/28/2008	900	296	24	1,504	62	62	0	25.5	9,551	end at MW-1 and MW-3; sampled MW-1 and MW-3
	1000	296	23.9	1,500	62	62	0	25.5	9,646	
	1430	230	24	1,494	60	60	0	25.6	10,195	
	1530	345	24	1,480	60	60	0	25.6	10,283	
	1630	325	23.8	1,509	63	63	0	25.4	10,436	
	900	282	23.4	1,483	65	65	0	25.3	12,509	
	1000	292	23.3	1,492	68	68	0	25.1	12,601	
	1300	215	23.4	1,481	66	66	0	25.2	12,960	
Totalizer readings = 12,960 gallons										
Total time of test = 5,415 minutes = 90.25 hours										

## Notes

ppmv parts per million vapor

In of Hg inches of mercury

In of H<sub>2</sub>O inches of water

°F degrees Fahrenheit

scfm standard cubic feet per minute

**Table 4**

**April 2008 MPE Event  
Operational Data**

3609 International Boulevard  
Oakland, California

DATE	TIME	PID (ppmv)	WELL MANIFOLD VACUUM (In of Hg)	OXIDIZER TEMPERATURE (°F)	WELL FIELD VAPOR FLOW RATE (scfm)	TOTAL SYSTEM VAPOR FLOW RATE (scfm)	DILUTION AIR FLOW RATE (scfm)	SYSTEM (BLOWER) VACUUM (In of Hg)	SYSTEM TOTALIZER READING (gallons)	COMMENTS
4/14/2008	1000									
	1100	1,981	21.7	1,550	55	55	0	25.9	0	begin at MW-1 and MW-3; sampled MW-1 and MW-3
	1530									
	1600	1,981	21.7	1,554	55	55	0	25.9	111	
	1630	1,987	21	1,595	57	57	0	25.8	183	system was shutdown due to concern over the LRP
	1700	1,783	22.3	1,599	60	60	0	25.6	255	overheating; engineer made adjustments; MTS down from
	1730	1,616	21.9	1,595	66	66	0	25.2	325	1100 - 1530
	700	650	23.6	1,513	66	66	0	25.2	1,740	In = 650; Eff = 1
	800	681	23.6	1,517	63	63	0	25.4	1,843	
	900	651	23.6	1,503	66	66	0	25.2	1,946	
4/15/2008	1000	650	23.4	1,504	66	66	0	25.2	2,059	
	1100	645	23.6	1,508	66	66	0	25.2	2,152	
	1200	636	23.4	1,511	66	66	0	25.2	2,220	
	1300	635	23.6	1,510	65	65	0	25.3	2,320	
	1400	579	23.4	1,512	66	66	0	25.2	2,425	
	1500	583	23.5	1,511	66	66	0	25.2	2,528	
	1600	562	23.6	1,506	66	66	0	25.2	2,630	
	1700	563	23.5	1,506	66	66	0	25.2	2,730	
	700	430	23.4	1,471	66	66	0	25.2	4,022	
	800									system shutdown @ 0700 to clean Y strainer on LRP
4/16/2008	830	540	23.4	1,474	70	70	0	25	4,119	overheating issue resolved; restart MTS @ 0800
	900	562	23.3	1,495	66	66	0	25.2	4,170	

**Table 4**
**April 2008 MPE Event  
Operational Data**

 3609 International Boulevard  
Oakland, California

DATE	TIME	PID (ppmv)	WELL MANIFOLD VACUUM (In of Hg)	OXIDIZER TEMPERATURE (°F)	WELL FIELD VAPOR FLOW RATE (scfm)	TOTAL SYSTEM VAPOR FLOW RATE (scfm)	DILUTION AIR FLOW RATE (scfm)	SYSTEM (BLOWER) VACUUM (In of Hg)	SYSTEM TOTALIZER READING (gallons)	COMMENTS
4/17/2008	1000	569	23	1,504	70	70	0	25	4,282	LRP shutting down due to low oil leve
	1030									
	1100	560	23.6	1,506	60	60	0	25.6	4,353	added oil to LRP reservoir; MTS down from 1000 - 1030
	1200	548	23.4	1,508	65	65	0	25.3	4,422	
	1300	554	23.2	1,508	70	70	0	25	4,526	
	1400	514	23.2	1,503	68	68	0	25.1	4,663	
	1500	401	23.3	1,504	70	70	0	25	4,732	
	1600	382	23.2	1,502	70	70	0	25	4,834	
	1700	342	23.2	1,500	70	70	0	25	4,937	
	800	420	23	1,473	70	70	0	25	6,294	
	900	426	23.1	1,478	70	70	0	25	6,395	
	1000	416	23.1	1,483	70	70	0	25	6,497	
	1100	420	23.1	1,482	70	70	0	25	6,566	
	1200	413	23.1	1,483	70	70	0	25	6,666	
	1300	398	23	1,484	70	70	0	25	6,734	
	1400	378	23.1	1,487	70	70	0	25	6,835	
	1500	378	23	1,492	70	70	0	25	6,937	
4/18/2008	1600	366	23	1,489	70	70	0	25	7,004	
	1700	372	23	1,489	70	70	0	25	7,106	
	900	313	23	1,464	70	70	0	25	8,463	
	1000	320	23	1,460	70	70	0	25	8,521	
	1100	328	23	1,461	70	70	0	25	8,621	
	1200	334	22.9	1,459	73	73	0	24.8	8,688	
	1300	322	23	1,451	70	70	0	25	8,758	
	1400	304	22.8	1,463	73	73	0	24.8	8,856	
	1430	300	22.8	1,472	73	73	0	24.8	8,890	end at MW-1 and MW-3; sampled MW-1 and MW-3

Totalizer readings = 8,890 gallons

Total time of test = 5,670 minutes = 94.5 hours

## Notes

ppmv parts per million vapor

In of Hg inches of mercury

In of H<sub>2</sub>O inches of water

°F degrees Fahrenheit

scfm standard cubic feet per minute

**Table 4**

**May 2008 MPE Event  
Operational Data**

3609 International Boulevard  
Oakland, California

DATE	TIME	PID (ppmv)	WELL MANIFOLD VACUUM (In of Hg)	OXIDIZER TEMPERATURE (°F)	WELL FIELD VAPOR FLOW RATE (scfm)	TOTAL SYSTEM VAPOR FLOW RATE (scfm)	DILUTION AIR FLOW RATE (scfm)	SYSTEM (BLOWER) VACUUM (In of Hg)	SYSTEM TOTALIZER READING (gallons)	COMMENTS
5/12/2008	930								0	begin at MW-1 and MW-3; sampled MW-1 and MW-3
	1000	2,750	23.8	1,570	63	63	0	25.4	55	
	1100	1,810	23.1	1,578	70	70	0	25	186	
	1200	1,501	23	1,551	71	71	0	24.9	314	
	1300	1,305	22.9	1,546	71	71	0	24.9	426	
	1337									System shut down due to low propane
	1530									Propane delivered
	1600									System restarted
	1610	1,301	23.7	1,454	65	65	0	25.3	521	
	1700	1,128	23	1,529	70	70	0	25	626	
5/13/2008	730	653	22.5	1,475	74	74	0	24.7	2,190	In = 653; Eff = 4
	830	657	22.1	1,485	79	79	0	24.4	2,291	
	930	797	26.1	1,550	38	38	0	27	2,377	
	1030	748	26.2	1,630	31	31	0	27.4	2,457	pumping from MW-3 only; treatment system overwhelmed & holding tank overflowing. Treatment system modified to allow more flow
	1300	761	26	1,642	38	38	0	27	2,640	
	1400	660	22.8	1,545	70	70	0	25	2,693	
	1500	620	22.4	1,508	73	73	0	24.8	2,812	
	1600	600	22.4	1,501	74	74	0	24.7	2,930	
	800	526	22.2	1,459	76	76	0	24.6	4,420	
	900	511	22	1,463	79	79	0	24.4	4,497	
5/14/2008	1000	480	22	1,463	77	77	0	24.5	4,619	
	1100	465	22	1,461	77	77	0	24.5	4,706	

**Table 4**
**May 2008 MPE Event  
Operational Data**

 3609 International Boulevard  
 Oakland, California

DATE	TIME	PID (ppmv)	WELL MANIFOLD VACUUM (In of Hg)	OXIDIZER TEMPERATURE (°F)	WELL FIELD VAPOR FLOW RATE (scfm)	TOTAL SYSTEM VAPOR FLOW RATE (scfm)	DILUTION AIR FLOW RATE (scfm)	SYSTEM (BLOWER) VACUUM (In of Hg)	SYSTEM TOTALIZER READING (gallons)	COMMENTS
5/15/2008	1200	463	22	1,462	79	79	0	24.4	4,780	In = 403; Eff = 2
	1300	449	22	1,453	77	77	0	24.5	4,854	
	1400	448	22	1,474	79	79	0	24.4	4,950	
	1500	443	21.9	1,473	79	79	0	24.4	5,031	
	1600	437	21.9	1,474	79	79	0	24.4	5,117	
	1700	436	21.8	1,471	82	82	0	24.2	5,208	
	830	403	21.6	1,455	82	82	0	24.2	6,536	
	930	389	21.6	1,462	82	82	0	24.2	6,627	
	1130	378	21.6	1,467	85	85	0	24	6,807	
	1230	360	21.6	1,470	85	85	0	24	6,897	
	1330	333	21.6	1,457	82	82	0	24.2	6,968	
	1430	366	21.6	1,459	82	82	0	24.2	7,032	
	1530	412	21.6	1,461	85	85	0	24	7,112	
	1600	420	21.6	1,468	85	85	0	24	7,144	
5/16/2008	830	432	22	1,486	79	79	0	24.4	7,307	System down overnight after operator left. Morning inspection showed generator overheated, +100F during day until late afternoon. Restarted at 8 A.M.
	900	428	22.1	1,472	79	79	0	24.4	7,343	
	1000	404	22.2	1,472	82	82	0	24.2	7,448	
	1100	404	22	1,475	82	82	0	24.2	7,549	
	1200	388	22	1,483	82	82	0	24.2	7,648	
	1300	359	22	1,477	82	82	0	24.2	7,744	

Totalizer readings = 7,744 gallons

Total time of test = 4,837 minutes = 80.62 hours

## Notes

ppmv parts per million vapor

In of Hg inches of mercury

In of H<sub>2</sub>O inches of water

°F degrees Fahrenheit

scfm standard cubic feet per minute

**Table 4**

**June 2008 MPE Event  
Operational Data**

3609 International Boulevard  
Oakland, California

DATE	TIME	PID (ppmv)	WELL MANIFOLD VACUUM (In of Hg)	OXIDIZER TEMPERATURE (°F)	WELL FIELD VAPOR FLOW RATE (scfm)	TOTAL SYSTEM VAPOR FLOW RATE (scfm)	DILUTION AIR FLOW RATE (scfm)	SYSTEM (BLOWER) VACUUM (In of Hg)	SYSTEM TOTALIZER READING (gallons)	COMMENTS
6/9/2008	1030								0	begin at MW-1 and MW-3; sampled MW-1 and MW-3
	1130	1,722	23	1,568	73	73	0	24.8	102	
	1230	1,380	22.7	1,560	74	74	0	24.7	230	
	1330	1,118	22.4	1,538	77	77	0	24.5	353	
	1430	997	22.3	1,521	81	81	0	24.3	444	
	1530	910	22.2	1,511	81	81	0	24.3	529	
	1630	825	22.2	1,499	82	82	0	24.2	654	
	1730	815	22.2	1,496	82	82	0	24.2	736	
	730	560	20.8	1,473	85	85	0	24	-	
	830	590	22.4	1,574	44	44	0	26.6	-	
6/10/2008	930	580	20	1,578	54	54	0	26	2,020	In = 560; Eff = 3; Isolate MW-3 for initial vapor sample Isolate MW-1 for initial vapor sample
	1030	641	21.2	1,482	82	82	0	24.2	2,106	
	1130	595	20.8	1,481	84	84	0	24.1	2,238	
	1230	570	21.8	1,473	84	84	0	24.1	2,280	
	1330	533	21.9	1,474	85	85	0	24	2,386	
	1430	548	21.8	1,474	85	85	0	24	2,445	
	1530	547	20.9	1,475	87	87	0	23.9	2,527	
	1630	530	21.6	1,471	87	87	0	23.9	2,610	
	1700	525	21.5	1,475	89	89	0	23.8	2,633	
	800	468	22	1,493	90	90	0	23.7	3,764	
6/11/2008	900	478	21.4	1,467	92	92	0	23.6	3,840	
	1000	457	21.3	1,478	92	92	0	23.6	3,881	

**Table 4**
**June 2008 MPE Event  
Operational Data**

 3609 International Boulevard  
 Oakland, California

DATE	TIME	PID (ppmv)	WELL MANIFOLD VACUUM (In of Hg)	OXIDIZER TEMPERATURE (°F)	WELL FIELD VAPOR FLOW RATE (scfm)	TOTAL SYSTEM VAPOR FLOW RATE (scfm)	DILUTION AIR FLOW RATE (scfm)	SYSTEM (BLOWER) VACUUM (In of Hg)	SYSTEM TOTALIZER READING (gallons)	COMMENTS
6/12/2008	1030	460	21.4	1,485	92	92	0	23.6	3,920	
	1100	462	21.3	1,472	92	92	0	23.6	3,960	
	1200	452	21.3	1,496	90	90	0	23.7	4,046	
	1300	510	21.5	1,481	85	85	0	24	4,115	
	1400	462	21.5	1,467	87	87	0	23.9	4,193	
	1500	451	21.4	1,475	87	87	0	23.9	4,265	
	1600	436	21.4	1,489	89	89	0	23.8	4,340	
	1630	438	21.4	1,473	89	89	0	23.8	4,378	
	800	407	21.1	1,499	90	90	0	23.7	5,460	
	900	393	21.2	1,494	90	90	0	23.7	5,533	
	1000	376	21.2	1,496	92	92	0	23.6	5,608	
	1100	375	21	1,472	92	92	0	23.6	-	
	1200	388	21	1,478	89	89	0	23.8	-	
	1300	360	21	1,468	89	89	0	23.8	-	Isolate MW-3 for final vapor sample
	1400	356	25.2	1,585	47	47	0	26.4	-	Isolate MW-1 for final vapor sample
	1500	356	25	1,574	50	50	0	26.2	-	
	1600	397	21.4	1,489	85	85	0	24	-	
	1700	365	21.4	1,475	85	85	0	24	-	
6/13/2008	700									quick site drive-by, system running
	1130									system shut down after arrival, immediate restart - low
	1230	389	21.3	1,469	87	87	0	23.9	7,358	vacuum pump oil sensor triggered by operator
	1330	379	21.2	1,494	89	89	0	23.8	7,433	
	1430	351	21.2	1,472	89	89	0	23.8	7,510	
	1500	360	21.2	1,466	89	89	0	23.8	7,560	end at MW-1 and MW-3; sampled MW-1 and MW-3

Totalizer readings = 7,560 gallons

Total time of test = 6,030 minutes = 100.5 hours

## Notes

ppmv parts per million vapor

In of Hg inches of mercury

In of H<sub>2</sub>O inches of water

°F degrees Fahrenheit

scfm standard cubic feet per minute

Table 5

**March 2008 MPE Event**  
**Extraction Data and VOC Mass Removal Rate**

3609 International Boulevard  
 Oakland, California

WELL	COMMENT	DATE	CLOCK	INCREMENTAL	ELAPSED	Q			PID		MASS REMOVAL		
			TIME	TIME	TIME	SCFM	ft <sup>3</sup> of extracted air	Moles of extracted air	ppmv as hexane	VOC mole %	lb VOC mass removal as hexane	lbs/min	lbs/day
MW-1/3	START	3/24/2008	945	0									
			1045	60	60	30	1,790	4.7224	1,909	0.0019	0.7771	0.0130	19
			1130	45	105	31	1,414	3.7302	1,434	0.0014	0.4611	0.0102	15
			1230	60	165	33	1,980	5.2248	1,456	0.0015	0.6558	0.0109	16
			1330	60	225	33	1,980	5.2248	1,200	0.0012	0.5405	0.0090	13
			1430	60	285	33	1,980	5.2248	961	0.0010	0.4328	0.0072	10
			1530	60	345	36	2,171	5.7273	833	0.0008	0.4112	0.0069	10
	pause	3/25/2008	1630	60	405	36	2,171	5.7273	735	0.0007	0.3629	0.0060	9
			1730	60	465	38	2,266	5.9785	681	0.0007	0.3509	0.0058	8
			800	870	1,335	44	38,377	101.2579	420	0.0004	3.6659	0.0042	6
			900	60	1,395	46	2,742	7.2345	406	0.0004	0.2532	0.0042	6
			1000	60	1,455	47	2,837	7.4857	406	0.0004	0.2620	0.0044	6
			1100	60	1,515	47	2,837	7.4857	384	0.0004	0.2478	0.0041	6
			1200	60	1,575	47	2,837	7.4857	373	0.0004	0.2407	0.0040	6
	STOP	3/26/2008	1400	120	1,695	47	5,674	14.9714	380	0.0004	0.4904	0.0041	6
			1600	120	1,815	47	5,674	14.9714	376	0.0004	0.4852	0.0040	6
			1630	30	1,845	49	1,466	3.8685	388	0.0004	0.1294	0.0043	6
			1730	60	1,905	49	2,932	7.7369	400	0.0004	0.2668	0.0044	6
			700	810	2,715	49	39,586	104.4485	400	0.0004	3.6014	0.0044	6
			1600	0	2,715								
			1700	60	2,775	54	3,218	8.4906	633	0.0006	0.4633	0.0077	11
	3/27/2008	3/27/2008	800	900	3,675	57	51,125	134.8946	286	0.0003	3.3256	0.0037	5
			900	60	3,735	62	3,694	9.7466	296	0.0003	0.2487	0.0041	6
			1000	60	3,795	62	3,694	9.7466	296	0.0003	0.2487	0.0041	6
			1430	270	4,065	60	16,194	42.7292	230	0.0002	0.8472	0.0031	5
			1530	60	4,125	60	3,599	9.4954	345	0.0003	0.2824	0.0047	7
			1630	60	4,185	63	3,789	9.9978	325	0.0003	0.2801	0.0047	7
			900	990	5,175	65	64,092	169.1087	282	0.0003	4.1108	0.0042	6
	3/28/2008	3/28/2008	1000	60	5,235	68	4,075	10.7514	292	0.0003	0.2706	0.0045	6
			1300	180	5,415	66	11,939	31.5007	215	0.0002	0.5838	0.0032	5
	TOTAL MEDIAN				5,415	47	286,133	755	394	0.0004	24.30	0.0045	6.46

Notes

Q volumetric flow rate  
 SCFM standard cubic feet per minute  
 ft<sup>3</sup> cubic feet per minute  
 VOC volatile organic compounds  
 PID photo-ionization detector  
 ppmv parts per million vapor

## DERIVATION OF MASS REMOVAL RATE

ppmv as hexane/1,000,000 = VOC mole %  
 ft<sup>3</sup> of extracted air/(379 ft<sup>3</sup> air/lb-mole air) = moles of extracted air  
 (moles of extracted air)(VOC mole %)/(86.2 lb/lb-mole hexane) = lbs of VOC removed as hexane  
 (lbs of VOC removed as hexane)(elapsed time) = lbs/min of VOC removed as hexane  
 (lbs/min of VOC removed as hexane)(60 min/1 hour)(24 hours/1 day) = lbs/day of VOC removed as hexane

Table 5

**April 2008 MPE Event**  
**Extraction Data and VOC Mass Removal Rate**

3609 International Boulevard  
 Oakland, California

WELL	COMMENT	DATE	CLOCK	INCREMENTAL	ELAPSED	Q			PID		MASS REMOVAL		
			TIME	TIME	TIME	SCFM	ft <sup>3</sup> of extracted air	Moles of extracted air	ppmv as hexane	VOC mole %	lb VOC mass removal as hexane	lbs/min	lbs/day
MW-1/3	START	4/14/2008	1000	0							1.4928	0.0249	36
	pause		1100	60	60	55	3,313	8.7418	1,981	0.0020			
			1530	0	60				4,3709	1,981	0.0020	0.7464	0.0249
			1600	30	90	55	1,657		4,4965	1,987	0.0020	0.7702	0.0257
			1630	30	120	57	1,704		4,7477	1,783	0.0018	0.7297	0.0243
			1700	30	150	60	1,799		5,2501	1,616	0.0016	0.7313	0.0244
			1730	30	180	66	1,990		141,7530	650	0.0007	7,9424	0.0098
		4/15/2008	700	810	990	66	53,724						
			800	60	1,050	63	3,789		9,9978	681	0.0007	0.5869	0.0098
			900	60	1,110	66	3,980		10,5002	651	0.0007	0.5892	0.0098
			1000	60	1,170	66	3,980		10,5002	650	0.0007	0.5883	0.0098
			1100	60	1,230	66	3,980		10,5002	645	0.0006	0.5838	0.0097
			1200	60	1,290	66	3,980		10,5002	636	0.0006	0.5757	0.0096
			1300	60	1,350	65	3,884		10,2490	635	0.0006	0.5610	0.0094
			1400	60	1,410	66	3,980		10,5002	579	0.0006	0.5241	0.0087
			1500	60	1,470	66	3,980		10,5002	583	0.0006	0.5277	0.0088
			1600	60	1,530	66	3,980		10,5002	562	0.0006	0.5087	0.0085
			1700	60	1,590	66	3,980		10,5002	563	0.0006	0.5096	0.0085
		4/16/2008	700	840	2,430	66	55,714	147,0031	430	0.0004	5,4488	0.0065	9
	pause		800	0	2,430								
			830	30	2,460	70	2,085		5,5013	540	0.0005	0.2561	0.0085
			900	30	2,490	66	1,990		5,2501	562	0.0006	0.2543	0.0085
			1000	60	2,550	70	4,170		11,0026	569	0.0006	0.5397	0.0090
	pause		1030	0	2,550								
			1100	30	2,580	60	1,799		4,7477	560	0.0006	0.2292	0.0076
			1200	60	2,640	65	3,884		10,2490	548	0.0005	0.4841	0.0081
			1300	60	2,700	70	4,170		11,0026	554	0.0006	0.5254	0.0088
			1400	60	2,760	68	4,075		10,7514	514	0.0005	0.4764	0.0079
			1500	60	2,820	70	4,170		11,0026	401	0.0004	0.3803	0.0063
			1600	60	2,880	70	4,170		11,0026	382	0.0004	0.3623	0.0060
			1700	60	2,940	70	4,170		11,0026	342	0.0003	0.3244	0.0054
		4/17/2008	800	900	3,840	70	62,550	165,0396	420	0.0004	5,9751	0.0066	10
			900	60	3,900	70	4,170		11,0026	426	0.0004	0.4040	0.0067
			1000	60	3,960	70	4,170		11,0026	416	0.0004	0.3945	0.0066
			1100	60	4,020	70	4,170		11,0026	420	0.0004	0.3983	0.0066
			1200	60	4,080	70	4,170		11,0026	413	0.0004	0.3917	0.0065
			1300	60	4,140	70	4,170		11,0026	398	0.0004	0.3775	0.0063
			1400	60	4,200	70	4,170		11,0026	378	0.0004	0.3585	0.0060
			1500	60	4,260	70	4,170		11,0026	378	0.0004	0.3585	0.0060
			1600	60	4,320	70	4,170		11,0026	366	0.0004	0.3471	0.0058
			1700	60	4,380	70	4,170		11,0026	372	0.0004	0.3528	0.0059
		4/18/2008	900	960	5,340	70	66,720	176,0422	313	0.0003	4,7497	0.0049	7
			1000	60	5,400	70	4,170		11,0026	320	0.0003	0.3035	0.0051
			1100	60	5,460	70	4,170		11,0026	328	0.0003	0.3111	0.0052
			1200	60	5,520	73	4,360		11,5051	334	0.0003	0.3312	0.0055
			1300	60	5,580	70	4,170		11,0026	322	0.0003	0.3054	0.0051
			1400	60	5,640	73	4,360		11,5051	304	0.0003	0.3015	0.0050
	STOP		1430	30	5,670	73	2,180		5,7525	300	0.0003	0.1488	0.0050
	TOTAL MEDIAN				5,670	70	384,306	1014	527	0.0005	43.06	0.0076	10.94

Notes

Q volumetric flow rate  
 SCFM standard cubic feet per minute  
 ft<sup>3</sup> cubic feet per minute  
 VOC volatile organic compounds  
 PID photo-ionization detector  
 ppmv parts per million vapor

## DERIVATION OF MASS REMOVAL RATE

ppmv as hexane/1,000,000 = VOC mole %  
 ft<sup>3</sup> of extracted air/(379 ft<sup>3</sup> air/lb-mole air) = moles of extracted air  
 (moles of extracted air)(VOC mole %)(86.2 lb/lb-mole hexane) = lbs of VOC removed as hexane  
 (lbs of VOC mass removed as hexane)/(elapsed time) = lbs/min of VOC removed as hexane  
 (lbs/min of VOC removed as hexane)(60 min/1 hour)(24 hours/1 day) = lbs/day of VOC removed as hexane

Table 5

**May 2008 MPE Event**  
**Extraction Data and VOC Mass Removal Rate**

3609 International Boulevard  
 Oakland, California

WELL	COMMENT	DATE	CLOCK	INCREMENTAL	ELAPSED	Q		PID		MASS REMOVAL			
			TIME	TIME	TIME	SCFM	ft <sup>3</sup> of extracted air	Moles of extracted air	ppmv as hexane	VOC mole %	lb VOC mass removal as hexane	lbs/min	lbs/day
MW-1/3	START	5/12/2008	930	0									
			1000	30	30	63	1,890	4.9868	2,750	0.0028	1,1821	0.0394	57
			1100	60	90	70	4,200	11.0818	1,810	0.0018	1,7290	0.0288	41
			1200	60	150	71	4,260	11.2401	1,501	0.0015	1,4543	0.0242	35
			1300	60	210	71	4,260	11.2401	1,305	0.0013	1,2644	0.0211	30
		5/13/2008	1337	7	217								
			1610	10	227	65	647	1,7082	1,301	0.0013	0.1916	0.0192	28
			1700	50	277	70	3,475	9.1689	1,128	0.0011	0.8915	0.0178	26
			730	870	1,147	74	64,607	170.4658	653	0.0007	9.5953	0.0110	16
			830	60	1,207	79	4,741	12.5099	657	0.0007	0.7085	0.0118	17
	pause	5/14/2008	930	60	1,267	38	2,266	5.9785	797	0.0008	0.4107	0.0068	10
			1030	60	1,327	31	1,885	4.9736	748	0.0007	0.3207	0.0053	8
			1300	150	1,477	38	5,665	14.9462	761	0.0008	0.9804	0.0065	9
			1400	60	1,537	70	4,170	11.0026	660	0.0007	0.6260	0.0104	15
			1500	60	1,597	73	4,360	11.5051	620	0.0006	0.6149	0.0102	15
		5/15/2008	1600	60	1,657	74	4,456	11.7563	600	0.0006	0.6080	0.0101	15
			800	960	2,617	76	72,813	192.1196	526	0.0005	8.7109	0.0091	13
			900	60	2,677	79	4,741	12.5099	511	0.0005	0.5510	0.0092	13
			1000	60	2,737	77	4,646	12.2587	480	0.0005	0.5072	0.0085	12
			1100	60	2,797	77	4,646	12.2587	465	0.0005	0.4914	0.0082	12
	pause	5/16/2008	1200	60	2,857	79	4,741	12.5099	463	0.0005	0.4993	0.0083	12
			1300	60	2,917	77	4,646	12.2587	449	0.0004	0.4745	0.0079	11
			1400	60	2,977	79	4,741	12.5099	448	0.0004	0.4831	0.0081	12
			1500	60	3,037	79	4,741	12.5099	443	0.0004	0.4777	0.0080	11
			1600	60	3,097	79	4,741	12.5099	437	0.0004	0.4712	0.0079	11
		5/17/2008	1700	60	3,157	82	4,932	13.0123	436	0.0004	0.4890	0.0082	12
			830	930	4,087	82	76,441	201.6907	403	0.0004	7.0065	0.0075	11
			930	60	4,147	82	4,932	13.0123	389	0.0004	0.4363	0.0073	10
			1130	120	4,267	85	10,244	27.0294	378	0.0004	0.8807	0.0073	11
			1230	60	4,327	85	5,122	13.5147	360	0.0004	0.4194	0.0070	10
	STOP	5/18/2008	1330	60	4,387	82	4,932	13.0123	333	0.0003	0.3735	0.0062	9
			1430	60	4,447	82	4,932	13.0123	366	0.0004	0.4105	0.0068	10
			1530	60	4,507	85	5,122	13.5147	412	0.0004	0.4800	0.0080	12
			1600	30	4,537	85	2,561	6.7574	420	0.0004	0.2446	0.0082	12
			830	30	4,567	79	2,371	6.2549	432	0.0004	0.2329	0.0078	11
		5/19/2008	900	30	4,597	79	2,371	6.2549	428	0.0004	0.2308	0.0077	11
			1000	60	4,657	82	4,932	13.0123	404	0.0004	0.4532	0.0076	11
			1100	60	4,717	82	4,932	13.0123	404	0.0004	0.4532	0.0076	11
			1200	60	4,777	82	4,932	13.0123	388	0.0004	0.4352	0.0073	10
			1300	60	4,837	82	4,932	13.0123	359	0.0004	0.4027	0.0067	10
	TOTAL MEDIAN				4,837	79	365,024	963	456	0.0005	46.19	0.0095	13.75

Notes

Q volumetric flow rate  
 SCFM standard cubic feet per minute  
 ft<sup>3</sup> cubic feet per minute  
 VOC volatile organic compounds  
 PID photo-ionization detector  
 ppmv parts per million vapor

## DERIVATION OF MASS REMOVAL RATE

ppmv as hexane/1,000,000 = VOC mole %  
 ft<sup>3</sup> of extracted air/(379 ft<sup>3</sup> air/lb-mole air) = moles of extracted air  
 (moles of extracted air)(VOC mole %)(86.2 lb/lb-mole hexane) = lbs of VOC removed as hexane  
 (lbs of VOC removed as hexane)(elapsed time) = lbs/min of VOC removed as hexane  
 (lbs/min of VOC removed as hexane)(60 min/1 hour)(24 hours/1 day) = lbs/day of VOC removed as hexane

Table 5

**June 2008 MPE Event**  
**Extraction Data and VOC Mass Removal Rate**

3609 International Boulevard  
 Oakland, California

WELL	COMMENT	DATE	CLOCK	INCREMENTAL	ELAPSED	Q			PID		MASS REMOVAL		
			TIME	TIME	TIME	SCFM	ft <sup>3</sup> of extracted air	Moles of extracted air	ppmv as hexane	VOC mole %	lb VOC mass removal as hexane	lbs/min	lbs/day
MW-1/3	START	6/9/2008	1030	0							1.7078	0.0285	41
			1130	60	60	73	4,360	11.5051	1,722	0.0017	1.3985	0.0233	34
			1230	60	74	4,456	11.7563	1,380	0.0014	1.1814	0.0197	28	
			1330	60	180	77	4,646	12.2587	1,118	0.0011	1.0967	0.0183	26
			1430	60	240	81	4,836	12.7611	997	0.0010	1.0010	0.0167	24
			1530	60	300	81	4,836	12.7611	910	0.0009	0.9142	0.0154	22
			1630	60	360	82	4,932	13.0123	825	0.0008	0.9254	0.0154	22
			1730	60	420	82	4,932	13.0123	815	0.0008	0.9142	0.0152	22
			730	840	1,260	85	71,709	189,2061	560	0.0006	9.1334	0.0109	16
			830	60	1,320	44	2,640	6.9657	590	0.0006	0.3543	0.0059	9
			930	60	1,380	54	3,218	8,4906	580	0.0006	0.4245	0.0071	10
			1030	60	1,440	82	4,932	13.0123	641	0.0006	0.7190	0.0120	17
			1130	60	1,500	84	5,027	13.2635	595	0.0006	0.6803	0.0113	16
	6/11/2008		1230	60	1,560	84	5,027	13.2635	570	0.0006	0.6517	0.0109	16
			1330	60	1,620	85	5,122	13.5147	533	0.0005	0.6209	0.0103	15
			1430	60	1,680	85	5,122	13.5147	548	0.0005	0.6384	0.0106	15
			1530	60	1,740	87	5,217	13.7659	547	0.0005	0.6491	0.0108	16
			1630	60	1,800	87	5,217	13.7659	530	0.0005	0.6289	0.0105	15
			1700	30	1,830	89	2,656	7,0086	525	0.0005	0.3172	0.0106	15
			800	900	2,730	90	81,116	214,0252	468	0.0005	8.6341	0.0096	14
			900	60	2,790	92	5,503	14.5196	478	0.0005	0.5983	0.0100	14
			1000	60	2,850	92	5,503	14.5196	457	0.0005	0.5720	0.0095	14
			1030	30	2,880	92	2,751	7,2598	460	0.0005	0.2879	0.0096	14
			1100	30	2,910	92	2,751	7,2598	462	0.0005	0.2891	0.0096	14
			1200	60	2,970	90	5,408	14.2683	452	0.0005	0.5559	0.0093	13
			1300	60	3,030	85	5,122	13.5147	510	0.0005	0.5941	0.0099	14
			1400	60	3,090	87	5,217	13.7659	462	0.0005	0.5482	0.0091	13
			1500	60	3,150	87	5,217	13.7659	451	0.0005	0.5352	0.0089	13
			1600	60	3,210	89	5,312	14.0171	436	0.0004	0.5268	0.0088	13
			1630	30	3,240	89	2,656	7,0086	438	0.0004	0.2646	0.0088	13
	6/12/2008		800	930	4,170	90	83,819	221,1594	407	0.0004	7.7590	0.0083	12
			900	60	4,230	90	5,408	14.2683	393	0.0004	0.4834	0.0081	12
			1000	60	4,290	92	5,503	14.5196	376	0.0004	0.4706	0.0078	11
			1100	60	4,350	92	5,503	14.5196	375	0.0004	0.4693	0.0078	11
			1200	60	4,410	89	5,312	14.0171	388	0.0004	0.4688	0.0078	11
			1300	60	4,470	89	5,312	14.0171	360	0.0004	0.4350	0.0072	10
			1400	60	4,530	47	2,820	7,4406	356	0.0004	0.2283	0.0038	5
			1500	60	4,590	50	3,028	7,9881	356	0.0004	0.2451	0.0041	6
			1600	60	4,650	85	5,122	13.5147	397	0.0004	0.4625	0.0077	11
			1700	60	4,710	85	5,122	13.5147	365	0.0004	0.4252	0.0071	10
			1130	1110	5,820	87	96,570	254,8021	389	0.0004	8.5440	0.0077	11
			1230	60	5,880	87	5,217	13.7659	389	0.0004	0.4616	0.0077	11
			1330	60	5,940	89	5,312	14.0171	379	0.0004	0.4579	0.0076	11
			1430	60	6,000	89	5,312	14.0171	351	0.0004	0.4241	0.0071	10
			1500	30	6,030	89	2,656	7,0086	360	0.0004	0.2175	0.0072	10
	TOTAL MEDIAN				6,030	87	517,461	1365	462	0.0005	58.00	0.0096	13.85

Notes

Q volumetric flow rate  
 SCFM standard cubic feet per minute  
 ft<sup>3</sup> cubic feet per minute  
 VOC volatile organic compounds  
 PID photo-ionization detector  
 ppmv parts per million vapor

## DERIVATION OF MASS REMOVAL RATE

ppmv as hexane/1,000,000 = VOC mole %  
 (moles of extracted air)/(379 ft<sup>3</sup> ft<sup>3</sup> lb-mole hexane) = moles of extracted air  
 (moles of extracted air)(VOC mole %)(86.2 lb/lb-mole hexane) = lbs of VOC removed as hexane  
 (lbs of VOC removed as hexane)/(elapsed time) = lbs/min of VOC removed as hexane  
 (lbs/min of VOC removed as hexane)(60 min/1 hour)/(24 hours/1 day) = lbs/day of VOC removed as hexane

**Table 6**

**March 2008 MPE Event  
Mass Removal**

3609 International Boulevard  
Oakland, California

Extraction Well	Vapor Sample ID	Collection Date/Time	PID	Q (CFM)	Mass Removal Rate (lbs/day) (VOCs)	Total Test time (minutes/days)	Total Mass Removed (lbs) (VOCs)
			ppmv (hexane)				
MW-1/3	Influent	3/25/2008 @ 0800	420(a)	47	6.46	5,415/3.76	<b>24.30 (b)</b>
MW-1/3	Stack	3/25/2008 @ 0750	1(a)	47	N/A	N/A	N/A
			<b>REMOVAL EFFICIENCIES</b>	99.7619%			

**Notes**

- CFM cubic feet per minute
- lbs/day pounds per day
- (a) dilution factor 1
- (b) average value

**DERIVATION OF MASS REMOVAL RATE  
DERIVATION OF TOTAL MASS REMOVED**  
Table 2

**DERIVATION OF REMOVAL EFFICIENCIES**  
INFLUENT sample concentration / STACK concentration

**Table 6**

**April 2008 MPE Event  
Mass Removal**

3609 International Boulevard  
Oakland, California

Extraction Well	Vapor Sample ID	Collection Date/Time	PID	Q (CFM)	Mass Removal Rate (lbs/day) (VOCs)	Total Test time (minutes/days)	Total Mass Removed (lbs) (VOCs)
			ppmv (hexane)				
MW-1/3	Influent	4/15/2008 @ 0700	650(a)	70	10.94	5,670/3.94	<b>43.06 (b)</b>
MW-1/3	Stack	4/15/2008 @ 0650	1(a)	70	N/A	N/A	N/A
			<b>REMOVAL EFFICIENCIES</b>	99.8462%			

**Notes**

- CFM cubic feet per minute  
 lbs/day pounds per day  
 (a) dilution factor 1  
 (b) average value

**DERIVATION OF MASS REMOVAL RATE  
DERIVATION OF TOTAL MASS REMOVED**  
Table 2

**DERIVATION OF REMOVAL EFFICIENCIES**  
INFLUENT sample concentration / STACK concentration

**Table 6**

**May 2008 MPE Event  
Mass Removal**

3609 International Boulevard  
Oakland, California

Extraction Well	Vapor Sample ID	Collection Date/Time	PID	Q (CFM)	Mass Removal Rate (lbs/day) (VOCs)	Total Test time (minutes/days)	Total Mass Removed (lbs) (VOCs)
			ppmv (hexane)				
MW-1/3	Influent	5/13/2008 @ 0730	653(a)	79	13.75	4,837/3.36	<b>46.19 (b)</b>
MW-1/3	Stack	5/13/2008 @ 0720	4(a)	79	N/A	N/A	N/A
			<b>REMOVAL EFFICIENCIES</b>	99.3874%			

**Notes**

- CFM cubic feet per minute  
 lbs/day pounds per day  
 (a) dilution factor 1  
 (b) average value

**DERIVATION OF MASS REMOVAL RATE  
DERIVATION OF TOTAL MASS REMOVED**  
Table 2

**DERIVATION OF REMOVAL EFFICIENCIES**  
INFLUENT sample concentration / STACK concentration

**Table 6**
**June 2008 MPE Event  
Mass Removal**

 3609 International Boulevard  
 Oakland, California

Extraction Well	Vapor Sample ID	Collection Date/Time	USEPA TO-3 MODIFIED	USEPA TO-15 MODIFIED								Q (CFM)	Mass Removal Rate (lbs/day) (TPHg/benzene/MtBE)	Total Test time (minutes/days)	Total Mass Removed (lbs) (TPHg/benzene/MtBE)		
				TPHg (ug/m³)	Benzene (ug/m³)	MtBE (ug/m³)	Toluene (ug/m³)	Ethyl benzene (ug/m³)	Total Xylenes (ug/m³)	DIPE (ug/m³)	ETBE (ug/m³)	TAME (ug/m³)	TBA (ug/m³)				
MW-3	Influent	6/10/08 @ 0820	1,290,000(a)	8,300(b)	<250(b)	<260(b)	2,100(b)	12,400(b)	<330(b)	<330(b)	<330(b)	<240(b)					
MW-3	Influent	6/12/08 @ 1300	1,000,000(d)	7,700(e)	<90(e)	2,300(e)	1,600(e)	10,000(e)	NA	<100(e)	<100(e)	<76(e)					
MW-3	Stack	6/10/08 @ 0800	<3,500(c)	<16(c)	<18(c)	<19(c)	<22(c)	<42(c)	<21(c)	<21(c)	<21(c)	110	N/A				
		<b>REMOVAL EFFICIENCIES</b>		99.73%	99.81%	92.80%	99.17%	98.95%	99.82%	93.64%	93.64%	93.64%	<54.17%	N/A			
MW-1	Influent	6/10/08 @ 0930	1,250,000(a)	1,500(b)	<250(b)	550(b)	1,040(b)	6,500(b)	<330(b)	<330(b)	<330(b)	<240(b)					
MW-1	Influent	6/12/08 @ 1400	1,100,000(d)	1,400(e)	<90(e)	<94(e)	430(e)	2,680(e)	NA	<100(e)	<100(e)	<76(e)					

**Notes**

CFM cubic feet per minute

lbs/day pounds per day

ug/m³ micrograms per cubic meter

DIPE di-isopropyl ether

ETBE ethyl tertiary butyl ether

TAME methyl tertiary amyl ether

TBA tertiary butyl alcohol

(a) dilution factor 1000

(b) dilution factor 500

(c) dilution factor 10

(d) dilution factor 100

(e) dilution factor 50

(f) average value

**DERIVATION OF MASS REMOVAL RATE**

$$(\text{ug/m}^3) [(1\text{mg}/1000\text{ug}) (1\text{m}^3/1000 \text{L})] = \text{mg/L}$$

$$(\text{mg/L}) (28.32 \text{ L}/1 \text{ ft}^3) ([\text{Q}] \text{ ft}^3/\text{min}) = \text{mg/min}$$

$$(\text{mg/min})(1\text{g}/1000\text{mg})(1\text{kg}/1000\text{g})(60\text{min}/1\text{hr})(24\text{hr}/1\text{day}) = \text{kg/day}$$

$$(\text{kg/day})(2.2\text{lb}/1\text{kg}) = \text{lbs/day}$$

**DERIVATION OF TOTAL MASS REMOVED**

$$\text{Total time of test} = \text{days} \text{ (Tables 1, 2 and 3)}$$

$$(\text{average mass removal rate [lbs/day]})(\text{total time of test [days]}) = \text{Total Removed (lbs)}$$

**DERIVATION OF REMOVAL EFFICIENCIES**

Influent sample concentration / STACK sample concentration

**Table 7**

**Dissolved-Phase Hydrocarbon Concentrations  
Pre- and Post-MPE Event**

3609 International Boulevard  
Oakland, California

<b>Monitoring Well</b>	<b>Date</b>	<b>MPE Event</b>	<b>TPH-g (µg/L)</b>	<b>Benzene (µg/L)</b>	<b>Toluene (µg/L)</b>	<b>Ethyl benzene (µg/L)</b>	<b>Total Xylenes (µg/L)</b>	<b>MtBE (µg/L)</b>
<b>MW-1</b>	12/3/2007	Pilot Test	839	9	<2	1	<2.5	4
	12/7/2007	Pilot Test	2,270	20	6	34	50	11
	3/24/2008	March 2008	<50	<0.5	<2.0	<0.5	<2.5	<0.5
	3/28/2008	March 2008	705	10	4	8	40	5
	4/14/2008	April 2008	<50	<0.5	<2.0	<0.5	<2.5	<0.5
	4/18/2008	April 2008	3,710	27	21	47	303	11
	5/12/2008	May 2008	<50	<0.5	<2.0	<0.5	<2.0	1
	5/16/2008	May 2008	2,780	28	3	2	82	25
	6/9/2008	June 2008	<50	<0.5	<2.0	<0.5	<2.0	1
	6/13/2008	June 2008	1,730	11	8	53	92	9
<b>MW-3</b>	12/3/2007	Pilot Test	2,040	2,200	<22	115	33	25
	12/7/2007	Pilot Test	4,610	785	57	275	262	6
	3/24/2008	March 2008	4,720	251	8	384	270	3
	3/28/2008	March 2008	13,700	653	395	514	1,153	<2.15
	4/14/2008	April 2008	6,350	124	19	231	464	<0.5
	4/18/2008	April 2008	4,630	191	101	74	692	<2.15
	5/12/2008	May 2008	3,460	111	8	99	222	<0.5
	5/16/2008	May 2008	16,600	795	371	427	3,807	10
	6/9/2008	June 2008	3,770	177	8	161	209	1
	6/13/2008	June 2008	6,910	534	283	233	1,241	<5.5

Notes:

TPHg = Total petroleum hydrocarbons as gasoline

TPHd = Total petroleum hydrocarbons as diesel

MTBE = methyl-tertiary-butyl ether

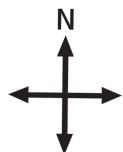
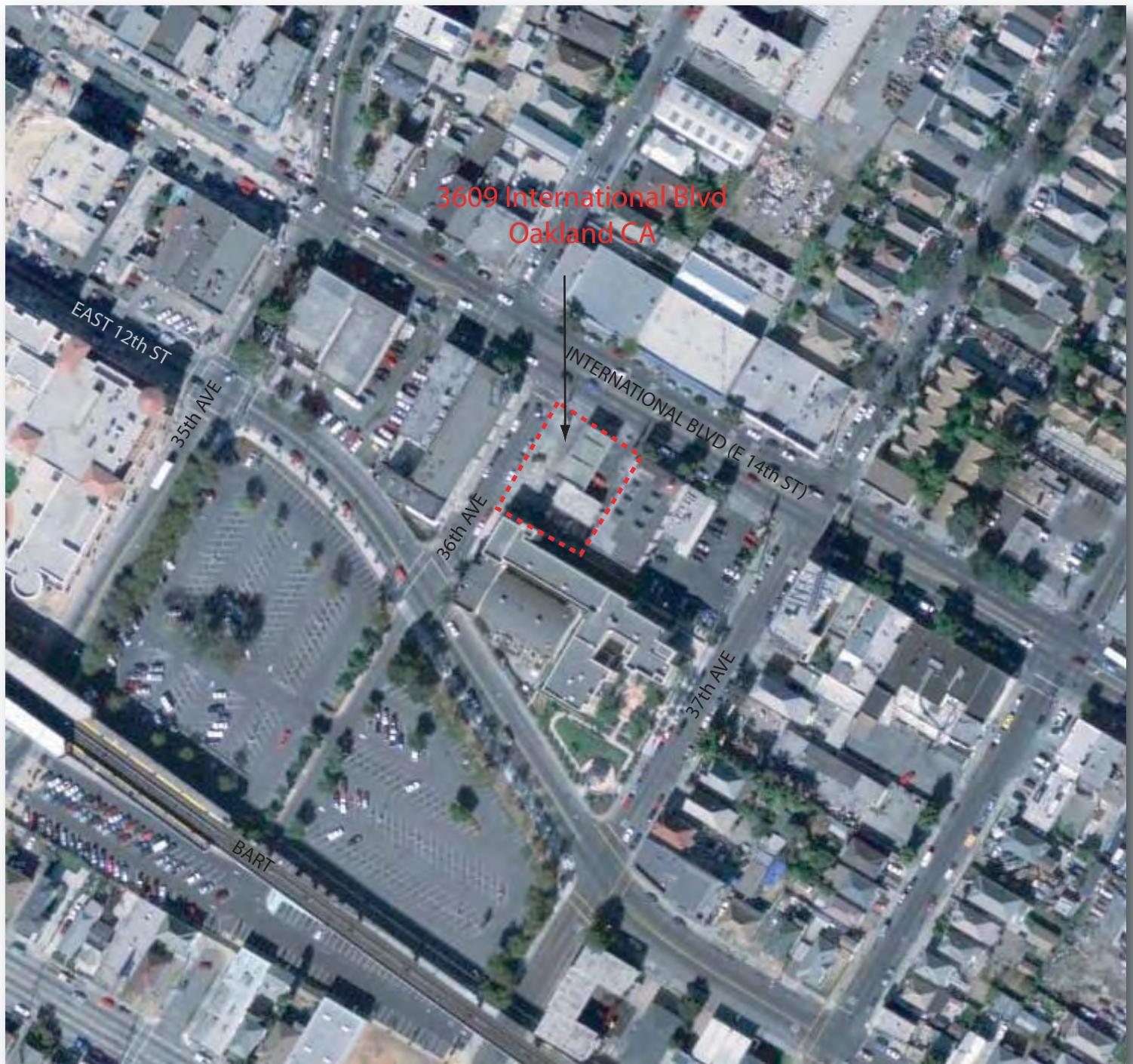
ug/l - Micrograms per liter

# **FIGURES**

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Second Quarter 2008: Groundwater Monitoring and Remediation System Operation Report  
with Evaluation of Effectiveness of Monthly MPE

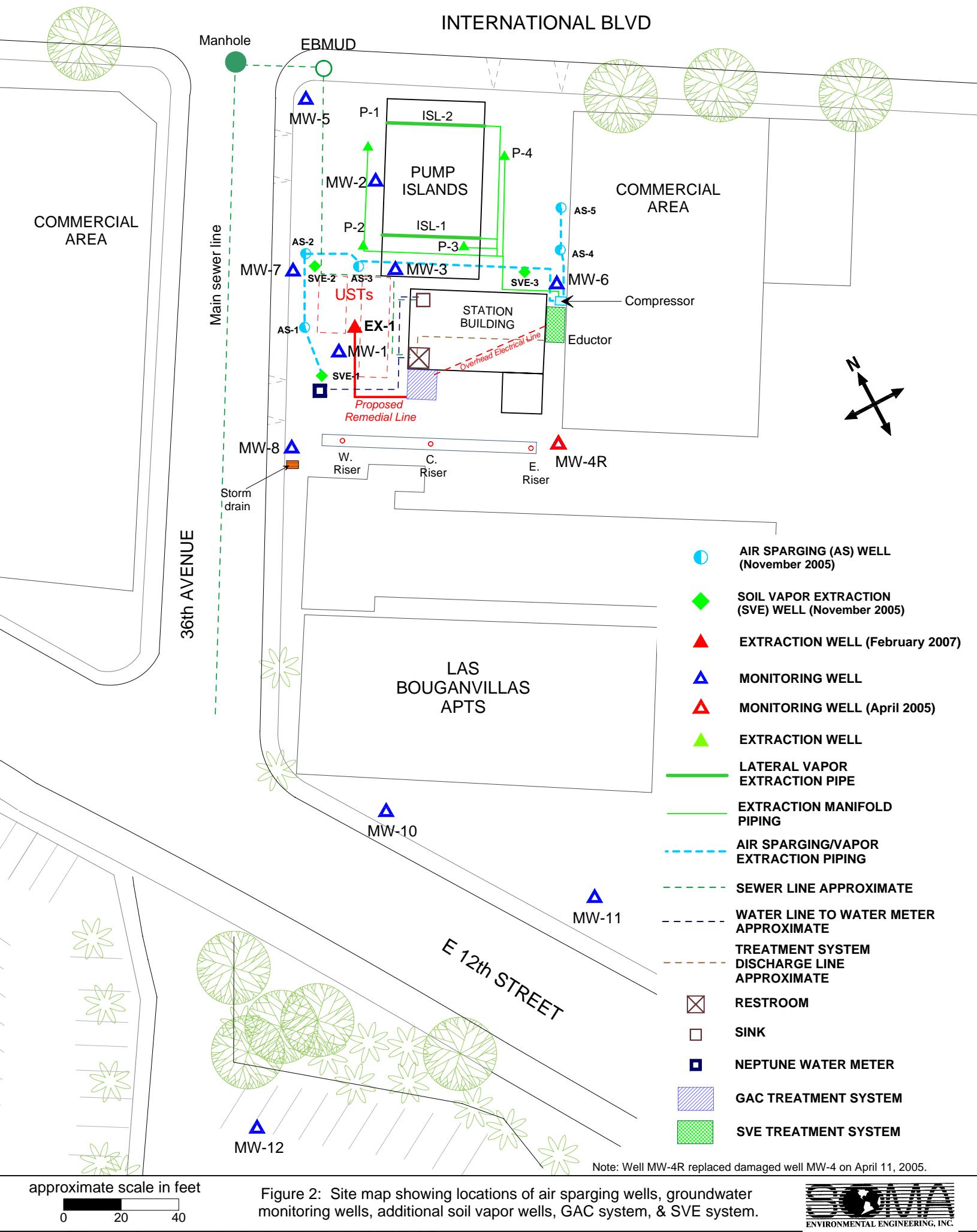
SOMA Environmental Engineering, Inc.



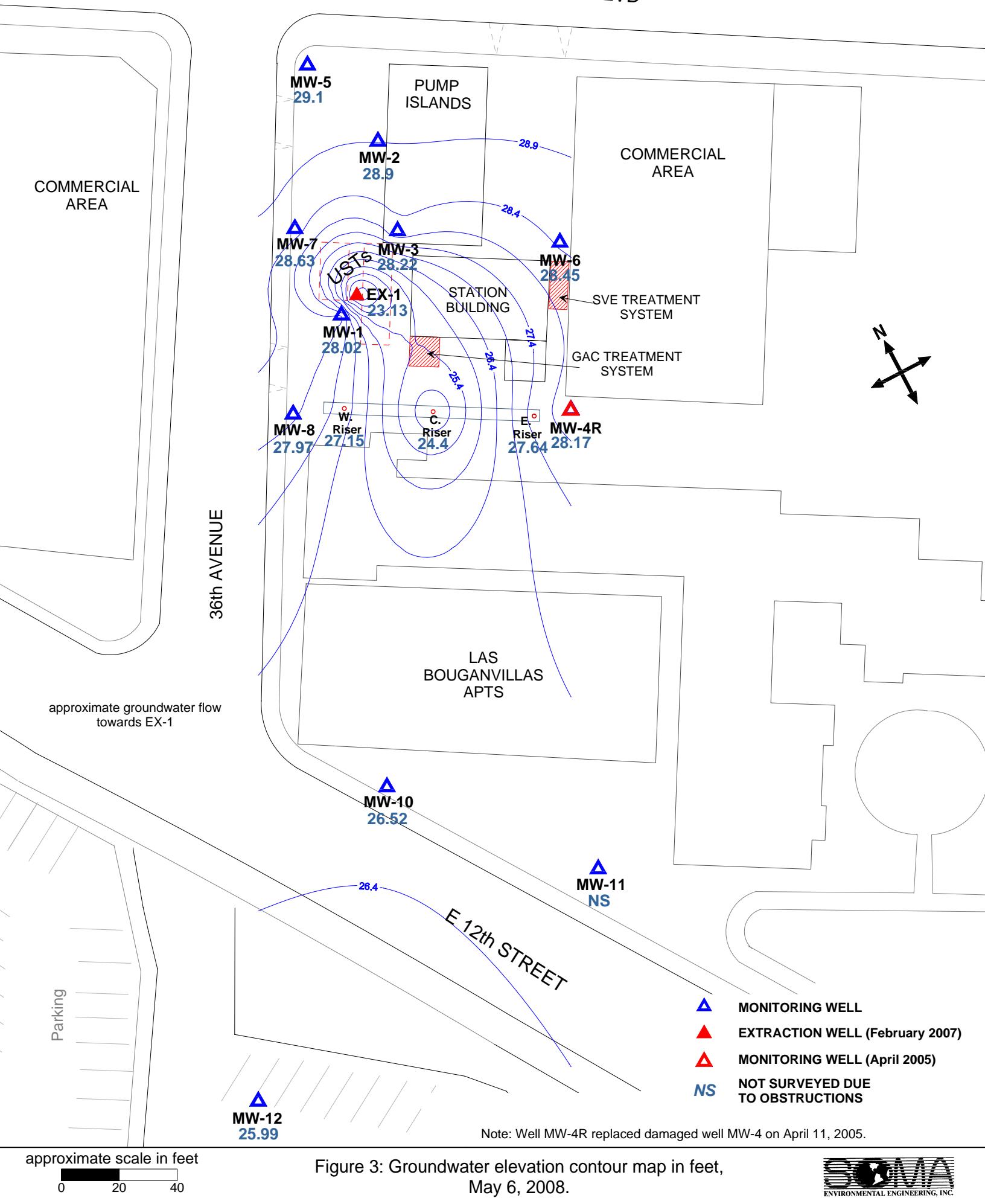
approximate scale in feet



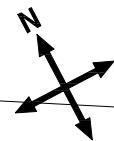
Figure 1: Site vicinity map.



# INTERNATIONAL BLVD



# INTERNATIONAL BLVD



COMMERCIAL AREA

36th AVENUE

approximate groundwater flow  
towards EX-1

approximate scale in feet  
0 20 40

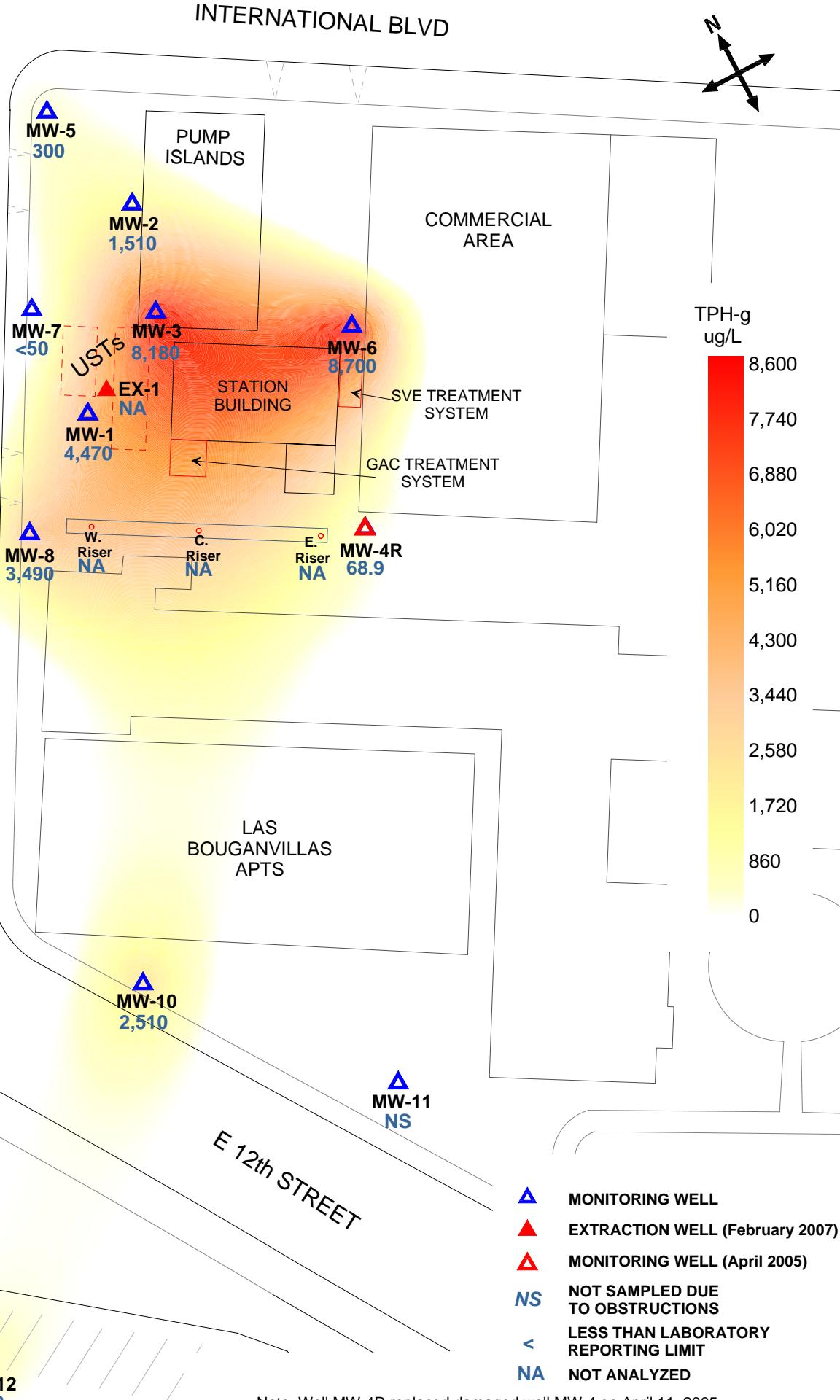
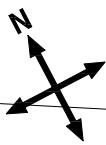


Figure 4: Contour map of TPH-g concentrations in the groundwater.  
May 6 and 7, 2008.

# INTERNATIONAL BLVD



COMMERCIAL AREA

36th AVENUE

approximate groundwater flow towards EX-1

Parking

approximate scale in feet  
 0 20 40

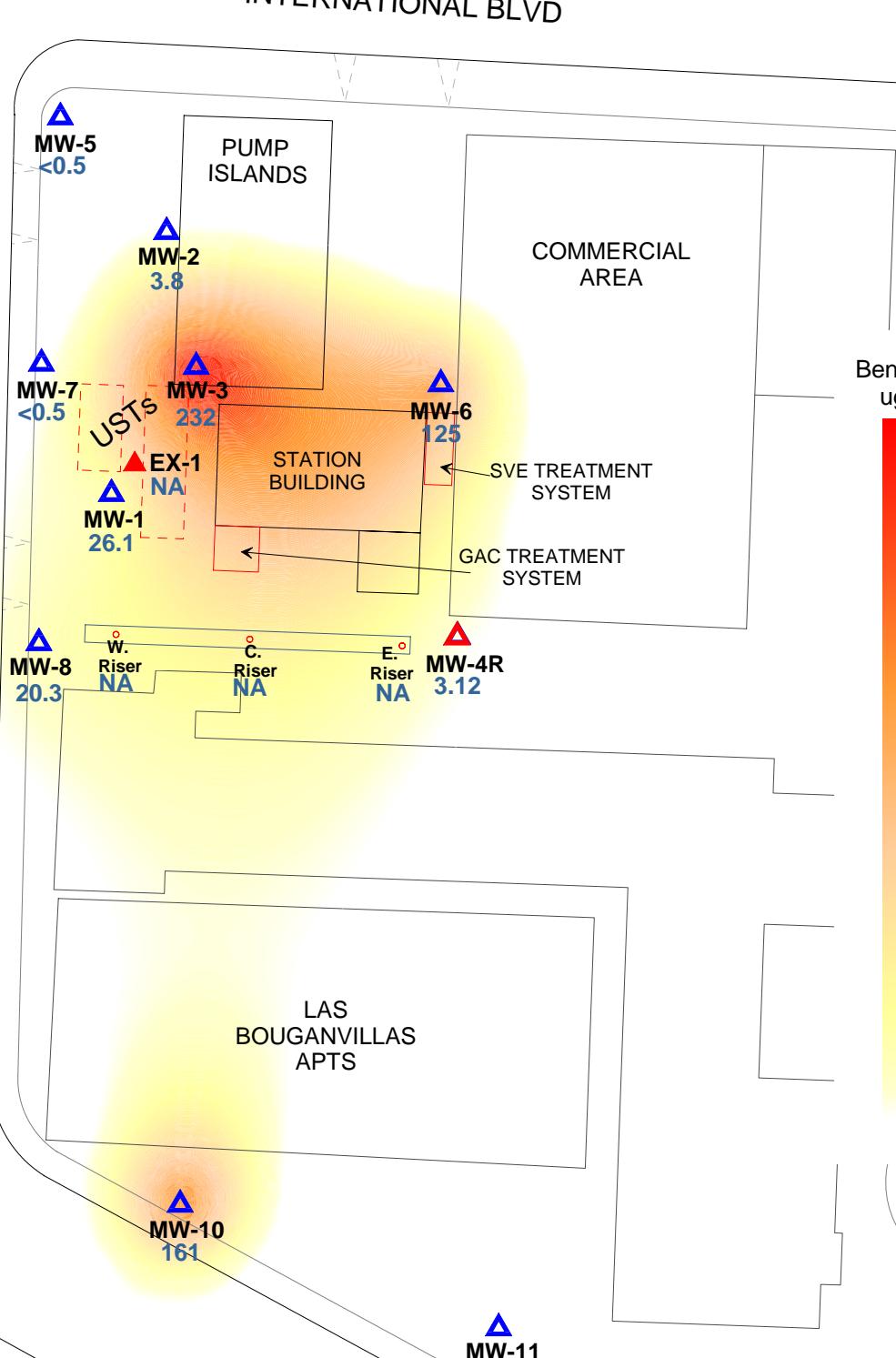
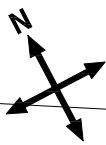


Figure 5: Contour map of benzene concentrations in the groundwater.  
May 6 and 7, 2008.

# INTERNATIONAL BLVD



COMMERCIAL AREA

36th AVENUE

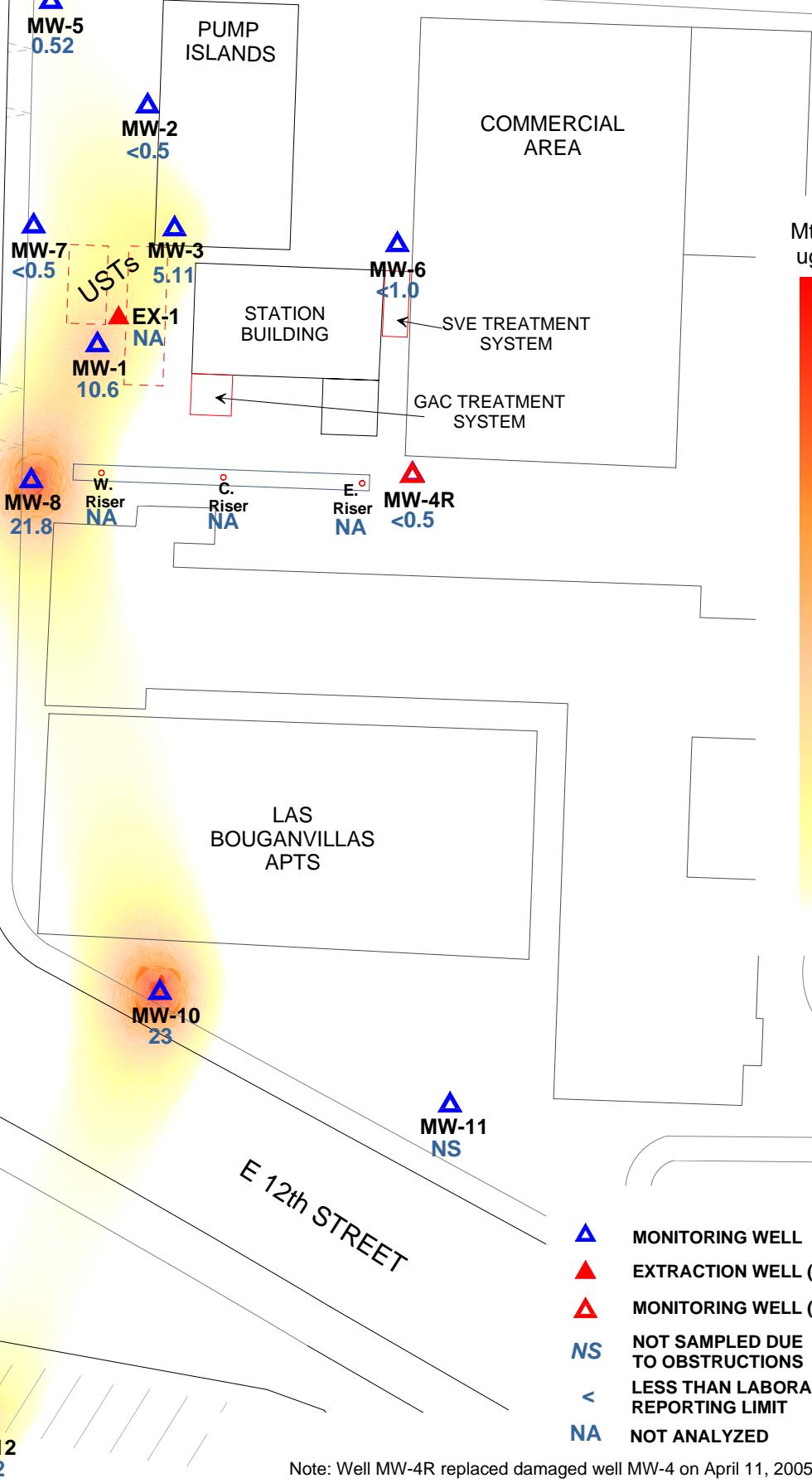
approximate groundwater flow  
towards EX-1

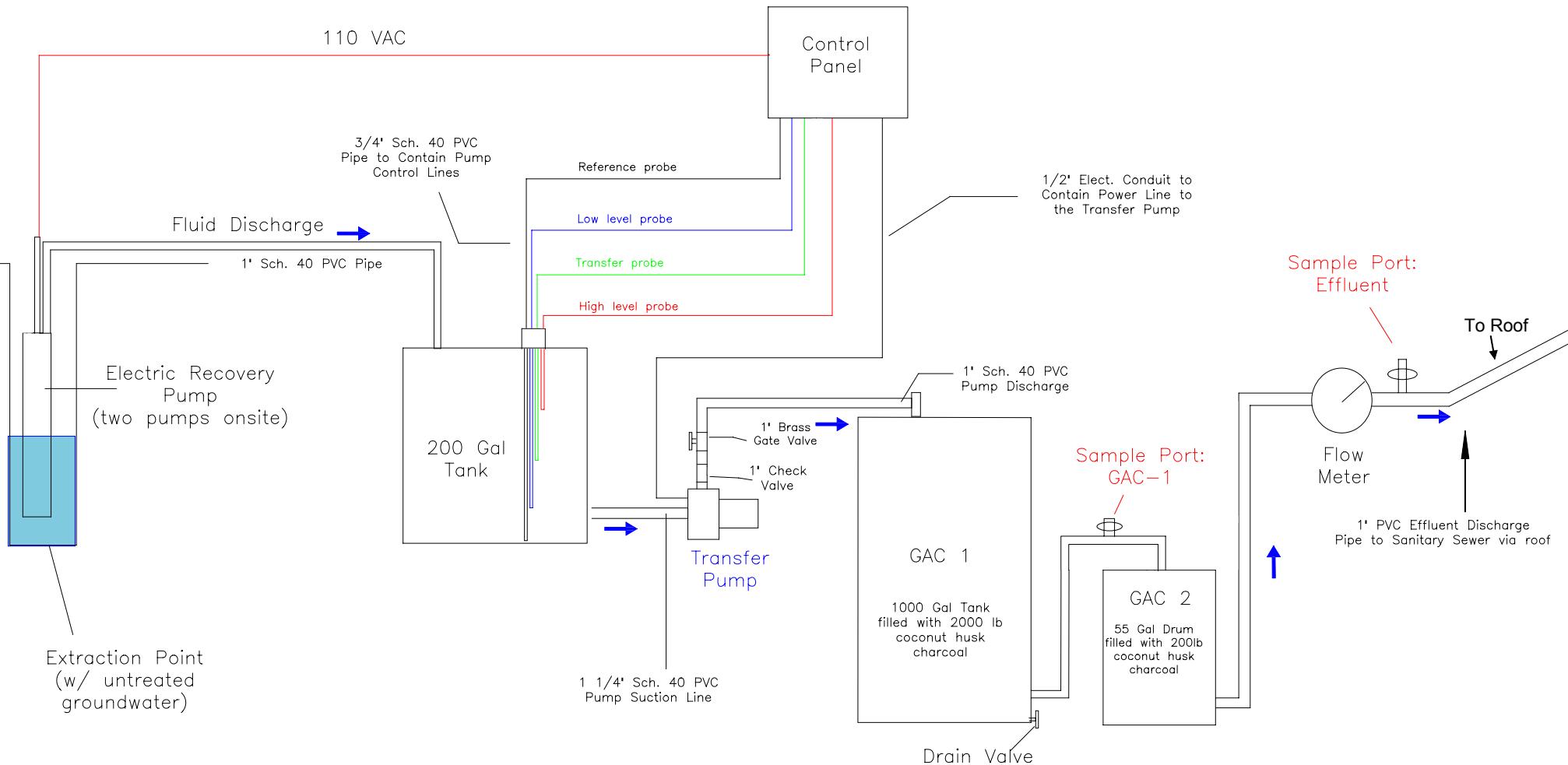
Parking

approximate scale in feet

0 20 40

Figure 6: Contour map of MtBE concentrations in the groundwater  
(EPA Method 8260B). May 6 and 7, 2008.

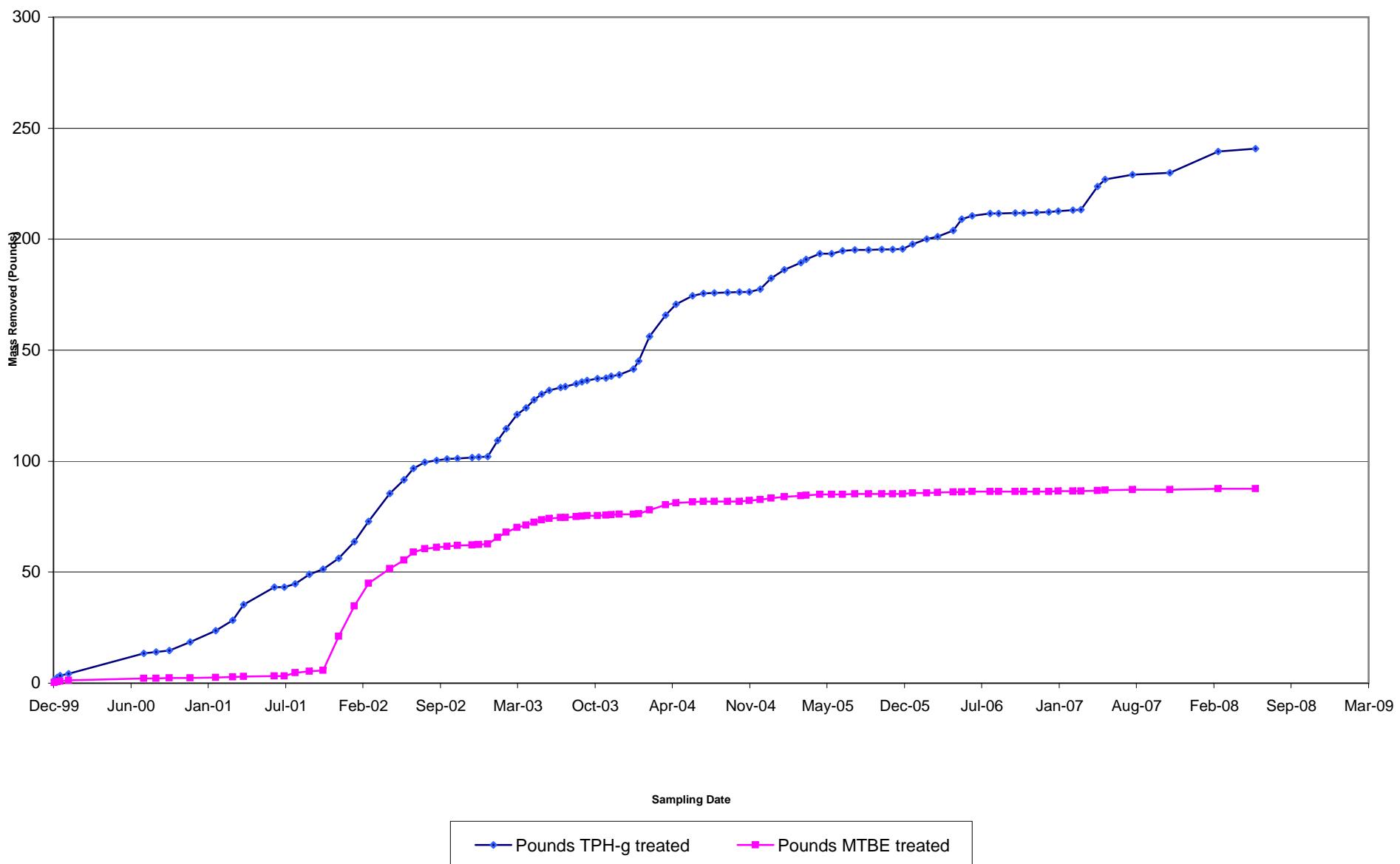




(Discharge permit No: 504-27421)  
 Tony's Express Auto Service. November 14, 2011 permit expires

Figure 7: Schematic of the Groundwater Remediation System.  
 3609 International Blvd., Oakland, CA

**Figure 8: Cumulative Mass of TPH-g and MtBE Removed from Groundwater since the Installation of the Treatment System**



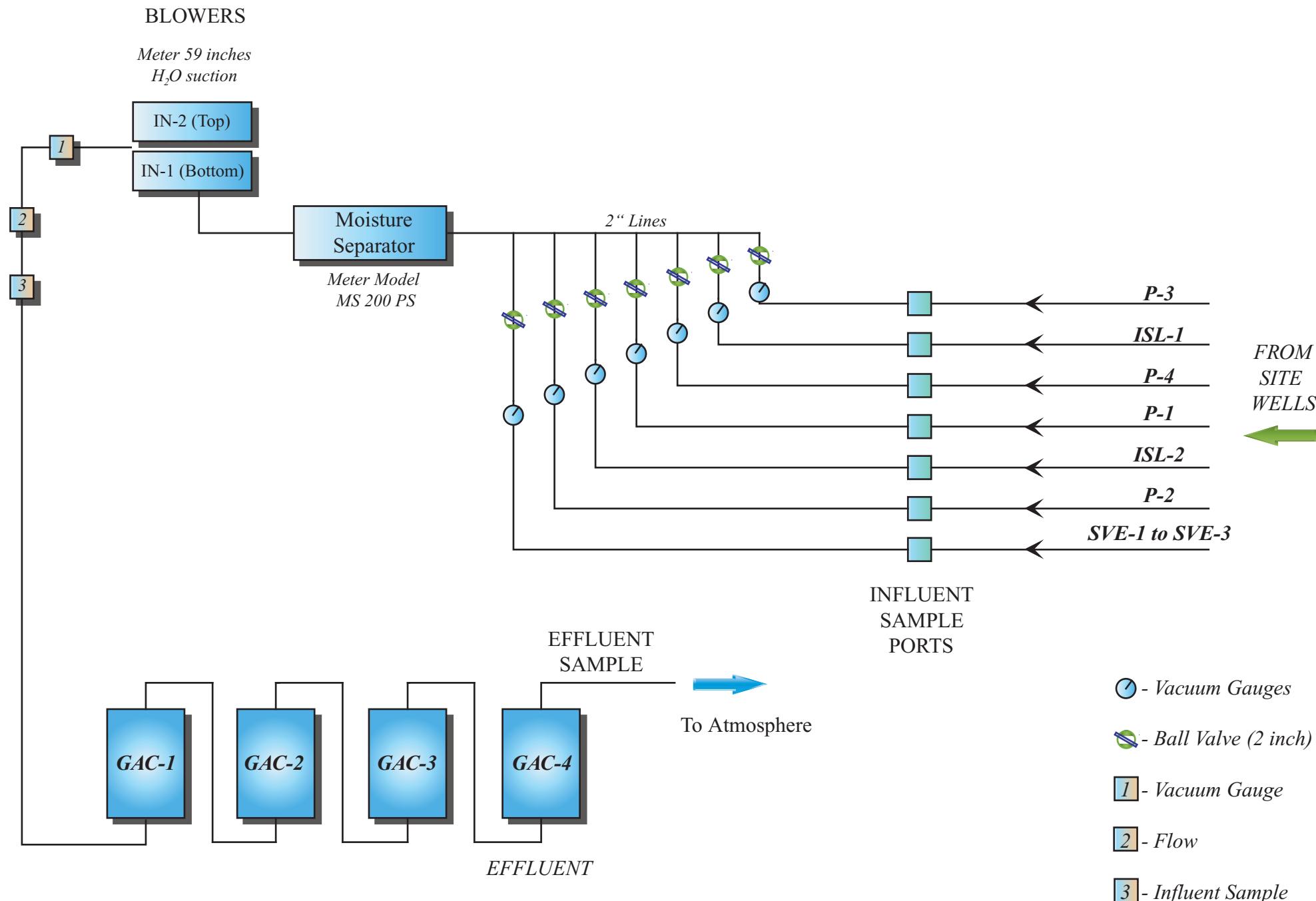


Figure 9: Block Diagram of SVE System

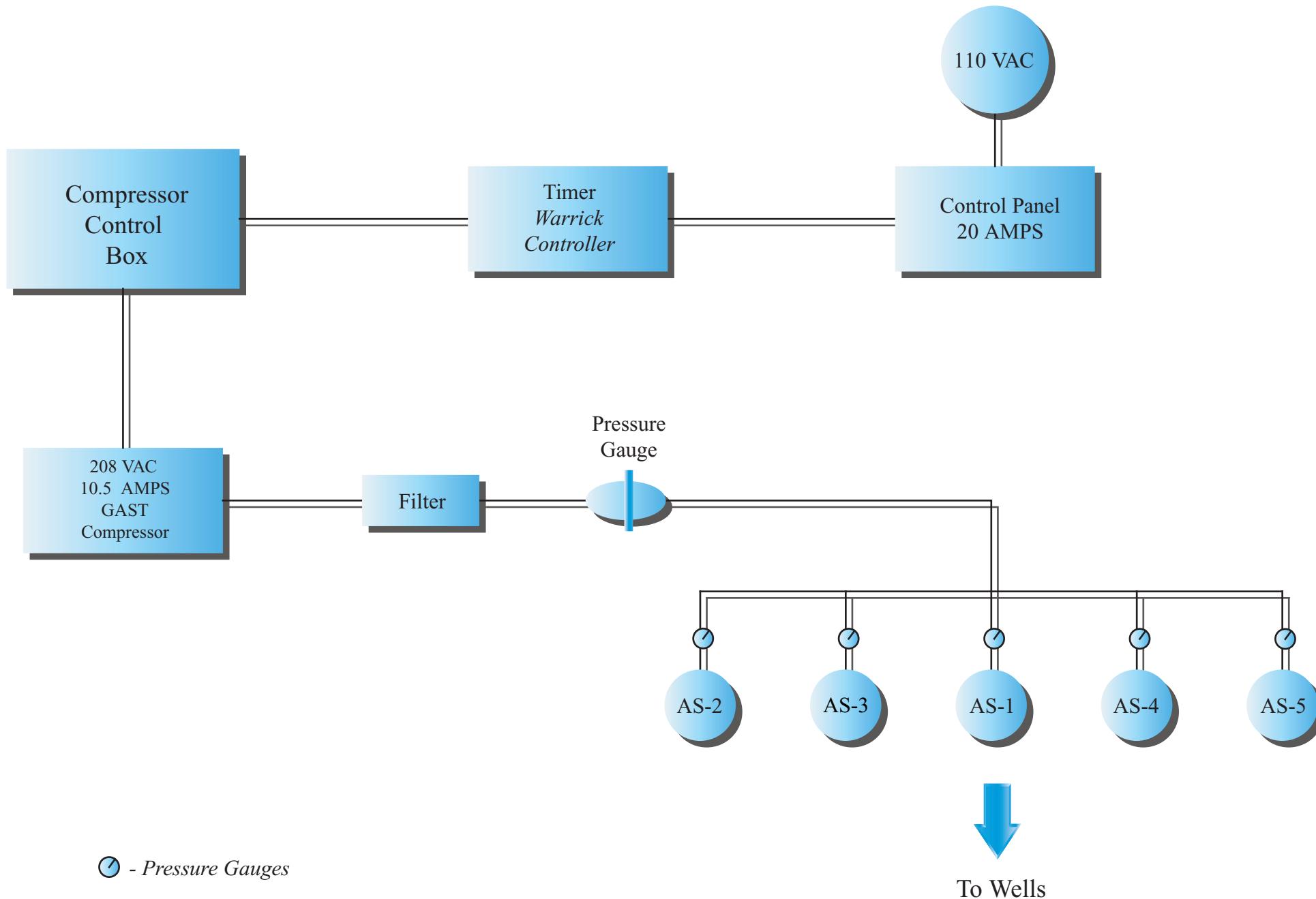


Figure 10: Block diagram of the Air Sparge System

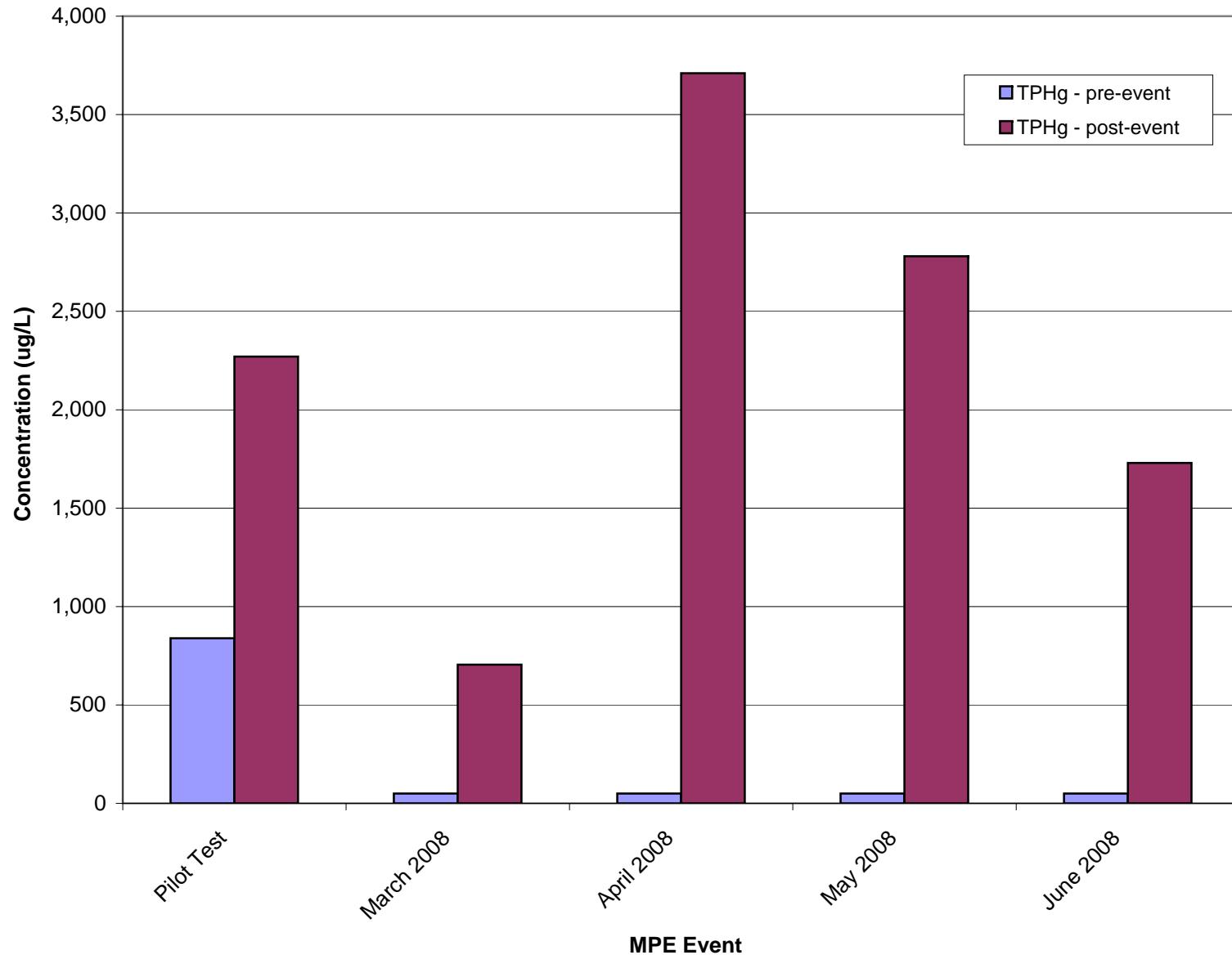


Figure 11: Dissolved-Phase Hydrocarbon Concentrations in Groundwater, TPH-g, Pre- and Post-MPE Event, MW-1

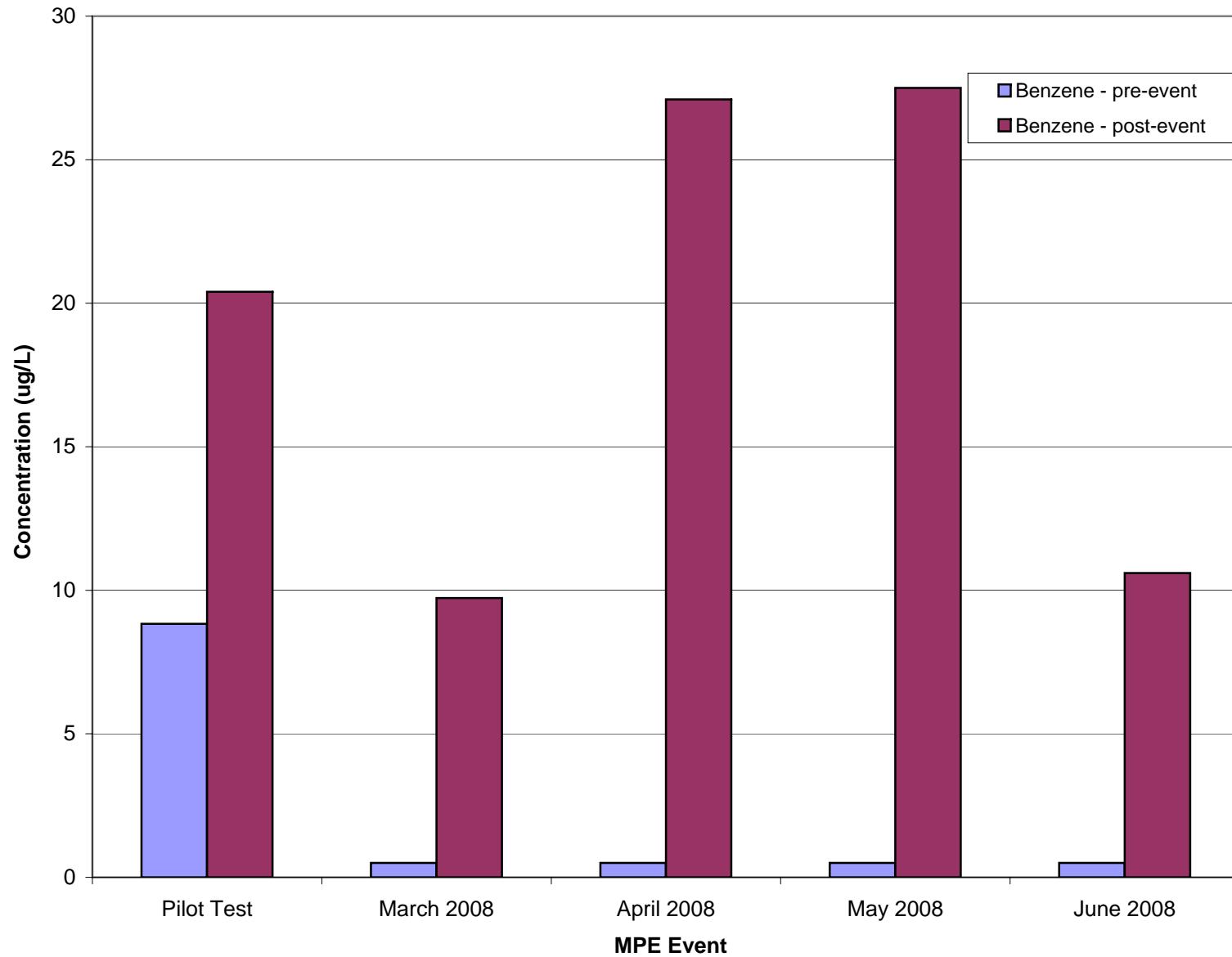


Figure 12: Dissolved-Phase Hydrocarbon Concentrations in Groundwater, Benzene, Pre- and Post-MPE Event, MW-1

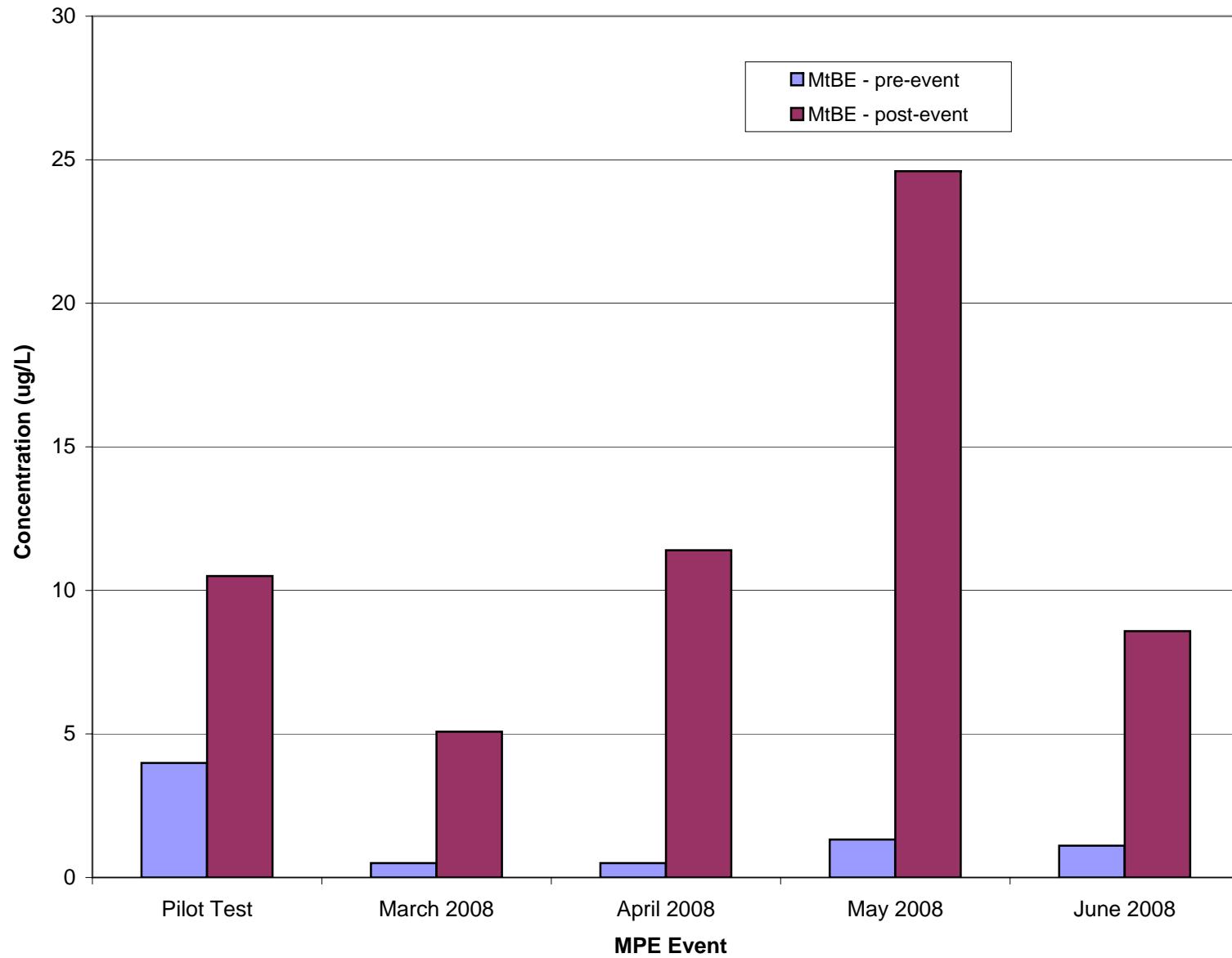


Figure 13: Dissolved-Phase Hydrocarbon Concentrations in Groundwater, MtBE, Pre- and Post-MPE Event, MW-1

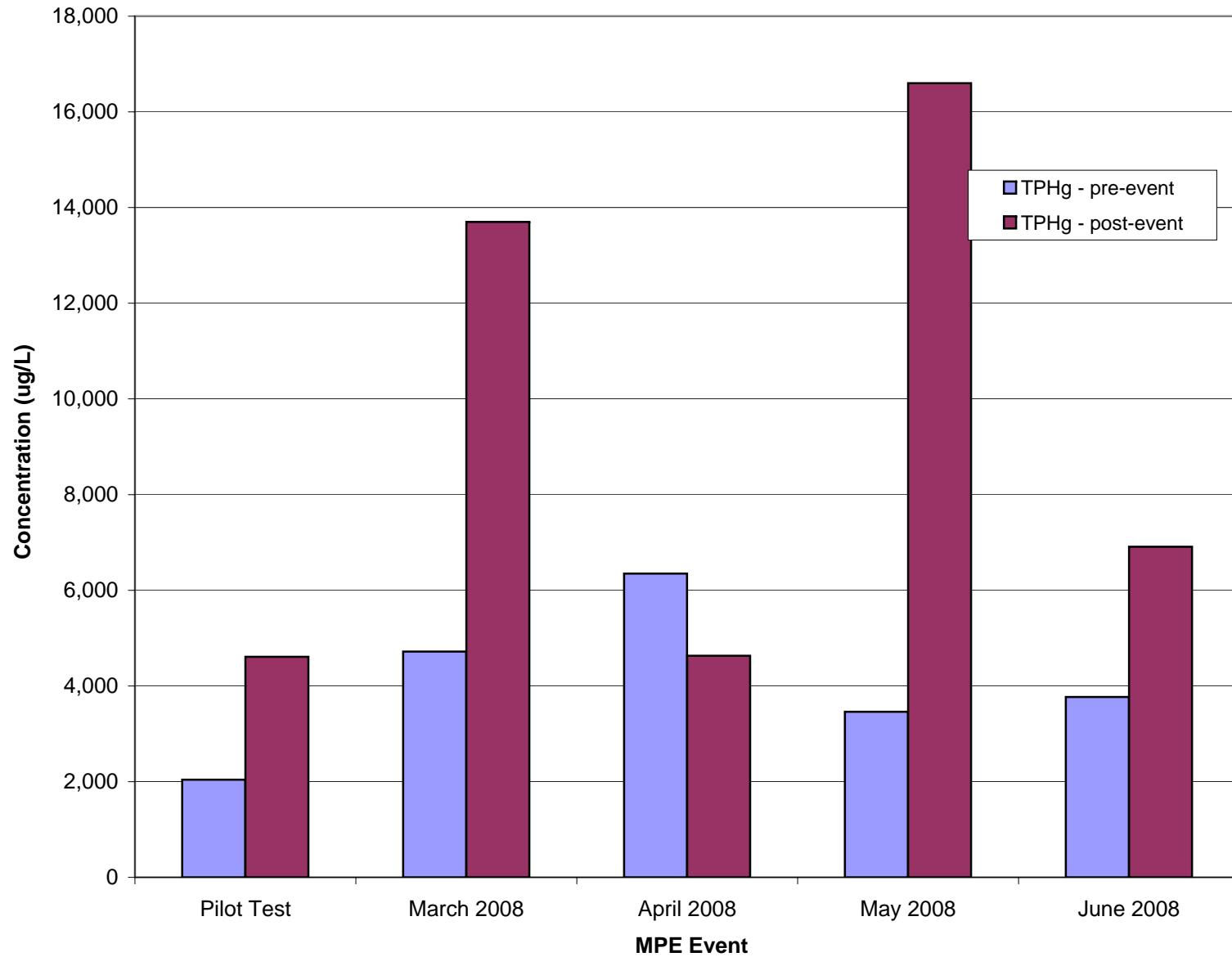


Figure 14: Dissolved-Phase Hydrocarbon Concentrations in Groundwater, TPH-g, Pre- and Post-MPE Event, MW-3

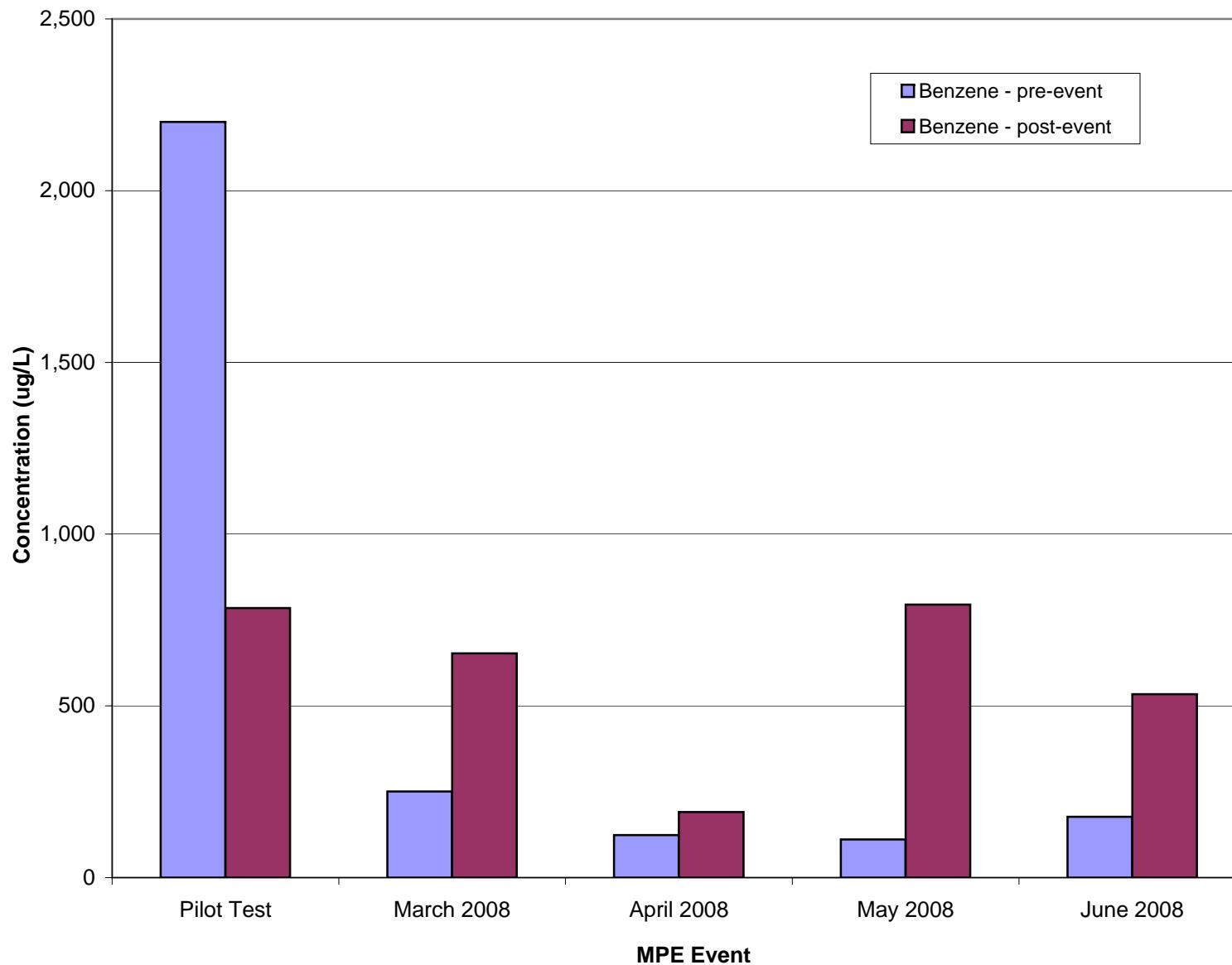


Figure 15: Dissolved-Phase Hydrocarbon Concentrations in Groundwater, Benzene, Pre- and Post-MPE Event, MW-3

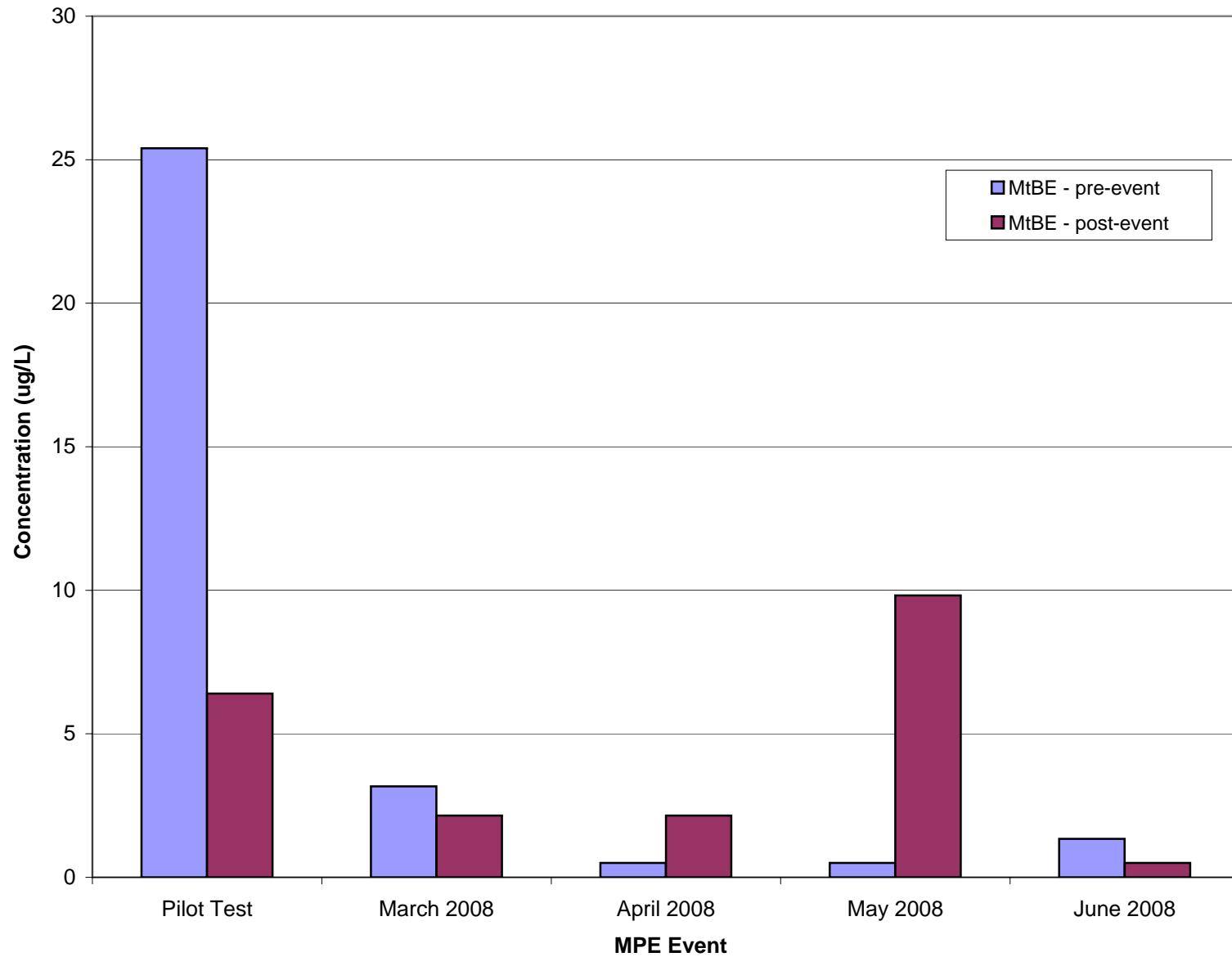


Figure 16: Dissolved-Phase Hydrocarbon Concentrations in Groundwater, MtBE, Pre- and Post-MPE Event, MW-3

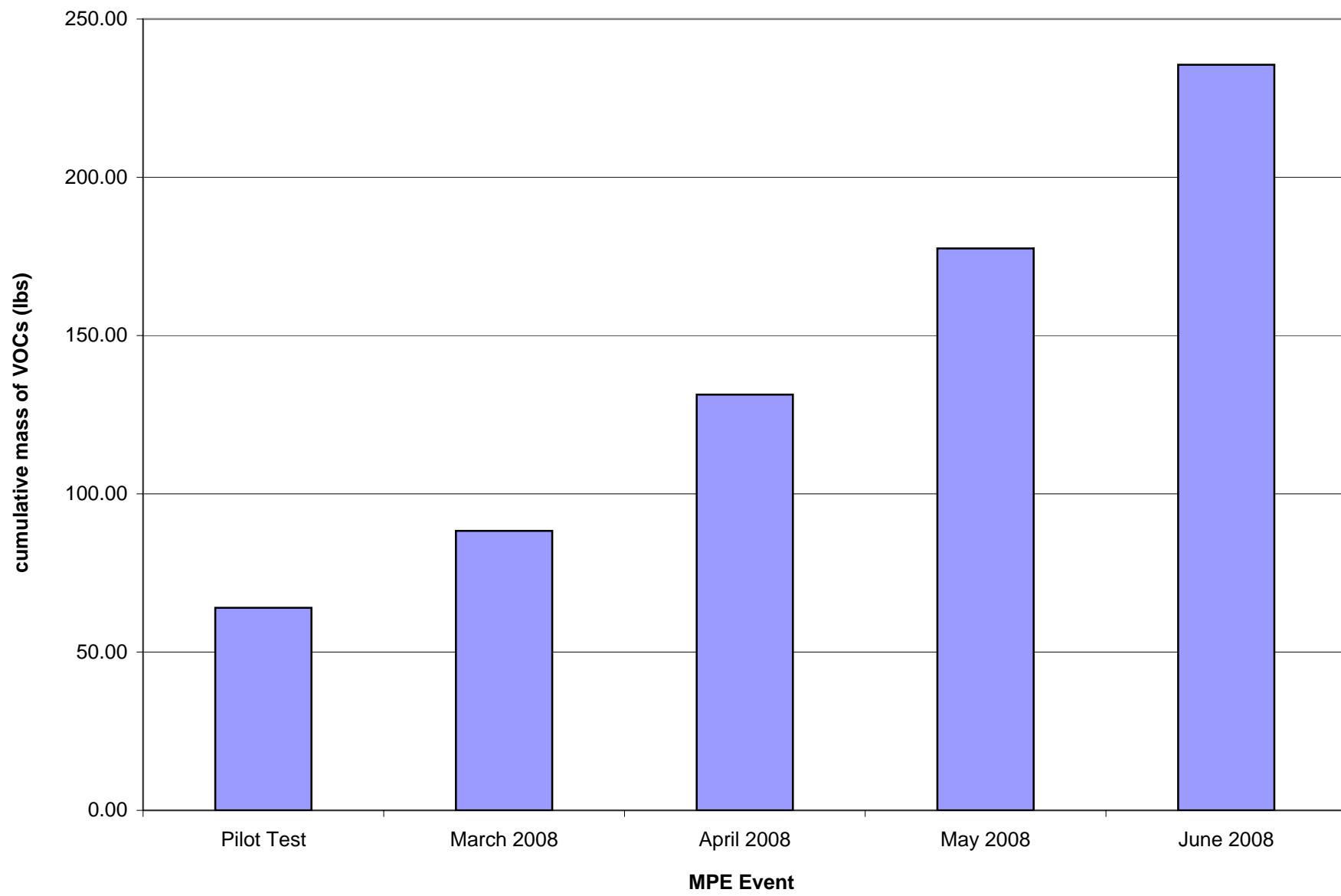


Figure 17: Cumulative Mass of VOCs Removed

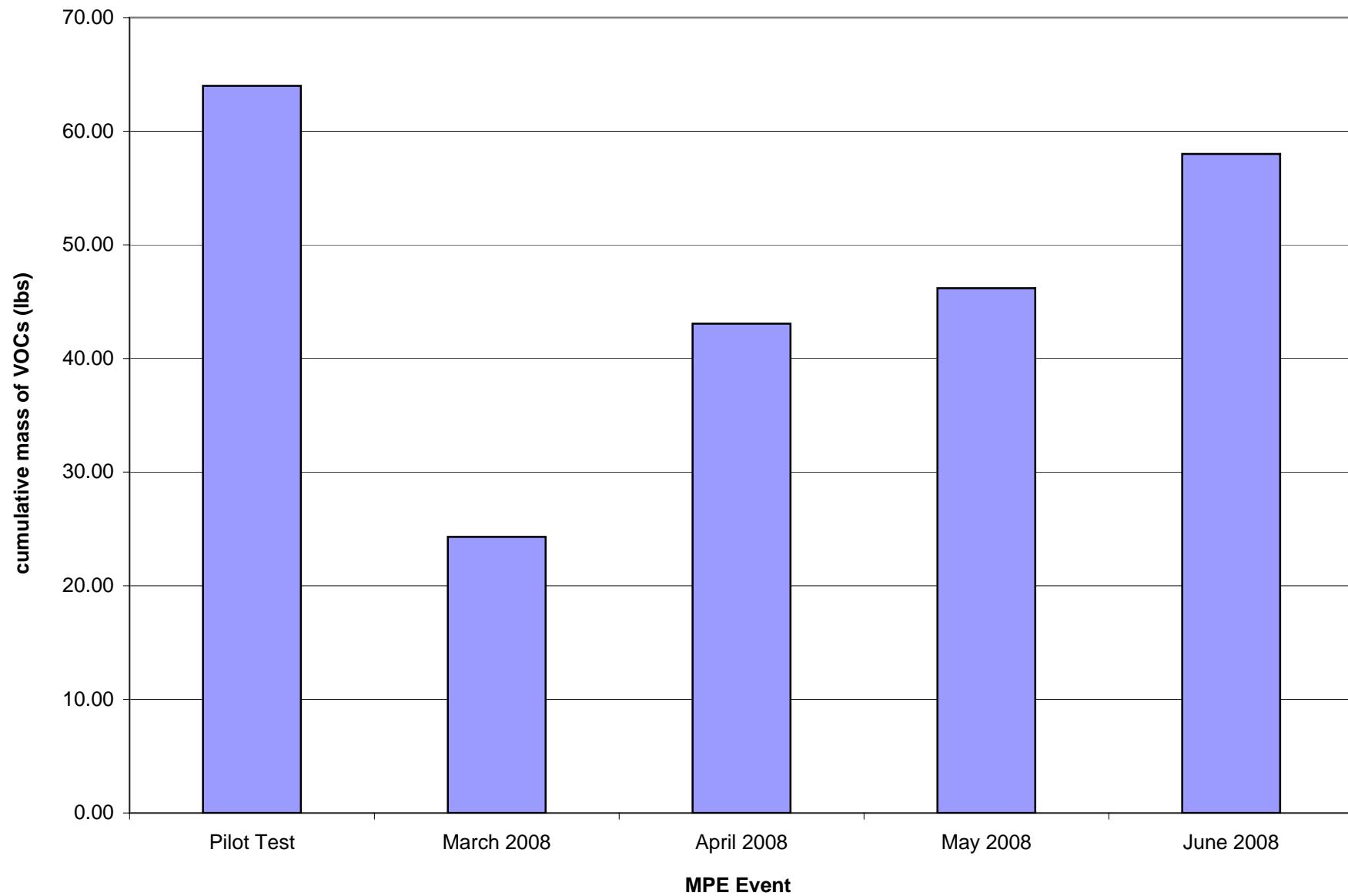


Figure 18: Mass of VOCs Removed Per Event

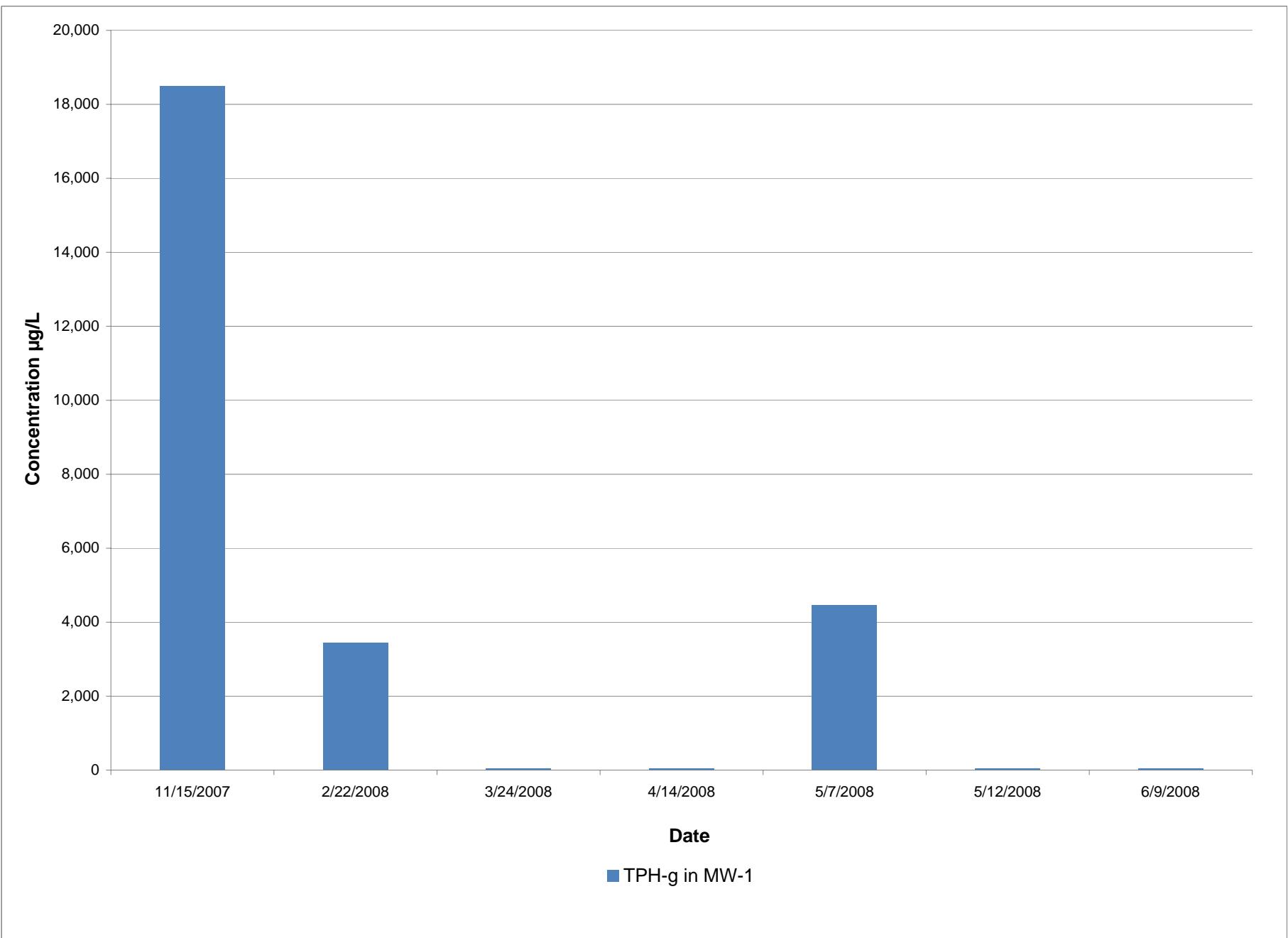


Figure 19: Comparison of TPH-g Concentrations in MW-1

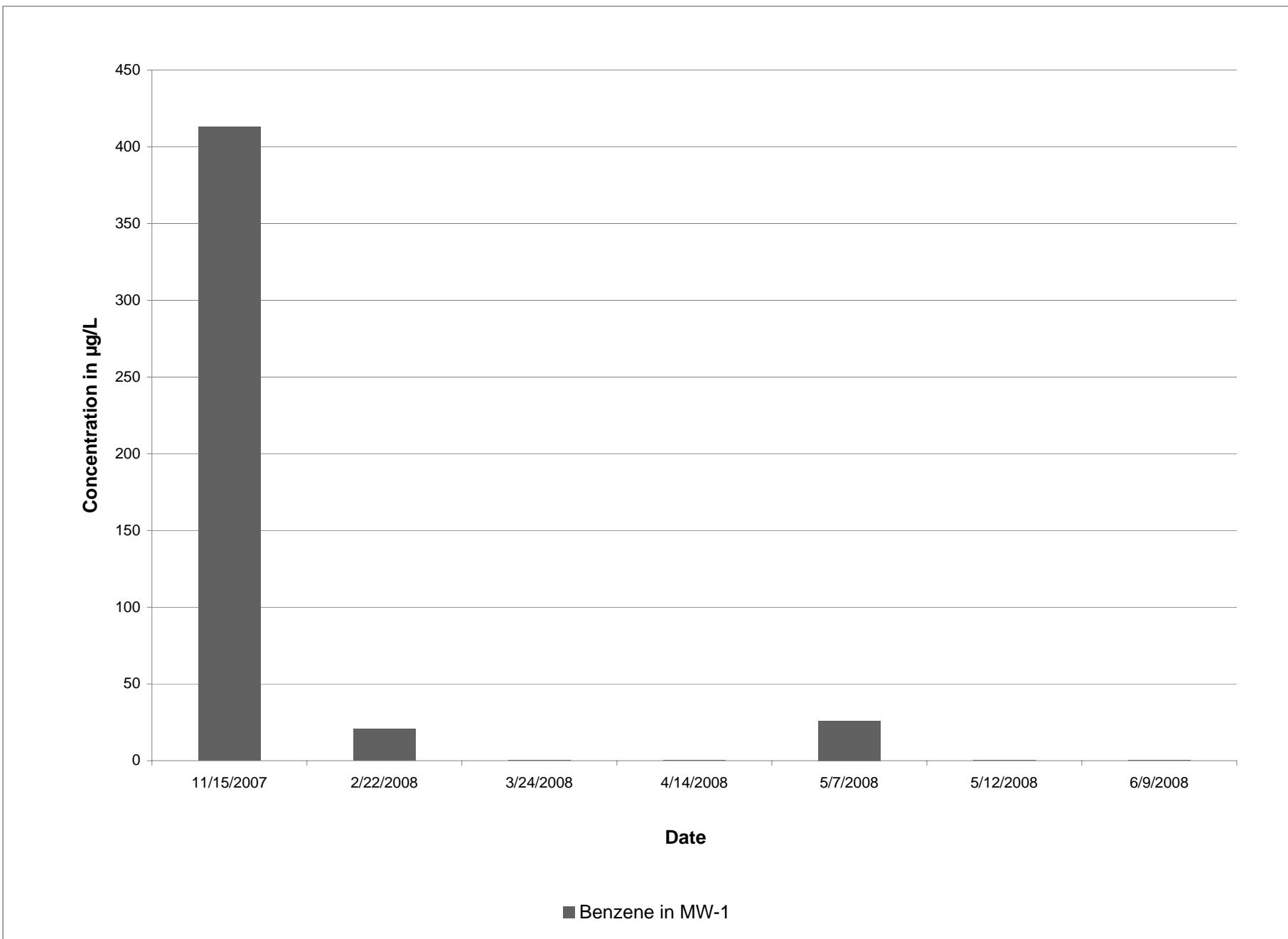


Figure 20: Comparison of Benzene Concentrations in MW-1

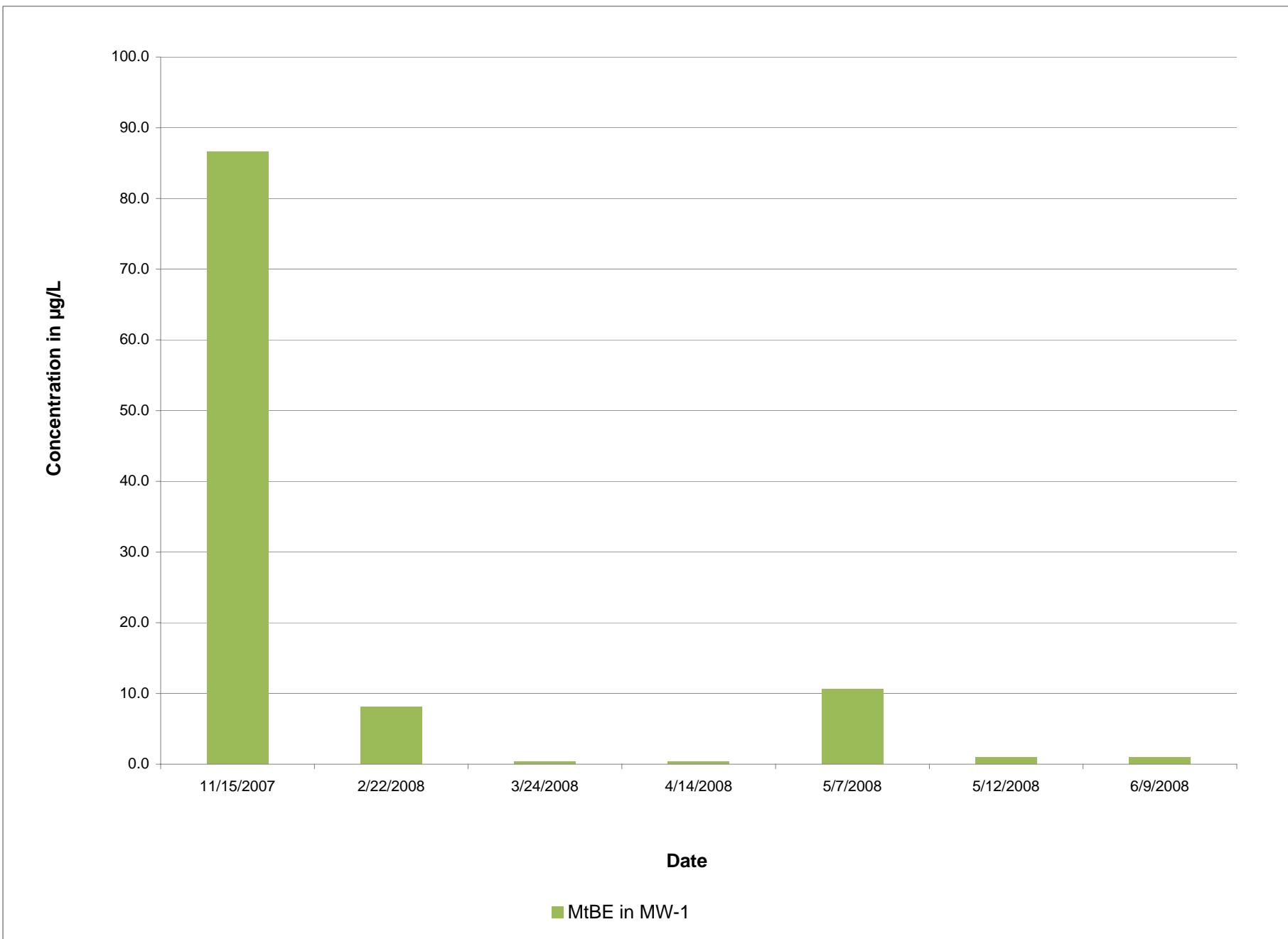


Figure 21: Comparison of MtBE Concentrations in MW-1

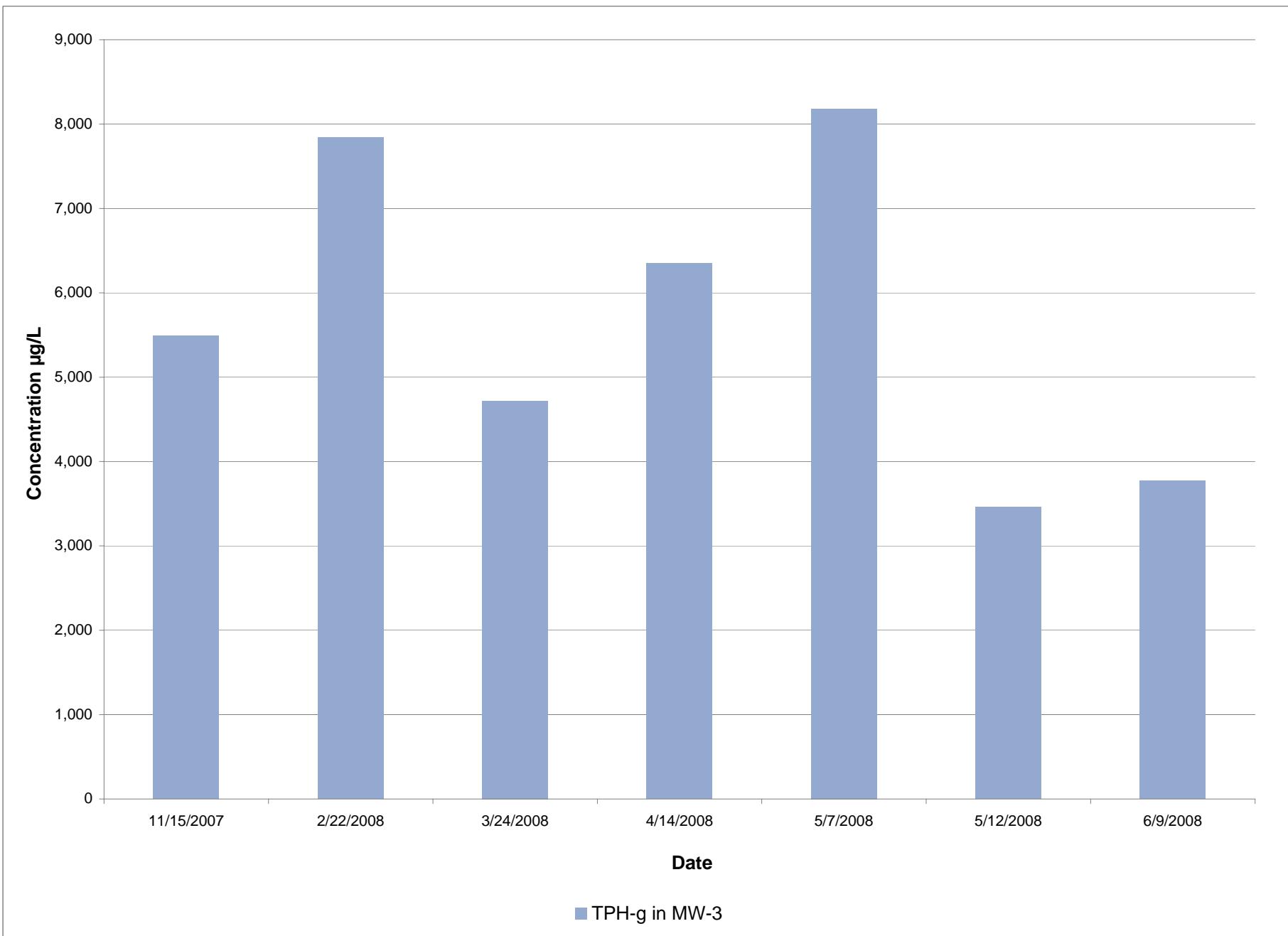


Figure 22: Comparison of TPH-g Concentrations in MW-3

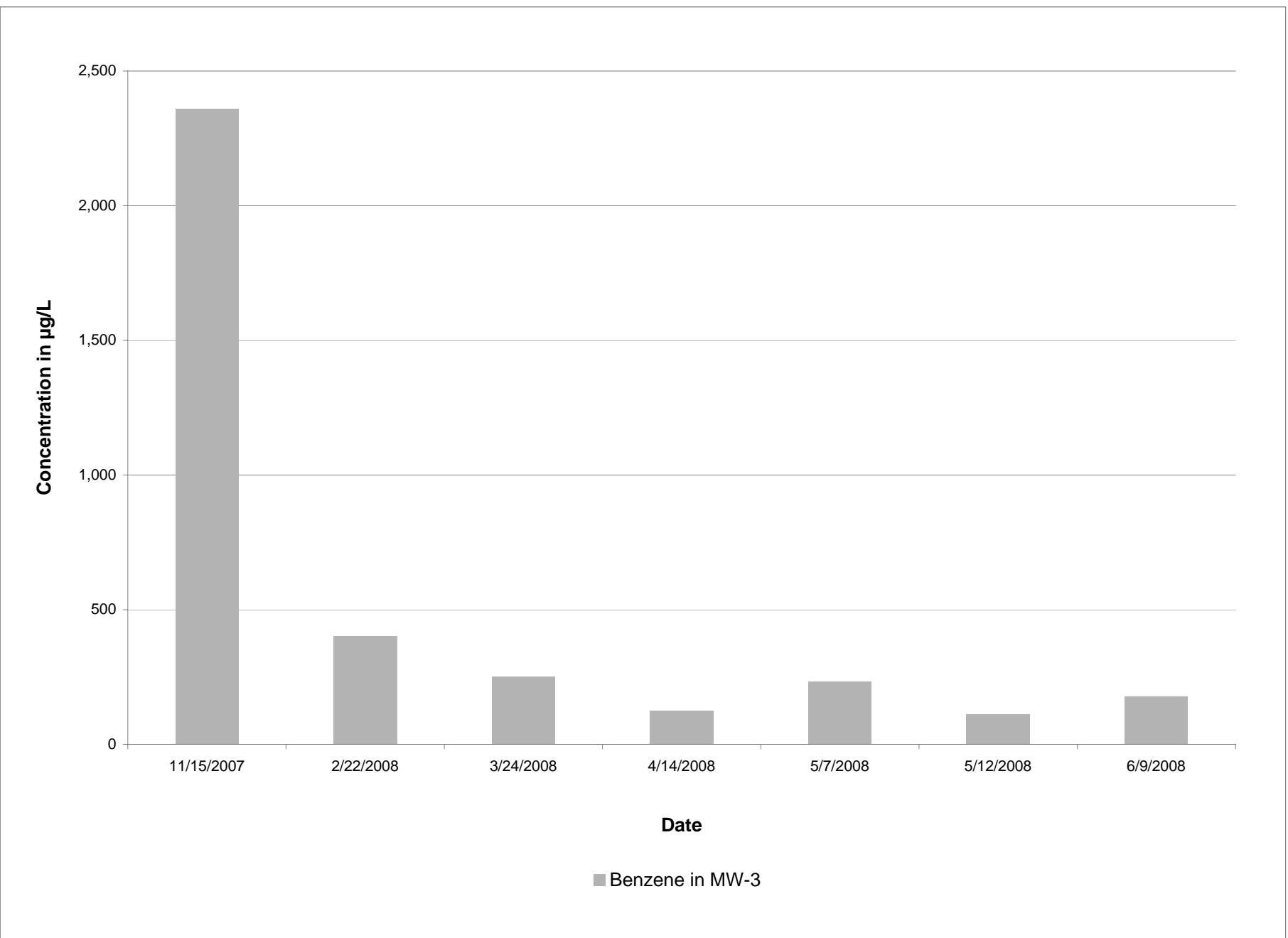


Figure 23: Comparison of Benzene Concentrations in MW-3

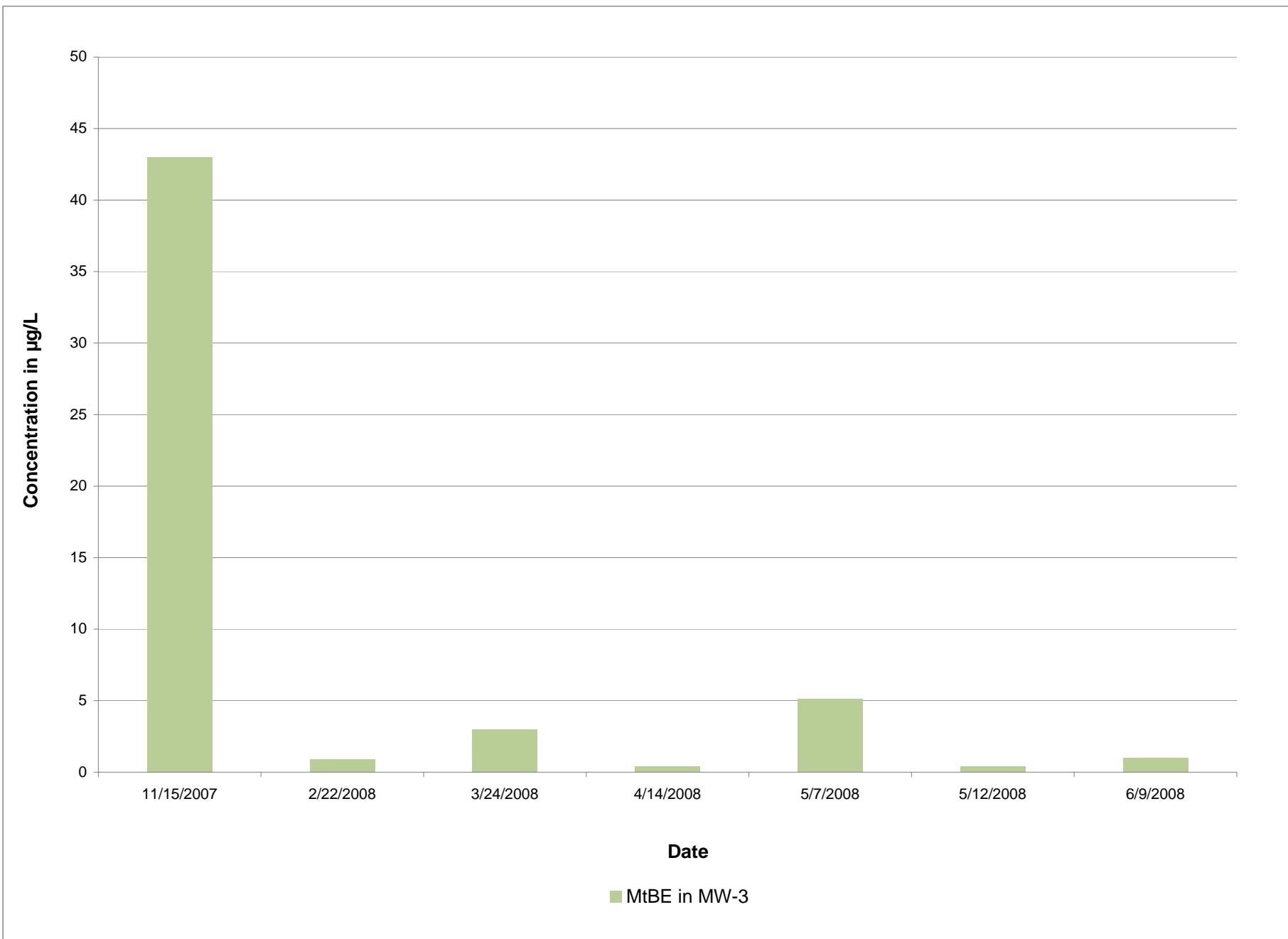


Figure 24: Comparison of MtBE Concentrations in MW-3

# **APPENDIX A**

## **Standard Operating Procedures for Conducting Groundwater Monitoring Activities**

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Second Quarter 2008: Groundwater Monitoring and Remediation System Operation Report  
with Evaluation of Effectiveness of Monthly MPE

SOMA Environmental Engineering, Inc.

## **Standard Operating Procedures for Conducting Groundwater Monitoring Activities**

Prior to measurement of groundwater depth at each well, equalization with the surrounding aquifer must be achieved. Initially, the well cap is removed and the pressure is allowed to dissipate, creating a more stable water table level within the well. After about 10-15 minutes, once the water level in the well stabilizes, the depth to groundwater is measured from the top of the casing to the nearest 0.01 foot using an electric sounder.

Prior to sample collection, each well is purged using a battery-operated, 2-inch-diameter pump (Model ES-60 DC). During purging, groundwater is measured for parameters such as dissolved oxygen (DO), pH, temperature, electrical conductivity (EC), and oxygen-reduction potential (ORP) using a Hanna HI-9828 multi-parameter instrument. Turbidity is measured using a Hanna HI-98703 portable turbidimeter. The equipment is calibrated at the Site using standard solutions and procedures provided by the manufacturer.

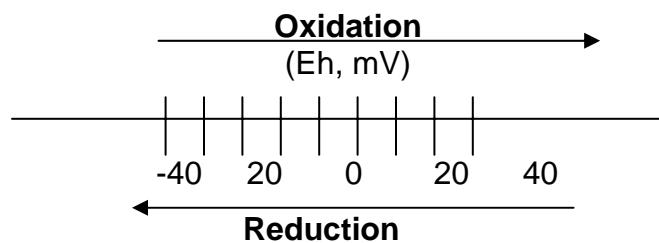
The pH of groundwater has an effect on the activity of microbial populations in the groundwater. The groundwater temperature affects the metabolic activity of bacteria. The groundwater EC is directly related to the concentration of total dissolved solids (TDS) in solution.

There is a strong correlation between the turbidity level and the biological oxygen demand of natural water bodies. The main purpose for checking the turbidity level is to provide a general overview of the extent of the suspended solids in the groundwater.

ORP is the measure of the potential for an oxidation or reduction process to occur. In the oxidation process, a molecule or ion loses one or several electrons. In the reduction process, a molecule or ion gains one or several electrons. The unit of the redox potential is the volt or millivolt. The most important redox reaction in petroleum-contaminated groundwater is the oxidation of petroleum hydrocarbons in the presence of bacteria and free molecular oxygen. Because the solubility of O<sub>2</sub> in water is low (9 mg/L at 25 °C and 11 mg/L at 5 °C), and because the rate of O<sub>2</sub> replenishment in subsurface environments is limited, DO can be entirely consumed when the oxidation of only a small amount of petroleum hydrocarbons occurs.

Oxidation of petroleum hydrocarbons can still occur when all the dissolved O<sub>2</sub> in the groundwater is consumed; however, the oxidizing agents (i.e., the constituents that undergo reduction) now become NO<sub>3</sub><sup>-</sup>, MnO<sub>2</sub>, Fe (OH)<sub>3</sub>, SO<sub>4</sub><sup>2-</sup> and others (Freeze and Cherry, 1979). As these oxidizing agents are consumed, the groundwater environment becomes more and more reduced. If the process advances far enough, the environment may become so strongly reduced that the

petroleum hydrocarbons undergo anaerobic degradation, resulting in the production of methane and carbon dioxide. The concept of oxidation and reduction in terms of changes in oxidation states is illustrated below.



Purging of wells continues until the parameters for DO, pH, temperature, EC, turbidity, and redox stabilize, or three casing volumes are purged.

Once stabilization occurs, the groundwater samples are also tested on-site for ferrous iron ( $\text{Fe}^{+2}$ ), nitrate ( $\text{NO}_3^-$ ), and sulfate ( $\text{SO}_4^{+2}$ ) concentrations.

$\text{Fe}^{+2}$ ,  $\text{NO}_3^-$ , and  $\text{SO}_4^{+2}$  are measured colorimetrically using the Hach Colorimeter Model 890, a microprocessor-controlled photometer suitable for colorimetric testing in the laboratory or the field. The required reagents for each specific test are provided in AccuVac ampuls.

For sampling purposes, after purging a disposable polyethylene bailer is used to collect sufficient samples from each monitoring well for laboratory analyses. Groundwater samples are transferred into 40-mL VOA vials and preserved with hydrochloric acid. The vials are sealed to prevent development of air bubbles within the headspace. For TPH-d analysis, groundwater samples are collected using 1-L, amber, nonpreserved glass containers. Samples are placed in an ice-filled cooler and maintained at 4°C. A chain of custody form is prepared to be delivered with the samples, which are delivered promptly to a California state-certified analytical laboratory.

# **Appendix B**

## **Table of Elevations and Coordinates of Monitoring Wells and Field Measurements of Physical, Chemical, and Biodegradation Parameters of Groundwater**

**TABLE OF ELEVATIONS & COORDINATES  
ON MONITORING WELLS**  
SOMA ENVIRONMENTAL  
Oakland-E. 14 the St. "International Blvd"

WELL NO.	NORTHING	EASTING	ELEVATION	DESCRIPTION
FD-C	2109299.85	6064039.85	39.35 40.25	Notch on north side of PVC Punch north rim of box
FD-E	2109281.13	6064067.87	40.06 40.55	Notch on north side of PVC Punch north rim of box
FD-W	2109314.99	6064017.59	39.16 39.95	Notch on north side of PVC Punch north rim of box
MW-1	2109338.74	6064025.97	40.11 40.76	Notch on north side of PVC Punch north rim of box
MW-2	2109383.20	6064073.06	40.71 41.61	Notch on north side of PVC Punch north rim of box
MW-3	2109351.11	6064064.63	40.91 41.68	Notch on north side of PVC Punch north rim of box
MW-4	2109278.18	6064076.40	40.01 40.67	Notch on north side of PVC Punch north rim of box
MW-5	2109410.84	6064058.46	41.16 41.60	Notch on south side of PVC Punch south rim of box
MW-6	2109320.46	6064105.06	40.92 41.52	Notch on north side of PVC Punch north rim of box
MW-7	2109368.19	6064025.54	39.94 40.54	Notch on north side of PVC Punch north rim of box
MW-8	2109321.68	6064000.46	39.38 39.72	Notch on north side of PVC Punch north rim of box

Kier Wright Civil Engineers Surveyors, Inc.  
1233 Quarry Lane, Suite 145, Pleasanton, CA 94566  
(925) 249-6555 (925) 249-6563

**TABLE OF ELEVATIONS & COORDINATES****ON MONITORING WELLS**

SOMA ENVIRONMENTAL

Oakland-E. 14 the St. "International Blvd"

WELL NO.	NORTHING	EASTING	ELEVATION	DESCRIPTION
MW-10	2109193.97	6063957.39	36.71 37.70	Notch on north side of PVC Punch north rim of box
MW-11	2109125.26	6064007.52	XXXX	<b>NO ELEVATION , BOAT ON TOP</b>
MW-12	2109121.85	6063865.00	36.84 36.87	Notch on north side of PVC

Bench mark: NGS Bench mark No.M 554. To reach the station from the intersection of Interstate Highway 880 and Hegenberger Rd in South Oakland go northeast on Hegenberger Rd for 0.5 MI to a side road right Baldwin St. Turn right and go south on Baldwin St for 0.35 MI to a T-intersection, 85th Ave. for 0.1 MI to a side road right, Railroad Ave. Turn right and go south on Railroad Ave. for 0.1 MI to the station on the left, east, side of the road in a large concrete headwall for a culvert.

Elevation = 14.20 NAVD88 Datum

Coordinate values are based on the California Coordinate System, Zone III NAD 83 Datum.

*Harrington Surveys Inc.*

*Land Surveying & Mapping*

2278 Larkey Lane, Walnut Creek, Ca. 94597 Phone (925)935-7228 Fax (925)935-5118  
Cell (925)788-7359 E-Mail (ben5132@pacbell.net)

SOMA ENVIRONMENTAL ENGINEERING  
2680 BISHOP DR. # 203  
SAN RAMON, CA. 94583

MAY 20, 2005

ATTN: ELENA

3609 INTERNATIONAL BLVD.  
OAKLAND CA.

**SURVEY REPORT**

CONTROLLING POINTS FRON SURVEY BY KIER & WRIGHT, DATED 08-27-02:

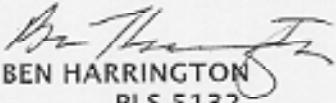
MW-5 NOTCH, CALIFORNIA COORDINATE SYSTEM, ZONE 3. NAD 83.  
NORTH 2,109,410.84 - EAST 6,064,058.45, LAT. N37°46'17.42024"  
W122°13'18.51054".  
ELEVATION 41.06, NAVD 88,

MW-7 NOTCH, CALIFORNIA COORDINATE SYSTEM, ZONE 3,  
NORTH 2,109,368.19 - EAST 6,064,025.54. LAT N37°46'30.32592",  
W122°13'18.88771"  
ELEVATION 39.94 NAVD 88,

INSTRUMENTATION:

TRIMBLE GPS, MODEL 5800 AND LEICA TCA 1800, 1" HORZ. & VERT.  
OBSERVATION: EPOCH = 180.

FIELD SURVEY: APRIL 20, 2005.

  
BEN HARRINGTON  
PLS 5132



**SURVEY REPORT  
3609 INTERNATIONAL BLVD  
OAKLAND CA.**

HARRINGTON SURVEYS INC.  
2278 LARKEY LN.  
WALNUT CREEK CA. 94597

05\20\05



**TABLE OF ELEVATIONS & COORDINATES**

DATE: 8/17/05

Job No. 07-014

DATE OF SURVEY 3/8/07

INSTRUMENTS: Leica SR530 L530, Leica -

TCRA 1102 - Total Station,

Leica - NA 3003 - Level

**3609 International Blvd., Oakland**

SOMA ENVIRONMENTAL, PROJECT # 2331

WELL ID #	NORTHING (FT.) / LATITUDE (D.M.S.)	EASTING (FT.) / LONGITUDE (D.M.S.)	ELEVATION (FT.)	DESCRIPTION
EX-1	2109341.80	6064034.13	40.51	Casing
			40.93	Vault
EX-1 DECIMAL DEGREES	37.7752931	-122.2218880		

**LOCAL CONTROL**

MW-7	2109368.62	6064025.48	39.94	Casing
	37.7753663	-122.2219197	40.54	Vault
MW-8	2109321.68	6064000.47	39.38	Casing
	37.7752361	-122.2220033	39.72	Vault

**NOTE**

THE VALUES FOR EX-1 ARE DERIVED FROM LOCAL CONTROL BASED UPON CONTROL VALUES

USED FROM THE PREVIOUS SITE SURVEY AS PROVIDED BY KIER AND WRIGHT DATED 08-27-2002

**BENCH MARK: NGS Bench mark No.M 554**

TO REACH THE STATION FROM THE INTERSECTION OF INTERSTATE HIGHWAY 880 AND HEGENBERGER RD IN SOUTH OAKLAND  
 GO NORTHEAST ON HEGENBERGER ROAD FOR 0.5MI TO A SITE ROAD RIGHT BALDWIN ST. TURN RIGHT AND GO SOUTH ON BALDWIN ST.  
 FOR 0.35MI TO A T-INTERSECTION, 85TH AVE. FOR 0.1MI TO A SIDE ROAD RIGHT, RAILROAD AVE. TURN RIGHT AND GO  
 SOUTH ON RAILROAD AVE. FOR 0.1MI TO THE STATION ON THE LEFT, EAST, SIDE OF THE ROAD IN A LARGE CONCRETE HEADWALL FOR A  
 CULVERT.

Coordinate values are based on the California Coordinate System, Zone III NAD 83 Datum.

Elevation = 14.20 FEET NAVD88 Datum



PLS Surveys, Inc.  
 2220 Livingston Street, Suite 202  
 Oakland, CA 94606  
 510.261.0900



Well No.: MW-1  
 Casing Diameter: 2 inch  
 Depth of Well: 30.00 ft  
 Top of Casing Elevation: 40.11 ft  
 Depth to Groundwater: 12.09 ft  
 Groundwater Elevation: 28.10 ft  
 Water Column Height: 17.91 ft  
 Purged Volume: 9 gallons

Project No.: 2331  
 Address: Tony's Express Auto Service  
 3609 International Blvd  
 Oakland, CA  
 Date: May 17, 2008  
 Sampler: Lizzie Hightower  
 Eric Gassner-Wollwage

Purging Method: Bailer  Pump

Sampling Method: Bailer  Pump

Color: No  Yes  Describe Cloudy

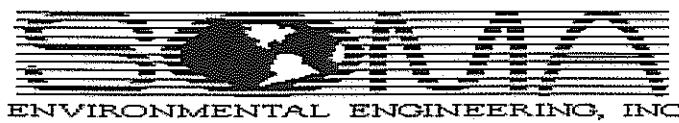
Sheen: No  Yes  Describe \_\_\_\_\_

Odor: No  Yes  Describe Slight Petro Odor

#### Field Measurements:

Time	Volume (gallons)	D.O. mg/L	pH	Temp °C	E.C. (µS/cm)	Turb. NTU	ORP	Fe <sup>+2</sup> (mg/L)	NO <sub>3</sub> - (mg/L)	SO <sub>4</sub> <sup>-2</sup> (mg/L)
10:43	Started purging				well					
10:44	3	0.55	6.59	19.04	326	84.8	-100.8			
10:45	6	0.73	6.69	19.93	298	999	-166.4			
10:46	9	0.81	6.71	20.21	302	361	-164.3			
10:49	Sampled							1.22	0	0

Notes:



Well No.: MW - 2 Project No.: 2331  
Casing Diameter: 4 inch Address: Tony's Express Auto Service  
Depth of Well: 31.00 ft 3609 International Blvd  
Top of Casing Elevation: 40.71 ft Oakland, CA  
Depth to Groundwater: 11.81 ft Date: May 7, 2008  
Groundwater Elevation: 28.90 ft Sampler: Lizzie Hightower  
Water Column Height: 19.19 ft Eric Gassner-Wollwage  
Purged Volume: 24 gallons

Purging Method: Bailer  Pump   
Sampling Method: Bailer  Pump   
Color: No  Yes  Describe \_\_\_\_\_  
Sheen: No  Yes  Describe \_\_\_\_\_  
Odor: No  Yes  Describe \_\_\_\_\_

#### Field Measurements:

Time	Volume (gallons)	D.O. mg/L	pH	Temp °C	E.C. (µS/cm)	Turb. NTU	ORP	Fe <sup>+2</sup> (mg/L)	NO <sub>3</sub> <sup>-</sup> (mg/L)	SO <sub>4</sub> <sup>-2</sup> (mg/L)
10:19	Started purging well									
10:20	3	0.64	6.53	20.44	283	14.2	+20.9			
10:22	9	0.63	6.44	20.07	307	24.3	+18.2			
10:24	15	0.55	6.42	20.11	292	31.5	+17.1			
10:26	21	0.58	6.37	20.14	299	51.6	+16.5			
10:27	24	0.63	6.37	20.20	300	65.9	-3.5			
10:30	Sampled							0.15	0	0

Notes:



ENVIRONMENTAL ENGINEERING, INC

Well No.: MW - 3  
Casing Diameter: 4 inch  
Depth of Well: 31.50 ft  
Top of Casing Elevation: 40.91 ft  
Depth to Groundwater: 12.69 ft  
Groundwater Elevation: 28.22 ft  
Water Column Height: 18.81 ft  
Purged Volume: 24 gallons

Project No.: 2331  
Address: Tony's Express Auto Service  
3609 International Blvd  
Oakland, CA  
Date: May ~~17~~, 2008  
Sampler: Lizzie Hightower  
Eric Gassner-Wollwage

Purging Method: Bailer  Pump

Sampling Method: Bailer  Pump

Color: No  Yes  Describe \_\_\_\_\_

Sheen: No  Yes  Describe Rainbow sheen

Odor: No  Yes  Describe petro

#### Field Measurements:

Time	Volume (gallons)	D.O. mg/L	pH	Temp °C	E.C. (µS/cm)	Turb. NTU	ORP	Fe <sup>+2</sup> (mg/L)	NO <sub>3</sub> <sup>-</sup> (mg/L)	SO <sub>4</sub> <sup>-2</sup> (mg/L)
11:31	Started	purging well								
11:32	3	0.4	6.80	20.42	521	22.2	-222.8			
11:34	9	0.13	6.78	20.44	521	19.1	-239.4			
11:36	15	0.09	6.93	20.39	512	55.2	-242.2			
11:38	21	0.10	6.80	20.46	514	99.7	-242.1			
11:39	24	0.10	6.78	20.52	520	151	-241.1			
11:43	Sampled							3.15	0	0

Notes:



ENVIRONMENTAL ENGINEERING, INC

Well No.: MW-4R  
 Casing Diameter: 2 inch  
 Depth of Well: 26.00 ft  
 Top of Casing Elevation: 40.34 ft  
 Depth to Groundwater: 12.17 ft  
 Groundwater Elevation: 28.17 ft  
 Water Column Height: 13.83 ft  
 Purged Volume: 9 gallons

Project No.: 2331  
 Address: Tony's Express Auto Service  
 3609 International Blvd  
 Oakland, CA  
 Date: May 6-~~X~~ 2008  
 Sampler: Lizzie Hightower  
 Eric Gassner-Wollwage

Purging Method: Bailer

Pump

Sampling Method: Bailer

Pump

Color: No  Yes  Describe Cloudy

Sheen: No  Yes  Describe

Odor: No  Yes  Describe

#### Field Measurements:

Time	Volume (gallons)	D.O. mg/L	pH	Temp °C	E.C. (µS/cm)	Turb. NTU	ORP	Fe <sup>+2</sup> (mg/L)	NO <sub>3</sub> <sup>-</sup> (mg/L)	SO <sub>4</sub> <sup>-2</sup> (mg/L)
12:24	5	0.24	7.05	18.96	559	67.3	-78.4			
12:27	3	0.23	7.05	18.96	559	67.3	-78.4			
12:28	6	0.22	6.97	18.93	566	103	-96.2			
12:29	9	0.23	6.99	19.04	565	362	-111.6			
12:32	Sampled							0	0	0

Notes:

## ENVIRONMENTAL ENGINEERING, INC

Well No.: MW-5 Project No.: 2331  
 Casing Diameter: 2 inch Address: Tony's Express Auto Service  
 Depth of Well: 26.20 ft 3609 International Blvd  
 Top of Casing Elevation: 41.16 ft Oakland, CA  
 Depth to Groundwater: 12.06 ft Date: May 6-~~X~~ 2008  
 Groundwater Elevation: 29.10 ft Sampler: Lizzie Hightower  
 Water Column Height: 14.14 ft Eric Gassner-Wollwage  
 Purged Volume: 9 gallons

Purging Method: Bailer  Pump

Sampling Method: Bailer  Pump

Color: No  Yes  Describe \_\_\_\_\_

Sheen: No  Yes  Describe \_\_\_\_\_

Odor: No  Yes  Describe \_\_\_\_\_

## Field Measurements:

Time	Volume (gallons)	D.O. mg/L	pH	Temp °C	E.C. (µS/cm)	Turb. NTU	ORP	Fe <sup>+2</sup> (mg/L)	NO <sub>3</sub> <sup>-</sup> (mg/L)	SO <sub>4</sub> <sup>-2</sup> (mg/L)
13.15	Started purging well									
13.16	3	0.20	6.68	20.63	695	38.0	-56.9			
13.17	6	0.17	6.69	20.47	668	36.3	-89.1			
13.18	9	0.20	6.73	20.57	651	32.5	-128.9			
13.21	Sampled							0.05	0	9

Notes:

## ENVIRONMENTAL ENGINEERING, INC

Well No.: MW-6 Project No.: 2331  
 Casing Diameter: 2 inch Address: Tony's Express Auto Service  
 Depth of Well: 25.00 ft 3609 International Blvd  
 Top of Casing Elevation: 40.92 ft Oakland, CA  
 Depth to Groundwater: 12.47 ft Date: May ~~27~~, 2008  
 Groundwater Elevation: 28.45 ft Sampler: Lizzie Hightower  
 Water Column Height: 12.53 ft Eric Gassner-Wollwage  
 Purged Volume: 6 gallons

Purging Method: Bailer  Pump

Sampling Method: Bailer  Pump

Color: No  Yes  Describe Gray

Sheen: No  Yes  Describe Slight rainbow

Odor: No  Yes  Describe Petro

## Field Measurements:

Time	Volume (gallons)	D.O. mg/L	pH	Temp °C	E.C. ( $\mu$ S/cm)	Turb. NTU	ORP	$Fe^{+2}$ (mg/L)	$NO_3^-$ (mg/L)	$SO_4^{+2}$ (mg/L)
11:08	Started purging well									
11:09	3	0.49	6.72	19.4	644	63.4	-226.0			
11:10	6	0.46	6.67	19.59	627	155	-213.6			
11:14	Sampled							136	0	0

## Notes:



ENVIRONMENTAL ENGINEERING, INC.

Well No.: MW-7  
 Casing Diameter: 2 inch  
 Depth of Well: 26.00 ft  
 Top of Casing Elevation: 39.94 ft  
 Depth to Groundwater: 11.31 ft  
 Groundwater Elevation: 28.63 ft  
 Water Column Height: 14.69 ft  
 Purged Volume: 9 gallons

Project No.: 2331  
 Address: Tony's Express Auto Service  
 3609 International Blvd  
 Oakland, CA  
 Date: May 6, 2008  
 Sampler: Lizzie Hightower  
 Eric Gassner-Wollwage

Purging Method: Bailer  Pump

Sampling Method: Bailer  Pump

Color: No  Yes  Describe Cloudy

Sheen: No  Yes  Describe

Odor: No  Yes  Describe

#### Field Measurements:

Time	Volume (gallons)	D.O. mg/L	pH	Temp °C	E.C. (µS/cm)	Turb. NTU	ORP	Fe <sup>+2</sup> (mg/L)	NO <sub>3</sub> - (mg/L)	SO <sub>4</sub> <sup>-2</sup> (mg/L)
12:50	Started purging well									
12:51	3	0.23	6.92	20.47	588	33.2	-38.8			
12:52	6	0.16	6.84	20.34	622	59.1	-39.4			
12:53	9	0.74	6.86	21.14	600	1000	-35.2			
12:56	Sampled							0.31	0	17

Notes:

## ENVIRONMENTAL ENGINEERING, INC

Well No.: MW-8 Project No.: 2331  
 Casing Diameter: 2 inch Address: Tony's Express Auto Service  
 Depth of Well: 26.50 ft 3609 International Blvd  
 Top of Casing Elevation: 39.38 ft Oakland, CA  
 Depth to Groundwater: 11.41 ft Date: May 6, 2008  
 Groundwater Elevation: 27.97 ft Sampler: Lizzie Hightower  
 Water Column Height: 15.09 ft Eric Gassner-Wollwage  
 Purged Volume: 9 gallons

Purging Method: Bailer  Pump

Sampling Method: Bailer  Pump

Color: No  Yes  Describe Very Slightly Cloudy

Sheen: No  Yes  Describe

Odor: No  Yes  Describe Very Slight Petro

## Field Measurements:

Time	Volume (gallons)	D.O. mg/L	pH	Temp °C	E.C. (µS/cm)	Turb. NTU	ORP	Fe <sup>+2</sup> (mg/L)	NO <sub>3</sub> <sup>-</sup> (mg/L)	SO <sub>4</sub> <sup>-2</sup> (mg/L)
11:53	Started purging well									
11:54	3	0.20	7.80	19.15	630	67.4	-204.5			
11:55	6	0.10	7.65	19.43	622	150	-222.7			
11:56	9	0.08	7.60	19.49	621	197	-231.5			
11:59	Sampled							0.84	0	0

## Notes:



Well No.: MW-10 Project No.: 2331  
Casing Diameter: 2 inch Address: Tony's Express Auto Service  
Depth of Well: 23.40 ft 3609 International Blvd  
Top of Casing Elevation: 36.71 ft Oakland, CA  
Depth to Groundwater: 10.19 ft Date: May 6~~X~~ 2008  
Groundwater Elevation: 24.52 ft Sampler: Lizzie Hightower  
Water Column Height: 13.21 ft Eric Gassner-Wollwage  
Purged Volume: 6 gallons

Purging Method: Bailer  Pump

Sampling Method: Bailer  Pump

Color: No  Yes  Describe \_\_\_\_\_

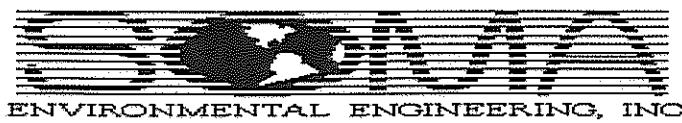
Sheen: No  Yes  Describe \_\_\_\_\_

Odor: No  Yes  Describe \_\_\_\_\_

#### Field Measurements:

Time	Volume (gallons)	D.O. mg/L	pH	Temp °C	E.C. (µS/cm)	Turb. NTU	ORP	Fe <sup>+2</sup> (mg/L)	NO <sub>3</sub> <sup>-</sup> (mg/L)	SO <sub>4</sub> <sup>-2</sup> (mg/L)
11:22	Started purging well									
11:23	3	0.11	6.71	18.5P	618	22.0	-65.1			
11:24	6	0.09	6.74	18.5P	623	13.6	-99.9			
11:27	Sampled							0 0 0	0 0 0	

Notes:



ENVIRONMENTAL ENGINEERING, INC

Well No.: MW-11 Project No.: 2331  
Casing Diameter: \_\_\_\_\_ inch Address: Tony's Express Auto Service  
Depth of Well: \_\_\_\_\_ ft 3609 International Blvd  
Top of Casing Elevation: \_\_\_\_\_ ft Oakland, CA  
Depth to Groundwater: \_\_\_\_\_ ft Date: May 6-~~X~~ 2008  
Groundwater Elevation: \_\_\_\_\_ ft Sampler: Lizzie Hightower  
Water Column Height: \_\_\_\_\_ ft Eric Gassner-Wollwage  
Purged Volume: \_\_\_\_\_ gallons

Not purged

Purging Method: Bailer  Pump

Sampling Method: Bailer  Pump  Not sampled

Color: No  Yes  Describe Unknown

Sheen: No  Yes  Describe Unknown

Odor: No  Yes  Describe Unknown

#### Field Measurements:

Time	Volume (gallons)	D.O. mg/L	pH	Temp °C	E.C. (µS/cm)	Turb. NTU	ORP	Fe <sup>+2</sup> (mg/L)	NO <sub>3</sub> <sup>-</sup> (mg/L)	SO <sub>4</sub> <sup>-2</sup> (mg/L)
Gate w/ access to well locked - unable to get to well.										
measurments or take a sample.										

Notes:

## ENVIRONMENTAL ENGINEERING, INC

Well No.: MW-12  
 Casing Diameter: 4 inch  
 Depth of Well: 30.00 ft  
 Top of Casing Elevation: 36.84 ft  
 Depth to Groundwater: 10.85 ft  
 Groundwater Elevation: 25.99 ft  
 Water Column Height: 19.15 ft  
 Purged Volume: 24 gallons

Project No.: 2331  
 Address: Tony's Express Auto Service  
 3609 International Blvd  
 Oakland, CA  
 Date: May 6~~X~~ 2008  
 Sampler: Lizzie Hightower  
 Eric Gassner-Wollwage

Purging Method: Bailer  Pump

Sampling Method: Bailer  Pump

Color: No  Yes  Describe \_\_\_\_\_

Sheen: No  Yes  Describe \_\_\_\_\_

Odor: No  Yes  Describe Very Slight Petro Odor

## Field Measurements:

Time	Volume (gallons)	D.O. mg/L	pH	Temp °C	E.C. (µS/cm)	Turb. NTU	ORP	Fe <sup>+2</sup> (mg/L)	NO <sub>3</sub> <sup>-</sup> (mg/L)	SO <sub>4</sub> <sup>-2</sup> (mg/L)
10:52	Started purging well									
10:53	3	1.22	6.86	19.42	205	12.2	-214.4			
10:55	9	0.61	6.81	19.44	257	14.7	-221.1			
10:57	15	0.28	6.84	19.50	440	8.46	-223.1			
10:59	21	0.33	6.80	19.56	444	11.0	-218.7			
11:00	24	0.39	6.78	19.56	423	11.5	-215.9			
11:04	Sampled							1.42	0	0

Notes:



ENVIRONMENTAL ENGINEERING, INC

Well No.: French Drain      F.D. Center      Project No.: 2331  
Casing Diameter:      4 inch      Address: Tony's Express Auto Service  
Depth of Well:      NM ft      3609 International Blvd  
Top of Casing Elevation:      39.35 ft      Oakland, CA  
Depth to Groundwater:      14.95 ft      Date: May 6-X 2008  
Groundwater Elevation:      24.40 ft      Sampler: Lizzie Hightower  
Water Column Height:      NM ft      Eric Gassner-Wollwage  
Purged Volume:      — gallons  
                                Not purged

Purging Method:      Bailer       Pump

Sampling Method:      Bailer       Pump  Not sampled

Color:      No       Yes  Describe Unknown

Sheen:      No       Yes  Describe Unknown

Odor:      No       Yes  Describe Unknown

#### Field Measurements:

Time	Volume (gallons)	D.O. mg/L	pH	Temp °C	E.C. ( $\mu$ S/cm)	Turb. NTU	ORP	Fe <sup>+2</sup> (mg/L)	NO <sub>3</sub> <sup>-</sup> (mg/L)	SO <sub>4</sub> <sup>-2</sup> (mg/L)

#### Notes:

French Drain Center Riser is part of the remedial system, only water measurement taken.



ENVIRONMENTAL ENGINEERING, INC

Well No.: French  
Drain

F.D. EAST

Casing Diameter: 4 inch

Project No.: 2331

Depth of Well: NM ft

Address: Tony's Express Auto Service

Top of Casing Elevation: 40.06 ft

3609 International Blvd

Depth to Groundwater: 12.42 ft

Oakland, CA

Groundwater Elevation: 27.64 ftDate: May 6-~~X~~ 2008Water Column Height: NM ft

Sampler: Lizzie Hightower

Purged Volume:    gallons

Eric Gassner-Wollwage

Not purged

Purging Method: Bailer  Pump Sampling Method: Bailer  Pump  Not sampledColor: No  Yes  Describe UnknownSheen: No  Yes  Describe UnknownOdor: No  Yes  Describe Unknown

## Field Measurements:

Time	Volume (gallons)	D.O. mg/L	pH	Temp °C	E.C. ( $\mu$ S/cm)	Turb. NTU	ORP	$Fe^{+2}$ (mg/L)	$NO_3^-$ (mg/L)	$SO_4^{2-}$ (mg/L)

Notes: French Drain East Riser is part of the French Drain, however, no active pump is within riser. Only water measurement taken.



ENVIRONMENTAL ENGINEERING, INC

Well No.: French  
Drain

F.D. West

Casing Diameter: 4 inchDepth of Well: NM ftTop of Casing Elevation: 39.16 ftDepth to Groundwater: 12.01 ftGroundwater Elevation: 27.15 ftWater Column Height: NM ft

Purged Volume: \_\_\_\_\_ gallons

Project No.: 2331

Address: Tony's Express Auto Service

3609 International Blvd

Oakland, CA

Date: May 6-~~X~~ 2008

Sampler: Lizzie Hightower

Eric Gassner-Wollwage

No + purged

Purging Method: Bailer  Pump Sampling Method: Bailer  Pump  Not sampledColor: No  Yes  Describe UnknownSheen: No  Yes  Describe UnknownOdor: No  Yes  Describe Unknown

## Field Measurements:

Time	Volume (gallons)	D.O. mg/L	pH	Temp °C	E.C. (µS/cm)	Turb. NTU	ORP	Fe <sup>+2</sup> (mg/L)	NO <sub>3</sub> <sup>-</sup> (mg/L)	SO <sub>4</sub> <sup>-2</sup> (mg/L)

## Notes:

French Drain west Riser is part of the remedial system, only water measurement taken.

## ENVIRONMENTAL ENGINEERING, INC

Well No.: EX-1 Project No.: 2331  
 Casing Diameter: 4 inch Address: Tony's Express Auto Service  
 Depth of Well: NM ft 3609 International Blvd  
 Top of Casing Elevation: 40.51 ft Oakland, CA  
 Depth to Groundwater: 17.38 ft Date: May 6-X, 2008  
 Groundwater Elevation: 23.13 ft Sampler: Lizzie Hightower  
 Water Column Height: NM ft Eric Gassner-Wollwage  
 Purged Volume:    gallons  
*Not purged*

Purging Method: Bailer  Pump

Sampling Method: Bailer  Pump  *NOT sampled*

Color: No  Yes  Describe Unknown

Sheen: No  Yes  Describe Unknown

Odor: No  Yes  Describe Unknown

## Field Measurements:

Time	Volume (gallons)	D.O. mg/L	pH	Temp °C	E.C. ( $\mu$ S/cm)	Turb. NTU	ORP	$Fe^{+2}$ (mg/L)	$NO_3^-$ (mg/L)	$SO_4^{-2}$ (mg/L)

Notes: Extraction well EX-1 is part of  
the remedial system

# **Appendix C**

## **Chain of Custody Form and Laboratory Report**

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Second Quarter 2008: Groundwater Monitoring and Remediation System Operation Report  
with Evaluation of Effectiveness of Monthly MPE

SOMA Environmental Engineering, Inc.

# CHAIN OF CUSTODY FORM

Page 1 of 1

**PAL** Pacific Analytical Laboratory  
 851 West Midway Ave., Suite 201B  
 Alameda, CA 94501  
 510-864-0364 Telephone  
 510-864-0365 Fax

**PAL**  
 Login# 805 0010

Project No: 2331				Sampler: Lizzie Hightower / Eric Gassner-Wollwage								Analyses/Method				
Project Name: 3609 International Blvd Oakland				Report To: Joyce Bobek												
				Company: SOMA Environmental Engineering, Inc.												
Turnaround Time: Standard				Tel: 925-734-6400 Fax: 925-734-6401												
		Sampling Date/Time		Matrix		# of Containers	Preservatives		Field Notes							
Lab No.	Sample ID	Date	Time	Soil	Water	Waste	HCl	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	ICE						
MW-1	5/7/08	10:49	X	3 VOAS	X		X				Grab Sample					X
MW-2	5/7/08	10:30	X	3 VOAS	X		X									X
MW-3	5/7/08	11:43	X	3 VOAS	X		X									X
MW-4R	5/6/08	12:32	X	3 VOAS	X		X									X
MW-5	5/6/08	13:21	X	3 VOAS	X		X									X
MW-6	5/7/08	11:14	X	3 VOAS	X		X									X
MW-7	5/6/08	12:56	X	3 VOAS	X		X									X
MW-8	5/6/08	11:59	X	3 VOAS	X		X									X
MW-10	5/6/08	11:27	X	3 VOAS	X		X									X
MW-11	5/6/08	11:04	X	3 VOAS	X		X				Grab Sample					X
MW-12	5/6/08	11:04	X	3 VOAS	X		X									X
Sampler Remarks:				Relinquished by:				Date/Time:		Received by:		Date/Time:				
EDF REQUIRED				E. Hightower				5/7/08 13:30		V. Vasquez		5/7/08 13:30				



PAL  
Pacific Analytical Laboratory

851 West Midway Ave. Suite 201

Alameda, CA 94501

Phone (510) 864-0364

---

02 June 2008

Mansour Sepehr  
SOMA Environmental Engineering Inc.  
6620 Owens Drive, Suite A  
Pleasanton, CA 94588

RE: 3609 International Blvd, Oakland

Work Order Number: 8050010

This Laboratory report has been reviewed for technical correctness and completeness. This entire report was reviewed and approved by the Laboratory Director or the Director's designee, as verified by the following signature.

Sincerely,

A handwritten signature in black ink, appearing to read "Maiid Akhavan".

---

Maiid Akhavan  
Laboratory Director



SOMA Environmental Engineering Inc.  
6620 Owens Drive, Suite A  
Pleasanton CA, 94588

Project: 3609 International Blvd, Oakland  
Project Number: 2331  
Project Manager: Mansour Sepehr

**Reported:**  
02-Jun-08 19:07

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-1	8050010-01	Water	07-May-08 10:49	07-May-08 13:30
MW-2	8050010-02	Water	07-May-08 10:30	07-May-08 13:30
MW-3	8050010-03	Water	07-May-08 11:43	07-May-08 13:30
MW-4R	8050010-04	Water	06-May-08 12:32	07-May-08 13:30
MW-5	8050010-05	Water	06-May-08 13:21	07-May-08 13:30
MW-6	8050010-06	Water	07-May-08 11:14	07-May-08 13:30
MW-7	8050010-07	Water	06-May-08 12:56	07-May-08 13:30
MW-8	8050010-08	Water	06-May-08 11:59	07-May-08 13:30
MW-10	8050010-09	Water	06-May-08 11:27	07-May-08 13:30
MW-12	8050010-10	Water	06-May-08 11:04	07-May-08 13:30

SOMA Environmental Engineering Inc.  
6620 Owens Drive, Suite A  
Pleasanton CA, 94588

Project: 3609 International Blvd, Oakland

Project Number: 2331  
Project Manager: Mansour Sepehr

**Reported:**  
02-Jun-08 19:07

### Volatile Organic Compounds by EPA Method 8260B

#### Pacific Analytical Laboratory

Analyte	Result	Reporting	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>MW-1 (8050010-01RE1) Water Sampled: 07-May-08 10:49 Received: 07-May-08 13:30</b>										
Gasoline (C6-C12)	4470	100	ug/l	2	BE81501	08-May-08	14-May-08	"	EPA 8260B	
Benzene	26.1	1.00	"	"	"	"	"	"	"	
Ethylbenzene	57.6	1.00	"	"	"	"	"	"	"	
m&p-Xylene	394	4.00	"	"	"	"	"	"	"	
o-xylene	70.6	1.00	"	"	"	"	"	"	"	
Toluene	14.8	4.00	"	"	"	"	"	"	"	
MTBE	10.6	1.00	"	"	"	"	"	"	"	
Surrogate: 4-Bromofluorobenzene	114 %		70-130		"	"	"	"	"	
Surrogate: Dibromofluoromethane	118 %		70-130		"	"	"	"	"	
Surrogate: Perdeuterotoluene	113 %		70-130		"	"	"	"	"	
<b>MW-2 (8050010-02) Water Sampled: 07-May-08 10:30 Received: 07-May-08 13:30</b>										
Gasoline (C6-C12)	1510	50.0	ug/l	1	BE81501	08-May-08	12-May-08	"	EPA 8260B	
Benzene	3.80	0.500	"	"	"	"	"	"	"	
Ethylbenzene	135	0.500	"	"	"	"	"	"	"	
m&p-Xylene	85.6	2.00	"	"	"	"	"	"	"	
o-xylene	6.58	0.500	"	"	"	"	"	"	"	
Toluene	5.55	2.00	"	"	"	"	"	"	"	
MTBE	ND	0.500	"	"	"	"	"	"	"	
Surrogate: 4-Bromofluorobenzene	113 %		70-130		"	"	"	"	"	
Surrogate: Dibromofluoromethane	120 %		70-130		"	"	"	"	"	
Surrogate: Perdeuterotoluene	113 %		70-130		"	"	"	"	"	
<b>MW-3 (8050010-03RE1) Water Sampled: 07-May-08 11:43 Received: 07-May-08 13:30</b>										
Gasoline (C6-C12)	8180	215	ug/l	4.3	BE81501	08-May-08	14-May-08	"	EPA 8260B	
Benzene	232	2.15	"	"	"	"	"	"	"	
Ethylbenzene	208	2.15	"	"	"	"	"	"	"	
m&p-Xylene	769	8.60	"	"	"	"	"	"	"	
o-xylene	173	2.15	"	"	"	"	"	"	"	
Toluene	66.7	8.60	"	"	"	"	"	"	"	
MTBE	5.11	2.15	"	"	"	"	"	"	"	
Surrogate: 4-Bromofluorobenzene	115 %		70-130		"	"	"	"	"	
Surrogate: Dibromofluoromethane	120 %		70-130		"	"	"	"	"	
Surrogate: Perdeuterotoluene	113 %		70-130		"	"	"	"	"	

Pacific Analytical Laboratory

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

SOMA Environmental Engineering Inc.  
6620 Owens Drive, Suite A  
Pleasanton CA, 94588

Project: 3609 International Blvd, Oakland

Project Number: 2331  
Project Manager: Mansour Sepehr

**Reported:**  
02-Jun-08 19:07

### Volatile Organic Compounds by EPA Method 8260B

#### Pacific Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>MW-4R (8050010-04) Water Sampled: 06-May-08 12:32 Received: 07-May-08 13:30</b>									
Gasoline (C6-C12)	68.9	50.0	ug/l	1	BE81501	08-May-08	12-May-08	EPA 8260B	
Benzene	3.12	0.500	"	"	"	"	"	"	"
Ethylbenzene	0.650	0.500	"	"	"	"	"	"	"
m&p-Xylene	ND	2.00	"	"	"	"	"	"	"
o-xylene	ND	0.500	"	"	"	"	"	"	"
Toluene	ND	2.00	"	"	"	"	"	"	"
MTBE	ND	0.500	"	"	"	"	"	"	"
Surrogate: 4-Bromofluorobenzene	108 %	70-130		"	"	"	"	"	"
Surrogate: Dibromofluoromethane	123 %	70-130		"	"	"	"	"	"
Surrogate: Perdeuterotoluene	111 %	70-130		"	"	"	"	"	"
<b>MW-5 (8050010-05) Water Sampled: 06-May-08 13:21 Received: 07-May-08 13:30</b>									
Gasoline (C6-C12)	300	50.0	ug/l	1	BE81501	08-May-08	12-May-08	EPA 8260B	
Benzene	ND	0.500	"	"	"	"	"	"	"
Ethylbenzene	ND	0.500	"	"	"	"	"	"	"
m&p-Xylene	ND	2.00	"	"	"	"	"	"	"
o-xylene	ND	0.500	"	"	"	"	"	"	"
Toluene	ND	2.00	"	"	"	"	"	"	"
MTBE	0.520	0.500	"	"	"	"	"	"	"
Surrogate: 4-Bromofluorobenzene	108 %	70-130		"	"	"	"	"	"
Surrogate: Dibromofluoromethane	119 %	70-130		"	"	"	"	"	"
Surrogate: Perdeuterotoluene	110 %	70-130		"	"	"	"	"	"
<b>MW-6 (8050010-06) Water Sampled: 07-May-08 11:14 Received: 07-May-08 13:30</b>									
Gasoline (C6-C12)	8700	100	ug/l	2	BE81501	08-May-08	14-May-08	EPA 8260B	
Benzene	125	1.00	"	"	"	"	"	"	"
Ethylbenzene	365	1.00	"	"	"	"	"	"	"
m&p-Xylene	199	4.00	"	"	"	"	"	"	"
o-xylene	10.3	1.00	"	"	"	"	"	"	"
Toluene	10.3	4.00	"	"	"	"	"	"	"
MTBE	ND	1.00	"	"	"	"	"	"	"
Surrogate: 4-Bromofluorobenzene	117 %	70-130		"	"	"	"	"	"
Surrogate: Dibromofluoromethane	116 %	70-130		"	"	"	"	"	"
Surrogate: Perdeuterotoluene	111 %	70-130		"	"	"	"	"	"

SOMA Environmental Engineering Inc.  
6620 Owens Drive, Suite A  
Pleasanton CA, 94588

Project: 3609 International Blvd, Oakland

Project Number: 2331

Project Manager: Mansour Sepehr

**Reported:**  
02-Jun-08 19:07

### Volatile Organic Compounds by EPA Method 8260B

#### Pacific Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>MW-7 (8050010-07) Water Sampled: 06-May-08 12:56 Received: 07-May-08 13:30</b>									
Gasoline (C6-C12)	ND	50.0	ug/l	1	BE81501	08-May-08	13-May-08	EPA 8260B	
Benzene	ND	0.500	"	"	"	"	"	"	"
Ethylbenzene	ND	0.500	"	"	"	"	"	"	"
m&p-Xylene	ND	2.00	"	"	"	"	"	"	"
o-xylene	ND	0.500	"	"	"	"	"	"	"
Toluene	ND	2.00	"	"	"	"	"	"	"
MTBE	ND	0.500	"	"	"	"	"	"	"
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>108 %</i>		<i>70-130</i>						
<i>Surrogate: Dibromofluoromethane</i>	<i>124 %</i>		<i>70-130</i>						
<i>Surrogate: Perdeuterotoluene</i>	<i>110 %</i>		<i>70-130</i>						
<b>MW-8 (8050010-08) Water Sampled: 06-May-08 11:59 Received: 07-May-08 13:30</b>									
Gasoline (C6-C12)	<b>3490</b>	50.0	ug/l	1	BE81501	08-May-08	13-May-08	EPA 8260B	
Benzene	<b>20.3</b>	0.500	"	"	"	"	"	"	"
Ethylbenzene	<b>90.3</b>	0.500	"	"	"	"	"	"	"
m&p-Xylene	ND	2.00	"	"	"	"	"	"	"
o-xylene	<b>0.770</b>	0.500	"	"	"	"	"	"	"
Toluene	<b>2.38</b>	2.00	"	"	"	"	"	"	"
MTBE	<b>21.8</b>	0.500	"	"	"	"	"	"	"
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>117 %</i>		<i>70-130</i>						
<i>Surrogate: Dibromofluoromethane</i>	<i>117 %</i>		<i>70-130</i>						
<i>Surrogate: Perdeuterotoluene</i>	<i>111 %</i>		<i>70-130</i>						
<b>MW-10 (8050010-09) Water Sampled: 06-May-08 11:27 Received: 07-May-08 13:30</b>									
Gasoline (C6-C12)	<b>2510</b>	50.0	ug/l	1	BE81501	08-May-08	13-May-08	EPA 8260B	
Benzene	<b>161</b>	0.500	"	"	"	"	"	"	"
Ethylbenzene	<b>130</b>	0.500	"	"	"	"	"	"	"
m&p-Xylene	ND	2.00	"	"	"	"	"	"	"
o-xylene	ND	0.500	"	"	"	"	"	"	"
Toluene	<b>3.36</b>	2.00	"	"	"	"	"	"	"
MTBE	<b>23.0</b>	0.500	"	"	"	"	"	"	"
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>114 %</i>		<i>70-130</i>						
<i>Surrogate: Dibromofluoromethane</i>	<i>121 %</i>		<i>70-130</i>						
<i>Surrogate: Perdeuterotoluene</i>	<i>111 %</i>		<i>70-130</i>						



SOMA Environmental Engineering Inc.  
6620 Owens Drive, Suite A  
Pleasanton CA, 94588

Project: 3609 International Blvd, Oakland

Project Number: 2331  
Project Manager: Mansour Sepehr

Reported:  
02-Jun-08 19:07

### Volatile Organic Compounds by EPA Method 8260B

#### Pacific Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>MW-12 (8050010-10) Water Sampled: 06-May-08 11:04 Received: 07-May-08 13:30</b>									
<b>Gasoline (C6-C12)</b>	<b>742</b>	50.0	ug/l	1	BE81501	08-May-08	13-May-08	EPA 8260B	
Benzene	ND	0.500	"	"	"	"	"	"	"
<b>Ethylbenzene</b>	<b>0.700</b>	0.500	"	"	"	"	"	"	"
m&p-Xylene	ND	2.00	"	"	"	"	"	"	"
o-xylene	ND	0.500	"	"	"	"	"	"	"
Toluene	ND	2.00	"	"	"	"	"	"	"
<b>MTBE</b>	<b>8.92</b>	0.500	"	"	"	"	"	"	"
Surrogate: 4-Bromofluorobenzene	111 %	70-130		"	"	"	"	"	"
Surrogate: Dibromofluoromethane	117 %	70-130		"	"	"	"	"	"
Surrogate: Perdeuterotoluene	111 %	70-130		"	"	"	"	"	"



SOMA Environmental Engineering Inc.  
6620 Owens Drive, Suite A  
Pleasanton CA, 94588

Project: 3609 International Blvd, Oakland

Project Number: 2331  
Project Manager: Mansour Sepehr

Reported:  
02-Jun-08 19:07

### Volatile Organic Compounds by EPA Method 8260B - Quality Control

#### Pacific Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD RPD	RPD Limit	Notes
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#### Batch BE81501 - EPA 5030 Water MS

##### Blank (BE81501-BLK1)

Prepared & Analyzed: 15-May-08

Surrogate: 4-Bromofluorobenzene	52.1	ug/l	50.0	104	70-130
Surrogate: Dibromofluoromethane	63.0	"	50.0	126	70-130
Surrogate: Perdeuterotoluene	55.4	"	50.0	111	70-130
Gasoline (C6-C12)	ND	50.0	"		
Benzene	ND	0.500	"		
Ethylbenzene	ND	0.500	"		
m&p-Xylene	ND	2.00	"		
o-xylene	ND	0.500	"		
Toluene	ND	2.00	"		
MTBE	ND	0.500	"		

##### LCS (BE81501-BS1)

Prepared & Analyzed: 15-May-08

Surrogate: 4-Bromofluorobenzene	48.2	ug/l	50.0	96.4	70-130
Surrogate: Dibromofluoromethane	47.4	"	50.0	94.8	70-130
Surrogate: Perdeuterotoluene	47.5	"	50.0	95.0	70-130
Gasoline (C6-C12)	2030	50.0	"	102	70-130
Benzene	88.5	0.500	"	88.5	70-130
Toluene	86.0	2.00	"	86.0	70-130
MTBE	77.8	0.500	"	77.8	70-130

##### LCS Dup (BE81501-BSD1)

Prepared & Analyzed: 15-May-08

Surrogate: 4-Bromofluorobenzene	49.0	ug/l	50.0	98.0	70-130
Surrogate: Dibromofluoromethane	47.6	"	50.0	95.2	70-130
Surrogate: Perdeuterotoluene	49.1	"	50.0	98.2	70-130
Gasoline (C6-C12)	1990	50.0	"	99.5	70-130
Benzene	92.9	0.500	"	92.9	70-130
Toluene	89.7	2.00	"	89.7	70-130
MTBE	74.8	0.500	"	74.8	70-130



SOMA Environmental Engineering Inc.  
6620 Owens Drive, Suite A  
Pleasanton CA, 94588

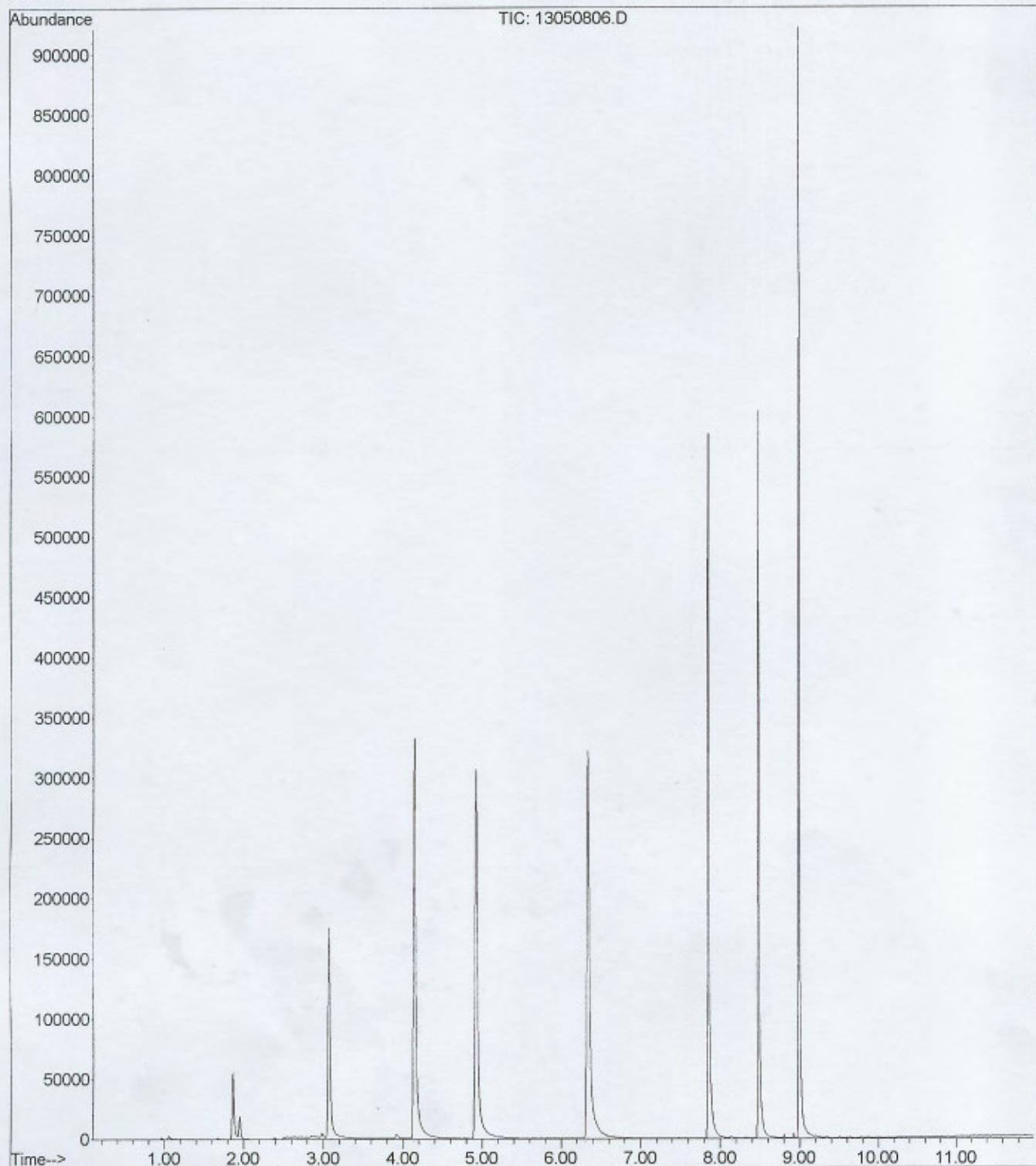
Project: 3609 International Blvd, Oakland  
Project Number: 2331  
Project Manager: Mansour Sepehr

**Reported:**  
02-Jun-08 19:07

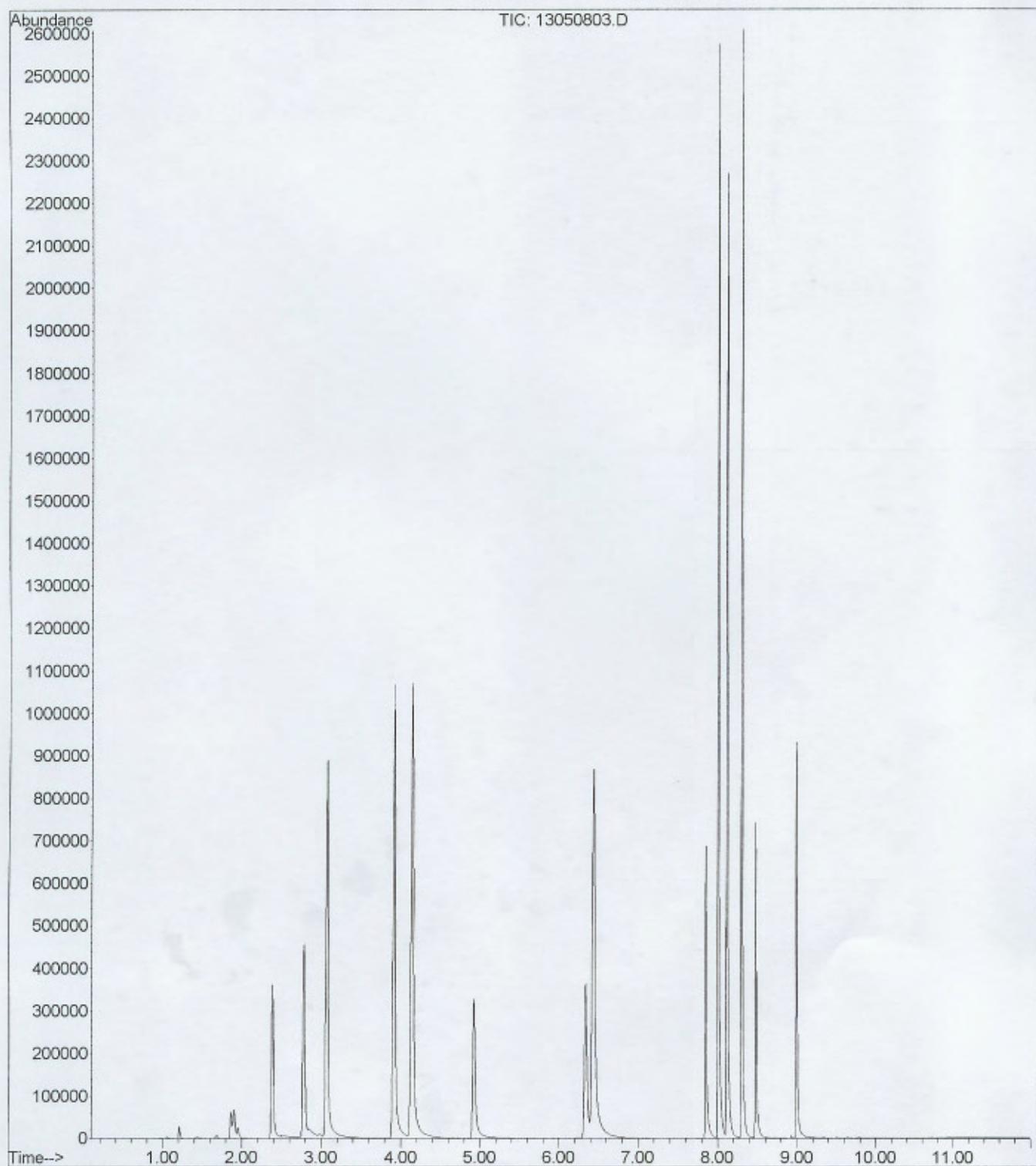
### Notes and Definitions

DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

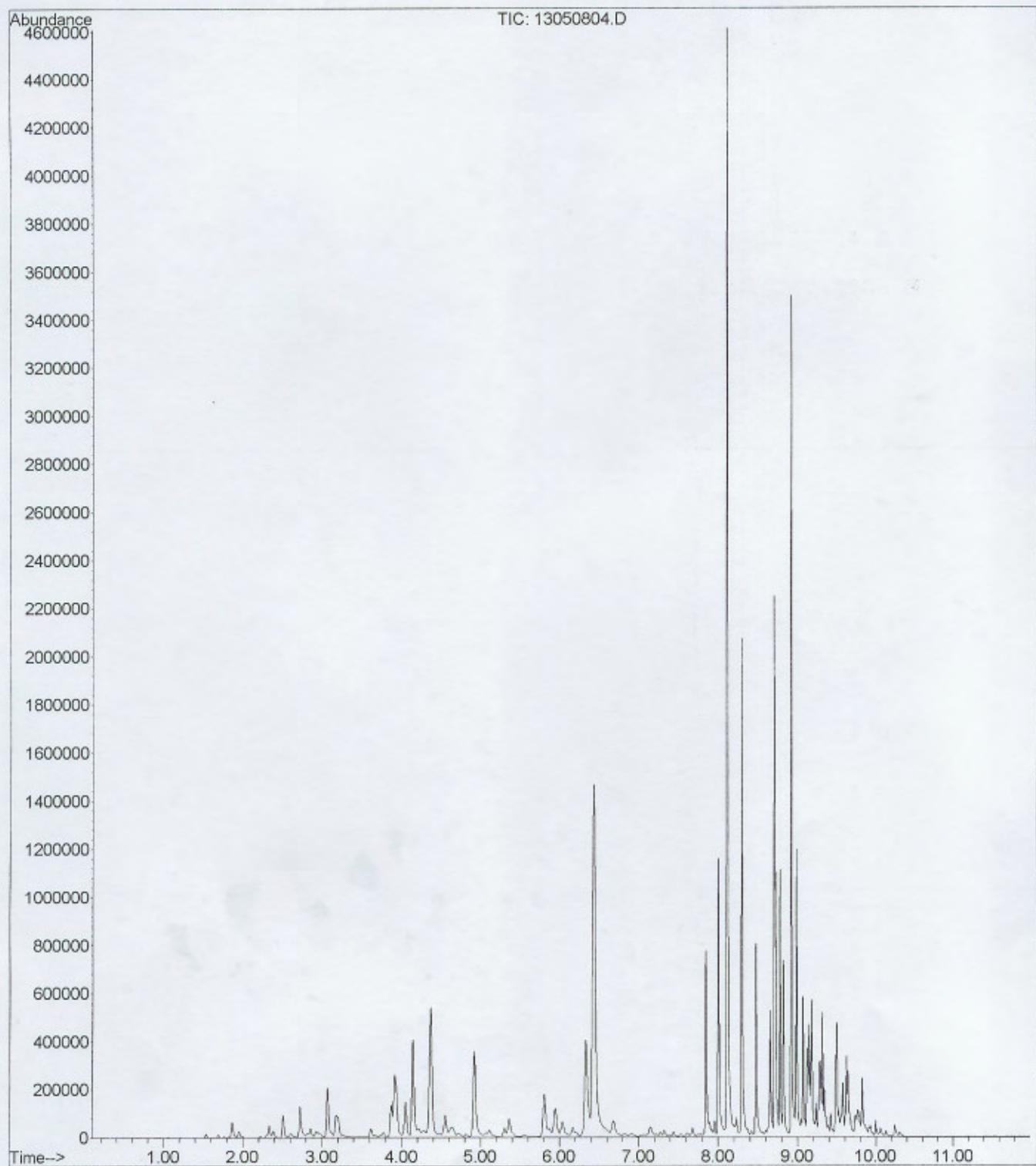
File : C:\MSDChem\1\DATA\2008-May-13-1734.b\13050806.D  
Operator :  
Acquired : 13 May 2008 8:01 pm using AcqMethod OXY32408.M  
Instrument : PAL GCMS  
Sample Name: BE81501-BLK1  
Misc Info :  
Vial Number: 6



File : C:\MSDChem\1\DATA\2008-May-13-1734.b\13050803.D  
Operator :  
Acquired : 13 May 2008 6:42 pm using AcqMethod OXY32408.M  
Instrument : PAL GCMS  
Sample Name: BE81501-BS1@voc  
Misc Info :  
Vial Number: 3



File : C:\MSDChem\1\DATA\2008-May-13-1734.b\13050804.D  
Operator :  
Acquired : 13 May 2008 7:09 pm using AcqMethod OXY32408.M  
Instrument : PAL GCMS  
Sample Name: BE81501-BS1@gas  
Misc Info :  
Vial Number: 4



# **Appendix D**

Chain of Custody Forms and Laboratory Reports  
for the Groundwater Extraction Treatment System

## **CHAIN OF CUSTODY FORM**

Page 1 of 1

**PAL** Pacific Analytical Laboratory  
851 West Midway Ave., Suite 201B  
Alameda, CA 94501  
510-864-0364 Telephone  
510-864-0365 Fax

PAL  
Login# 8060008

Project No: 2333			Sampler: ERIC GASSNER-WOLLMAGE								Analyses/Method				
Project Name: 3609 INTERNATIONAL BLVD. OAKLAND			Report To: JOYCE BOBEK								TPH-0, BTEX, MTBE 8/26/03				
			Company: SOMA Environmental Engineering, Inc.												
Turnaround Time: Standard			Tel: 925-734-6400 Fax: 925-734-6401												
		Sampling Date/Time		Matrix		# of Containers	Preservatives		Field Notes						
Lab No.	Sample ID	Date	Time	Soil	Water	Waste	HCl	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	ICE					
	PSP-1	6/9/08	940	X		6 VOAs	X		X						
	GAC-1	↓	945	X		6 VOAs	X		X						
	INFLUENT	↓	950	X		6 VOAs	X		X						
Sampler Remarks: EDF output required							Relinquished by:		Date/Time:		Received by:		Date/Time:		
							E. Hightower		6/10/08 15:12		J. Miller		06/10/08 15:17		



PAL  
Pacific Analytical Laboratory  
851 West Midway Ave. Suite 201  
Alameda, CA 94501

Phone (510) 864-0364

26 June 2008

Mansour Sepehr  
SOMA Environmental Engineering Inc.  
6620 Owens Drive, Suite A  
Pleasanton, CA 94588

RE: 3609 International Blvd, Oakland

Work Order Number: 8060008

This Laboratory report has been reviewed for technical correctness and completeness. This entire report was reviewed and approved by the Laboratory Director or the Director's designee, as verified by the following signature.

Sincerely,

A handwritten signature in black ink, appearing to read "Maiid Akhavan".

Maiid Akhavan  
Laboratory Director



SOMA Environmental Engineering Inc.  
6620 Owens Drive, Suite A  
Pleasanton CA, 94588

Project: 3609 International Blvd, Oakland

Project Number: 2333

Project Manager: Mansour Sepehr

**Reported:**  
26-Jun-08 17:58

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
PSP-1	8060008-01	Water	09-Jun-08 09:40	10-Jun-08 15:17
GAC-1	8060008-02	Water	09-Jun-08 09:45	10-Jun-08 15:17
Influent	8060008-03	Water	09-Jun-08 09:50	10-Jun-08 15:17

SOMA Environmental Engineering Inc.  
6620 Owens Drive, Suite A  
Pleasanton CA, 94588

Project: 3609 International Blvd, Oakland

Project Number: 2333  
Project Manager: Mansour Sepehr

**Reported:**  
26-Jun-08 17:58

### Volatile Organic Compounds by EPA Method 8260B

#### Pacific Analytical Laboratory

Analyte	Reporting								Notes
	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	
<b>PSP-1 (8060008-01) Water   Sampled: 09-Jun-08 09:40   Received: 10-Jun-08 15:17</b>									
Gasoline (C6-C12)	ND	50.0	ug/l	1	BF81901	19-Jun-08	19-Jun-08	EPA 8260B	
Benzene	ND	0.500	"	"	"	"	"	"	
Ethylbenzene	ND	0.500	"	"	"	"	"	"	
m&p-Xylene	ND	2.00	"	"	"	"	"	"	
o-xylene	ND	0.500	"	"	"	"	"	"	
Toluene	ND	2.00	"	"	"	"	"	"	
MTBE	ND	0.500	"	"	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		89.6 %		70-130	"	"	"	"	
Surrogate: Dibromofluoromethane		119 %		70-130	"	"	"	"	
Surrogate: Perdeuterotoluene		98.4 %		70-130	"	"	"	"	
<b>GAC-1 (8060008-02) Water   Sampled: 09-Jun-08 09:45   Received: 10-Jun-08 15:17</b>									
Gasoline (C6-C12)	ND	50.0	ug/l	1	BF81901	19-Jun-08	19-Jun-08	EPA 8260B	
Benzene	ND	0.500	"	"	"	"	"	"	
Ethylbenzene	ND	0.500	"	"	"	"	"	"	
m&p-Xylene	ND	2.00	"	"	"	"	"	"	
o-xylene	ND	0.500	"	"	"	"	"	"	
Toluene	ND	2.00	"	"	"	"	"	"	
MTBE	ND	0.500	"	"	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		90.6 %		70-130	"	"	"	"	
Surrogate: Dibromofluoromethane		120 %		70-130	"	"	"	"	
Surrogate: Perdeuterotoluene		98.0 %		70-130	"	"	"	"	
<b>Influent (8060008-03) Water   Sampled: 09-Jun-08 09:50   Received: 10-Jun-08 15:17</b>									
Gasoline (C6-C12)	1920	50.0	ug/l	1	BF81901	19-Jun-08	19-Jun-08	EPA 8260B	
Benzene	129	0.500	"	"	"	"	"	"	
Ethylbenzene	3.64	0.500	"	"	"	"	"	"	
m&p-Xylene	160	2.00	"	"	"	"	"	"	
o-xylene	107	0.500	"	"	"	"	"	"	
Toluene	20.4	2.00	"	"	"	"	"	"	
MTBE	122	0.500	"	"	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		103 %		70-130	"	"	"	"	
Surrogate: Dibromofluoromethane		109 %		70-130	"	"	"	"	
Surrogate: Perdeuterotoluene		102 %		70-130	"	"	"	"	

Pacific Analytical Laboratory

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



SOMA Environmental Engineering Inc.  
6620 Owens Drive, Suite A  
Pleasanton CA, 94588

Project: 3609 International Blvd, Oakland

Project Number: 2333

Project Manager: Mansour Sepehr

**Reported:**  
26-Jun-08 17:58

### Volatile Organic Compounds by EPA Method 8260B

#### Pacific Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SOMA Environmental Engineering Inc.  
6620 Owens Drive, Suite A  
Pleasanton CA, 94588

Project: 3609 International Blvd, Oakland

Project Number: 2333  
Project Manager: Mansour Sepehr

Reported:  
26-Jun-08 17:58

### Volatile Organic Compounds by EPA Method 8260B - Quality Control

#### Pacific Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD RPD	RPD Limit	Notes
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#### Batch BF81901 - EPA 5030 Water MS

##### Blank (BF81901-BLK1)

Prepared & Analyzed: 19-Jun-08

Surrogate: 4-Bromofluorobenzene	44.4	ug/l	50.0		88.8	70-130
Surrogate: Dibromofluoromethane	58.0	"	50.0		116	70-130
Surrogate: Perdeuterotoluene	48.3	"	50.0		96.6	70-130
Gasoline (C6-C12)	ND	50.0	"			
Benzene	ND	0.500	"			
Ethylbenzene	ND	0.500	"			
m&p-Xylene	ND	2.00	"			
o-xylene	ND	0.500	"			
Toluene	ND	2.00	"			
MTBE	ND	0.500	"			

##### LCS (BF81901-BS1)

Prepared & Analyzed: 19-Jun-08

Surrogate: 4-Bromofluorobenzene	50.6	ug/l	50.0		101	70-130
Surrogate: Dibromofluoromethane	50.6	"	50.0		101	70-130
Surrogate: Perdeuterotoluene	49.4	"	50.0		98.8	70-130
Gasoline (C6-C12)	2000	50.0	"	2000	100	70-130
Benzene	106	0.500	"	100	106	70-130
Toluene	105	2.00	"	100	105	70-130
MTBE	102	0.500	"	100	102	70-130

##### LCS Dup (BF81901-BSD1)

Prepared & Analyzed: 19-Jun-08

Surrogate: 4-Bromofluorobenzene	51.4	ug/l	50.0		103	70-130
Surrogate: Dibromofluoromethane	50.1	"	50.0		100	70-130
Surrogate: Perdeuterotoluene	49.2	"	50.0		98.4	70-130
Gasoline (C6-C12)	2050	50.0	"	2000	102	70-130
Benzene	102	0.500	"	100	102	70-130
Toluene	99.8	2.00	"	100	99.8	70-130
MTBE	93.3	0.500	"	100	93.3	70-130



SOMA Environmental Engineering Inc.  
6620 Owens Drive, Suite A  
Pleasanton CA, 94588

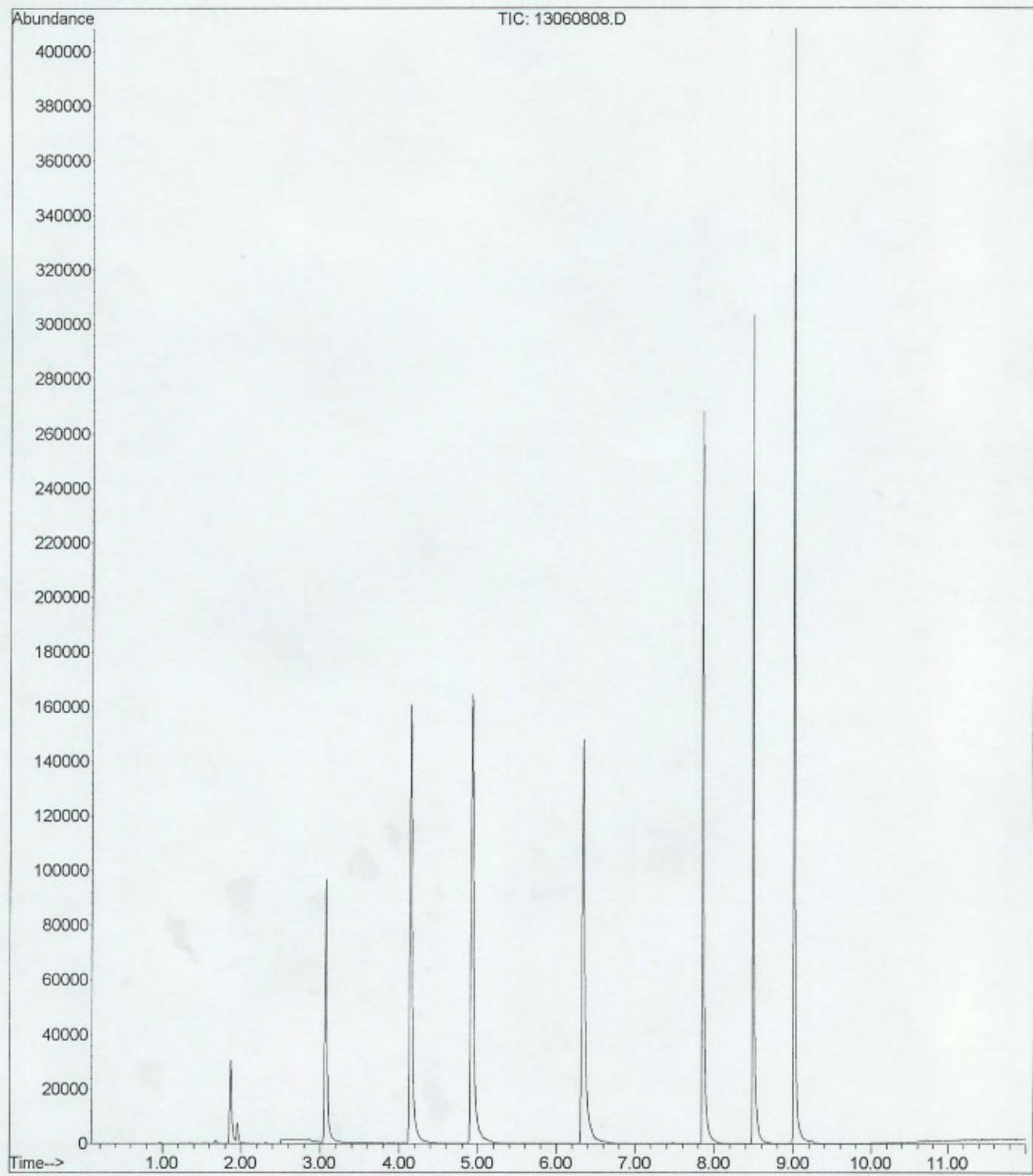
Project: 3609 International Blvd, Oakland  
Project Number: 2333  
Project Manager: Mansour Sepehr

**Reported:**  
26-Jun-08 17:58

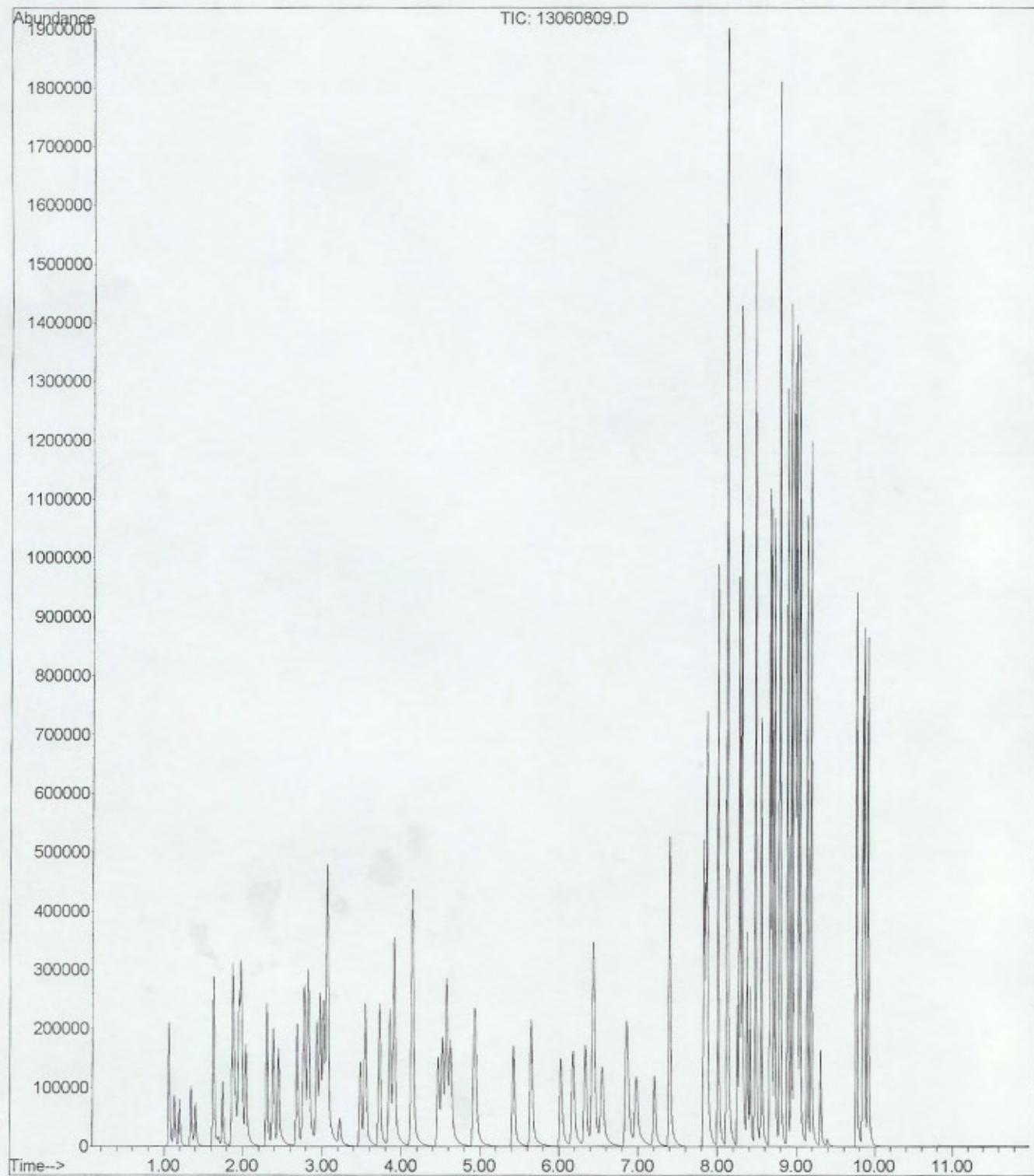
### Notes and Definitions

DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

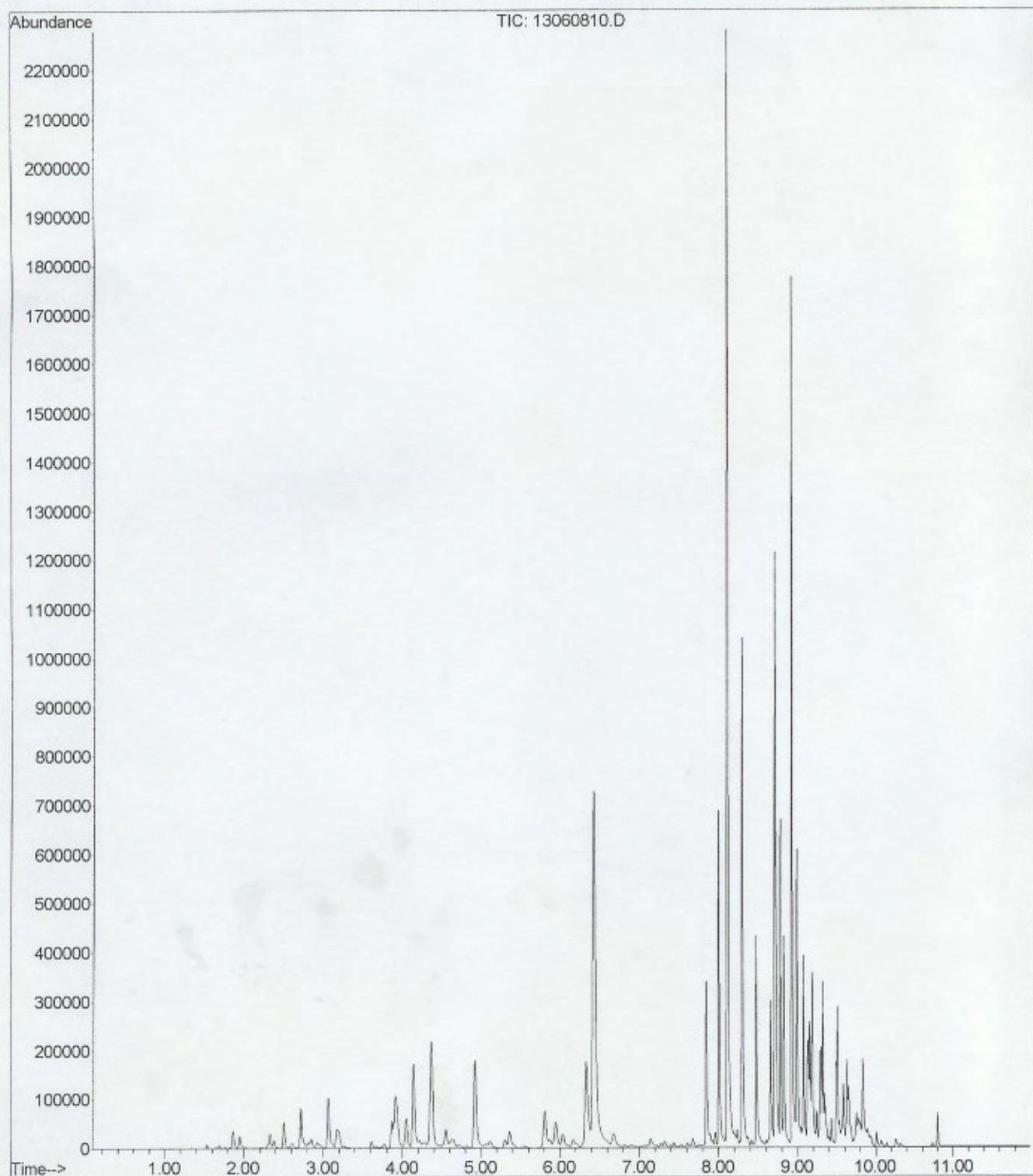
File : C:\MSDChem\1\DATA\2008-Jun-13-1602.b\13060808.D  
Operator :  
Acquired : 17 Jun 2008 3:40 pm using AcqMethod OXY32408.M  
Instrument : PAL GCMS  
Sample Name: BF81901-BLK1  
Misc Info :  
Vial Number: 8



File : C:\MSDChem\1\DATA\2008-Jun-13-1602.b\13060809.D  
Operator :  
Acquired : 17 Jun 2008 4:05 pm using AcqMethod OXY32408.M  
Instrument : PAL GCMS  
Sample Name: BF81901-BS1  
Misc Info :  
Vial Number: 9



File : C:\MSDChem\1\DATA\2008-Jun-13-1602.b\13060810.D  
Operator :  
Acquired : 17 Jun 2008 4:31 pm using AcqMethod OXY32408.M  
Instrument : PAL GCMS  
Sample Name: BF81901-BS1  
Misc Info :  
Vial Number: 10



# **Appendix E**

## **MPE Events 2008: Field Data Sheets**

---

Second Quarter 2008: Groundwater Monitoring and Remediation System Operation Report  
with Evaluation of Effectiveness of Monthly MPE

SOMA Environmental Engineering, Inc.



SITE: Tony's Express Auto Service  
 ADDRESS: 3609 International Blvd., Oakland  
 PROJECT #: 2335

PERSONNEL: J A

MTS OPERATIONAL DATA										
DATE	TIME	OXIDIZER TEMPERATURE (F)	PUMP/AIR TEMPERATURE (F)	STINGER VACUUM (IN-Hg)	PUMP VACUUM (IN-Hg)	TOTAL FLOW (SCFM)	DILUTION FLOW (SCFM)	WELL FLOW (SCFM)	INFLUENT CONCENTRATION (PPMV)	WATER TOTALIZER
3/24/2008	945	begin at MW-1 and MW-3; sampled MW-1 and MW-3								
	1045	1712	169	26.4	27.5	30	0	30	1,909	250
	1130	1674	171	26.3	27.4	31	0	31	1,434	487
	1230	1667	172	26.2	27.3	33	0	33	1,456	670
	1330	1646	171	26.2	27.3	33	0	33	1,200	903
	1430	1642	172	26.1	27.3	33	0	33	961	1,130
	1530	1634	173	25.9	27.1	36	0	36	833	1,347
	1630	1628	172	25.8	27.1	36	0	36	735	1,561
	1730	1622	173	25.7	27	38	0	38	681	1,771
3/25/2008	800	1569	169	25.1	26.6	44	0	44	In = 420; Eff = 1	4,257
	900	1572	170	25.1	26.5	46	0	46	406	4,406
	1000	1572	171	25	26.4	47	0	47	406	4,530
	1100	1563	171	25.1	26.4	47	0	47	384	4,669
	1200	1561	171	25.1	26.4	47	0	47	373	4,823
	1400	1555	171	25	26.4	47	0	47	380	5,127
	1600	1549	171	24.8	26.4	47	0	47	376	5,429
	1630	1549	172	24.7	26.3	49	0	49	388	5,479
	1730	1550	170	24.7	26.3	49	0	49	400	5,580
3/26/2008	700	1550	170	24.7	26.3	49	0	49	400	7,382
		system shutdown @ 0700 due to generator failure; engineer called to repair								
	1600	restart								



SITE: Tony's Express Auto Service  
ADDRESS: 3609 International Blvd., Oakland  
PROJECT #: 2335

PERSONNEL: J A

MTS OPERATIONAL DATA										
DATE	TIME	OXIDIZER TEMPERATURE (F)	PUMP/AIR TEMPERATURE (F)	STINGER VACUUM (IN-Hg)	PUMP VACUUM (IN-Hg)	TOTAL FLOW (SCFM)	DILUTION FLOW (SCFM)	WELL FLOW (SCFM)	INFLUENT CONCENTRATION (PPMV)	WATER TOTALIZER
	1700	1500	170	24.8	26	54	0	54	633	7,382
3/27/2008	800	1493	169	24.2	25.8	57	0	57	286	9,425
	900	1504	168	24	25.5	62	0	62	296	9,551
	1000	1500	171	23.9	25.5	62	0	62	296	9,646
	1430	1494	173	24	25.6	60	0	60	230	10,195
	1530	1480	171	24	25.6	60	0	60	345	10,283
	1630	1509	171	23.8	25.4	63	0	63	325	10,436
3/28/2008	900	1483	169	23.4	25.3	65	0	65	282	12,509
	1000	1492	171	23.3	25.1	68	0	68	292	12,601
	1300	1481	169	23.4	25.2	66	0	66	215	12,960
		end at MW-1 and MW-3; sampled MW-1 and MW-3								



SITE: Tony's Express Auto Service  
 ADDRESS: 3609 International Blvd., Oakland  
 PROJECT #: 2335

PERSONNEL: J A

MTS OPERATIONAL DATA										
DATE	TIME	OXIDIZER TEMPERATURE (F)	PUMP/AIR TEMPERATURE (F)	STINGER VACUUM (IN-Hg)	PUMP VACUUM (IN-Hg)	TOTAL FLOW (SCFM)	DILUTION FLOW (SCFM)	WELL FLOW (SCFM)	INFLUENT CONCENTRATION (PPMV)	WATER TOTALIZER
4/14/2008	1000	begin at MW-1 and MW-3; sampled MW-1 and MW-3								
	1100	1550	200	21.7	25.9	55	0	55	1,981	0
	1530	system was shutdown due to concern over the LRP overheating; engineer made adjustments; down from 1100 - 1530								
	1600	1554	184	21.7	25.9	55	0	55	1,981	111
	1630	1595	191	21	25.8	57	0	57	1,987	183
	1700	1599	196	22.3	25.6	60	0	60	1,783	255
	1730	1595	197	21.9	25.2	66	0	66	1,616	325
4/15/2008	700	1513	194	23.6	25.2	66	0	66	In = 650; Eff = 1	1,740
	800	1517	187	23.6	25.4	63	0	63	681	1,843
	900	1503	197	23.6	25.2	66	0	66	651	1,946
	1000	1504	190	23.4	25.2	66	0	66	650	2,059
	1100	1508	188	23.6	25.2	66	0	66	645	2,152
	1200	1511	190	23.4	25.2	66	0	66	636	2,220
	1300	1510	194	23.6	25.3	65	0	65	635	2,320
	1400	1512	187	23.4	25.2	66	0	66	579	2,425
	1500	1511	186	23.5	25.2	66	0	66	583	2,528
	1600	1506	182	23.6	25.2	66	0	66	562	2,630
	1700	1506	184	23.5	25.2	66	0	66	563	2,730
4/16/2008	700	1471	194	23.4	25.2	66	0	66	430	4,022
	800	system shutdown @ 0700 to clean Y strainer on LRP; overheating issue resolved; restart MTS @ 0800								
	830	1474	168	23.4	25	70	0	70	540	4,119



SITE: Tony's Express Auto Service  
 ADDRESS: 3609 International Blvd., Oakland  
 PROJECT #: 2335

PERSONNEL: J A

MTS OPERATIONAL DATA										
DATE	TIME	OXIDIZER TEMPERATURE (F)	PUMP/AIR TEMPERATURE (F)	STINGER VACUUM (IN-Hg)	PUMP VACUUM (IN-Hg)	TOTAL FLOW (SCFM)	DILUTION FLOW (SCFM)	WELL FLOW (SCFM)	INFLUENT CONCENTRATION (PPMV)	WATER TOTALIZER
	900	1495	169	23.3	25.2	66	0	66	562	4,170
	1000	1504	170	23	25	70	0	70	569	4,282
	1030	LRP shutting down; oil at low level in LRP; added oil to LRP reservoir; MTS down from 1000 - 1030								
	1100	1506	170	23.6	25.6	60	0	60	560	4,353
	1200	1508	170	23.4	25.3	65	0	65	548	4,422
	1300	1508	173	23.2	25	70	0	70	554	4,526
	1400	1503	172	23.2	25.1	68	0	68	514	4,663
	1500	1504	169	23.3	25	70	0	70	401	4,732
	1600	1502	170	23.2	25	70	0	70	382	4,834
	1700	1500	173	23.2	25	70	0	70	342	4,937
4/17/2008	800	1473	170	23	25	70	0	70	420	6,294
	900	1478	171	23.1	25	70	0	70	426	6,395
	1000	1483	169	23.1	25	70	0	70	416	6,497
	1100	1482	171	23.1	25	70	0	70	420	6,566
	1200	1483	172	23.1	25	70	0	70	413	6,666
	1300	1484	174	23	25	70	0	70	398	6,734
	1400	1487	173	23.1	25	70	0	70	378	6,835
	1500	1492	173	23	25	70	0	70	378	6,937
	1600	1489	173	23	25	70	0	70	366	7,004
	1700	1489	172	23	25	70	0	70	372	7,106
4/18/2008	900	1464	170	23	25	70	0	70	313	8,463



SITE: Tony's Express Auto Service  
ADDRESS: 3609 International Blvd., Oakland  
PROJECT #: 2335

PERSONNEL: J A

MTS OPERATIONAL DATA										
DATE	TIME	OXIDIZER TEMPERATURE (F)	PUMP/AIR TEMPERATURE (F)	STINGER VACUUM (IN-Hg)	PUMP VACUUM (IN-Hg)	TOTAL FLOW (SCFM)	DILUTION FLOW (SCFM)	WELL FLOW (SCFM)	INFLUENT CONCENTRATION (PPMV)	WATER TOTALIZER
	1000	1460	170	23	25	70	0	70	320	8,521
	1100	1461	171	23	25	70	0	70	328	8,621
	1200	1459	172	22.9	24.8	73	0	73	334	8,688
	1300	1451	171	23	25	70	0	70	322	8,758
	1400	1463	169	22.8	24.8	73	0	73	304	8,856
	1430	1472	170	22.8	24.8	73	0	73	300	8,890
		end at MW-1 and MW-3; sampled MW-1 and MW-3								



SITE: Tony's Express Auto Service  
 ADDRESS: 3609 International Blvd., Oakland  
 PROJECT #: 2335

PERSONNEL: J A

MTS OPERATIONAL DATA										
DATE	TIME	OXIDIZER TEMPERATURE (F)	PUMP/AIR TEMPERATURE (F)	STINGER VACUUM (IN-Hg)	PUMP VACUUM (IN-Hg)	TOTAL FLOW (SCFM)	DILUTION FLOW (SCFM)	WELL FLOW (SCFM)	INFLUENT CONCENTRATION (PPMV)	WATER TOTALIZER
5/12/2008	930	begin at MW-1 and MW-3; sampled MW-1 and MW-3								0
	1000	1570	172	23.8	25.4	63	0	63	2,750	55
	1100	1578	172	23.1	25	70	0	70	1,810	186
	1200	1551	173	23	24.9	71	0	71	1,501	314
	1300	1546	172	22.9	24.9	71	0	71	1,305	426
	1337	System shut down due to low propane								
	1530	Propane delivered								
	1600	System Restarted								
	1610	1454	173	23.7	25.3	65	0	65	1,301	521
	1700	1529	173	23	25	70	0	70	1,128	626
5/13/2008	730	1475	170	22.5	24.7	74	0	74	653	2,190
	830	1485	171	22.1	24.4	79	0	79	657	2,291
	930	1550	171	26.1	27	38	0	38	797	2,377
	1030	1630	172	26.2	27.4	31	0	31	748	2,457
	1300	1642	172	26	27	38	0	38	761	2,640
		temporarily pumping from only MW-3 from 0930 - 1300; treatment system overwhelmed and holding tank overflowing;								
		treatment system modified to allow more flow								
	1400	1545	174	22.8	25	70	0	70	660	2,693
	1500	1508	175	22.4	24.8	73	0	73	620	2,812
	1600	1501	174	22.4	24.7	74	0	74	600	2,930
5/14/2008	800	1459	171	22.2	24.6	76	0	76	526	4,420



SITE: Tony's Express Auto Service  
 ADDRESS: 3609 International Blvd., Oakland  
 PROJECT #: 2335

PERSONNEL: J A

MTS OPERATIONAL DATA										
DATE	TIME	OXIDIZER TEMPERATURE (F)	PUMP/AIR TEMPERATURE (F)	STINGER VACUUM (IN-Hg)	PUMP VACUUM (IN-Hg)	TOTAL FLOW (SCFM)	DILUTION FLOW (SCFM)	WELL FLOW (SCFM)	INFLUENT CONCENTRATION (PPMV)	WATER TOTALIZER
	900	1463	173	22	24.4	79	0	79	511	4,497
	1000	1463	173	22	24.5	77	0	77	480	4,619
	1100	1461	174	22	24.5	77	0	77	465	4,706
	1200	1462	175	22	24.4	79	0	79	463	4,780
	1300	1453	177	22	24.5	77	0	77	449	4,854
	1400	1474	178	22	24.4	79	0	79	448	4,950
	1500	1473	180	21.9	24.4	79	0	79	443	5,031
	1600	1474	181	21.9	24.4	79	0	79	437	5,117
	1700	1471	181	21.8	24.2	82	0	82	436	5,208
5/15/2008	830	1455	177	21.6	24.2	82	0	82	In=403; eff=2	6,536
	930	1462	173	21.6	24.2	82	0	82	389	6,627
	1130	1467	203	21.6	24	85	0	85	378	6,807
	1230	1470	191	21.6	24	85	0	85	360	6,897
	1330	1457	189	21.6	24.2	82	0	82	333	6,968
	1430	1459	192	21.6	24.2	82	0	82	366	7,032
	1530	1461	194	21.6	24	85	0	85	412	7,112
	1600	1468	180	21.6	24	85	0	85	420	7,144
		System down overnight after operator left. Morning inspection showed generator overheated, +100F during day until late afternoon and early evening. Restarted at 8 A.M.								
5/16/2008	830	1486	173	22	24.4	79	0	79	432	7,307
	900	1472	174	22.1	24.4	79	0	79	428	7,343
	1000	1472	173	22.2	24.2	82	0	82	404	7,448



SITE: Tony's Express Auto Service  
ADDRESS: 3609 International Blvd., Oakland  
PROJECT #: 2335

PERSONNEL: J A

MTS OPERATIONAL DATA

DATE	TIME	OXIDIZER TEMPERATURE (F)	PUMP/AIR TEMPERATURE (F)	STINGER VACUUM (IN-Hg)	PUMP VACUUM (IN-Hg)	TOTAL FLOW (SCFM)	DILUTION FLOW (SCFM)	WELL FLOW (SCFM)	INFLUENT CONCENTRATION (PPMV)	WATER TOTALIZER	
	1100	1475	176	22	24.2	82	0	82	404	7,549	
	1200	1483	176	22	24.2	82	0	82	388	7,648	
	1300	1477	176	22	24.2	82	0	82	359	7,744	
		end at MW-1 and MW-3; sampled MW-1 and MW-3									



SITE: Tony's Express Auto Service  
 ADDRESS: 3609 International Blvd., Oakland  
 PROJECT #: 2335

PERSONNEL: J A

MTS OPERATIONAL DATA										
DATE	TIME	OXIDIZER TEMPERATURE (F)	PUMP/AIR TEMPERATURE (F)	STINGER VACUUM (IN-Hg)	PUMP VACUUM (IN-Hg)	TOTAL FLOW (SCFM)	DILUTION FLOW (SCFM)	WELL FLOW (SCFM)	INFLUENT CONCENTRATION (PPMV)	WATER TOTALIZER
6/9/2008	1030	begin at MW-1 and MW-3; sampled MW-1 and MW-3								0
	1130	1568	173	23	24.8	73	0	73	1,722	102
	1230	1560	172	22.7	24.7	74	0	74	1,380	230
	1330	1538	173	22.4	24.5	77	0	77	1,118	353
	1430	1521	174	22.3	24.3	81	0	81	997	444
	1530	1511	172	22.2	24.3	81	0	81	910	529
	1630	1499	172	22.2	24.2	82	0	82	825	654
	1730	1496	173	22.2	24.2	82	0	82	815	736
6/10/2008	730	1473	172	20.8	24	85	0	85	In=560; eff=3	-
		Isolate MW-3 for initial vapor sample								
	830	1574	171	22.4	26.6	44	0	44	590	-
		Isolate MW-1 for initial vapor sample								
	930	1578	173	20	26	54	0	54	580	2,020
	1030	1482	176	21.2	24.2	82	0	82	641	2,106
	1130	1481	174	20.8	24.1	84	0	84	595	2,238
	1230	1473	173	21.8	24.1	84	0	84	570	2,280
	1330	1474	171	21.9	24	85	0	85	533	2,386
	1430	1474	172	21.8	24	85	0	85	548	2,445
	1530	1475	172	20.9	23.9	87	0	87	547	2,527
	1630	1471	172	21.6	23.9	87	0	87	530	2,610
	1700	1475	173	21.5	23.8	89	0	89	525	2,633



SITE: Tony's Express Auto Service  
 ADDRESS: 3609 International Blvd., Oakland  
 PROJECT #: 2335

PERSONNEL: J A

MTS OPERATIONAL DATA										
DATE	TIME	OXIDIZER TEMPERATURE (F)	PUMP/AIR TEMPERATURE (F)	STINGER VACUUM (IN-Hg)	PUMP VACUUM (IN-Hg)	TOTAL FLOW (SCFM)	DILUTION FLOW (SCFM)	WELL FLOW (SCFM)	INFLUENT CONCENTRATION (PPMV)	WATER TOTALIZER
6/11/2008	800	1493	183	22	23.7	90	0	90	468	3,764
	900	1467	174	21.4	23.6	92	0	92	478	3,840
	1000	1478	174	21.3	23.6	92	0	92	457	3,881
	1030	1485	175	21.4	23.6	92	0	92	460	3,920
	1100	1472	176	21.3	23.6	92	0	92	462	3,960
	1200	1496	180	21.3	23.7	90	0	90	452	4,046
	1300	1481	172	21.5	24	85	0	85	510	4,115
	1400	1467	172	21.5	23.9	87	0	87	462	4,193
	1500	1475	173	21.4	23.9	87	0	87	451	4,265
	1600	1489	178	21.4	23.8	89	0	89	436	4,340
	1630	1473	177	21.4	23.8	89	0	89	438	4,378
6/12/2008	800	1499	191	21.1	23.7	90	0	90	407	5,460
	900	1494	173	21.2	23.7	90	0	90	393	5,533
	1000	1496	172	21.2	23.6	92	0	92	376	5,608
	1100	1472	173	21	23.6	92	0	92	375	-
	1200	1478	177	21	23.8	89	0	89	388	-
	1300	1468	178	21	23.8	89	0	89	360	-
		Isolate MW-3 for final vapor sample								
	1400	1585	178	25.2	26.4	47	0	47	356	-
		Isolate MW-1 for final vapor sample								
	1500	1574	181	25	26.2	50	0	50	356	-



SITE: Tony's Express Auto Service  
ADDRESS: 3609 International Blvd., Oakland  
PROJECT #: 2335

PERSONNEL: J A

MTS OPERATIONAL DATA										
DATE	TIME	OXIDIZER TEMPERATURE (F)	PUMP/AIR TEMPERATURE (F)	STINGER VACUUM (IN-Hg)	PUMP VACUUM (IN-Hg)	TOTAL FLOW (SCFM)	DILUTION FLOW (SCFM)	WELL FLOW (SCFM)	INFLUENT CONCENTRATION (PPMV)	WATER TOTALIZER
	1600	1489	177	21.4	24	85	0	85	397	-
	1700	1475	175	21.4	24	85	0	85	365	-
6/13/2008	1130	System shut down, immediately restarted - Low vacuum pump oil sensor triggered by operator, readjusted propane regulator to 2 psi								
	1230	1469	172	21.3	23.9	87	0	87	389	7,358
	1330	1494	173	21.2	23.8	89	0	89	379	7,433
	1430	1472	173	21.2	23.8	89	0	89	351	7,510
	1500	1466	174	21.2	23.8	89	0	89	360	7,560
		end at MW-1 and MW-3; sampled MW-1 and MW-3								

# **Appendix F**

## **MPE Events 2008: Laboratory Reports and Chain of Custody Forms**

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Second Quarter 2008: Groundwater Monitoring and Remediation System Operation Report  
with Evaluation of Effectiveness of Monthly MPE

SOMA Environmental Engineering, Inc.

## **CHAIN OF CUSTODY FORM**

Page \_\_\_\_ of \_\_\_\_

**PAL** Pacific Analytical Laboratory  
851 West Midway Ave., Suite 201B  
Alameda, CA 94501  
510-864-0364 Telephone  
510-864-0365 Fax

PAL  
Login# 8030023

Project No: 2335				Sampler: Luis Flazegui								Analyses/Method	
Project Name: 8605 International Blvd Oakland, CA				Report To: Joyce Bobek								TPH- BTEX, MIBE 3/26/03	
				Company: SOMA Environmental Engineering, Inc.									
Turnaround Time: Standard				Tel: 925-734-6400 Fax: 925-734-6401									
		Sampling Date/Time		Matrix		# of Containers		Preservatives		Field Notes			
Lab No.	Sample ID	Date	Time	Soil	Water	Waste		HCl	H <sub>2</sub> SO <sub>4</sub>				
MW-1	MW-1	3/24/03	0850	X			4NOM	X			X		
MW-3	MW-3	3/24/03	0835	X			4NOM	X			X		
Sampler Remarks: EMF Reg'd				Relinquished by:		Date/Time:		Received by:		Date/Time:			
				S. Reg'd		3/25/03 10:00		update		3:25:08 13.01			



851 West Midway Ave. Suite 201  
Alameda, CA 94501

Pacific Analytical Laboratory

Phone (510) 864-0364

09 April 2008

Mansour Sepehr  
SOMA Environmental Engineering Inc.  
6620 Owens Drive, Suite A  
Pleasanton, CA 94588

RE: 3609 International Blvd, Oakland

Work Order Number: 8030023

This Laboratory report has been reviewed for technical correctness and completeness. This entire report was reviewed and approved by the Laboratory Director or the Director's designee, as verified by the following signature.

Sincerely,

A handwritten signature in black ink, appearing to read "Maiid Akhavan".

Maiid Akhavan  
Laboratory Director



SOMA Environmental Engineering Inc.  
6620 Owens Drive, Suite A  
Pleasanton CA, 94588

Project: 3609 International Blvd, Oakland

Project Number: 2335

Project Manager: Mansour Sepehr

**Reported:**  
09-Apr-08 18:35

#### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-1	8030023-01	Water	24-Mar-08 08:50	25-Mar-08 13:01
MW-3	8030023-02	Water	24-Mar-08 08:35	25-Mar-08 13:01

SOMA Environmental Engineering Inc.  
6620 Owens Drive, Suite A  
Pleasanton CA, 94588

Project: 3609 International Blvd, Oakland

Project Number: 2335  
Project Manager: Mansour Sepehr

**Reported:**  
09-Apr-08 18:35

### Volatile Organic Compounds by EPA Method 8260B

#### Pacific Analytical Laboratory

Analyte	Reporting								Notes
	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	
<b>MW-1 (8030023-01) Water   Sampled: 24-Mar-08 08:50   Received: 25-Mar-08 13:01</b>									
Gasoline (C6-C12)	ND	50.0	ug/l	1	BD80201	31-Mar-08	31-Mar-08	EPA 8260B	
Benzene	ND	0.500	"	"	"	"	"	"	"
Ethylbenzene	ND	0.500	"	"	"	"	"	"	"
m&p-Xylene	ND	2.00	"	"	"	"	"	"	"
o-xylene	ND	0.500	"	"	"	"	"	"	"
Toluene	ND	2.00	"	"	"	"	"	"	"
MTBE	ND	0.500	"	"	"	"	"	"	"
Surrogate: 4-Bromofluorobenzene		83.0 %		70-130	"	"	"	"	"
Surrogate: Dibromofluoromethane		115 %		70-130	"	"	"	"	"
Surrogate: Perdeuterotoluene		97.8 %		70-130	"	"	"	"	"
<b>MW-3 (8030023-02) Water   Sampled: 24-Mar-08 08:35   Received: 25-Mar-08 13:01</b>									
Gasoline (C6-C12)	4720	100	ug/l	2	BD80201	31-Mar-08	31-Mar-08	EPA 8260B	
Benzene	251	1.00	"	"	"	"	"	"	"
Ethylbenzene	384	1.00	"	"	"	"	"	"	"
m&p-Xylene	165	4.00	"	"	"	"	"	"	"
o-xylene	105	1.00	"	"	"	"	"	"	"
Toluene	8.33	4.00	"	"	"	"	"	"	"
MTBE	3.17	1.00	"	"	"	"	"	"	"
Surrogate: 4-Bromofluorobenzene		103 %		70-130	"	"	"	"	"
Surrogate: Dibromofluoromethane		112 %		70-130	"	"	"	"	"
Surrogate: Perdeuterotoluene		103 %		70-130	"	"	"	"	"



SOMA Environmental Engineering Inc.  
6620 Owens Drive, Suite A  
Pleasanton CA, 94588

Project: 3609 International Blvd, Oakland

Project Number: 2335  
Project Manager: Mansour Sepehr

Reported:  
09-Apr-08 18:35

### Volatile Organic Compounds by EPA Method 8260B - Quality Control

#### Pacific Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	---------	-----------	-------

#### Batch BD80201 - EPA 5030 Water MS

##### Blank (BD80201-BLK1)

Prepared & Analyzed: 02-Apr-08

Surrogate: 4-Bromofluorobenzene	39.2	ug/l	50.0		78.4	70-130
Surrogate: Dibromofluoromethane	57.2	"	50.0		114	70-130
Surrogate: Perdeuterotoluene	46.2	"	50.0		92.4	70-130
Gasoline (C6-C12)	ND	50.0	"			
Benzene	ND	0.500	"			
Ethylbenzene	ND	0.500	"			
m&p-Xylene	ND	2.00	"			
o-xylene	ND	0.500	"			
Toluene	ND	2.00	"			
MTBE	ND	0.500	"			

##### LCS (BD80201-BS1)

Prepared & Analyzed: 02-Apr-08

Surrogate: 4-Bromofluorobenzene	43.5	ug/l	50.0		87.0	70-130
Surrogate: Dibromofluoromethane	49.0	"	50.0		98.0	70-130
Surrogate: Perdeuterotoluene	48.0	"	50.0		96.0	70-130
Gasoline (C6-C12)	1940	50.0	"	2000	97.0	70-130
Benzene	127	0.500	"	100	127	70-130
Toluene	124	2.00	"	100	124	70-130
MTBE	70.0	0.500	"	100	70.0	70-130

##### LCS Dup (BD80201-BSD1)

Prepared & Analyzed: 02-Apr-08

Surrogate: 4-Bromofluorobenzene	42.0	ug/l	50.0		84.0	70-130
Surrogate: Dibromofluoromethane	48.4	"	50.0		96.8	70-130
Surrogate: Perdeuterotoluene	44.2	"	50.0		88.4	70-130
Gasoline (C6-C12)	2290	50.0	"	2000	114	70-130
Benzene	124	0.500	"	100	124	70-130
Toluene	120	2.00	"	100	120	70-130
MTBE	83.3	0.500	"	100	83.3	70-130



SOMA Environmental Engineering Inc.  
6620 Owens Drive, Suite A  
Pleasanton CA, 94588

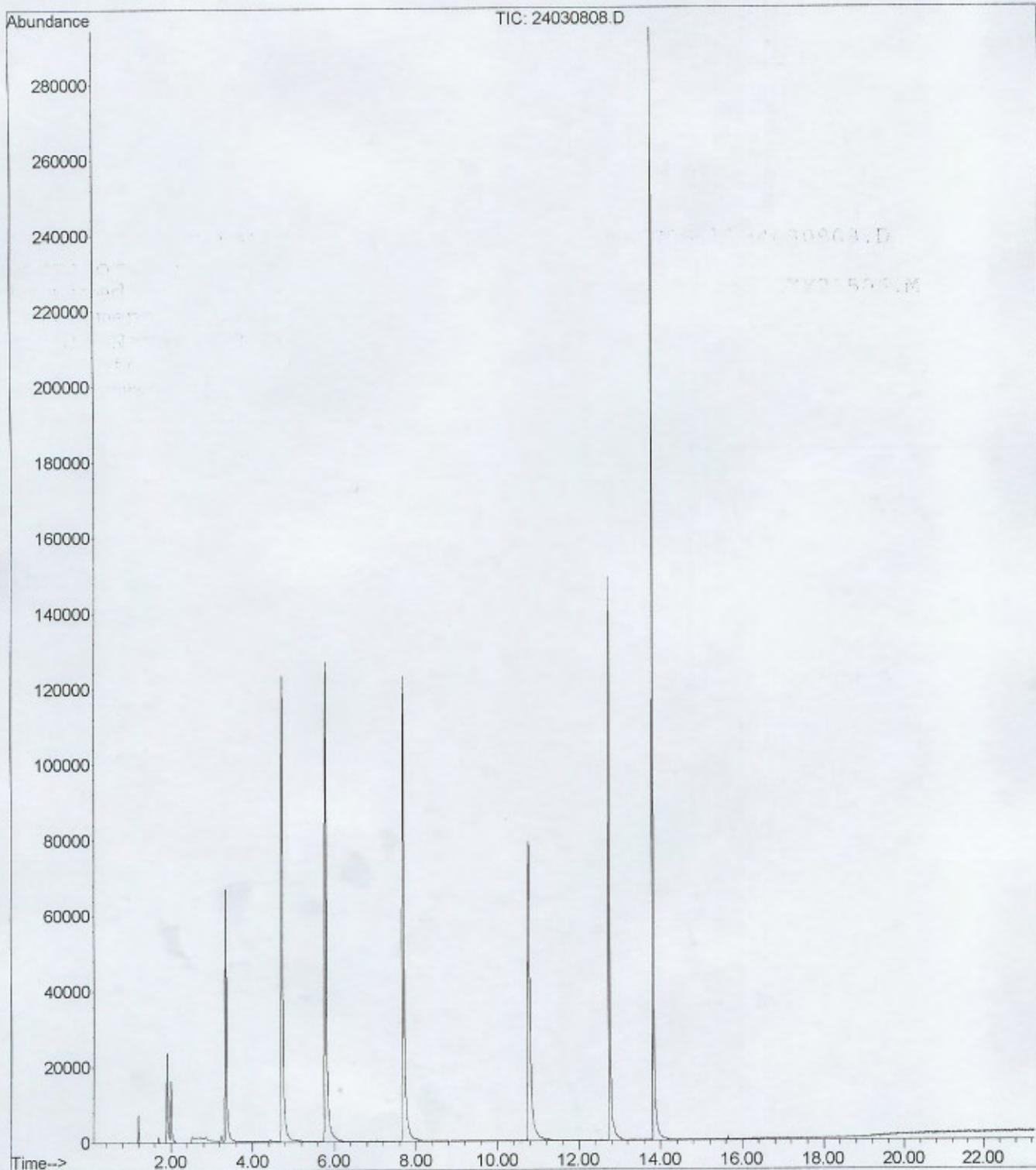
Project: 3609 International Blvd, Oakland  
Project Number: 2335  
Project Manager: Mansour Sepehr

**Reported:**  
09-Apr-08 18:35

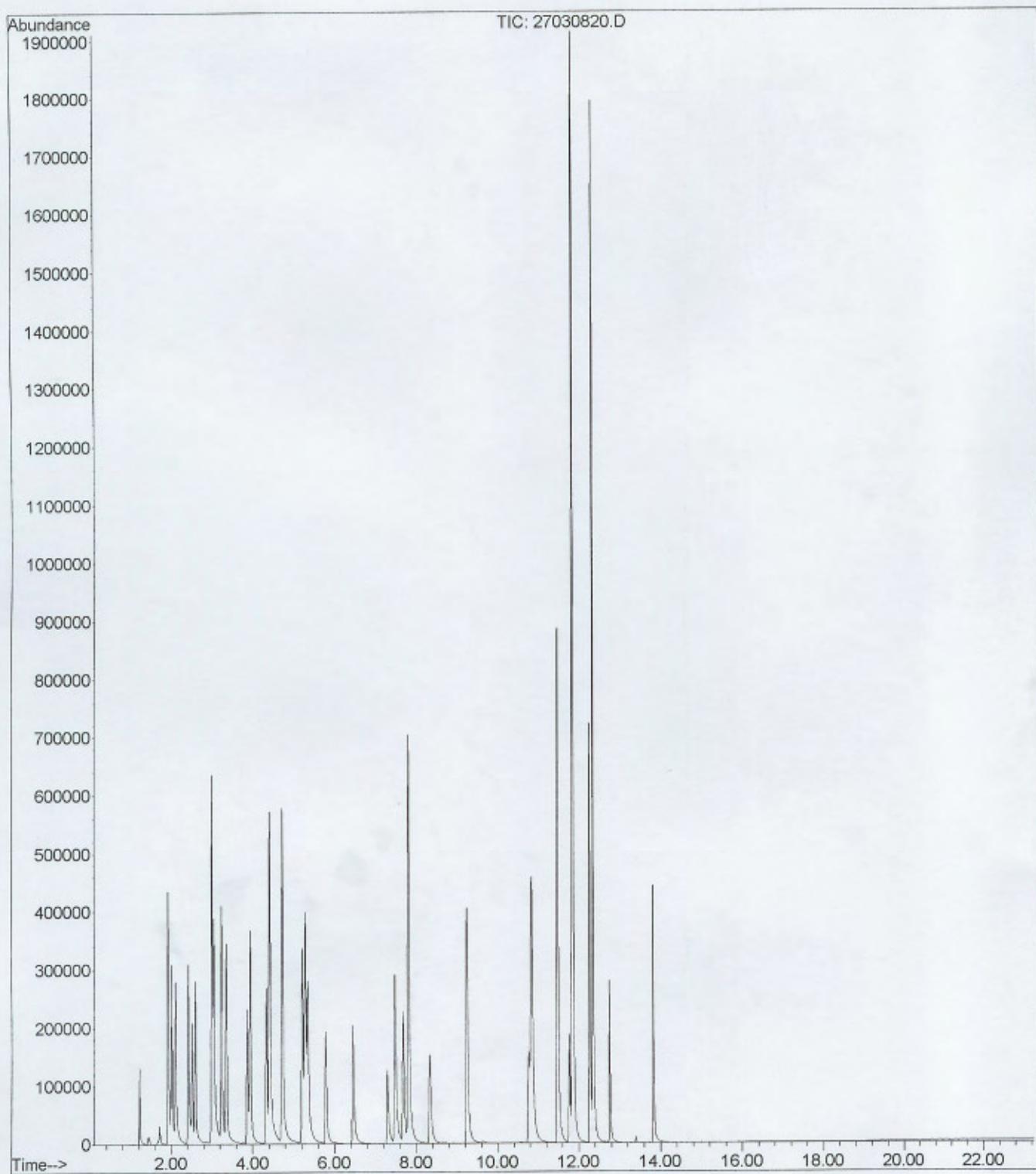
### Notes and Definitions

DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

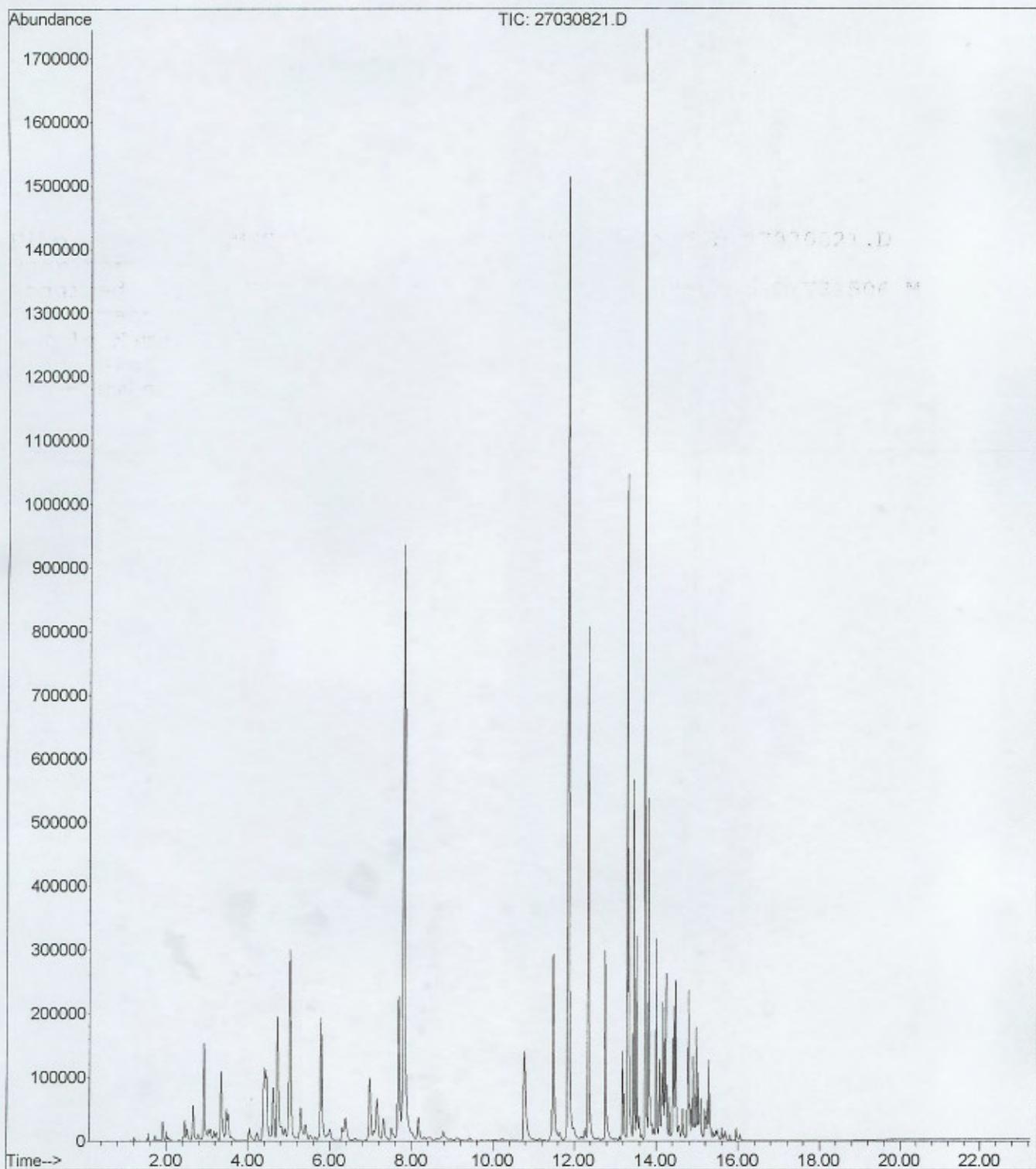
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Operator :  
Acquired : 24 Mar 2008 9:45 pm using AcqMethod OXY21506.M  
Instrument : PAL GCMS  
Sample Name: BD80201-BLK1  
Misc Info :  
Vial Number: 8



File : C:\MSDChem\1\DATA\2008-Mar-27-1656.b\27030820.D  
Operator :  
Acquired : 28 Mar 2008 3:23 am using AcqMethod OXY21506.M  
Instrument : PAL GCMS  
Sample Name: BD80201-BS1@voc  
Misc Info :  
Vial Number: 20



File : C:\MSDChem\1\DATA\2008-Mar-27-1656.b\27030821.D  
Operator :  
Acquired : 28 Mar 2008 3:53 am using AcqMethod OXY21506.M  
Instrument : PAL GCMS  
Sample Name: BD80201-BS1@gas  
Misc Info :  
Vial Number: 21



# CHAIN OF CUSTODY FORM

Page 1 of 1

**PAL** Pacific Analytical Laboratory  
 851 West Midway Ave., Suite 201B  
 Alameda, CA 94501  
 510-864-0364 Telephone  
 510-864-0365 Fax

**PAL**  
 Login# 8040001

Project No: 2335				Sampler: MJS ELA2E6U1								Analyses/Method			
Project Name: 3609 International Blvd OAKLAND				Report To: JOYCE BODEK Company: SOMA Environmental Engineering, Inc.											
Turnaround Time: Standard				Tel: 925-734-6400 Fax: 925-734-6401											
		Sampling Date/Time		Matrix		# of Containers	Preservatives		Field Notes						
Lab No.	Sample ID	Date	Time	Soil	Water	Waste	HCL	H <sub>2</sub> SO <sub>4</sub>					HNO <sub>3</sub>	ICE	
	MW 1	3/28/08	1328	X		4V0As	X		X					X	
	MW 3	3/28/08	1322	X		4V0As	X		X					X	
Sampler Remarks:							Relinquished by:  <i>SLD</i>		Date/Time:  3/28/08 8:00 PM		Received by:		Date/Time:  4/1/08 17:25		



PAL  
Pacific Analytical Laboratory  
851 West Midway Ave. Suite 201  
Alameda, CA 94501

Phone (510) 864-0364

09 April 2008

Mansour Sepehr  
SOMA Environmental Engineering Inc.  
6620 Owens Drive, Suite A  
Pleasanton, CA 94588

RE: 3609 International Blvd, Oakland

Work Order Number: 8040001

This Laboratory report has been reviewed for technical correctness and completeness. This entire report was reviewed and approved by the Laboratory Director or the Director's designee, as verified by the following signature.

Sincerely,

A handwritten signature in black ink, appearing to read "Maiid Akhavan".

Maiid Akhavan  
Laboratory Director



SOMA Environmental Engineering Inc.  
6620 Owens Drive, Suite A  
Pleasanton CA, 94588

Project: 3609 International Blvd, Oakland

Project Number: 2335

Project Manager: Mansour Sepehr

**Reported:**  
09-Apr-08 18:45

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-1	8040001-01	Water	28-Mar-08 13:28	01-Apr-08 17:35
MW-3	8040001-02	Water	28-Mar-08 13:22	01-Apr-08 17:35

SOMA Environmental Engineering Inc.  
6620 Owens Drive, Suite A  
Pleasanton CA, 94588

Project: 3609 International Blvd, Oakland

Project Number: 2335  
Project Manager: Mansour Sepehr

**Reported:**  
09-Apr-08 18:45

### Volatile Organic Compounds by EPA Method 8260B

#### Pacific Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>MW-1 (8040001-01) Water Sampled: 28-Mar-08 13:28 Received: 01-Apr-08 17:35</b>									
Gasoline (C6-C12)	705	50.0	ug/l	1	BD80701	01-Apr-08	03-Apr-08	EPA 8260B	
Benzene	9.73	0.500	"	"	"	"	"	"	"
Ethylbenzene	8.27	0.500	"	"	"	"	"	"	"
m&p-Xylene	28.9	2.00	"	"	"	"	"	"	"
o-xylene	10.8	0.500	"	"	"	"	"	"	"
Toluene	3.91	2.00	"	"	"	"	"	"	"
MTBE	5.08	0.500	"	"	"	"	"	"	"
Surrogate: 4-Bromofluorobenzene	111 %		70-130		"	"	"	"	"
Surrogate: Dibromofluoromethane	110 %		70-130		"	"	"	"	"
Surrogate: Perdeuterotoluene	111 %		70-130		"	"	"	"	"
<b>MW-3 (8040001-02RE1) Water Sampled: 28-Mar-08 13:22 Received: 01-Apr-08 17:35</b>									
Gasoline (C6-C12)	13700	215	ug/l	4.3	BD80701	01-Apr-08	07-Apr-08	EPA 8260B	
Benzene	653	2.15	"	"	"	"	"	"	"
Ethylbenzene	514	2.15	"	"	"	"	"	"	"
m&p-Xylene	697	8.60	"	"	"	"	"	"	"
o-xylene	456	2.15	"	"	"	"	"	"	"
Toluene	395	8.60	"	"	"	"	"	"	"
MTBE	ND	2.15	"	"	"	"	"	"	"
Surrogate: 4-Bromofluorobenzene	111 %		70-130		"	"	"	"	"
Surrogate: Dibromofluoromethane	105 %		70-130		"	"	"	"	"
Surrogate: Perdeuterotoluene	117 %		70-130		"	"	"	"	"



SOMA Environmental Engineering Inc.  
6620 Owens Drive, Suite A  
Pleasanton CA, 94588

Project: 3609 International Blvd, Oakland

Project Number: 2335  
Project Manager: Mansour Sepehr

Reported:  
09-Apr-08 18:45

### Volatile Organic Compounds by EPA Method 8260B - Quality Control

#### Pacific Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD RPD	RPD Limit	Notes
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#### Batch BD80701 - EPA 5030 Water MS

##### Blank (BD80701-BLK1)

Prepared & Analyzed: 07-Apr-08

Surrogate: 4-Bromofluorobenzene	46.8	ug/l	50.0		93.6	70-130
Surrogate: Dibromofluoromethane	59.3	"	50.0		119	70-130
Surrogate: Perdeuterotoluene	51.1	"	50.0		102	70-130
Gasoline (C6-C12)	ND	50.0	"			
Benzene	ND	0.500	"			
Ethylbenzene	ND	0.500	"			
m&p-Xylene	ND	2.00	"			
o-xylene	ND	0.500	"			
Toluene	ND	2.00	"			
MTBE	ND	0.500	"			

##### LCS (BD80701-BS1)

Prepared & Analyzed: 07-Apr-08

Surrogate: 4-Bromofluorobenzene	54.6	ug/l	50.0		109	70-130
Surrogate: Dibromofluoromethane	49.4	"	50.0		98.8	70-130
Surrogate: Perdeuterotoluene	54.5	"	50.0		109	70-130
Gasoline (C6-C12)	2590	50.0	"	2000	130	70-130
Benzene	73.0	0.500	"	100	73.0	70-130
Toluene	79.7	2.00	"	100	79.7	70-130
MTBE	104	0.500	"	100	104	70-130

##### LCS Dup (BD80701-BSD1)

Prepared & Analyzed: 07-Apr-08

Surrogate: 4-Bromofluorobenzene	53.0	ug/l	50.0		106	70-130
Surrogate: Dibromofluoromethane	49.3	"	50.0		98.6	70-130
Surrogate: Perdeuterotoluene	57.6	"	50.0		115	70-130
Gasoline (C6-C12)	2200	50.0	"	2000	110	70-130
Benzene	78.5	0.500	"	100	78.5	70-130
Toluene	84.4	2.00	"	100	84.4	70-130
MTBE	97.3	0.500	"	100	97.3	70-130



SOMA Environmental Engineering Inc.  
6620 Owens Drive, Suite A  
Pleasanton CA, 94588

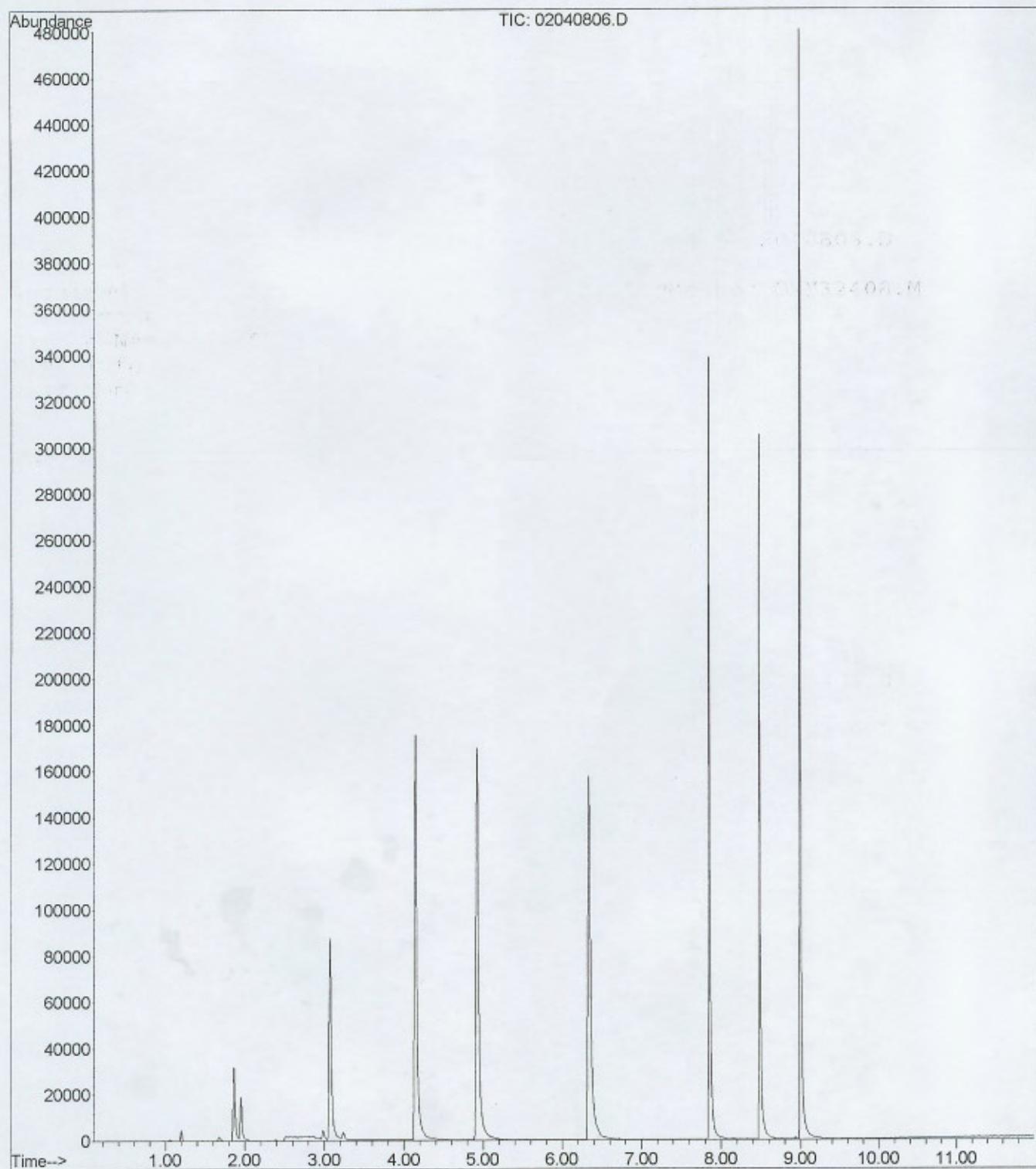
Project: 3609 International Blvd, Oakland  
Project Number: 2335  
Project Manager: Mansour Sepehr

**Reported:**  
09-Apr-08 18:45

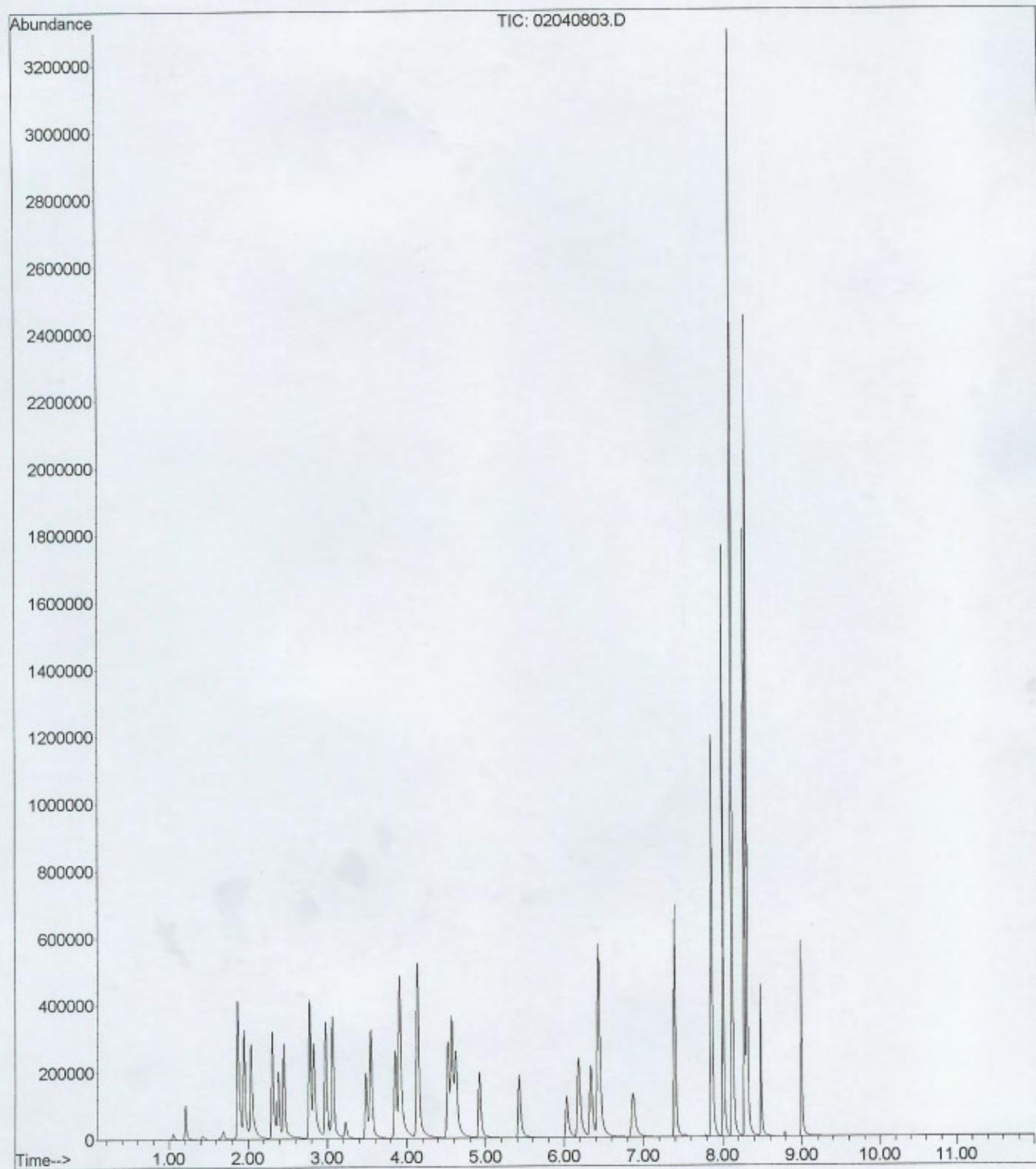
### Notes and Definitions

DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

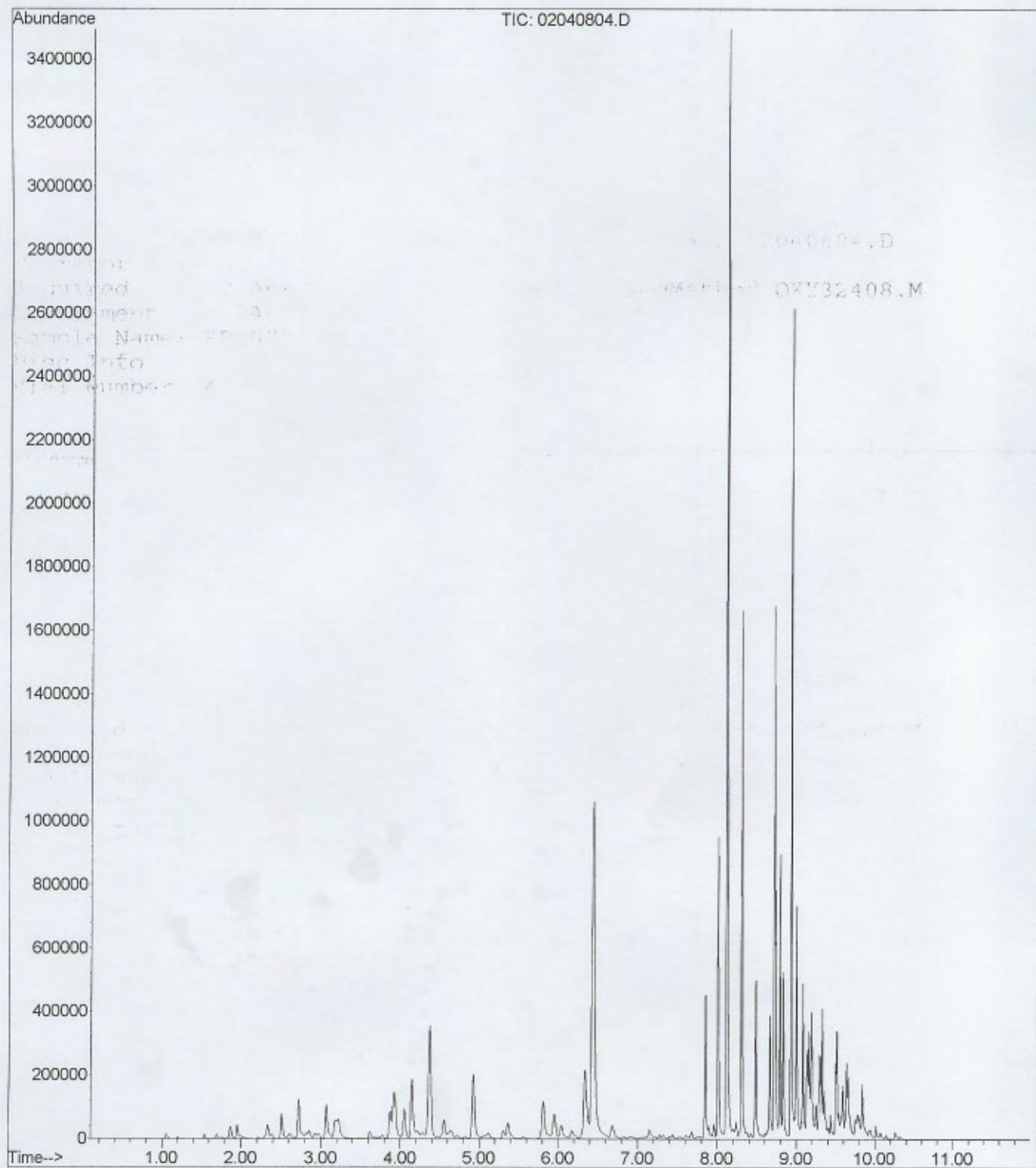
File : C:\MSDChem\1\DATA\2008-Apr-02-1753.b\02040806.D  
Operator :  
Acquired : 2 Apr 2008 8:32 pm using AcqMethod OXY32408.M  
Instrument : PAL GCMS  
Sample Name: BD80701-BLK1  
Misc Info :  
Vial Number: 6



File : C:\MSDChem\1\DATA\2008-Apr-02-1753.b\02040803.D  
Operator :  
Acquired : 2 Apr 2008 7:11 pm using AcqMethod OXY32408.M  
Instrument : PAL GCMS  
Sample Name: BD80701-BS1@voc  
Misc Info :  
Vial Number: 3



File : C:\MSDChem\1\DATA\2008-Apr-02-1753.b\02040804.D  
Operator :  
Acquired : 2 Apr 2008 7:37 pm using AcqMethod OXY32408.M  
Instrument : PAL GCMS  
Sample Name: BD80701-BS1@gas  
Misc Info :  
Vial Number: 4



# CHAIN OF CUSTODY FORM

Page 1 of 1

**PAL** Pacific Analytical Laboratory  
 851 West Midway Ave., Suite 201B  
 Alameda, CA 94501  
 510-864-0364 Telephone  
 510-864-0365 Fax

PAL

Login# 8040014  
8040015

4/15/08  
 SJ

Project No: <u>2335</u>				Sampler: <u>Luis Elizalde</u>								Analyses/Method <u>TPHg, BTEX, MTBE (3 tests)</u>			
Project Name: <u>3609 International Blvd</u>				Report To: <u>Joyce Bobek</u>											
<u>OAKLAND</u>				Company: <u>SOMA Environmental Engineering, Inc.</u>											
Turnaround Time: Standard				Tel: <u>925-734-6400</u> Fax: <u>925-734-6401</u>											
		Sampling Date/Time		Matrix		# of Containers		Preservatives		Field Notes					
Lab No.	Sample ID	Date	Time	Soil	Water	Waste		HCL	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	ICE				
	MW 1	4/14/08	9:30	x			3VOAs	x		x					
	MW 3	4/14/08	9:15	x			3VOAs	x		x					
Sampler Remarks: <u>EDF req'd</u>				Relinquished by: <u>R. Elizalde</u>				Date/Time: <u>4/14/08 6:30 pm</u>		Received by: <u>V. Vazquez</u>		Date/Time: <u>4/15/08 1:05</u>			



PAL  
Pacific Analytical Laboratory

851 West Midway Ave. Suite 201  
Alameda, CA 94501

Phone (510) 864-0364

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08 May 2008

Mansour Sepehr  
SOMA Environmental Engineering Inc.  
6620 Owens Drive, Suite A  
Pleasanton, CA 94588

RE: 3609 International Blvd, Oakland

Work Order Number: 8040015

This Laboratory report has been reviewed for technical correctness and completeness. This entire report was reviewed and approved by the Laboratory Director or the Director's designee, as verified by the following signature.

Sincerely,

A handwritten signature in black ink, appearing to read "Maiid Akhavan".

---

Maiid Akhavan  
Laboratory Director



SOMA Environmental Engineering Inc.  
6620 Owens Drive, Suite A  
Pleasanton CA, 94588

Project: 3609 International Blvd, Oakland

Project Number: 2335

Project Manager: Mansour Sepehr

**Reported:**  
08-May-08 13:32

#### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-1	8040015-01	Water	14-Apr-08 09:30	15-Apr-08 19:27
MW-3	8040015-02	Water	14-Apr-08 09:15	15-Apr-08 19:27



SOMA Environmental Engineering Inc.  
6620 Owens Drive, Suite A  
Pleasanton CA, 94588

Project: 3609 International Blvd, Oakland

Project Number: 2335  
Project Manager: Mansour Sepehr

Reported:  
08-May-08 13:32

**Volatile Organic Compounds by EPA Method 8260B**  
**Pacific Analytical Laboratory**

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>MW-1 (8040015-01) Water Sampled: 14-Apr-08 09:30 Received: 15-Apr-08 19:27</b>									
Gasoline (C6-C12)	ND	50.0	ug/l	1	BD81401	15-Apr-08	15-Apr-08	EPA 8260B	
Benzene	ND	0.500	"	"	"	"	"	"	"
Ethylbenzene	ND	0.500	"	"	"	"	"	"	"
m&p-Xylene	ND	2.00	"	"	"	"	"	"	"
o-xylene	ND	0.500	"	"	"	"	"	"	"
Toluene	ND	2.00	"	"	"	"	"	"	"
MTBE	ND	0.500	"	"	"	"	"	"	"
Surrogate: 4-Bromofluorobenzene	103 %	70-130		"	"	"	"	"	
Surrogate: Dibromofluoromethane	111 %	70-130		"	"	"	"	"	
Surrogate: Perdeuterotoluene	110 %	70-130		"	"	"	"	"	
<b>MW-3 (8040015-02RE1) Water Sampled: 14-Apr-08 09:15 Received: 15-Apr-08 19:27</b>									
Gasoline (C6-C12)	6350	50.0	ug/l	1	BD81401	15-Apr-08	17-Apr-08	EPA 8260B	
Benzene	124	0.500	"	"	"	"	"	"	"
Ethylbenzene	231	0.500	"	"	"	"	"	"	"
m&p-Xylene	366	2.00	"	"	"	"	"	"	"
o-xylene	97.8	0.500	"	"	"	"	"	"	"
Toluene	18.9	2.00	"	"	"	"	"	"	"
MTBE	ND	0.500	"	"	"	"	"	"	
Surrogate: 4-Bromofluorobenzene	135 %	70-130		"	"	"	"	"	S-GC
Surrogate: Dibromofluoromethane	103 %	70-130		"	"	"	"	"	
Surrogate: Perdeuterotoluene	127 %	70-130		"	"	"	"	"	



SOMA Environmental Engineering Inc.  
6620 Owens Drive, Suite A  
Pleasanton CA, 94588

Project: 3609 International Blvd, Oakland

Project Number: 2335  
Project Manager: Mansour Sepehr

**Reported:**  
08-May-08 13:32

### Volatile Organic Compounds by EPA Method 8260B - Quality Control

#### Pacific Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD RPD	RPD Limit	Notes
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#### Batch BD81401 - EPA 5030 Water MS

##### Blank (BD81401-BLK1)

Prepared & Analyzed: 14-Apr-08

Surrogate: 4-Bromofluorobenzene	47.2	ug/l	50.0	94.4	70-130
Surrogate: Dibromofluoromethane	58.4	"	50.0	117	70-130
Surrogate: Perdeuterotoluene	51.6	"	50.0	103	70-130
Gasoline (C6-C12)	ND	50.0	"		
Benzene	ND	0.500	"		
Ethylbenzene	ND	0.500	"		
m&p-Xylene	ND	2.00	"		
o-xylene	ND	0.500	"		
Toluene	ND	2.00	"		
MTBE	ND	0.500	"		

##### LCS (BD81401-BS1)

Prepared & Analyzed: 14-Apr-08

Surrogate: 4-Bromofluorobenzene	50.1	ug/l	50.0	100	70-130
Surrogate: Dibromofluoromethane	47.5	"	50.0	95.0	70-130
Surrogate: Perdeuterotoluene	49.4	"	50.0	98.8	70-130
Gasoline (C6-C12)	2410	50.0	"	120	70-130
Benzene	88.4	0.500	"	88.4	70-130
Toluene	90.2	2.00	"	90.2	70-130
MTBE	89.0	0.500	"	89.0	70-130

##### LCS Dup (BD81401-BSD1)

Prepared & Analyzed: 14-Apr-08

Surrogate: 4-Bromofluorobenzene	50.6	ug/l	50.0	101	70-130
Surrogate: Dibromofluoromethane	49.2	"	50.0	98.4	70-130
Surrogate: Perdeuterotoluene	47.6	"	50.0	95.2	70-130
Gasoline (C6-C12)	1990	50.0	"	99.5	70-130
Benzene	79.4	0.500	"	79.4	70-130
Toluene	84.0	2.00	"	84.0	70-130
MTBE	91.8	0.500	"	91.8	70-130
				19.1	20
				10.7	20
				7.12	20
				3.10	20



SOMA Environmental Engineering Inc.  
6620 Owens Drive, Suite A  
Pleasanton CA, 94588

Project: 3609 International Blvd, Oakland  
Project Number: 2335  
Project Manager: Mansour Sepehr

**Reported:**  
08-May-08 13:32

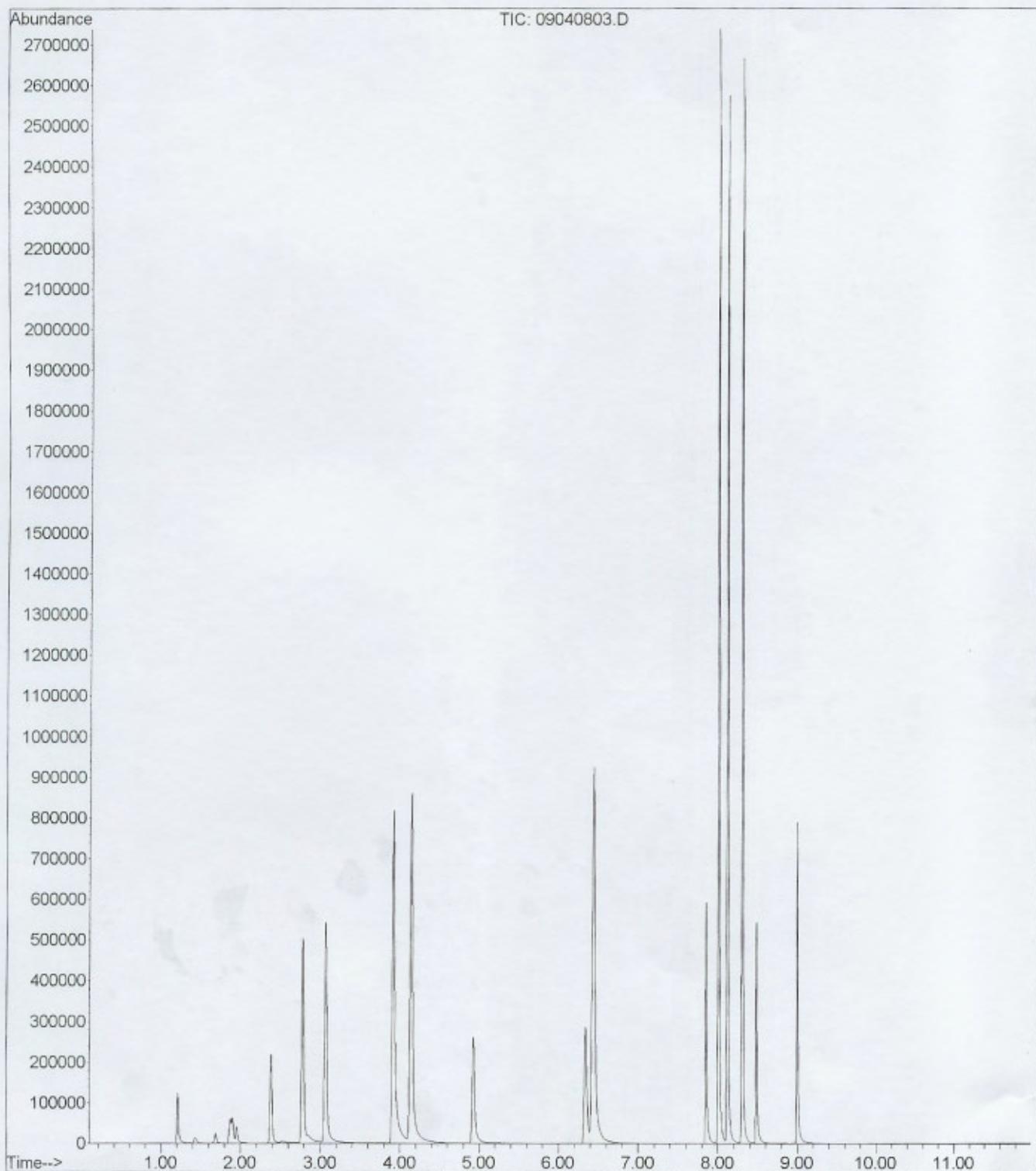
### Notes and Definitions

S-GC	Surrogate recovery outside of control limits. The data was accepted based on valid recovery of the remaining surrogate.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

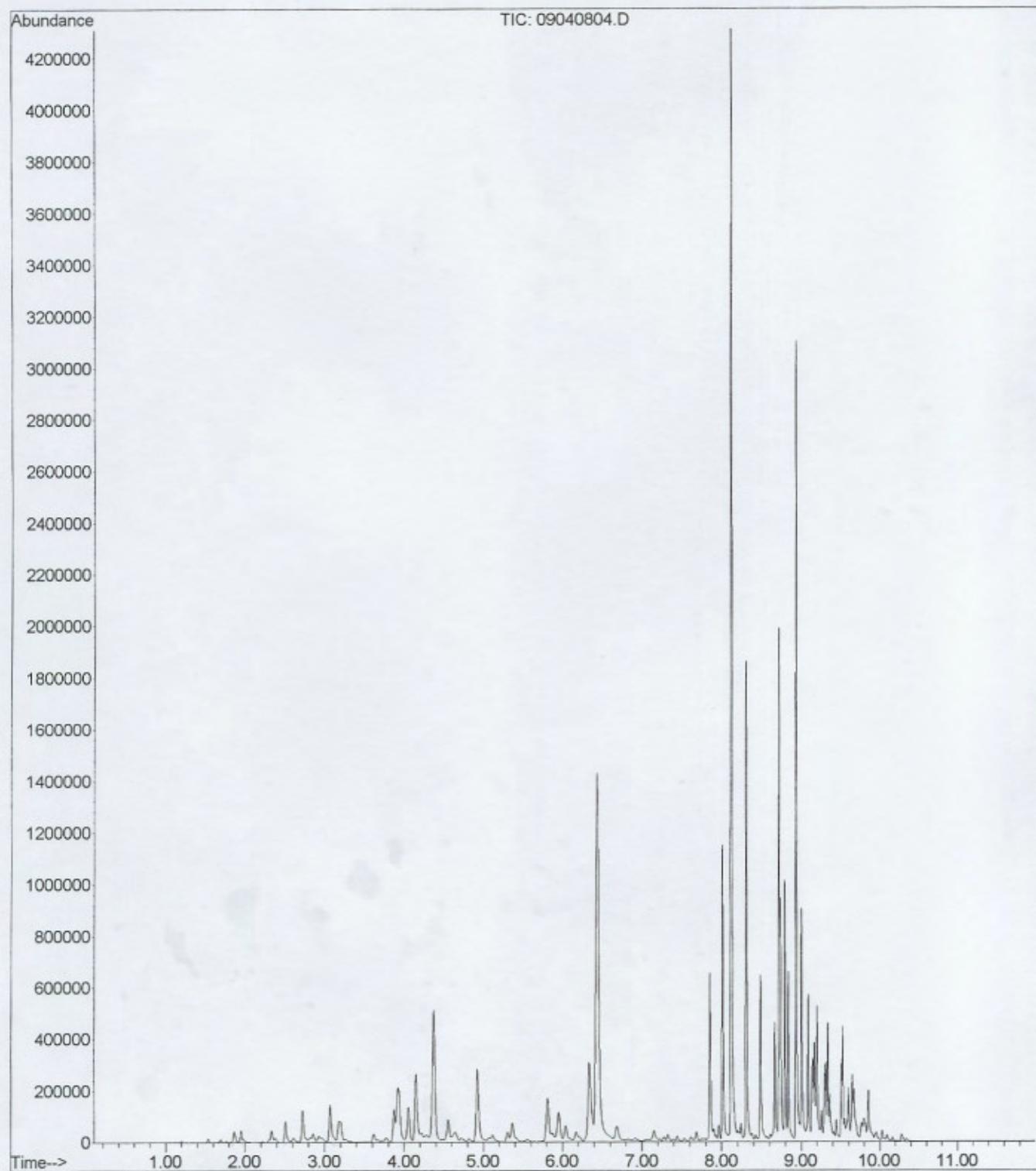
File : C:\MSDChem\1\DATA\2008-Apr-09-1731.b\09040806.D  
Operator :  
Acquired : 9 Apr 2008 7:59 pm using AcqMethod OXY32408.M  
Instrument : PAL GCMS  
Sample Name: BD81401-BLK1  
Misc Info :  
Vial Number: 6



File : C:\MSDChem\1\DATA\2008-Apr-09-1731.b\09040803.D  
Operator :  
Acquired : 9 Apr 2008 6:40 pm using AcqMethod OXY32408.M  
Instrument : PAL GCMS  
Sample Name: BD81401-BS1@voc  
Misc Info :  
Vial Number: 3



File : C:\MSDChem\1\DATA\2008-Apr-09-1731.b\09040804.D  
Operator :  
Acquired : 9 Apr 2008 7:06 pm using AcqMethod OXY32408.M  
Instrument : PAL GCMS  
Sample Name: BD81401-BS1@gas  
Misc Info :  
Vial Number: 4



## **CHAIN OF CUSTODY FORM**

Page 1 of 1

**PAL** Pacific Analytical Laboratory  
851 West Midway Ave., Suite 201B  
Alameda, CA 94501  
510-864-0364 Telephone  
510-864-0365 Fax

PAL  
Login# 8040020

Project No: 2335			Sampler: LUIS ELAIZQUI			Analyses/Method						
Project Name: 3609 International Blvd			Report To: JOYCE BOBEK									
OAKLAND			Company: SOMA Environmental Engineering, Inc.									
Turnaround Time: Standard			Tel: 925-734-6400									
			Fax: 925-734-6401									
		Sampling Date/Time		Matrix	# of Containers	Preservatives						
Lab No.	Sample ID	Date	Time	Soil	Water	Waste	HCl	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	ICE	Field Notes	
	MW3	4/18/08	2:35	X			X			X		X
	MW1	4/18/08	2:45	X			X			X		X
Sampler Remarks: EDF REQD				Relinquished by:		Date/Time: 4/18/08 8:00 pm		Received by: MHD ALI		Date/Time: 4:22:08 17:37		



PAL Pacific Analytical Laboratory

851 West Midway Ave. Suite 201

Alameda, CA 94501

Phone (510) 864-0364

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08 May 2008

Mansour Sepehr  
SOMA Environmental Engineering Inc.  
6620 Owens Drive, Suite A  
Pleasanton, CA 94588

RE: 3609 International Blvd, Oakland

Work Order Number: 8040020

This Laboratory report has been reviewed for technical correctness and completeness. This entire report was reviewed and approved by the Laboratory Director or the Director's designee, as verified by the following signature.

Sincerely,

A handwritten signature in black ink, appearing to read "Maiid Akhavan".

---

Maiid Akhavan  
Laboratory Director



SOMA Environmental Engineering Inc.  
6620 Owens Drive, Suite A  
Pleasanton CA, 94588

Project: 3609 International Blvd, Oakland

Project Number: 2335

Project Manager: Mansour Sepehr

**Reported:**  
08-May-08 13:46

#### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-3	8040020-01	Water	18-Apr-08 14:35	22-Apr-08 17:37
MW-1	8040020-02	Water	18-Apr-08 14:45	22-Apr-08 17:37



SOMA Environmental Engineering Inc.  
6620 Owens Drive, Suite A  
Pleasanton CA, 94588

Project: 3609 International Blvd, Oakland

Project Number: 2335  
Project Manager: Mansour Sepehr

Reported:  
08-May-08 13:46

**Volatile Organic Compounds by EPA Method 8260B**  
**Pacific Analytical Laboratory**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>MW-3 (8040020-01RE1) Water Sampled: 18-Apr-08 14:35 Received: 22-Apr-08 17:37</b>									
Gasoline (C6-C12)	4630	215	ug/l	4.3	BD82901	24-Apr-08	29-Apr-08	EPA 8260B	
Benzene	191	2.15	"	"	"	"	"	"	"
Ethylbenzene	73.6	2.15	"	"	"	"	"	"	"
m&p-Xylene	562	8.60	"	"	"	"	"	"	"
o-xylene	130	2.15	"	"	"	"	"	"	"
Toluene	101	8.60	"	"	"	"	"	"	"
MTBE	ND	2.15	"	"	"	"	"	"	"
Surrogate: 4-Bromofluorobenzene	116 %		70-130		"	"	"	"	"
Surrogate: Dibromofluoromethane	108 %		70-130		"	"	"	"	"
Surrogate: Perdeuterotoluene	116 %		70-130		"	"	"	"	"
<b>MW-1 (8040020-02) Water Sampled: 18-Apr-08 14:45 Received: 22-Apr-08 17:37</b>									
Gasoline (C6-C12)	3710	50.0	ug/l	1	BD82901	24-Apr-08	25-Apr-08	EPA 8260B	
Benzene	27.1	0.500	"	"	"	"	"	"	"
Ethylbenzene	47.3	0.500	"	"	"	"	"	"	"
m&p-Xylene	248	2.00	"	"	"	"	"	"	"
o-xylene	54.9	0.500	"	"	"	"	"	"	"
Toluene	21.0	2.00	"	"	"	"	"	"	"
MTBE	11.4	0.500	"	"	"	"	"	"	"
Surrogate: 4-Bromofluorobenzene	121 %		70-130		"	"	"	"	"
Surrogate: Dibromofluoromethane	106 %		70-130		"	"	"	"	"
Surrogate: Perdeuterotoluene	127 %		70-130		"	"	"	"	"



SOMA Environmental Engineering Inc.  
6620 Owens Drive, Suite A  
Pleasanton CA, 94588

Project: 3609 International Blvd, Oakland

Project Number: 2335  
Project Manager: Mansour Sepehr

Reported:  
08-May-08 13:46

### Volatile Organic Compounds by EPA Method 8260B - Quality Control

#### Pacific Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD RPD	RPD Limit	Notes
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#### Batch BD82901 - EPA 5030 Water MS

##### Blank (BD82901-BLK1)

Prepared & Analyzed: 29-Apr-08

Surrogate: 4-Bromofluorobenzene	49.2	ug/l	50.0		98.4	70-130
Surrogate: Dibromofluoromethane	57.8	"	50.0		116	70-130
Surrogate: Perdeuterotoluene	54.6	"	50.0		109	70-130
Gasoline (C6-C12)	ND	50.0	"			
Benzene	ND	0.500	"			
Ethylbenzene	ND	0.500	"			
m&p-Xylene	ND	2.00	"			
o-xylene	ND	0.500	"			
Toluene	ND	2.00	"			
MTBE	ND	0.500	"			

##### LCS (BD82901-BS1)

Prepared & Analyzed: 29-Apr-08

Surrogate: 4-Bromofluorobenzene	50.9	ug/l	50.0		102	70-130
Surrogate: Dibromofluoromethane	49.5	"	50.0		99.0	70-130
Surrogate: Perdeuterotoluene	50.3	"	50.0		101	70-130
Gasoline (C6-C12)	1920	50.0	"	2000	96.0	70-130
Benzene	70.0	0.500	"	100	70.0	70-130
Toluene	72.1	2.00	"	100	72.1	70-130
MTBE	87.7	0.500	"	100	87.7	70-130

##### LCS Dup (BD82901-BSD1)

Prepared & Analyzed: 29-Apr-08

Surrogate: 4-Bromofluorobenzene	53.2	ug/l	50.0		106	70-130
Surrogate: Dibromofluoromethane	50.4	"	50.0		101	70-130
Surrogate: Perdeuterotoluene	51.3	"	50.0		103	70-130
Gasoline (C6-C12)	1960	50.0	"	2000	98.0	70-130
Benzene	70.3	0.500	"	100	70.3	70-130
Toluene	78.6	2.00	"	100	78.6	70-130
MTBE	86.0	0.500	"	100	86.0	70-130



SOMA Environmental Engineering Inc.  
6620 Owens Drive, Suite A  
Pleasanton CA, 94588

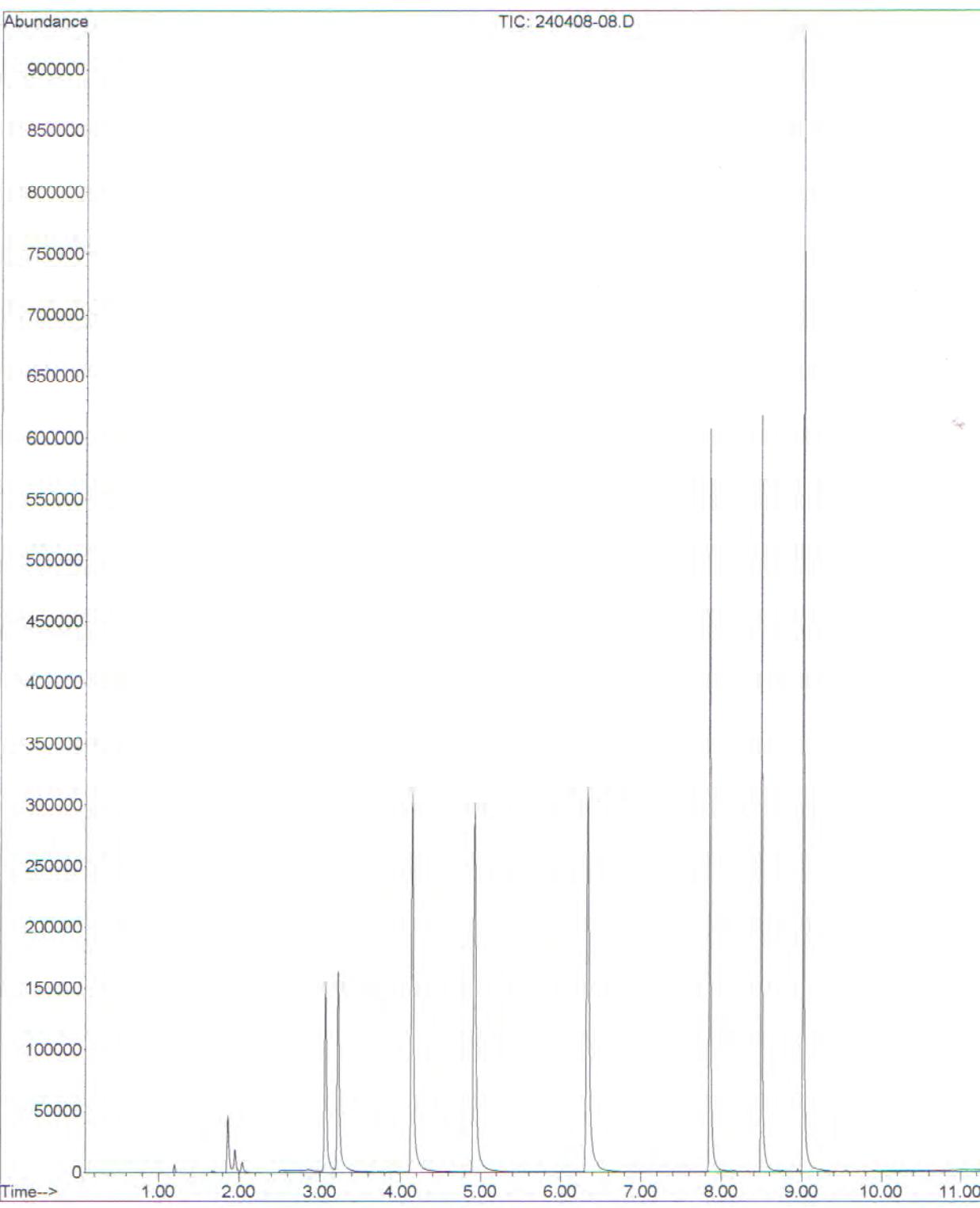
Project: 3609 International Blvd, Oakland  
Project Number: 2335  
Project Manager: Mansour Sepehr

**Reported:**  
08-May-08 13:46

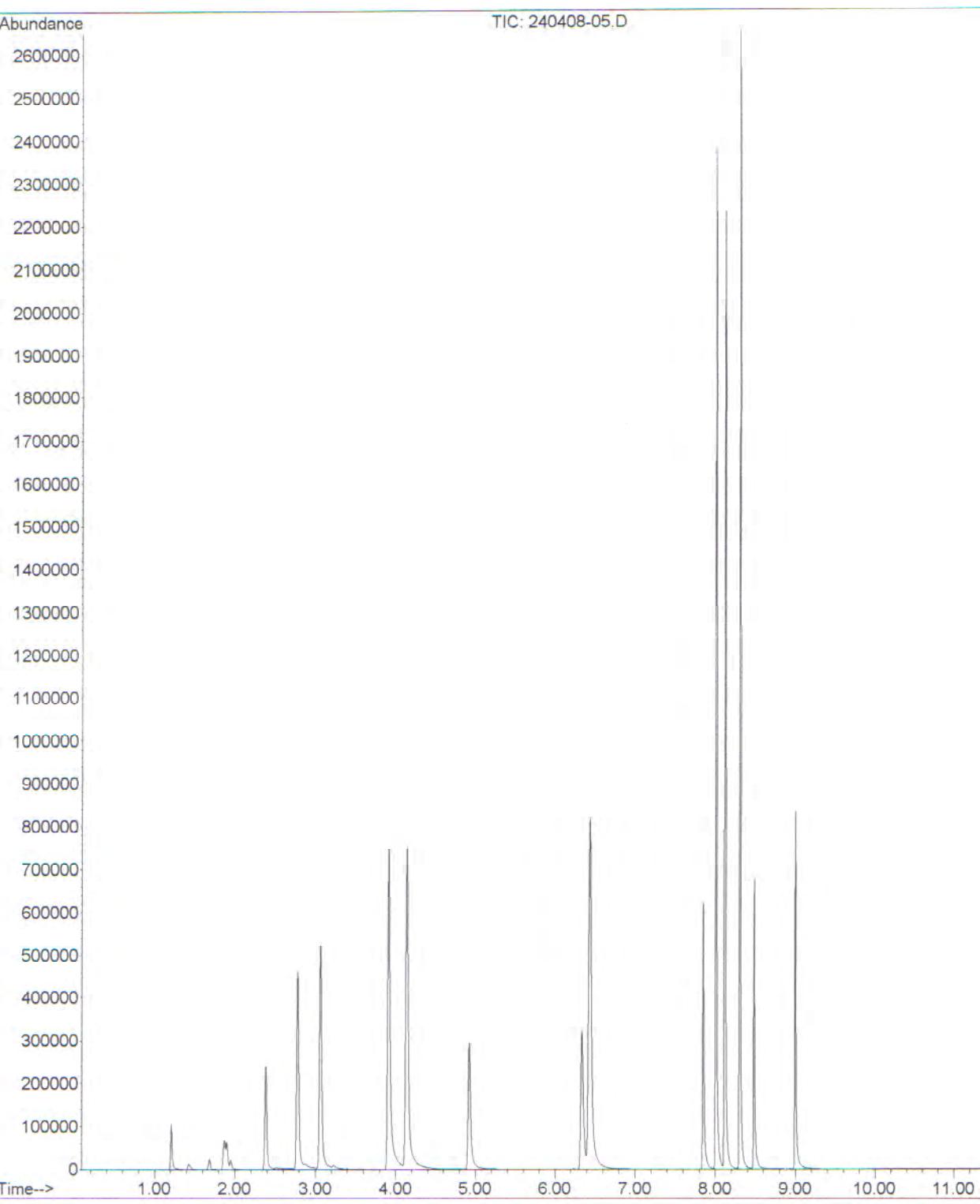
### Notes and Definitions

DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

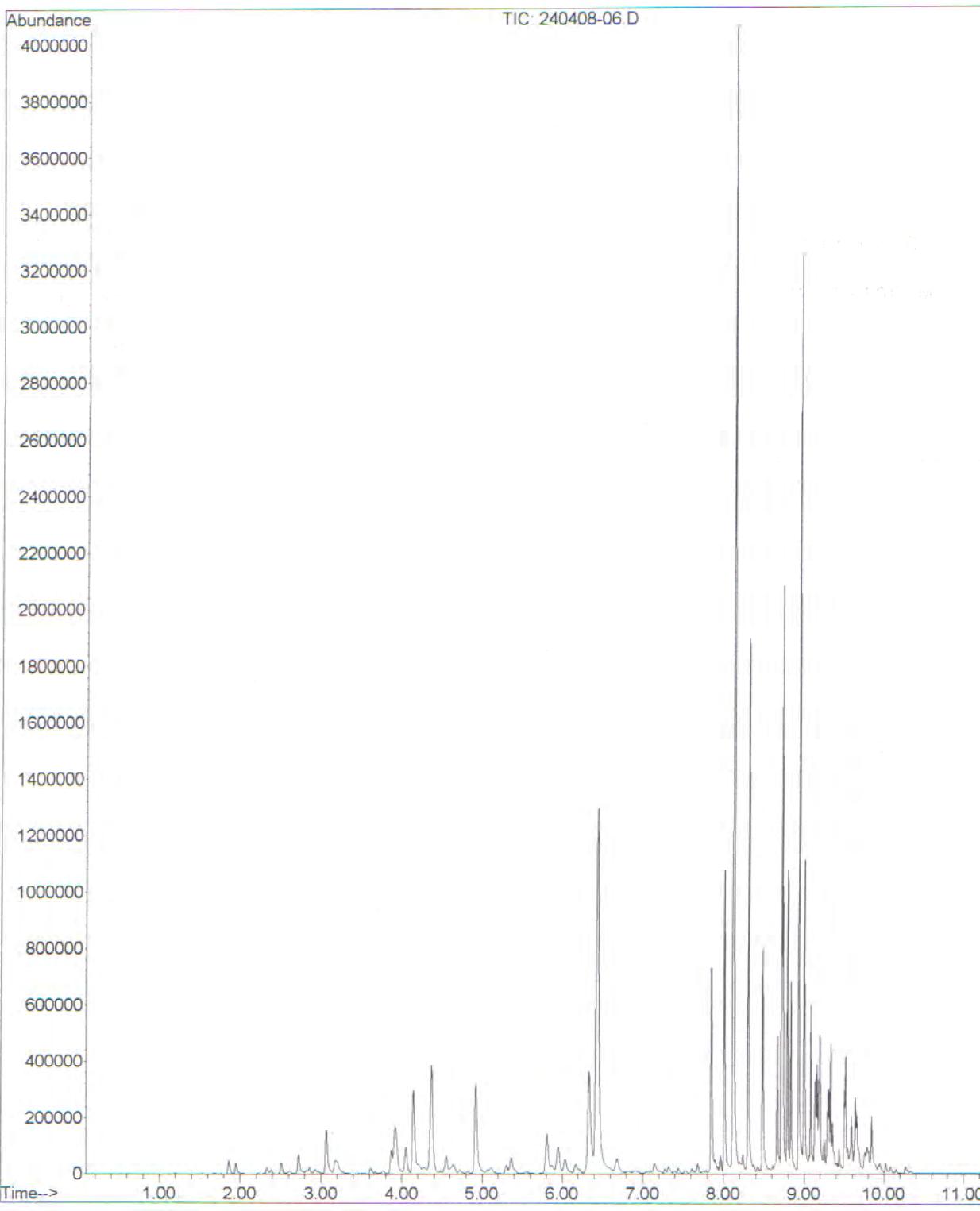
File : C:\MSDCHEM\1\DATA\2008-Apr-24-1604.b\240408-08.D  
Operator :  
Acquired : 24 Apr 2008 8:05 pm using AcqMethod OXY32408.M  
Instrument : PAL GCMS  
Sample Name: BD82901-BLK1  
Misc Info :  
Vial Number: 8



File : C:\MSDChem\1\DATA\2008-Apr-24-1604.b\240408-05.D  
Operator :  
Acquired : 24 Apr 2008 6:46 pm using AcqMethod OXY32408.M  
Instrument : PAL GCMS  
Sample Name: BD82901-BS1@voc  
Misc Info :  
Vial Number: 5



File : C:\MSDChem\1\DATA\2008-Apr-24-1604.b\240408-06.D  
Operator :  
Acquired : 24 Apr 2008 7:12 pm using AcqMethod OXY32408.M  
Instrument : PAL GCMS  
Sample Name: BD82901-BS1@gas  
Misc Info :  
Vial Number: 6



## **CHAIN OF CUSTODY**

Page 1 of 1

Pacific Analytical Laboratory

851 West Midway Ave., Suite 201B

Alameda, CA 94501

510-864-0364 phone

510-864-0365 fax

Project No: 2335

PAL LOGIN # 8650018

Sampler: Luis E. A. Z. B. O.

**Report To:** Joyce Bobek

**Project Name:** 3609 International Blvd., Oakland, CA **Company :** SOMA Environmental

### Turnaround Time: Standard

**Telephone:** 925-734-6400

**Fax:** 925-734-6401

**Notes: EDF OUTPUT REQUIRED**

**RELINQUISHED BY:**

RECEIVED BY:

8 Pety 5/3/08

5:00  
DATE/TIME

**DATE/TIME**

**DATE/TIME**

05/13/08  
16:40 DATE/TIME

16:40 DATE/TIME

**DATE/TIME**

**DATE/TIME**



PAL  
Pacific Analytical Laboratory

851 West Midway Ave. Suite 201

Alameda, CA 94501

Phone (510) 864-0364

---

03 June 2008

Mansour Sepehr  
SOMA Environmental Engineering Inc.  
6620 Owens Drive, Suite A  
Pleasanton, CA 94588

RE: 3609 International Blvd, Oakland

Work Order Number: 8050018

This Laboratory report has been reviewed for technical correctness and completeness. This entire report was reviewed and approved by the Laboratory Director or the Director's designee, as verified by the following signature.

Sincerely,

A handwritten signature in black ink, appearing to read "Maiid Akhavan".

---

Maiid Akhavan  
Laboratory Director



SOMA Environmental Engineering Inc.  
6620 Owens Drive, Suite A  
Pleasanton CA, 94588

Project: 3609 International Blvd, Oakland

Project Number: 2335

Project Manager: Mansour Sepehr

**Reported:**  
03-Jun-08 19:15

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-1	8050018-01	Water	12-May-08 08:50	13-May-08 16:40
MW-3	8050018-02	Water	12-May-08 09:00	13-May-08 16:40



SOMA Environmental Engineering Inc.  
6620 Owens Drive, Suite A  
Pleasanton CA, 94588

Project: 3609 International Blvd, Oakland

Project Number: 2335  
Project Manager: Mansour Sepehr

Reported:  
03-Jun-08 19:15

**Volatile Organic Compounds by EPA Method 8260B**  
**Pacific Analytical Laboratory**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>MW-1 (8050018-01) Water Sampled: 12-May-08 08:50 Received: 13-May-08 16:40</b>									
Gasoline (C6-C12)	ND	50.0	ug/l	1	BE81501	13-May-08	15-May-08	EPA 8260B	
Benzene	ND	0.500	"	"	"	"	"	"	"
Ethylbenzene	ND	0.500	"	"	"	"	"	"	"
m&p-Xylene	ND	2.00	"	"	"	"	"	"	"
o-xylene	ND	0.500	"	"	"	"	"	"	"
Toluene	ND	2.00	"	"	"	"	"	"	"
<b>MTBE</b>	<b>1.32</b>	0.500	"	"	"	"	"	"	"
Surrogate: 4-Bromofluorobenzene		111 %	70-130	"	"	"	"	"	"
Surrogate: Dibromofluoromethane		126 %	70-130	"	"	"	"	"	"
Surrogate: Perdeuterotoluene		114 %	70-130	"	"	"	"	"	"
<b>MW-3 (8050018-02) Water Sampled: 12-May-08 09:00 Received: 13-May-08 16:40</b>									
Gasoline (C6-C12)	<b>3460</b>	50.0	ug/l	1	BE81501	13-May-08	15-May-08	EPA 8260B	
Benzene	<b>111</b>	0.500	"	"	"	"	"	"	"
Ethylbenzene	<b>98.9</b>	0.500	"	"	"	"	"	"	"
m&p-Xylene	<b>174</b>	2.00	"	"	"	"	"	"	"
o-xylene	<b>48.2</b>	0.500	"	"	"	"	"	"	"
Toluene	<b>7.54</b>	2.00	"	"	"	"	"	"	"
MTBE	ND	0.500	"	"	"	"	"	"	"
Surrogate: 4-Bromofluorobenzene		123 %	70-130	"	"	"	"	"	"
Surrogate: Dibromofluoromethane		117 %	70-130	"	"	"	"	"	"
Surrogate: Perdeuterotoluene		114 %	70-130	"	"	"	"	"	"



SOMA Environmental Engineering Inc.  
6620 Owens Drive, Suite A  
Pleasanton CA, 94588

Project: 3609 International Blvd, Oakland

Project Number: 2335  
Project Manager: Mansour Sepehr

Reported:  
03-Jun-08 19:15

### Volatile Organic Compounds by EPA Method 8260B - Quality Control

#### Pacific Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD RPD	RPD Limit	Notes
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#### Batch BE81501 - EPA 5030 Water MS

##### Blank (BE81501-BLK1)

Prepared & Analyzed: 15-May-08

Surrogate: 4-Bromofluorobenzene	52.1	ug/l	50.0	104	70-130
Surrogate: Dibromofluoromethane	63.0	"	50.0	126	70-130
Surrogate: Perdeuterotoluene	55.4	"	50.0	111	70-130
Gasoline (C6-C12)	ND	50.0	"		
Benzene	ND	0.500	"		
Ethylbenzene	ND	0.500	"		
m&p-Xylene	ND	2.00	"		
o-xylene	ND	0.500	"		
Toluene	ND	2.00	"		
MTBE	ND	0.500	"		

##### LCS (BE81501-BS1)

Prepared & Analyzed: 15-May-08

Surrogate: 4-Bromofluorobenzene	48.2	ug/l	50.0	96.4	70-130
Surrogate: Dibromofluoromethane	47.4	"	50.0	94.8	70-130
Surrogate: Perdeuterotoluene	47.5	"	50.0	95.0	70-130
Gasoline (C6-C12)	2030	50.0	"	102	70-130
Benzene	88.5	0.500	"	88.5	70-130
Toluene	86.0	2.00	"	86.0	70-130
MTBE	77.8	0.500	"	77.8	70-130

##### LCS Dup (BE81501-BSD1)

Prepared & Analyzed: 15-May-08

Surrogate: 4-Bromofluorobenzene	49.0	ug/l	50.0	98.0	70-130
Surrogate: Dibromofluoromethane	47.6	"	50.0	95.2	70-130
Surrogate: Perdeuterotoluene	49.1	"	50.0	98.2	70-130
Gasoline (C6-C12)	1990	50.0	"	99.5	70-130
Benzene	92.9	0.500	"	92.9	70-130
Toluene	89.7	2.00	"	89.7	70-130
MTBE	74.8	0.500	"	74.8	70-130



SOMA Environmental Engineering Inc.  
6620 Owens Drive, Suite A  
Pleasanton CA, 94588

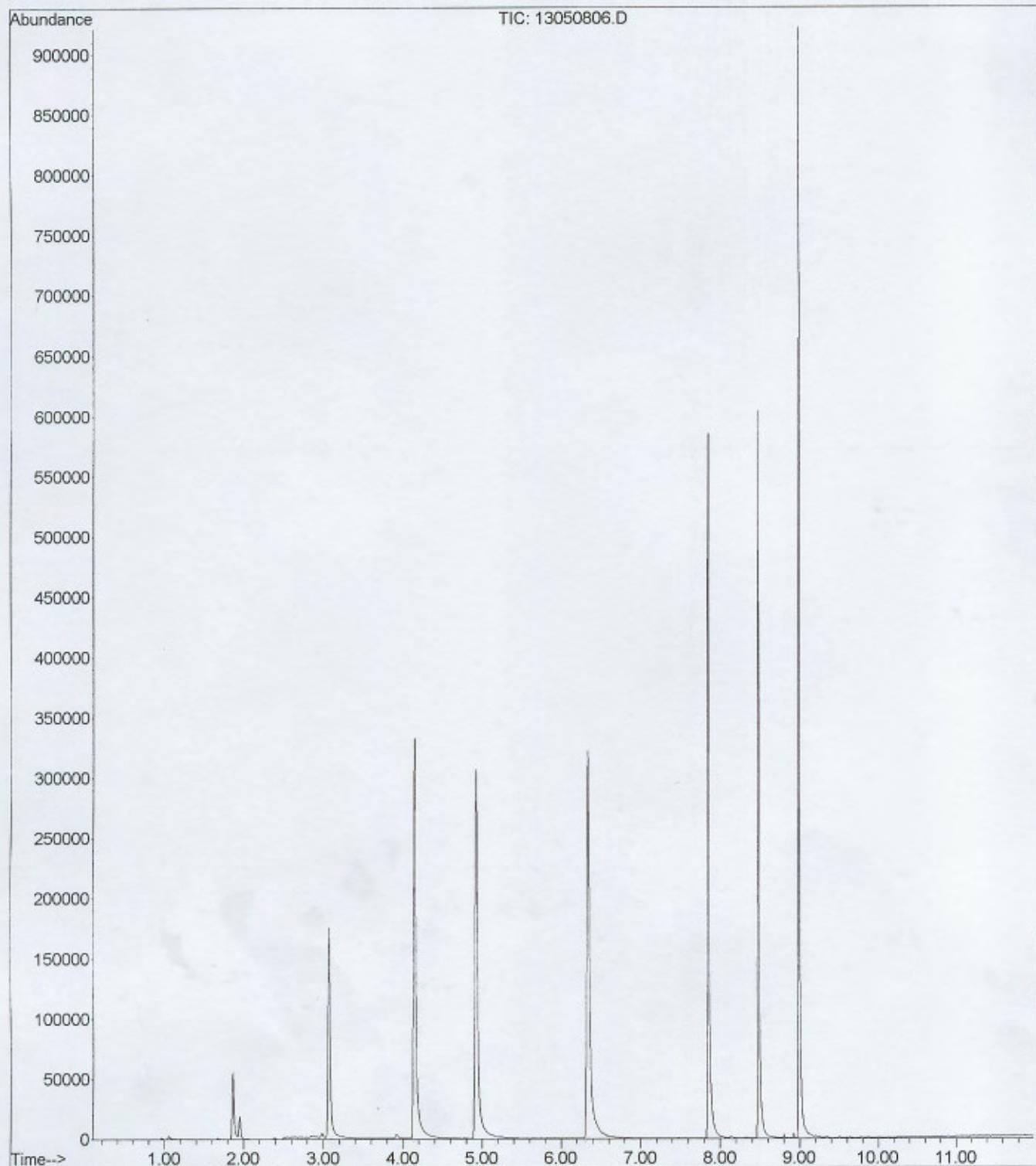
Project: 3609 International Blvd, Oakland  
Project Number: 2335  
Project Manager: Mansour Sepehr

**Reported:**  
03-Jun-08 19:15

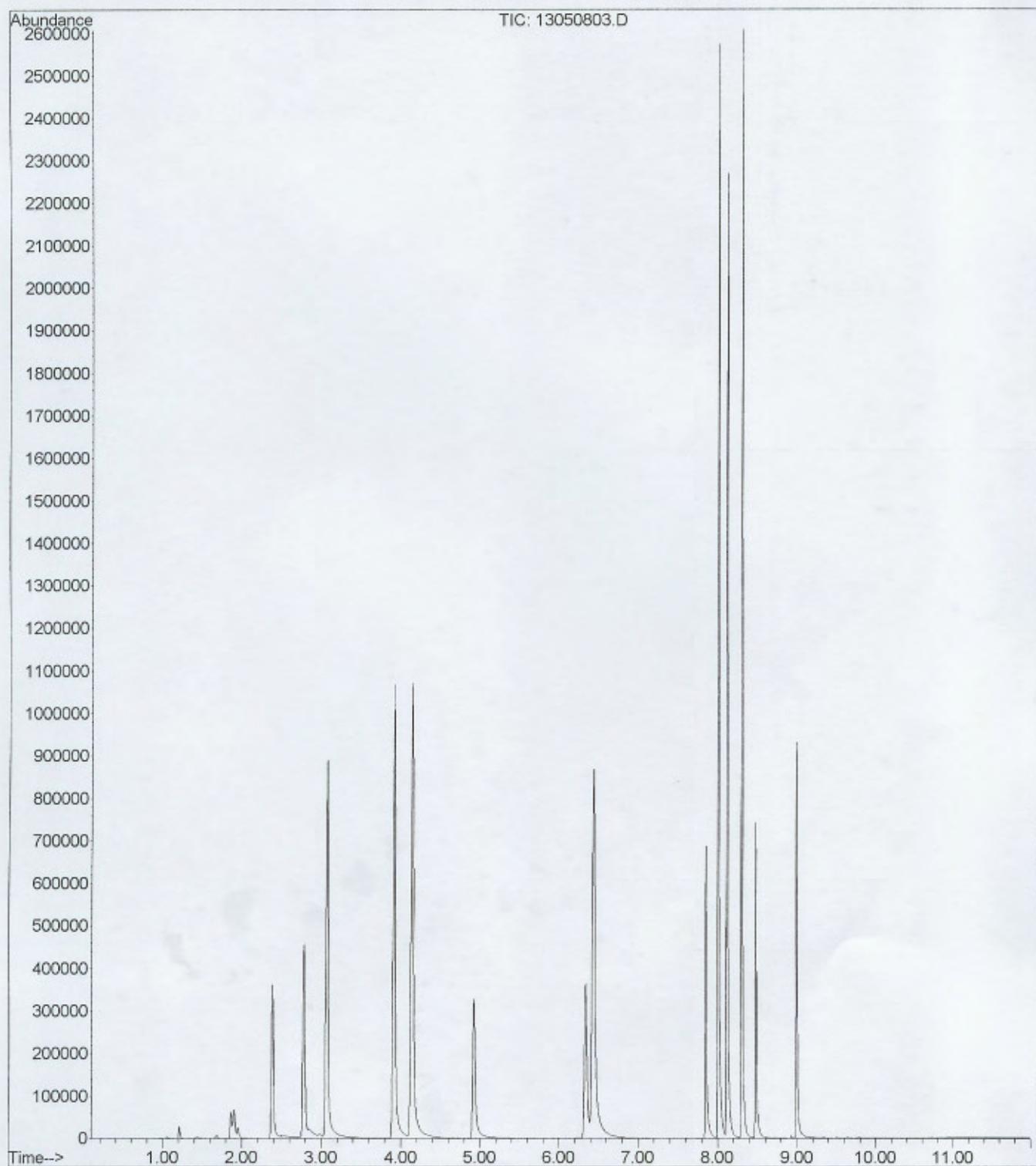
### Notes and Definitions

DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

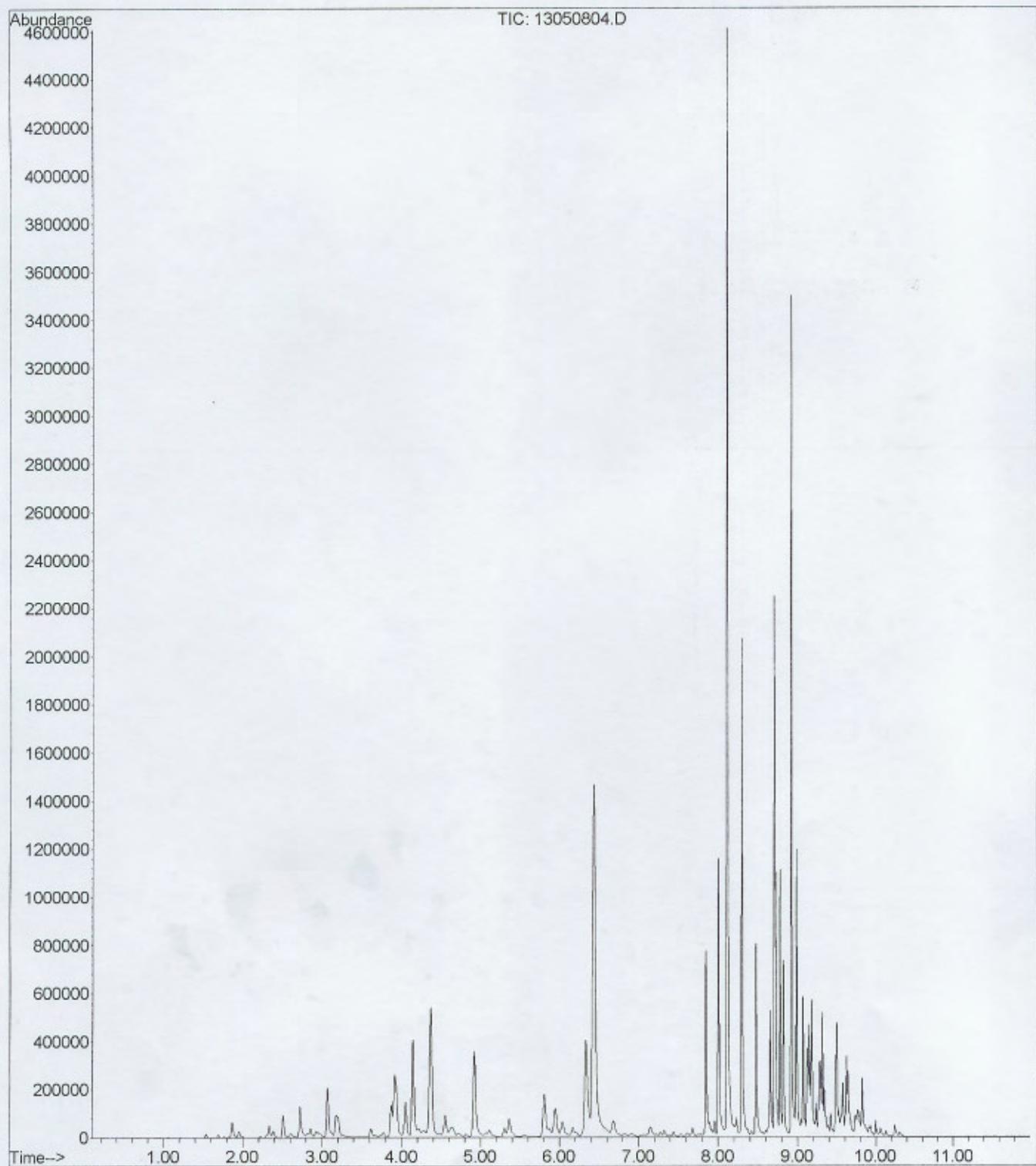
File : C:\MSDChem\1\DATA\2008-May-13-1734.b\13050806.D  
Operator :  
Acquired : 13 May 2008 8:01 pm using AcqMethod OXY32408.M  
Instrument : PAL GCMS  
Sample Name: BE81501-BLK1  
Misc Info :  
Vial Number: 6



File : C:\MSDChem\1\DATA\2008-May-13-1734.b\13050803.D  
Operator :  
Acquired : 13 May 2008 6:42 pm using AcqMethod OXY32408.M  
Instrument : PAL GCMS  
Sample Name: BE81501-BS1@voc  
Misc Info :  
Vial Number: 3



File : C:\MSDChem\1\DATA\2008-May-13-1734.b\13050804.D  
Operator :  
Acquired : 13 May 2008 7:09 pm using AcqMethod OXY32408.M  
Instrument : PAL GCMS  
Sample Name: BE81501-BS1@gas  
Misc Info :  
Vial Number: 4



## **CHAIN OF CUSTODY**

Page 1 of 1

Pacific Analytical Laboratory

851 West Midway Ave., Suite 201B  
Alameda, CA 94501  
510-864-0364 phone  
510-864-0365 fax

Project No: 2335

**Project Name:** 3609 International Blvd., Oakland, CA **Company:** SOMA Environmental

**Turnaround Time: Standard**      **Telephone:** 925-734-6400

**Fax:** 925-734-6401

**Notes: EDF OUTPUT REQUIRED**

**RELINQUISHED BY:**

RECEIVED BY:

9/16/08 6:30 DATE/TIME

8854 5/24/08 / 4pm  
DATE/TIME

886 5/21/08 4pm  
DATE/TIME

Zhang 05/21/08  
16:10 DATE/TIME

**DATE/TIME**

**DATE/TIME**

## Analyses



PAL  
Pacific Analytical Laboratory

851 West Midway Ave. Suite 201

Alameda, CA 94501

Phone (510) 864-0364

---

03 June 2008

Mansour Sepehr  
SOMA Environmental Engineering Inc.  
6620 Owens Drive, Suite A  
Pleasanton, CA 94588

RE: 3609 International Blvd, Oakland

Work Order Number: 8050024

This Laboratory report has been reviewed for technical correctness and completeness. This entire report was reviewed and approved by the Laboratory Director or the Director's designee, as verified by the following signature.

Sincerely,

A handwritten signature in black ink, appearing to read "Maiid Akhavan".

---

Maiid Akhavan  
Laboratory Director



SOMA Environmental Engineering Inc.  
6620 Owens Drive, Suite A  
Pleasanton CA, 94588

Project: 3609 International Blvd, Oakland

Project Number: 2335

Project Manager: Mansour Sepehr

**Reported:**  
03-Jun-08 20:03

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-1	8050024-01	Water	16-May-08 13:38	21-May-08 16:10
MW-3	8050024-02	Water	16-May-08 13:30	21-May-08 16:10



SOMA Environmental Engineering Inc.  
6620 Owens Drive, Suite A  
Pleasanton CA, 94588

Project: 3609 International Blvd, Oakland

Project Number: 2335  
Project Manager: Mansour Sepehr

Reported:  
03-Jun-08 20:03

**Volatile Organic Compounds by EPA Method 8260B**  
**Pacific Analytical Laboratory**

Analyte	Result	Reporting	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>MW-1 (8050024-01) Water Sampled: 16-May-08 13:38 Received: 21-May-08 16:10</b>										
Gasoline (C6-C12)	2780	50.0	ug/l	1	BE82801	27-May-08	27-May-08	"	EPA 8260B	
Benzene	27.5	0.500	"	"	"	"	"	"	"	
Ethylbenzene	1.93	0.500	"	"	"	"	"	"	"	
m&p-Xylene	17.6	2.00	"	"	"	"	"	"	"	
o-xylene	64.6	0.500	"	"	"	"	"	"	"	
Toluene	3.36	2.00	"	"	"	"	"	"	"	
MTBE	24.6	0.500	"	"	"	"	"	"	"	
Surrogate: 4-Bromofluorobenzene	94.0 %		70-130		"	"	"	"	"	
Surrogate: Dibromofluoromethane	103 %		70-130		"	"	"	"	"	
Surrogate: Perdeuterotoluene	101 %		70-130		"	"	"	"	"	
<b>MW-3 (8050024-02RE1) Water Sampled: 16-May-08 13:30 Received: 21-May-08 16:10</b>										
Gasoline (C6-C12)	16600	550	ug/l	11	BE82801	27-May-08	28-May-08	"	EPA 8260B	
Benzene	795	5.50	"	"	"	"	"	"	"	
Ethylbenzene	427	5.50	"	"	"	"	"	"	"	
m&p-Xylene	3070	22.0	"	"	"	"	"	"	"	
o-xylene	737	5.50	"	"	"	"	"	"	"	
Toluene	371	22.0	"	"	"	"	"	"	"	
MTBE	9.82	5.50	"	"	"	"	"	"	"	
Surrogate: 4-Bromofluorobenzene	90.2 %		70-130		"	"	"	"	"	
Surrogate: Dibromofluoromethane	109 %		70-130		"	"	"	"	"	
Surrogate: Perdeuterotoluene	99.6 %		70-130		"	"	"	"	"	



SOMA Environmental Engineering Inc.  
6620 Owens Drive, Suite A  
Pleasanton CA, 94588

Project: 3609 International Blvd, Oakland

Project Number: 2335  
Project Manager: Mansour Sepehr

Reported:  
03-Jun-08 20:03

### Volatile Organic Compounds by EPA Method 8260B - Quality Control

#### Pacific Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD RPD	RPD Limit	Notes
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#### Batch BE82801 - EPA 5030 Water MS

##### Blank (BE82801-BLK1)

Prepared & Analyzed: 28-May-08

Surrogate: 4-Bromofluorobenzene	42.5	ug/l	50.0		85.0	70-130				
Surrogate: Dibromofluoromethane	51.2	"	50.0		102	70-130				
Surrogate: Perdeuterotoluene	49.6	"	50.0		99.2	70-130				
Gasoline (C6-C12)	ND	50.0	"							
Benzene	ND	0.500	"							
Ethylbenzene	ND	0.500	"							
m&p-Xylene	ND	2.00	"							
o-xylene	ND	0.500	"							
Toluene	ND	2.00	"							
MTBE	ND	0.500	"							

##### LCS (BE82801-BS1)

Prepared & Analyzed: 28-May-08

Surrogate: 4-Bromofluorobenzene	42.2	ug/l	50.0		84.4	70-130				
Surrogate: Dibromofluoromethane	40.4	"	50.0		80.8	70-130				
Surrogate: Perdeuterotoluene	48.5	"	50.0		97.0	70-130				
Gasoline (C6-C12)	1650	50.0	"	2000	82.5	70-130				
Benzene	100	0.500	"	100	100	70-130				
Toluene	96.3	2.00	"	100	96.3	70-130				
MTBE	86.8	0.500	"	100	86.8	70-130				

##### LCS Dup (BE82801-BSD1)

Prepared & Analyzed: 28-May-08

Surrogate: 4-Bromofluorobenzene	42.5	ug/l	50.0		85.0	70-130				
Surrogate: Dibromofluoromethane	39.9	"	50.0		79.8	70-130				
Surrogate: Perdeuterotoluene	48.4	"	50.0		96.8	70-130				
Gasoline (C6-C12)	1780	50.0	"	2000	89.0	70-130	7.58	20		
Benzene	110	0.500	"	100	110	70-130	9.52	20		
Toluene	107	2.00	"	100	107	70-130	10.5	20		
MTBE	87.3	0.500	"	100	87.3	70-130	0.574	20		



SOMA Environmental Engineering Inc.  
6620 Owens Drive, Suite A  
Pleasanton CA, 94588

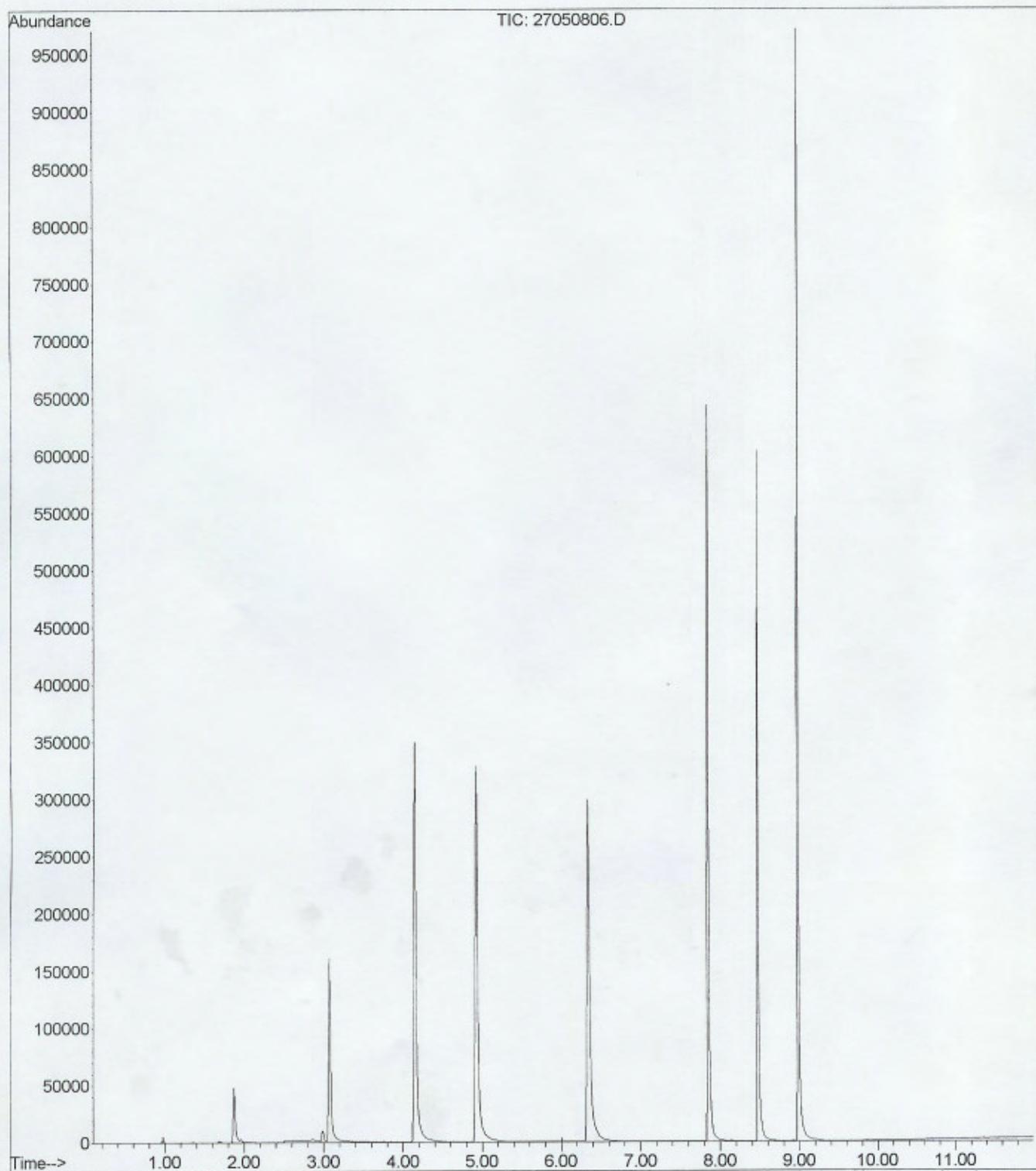
Project: 3609 International Blvd, Oakland  
Project Number: 2335  
Project Manager: Mansour Sepehr

**Reported:**  
03-Jun-08 20:03

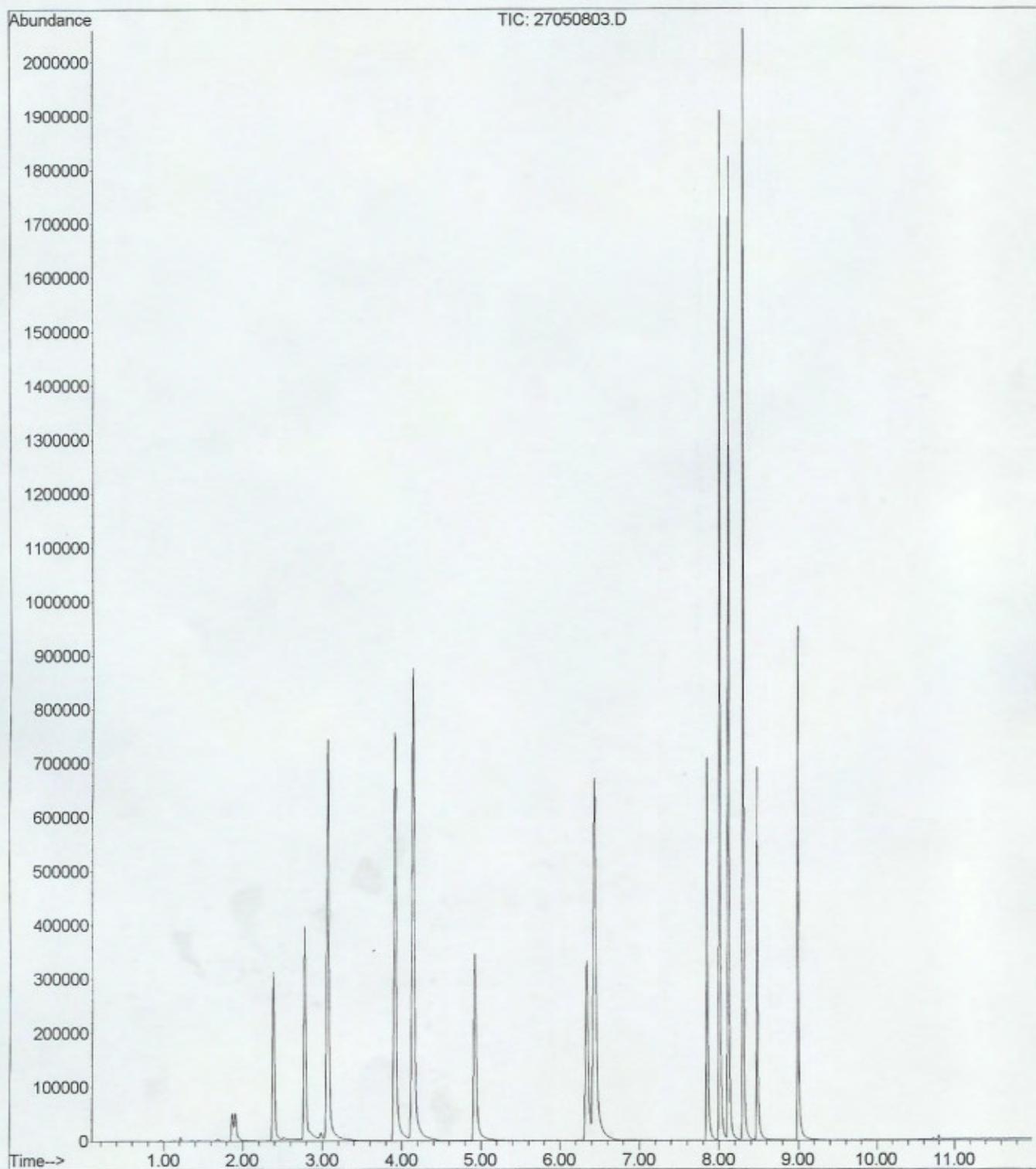
### Notes and Definitions

DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

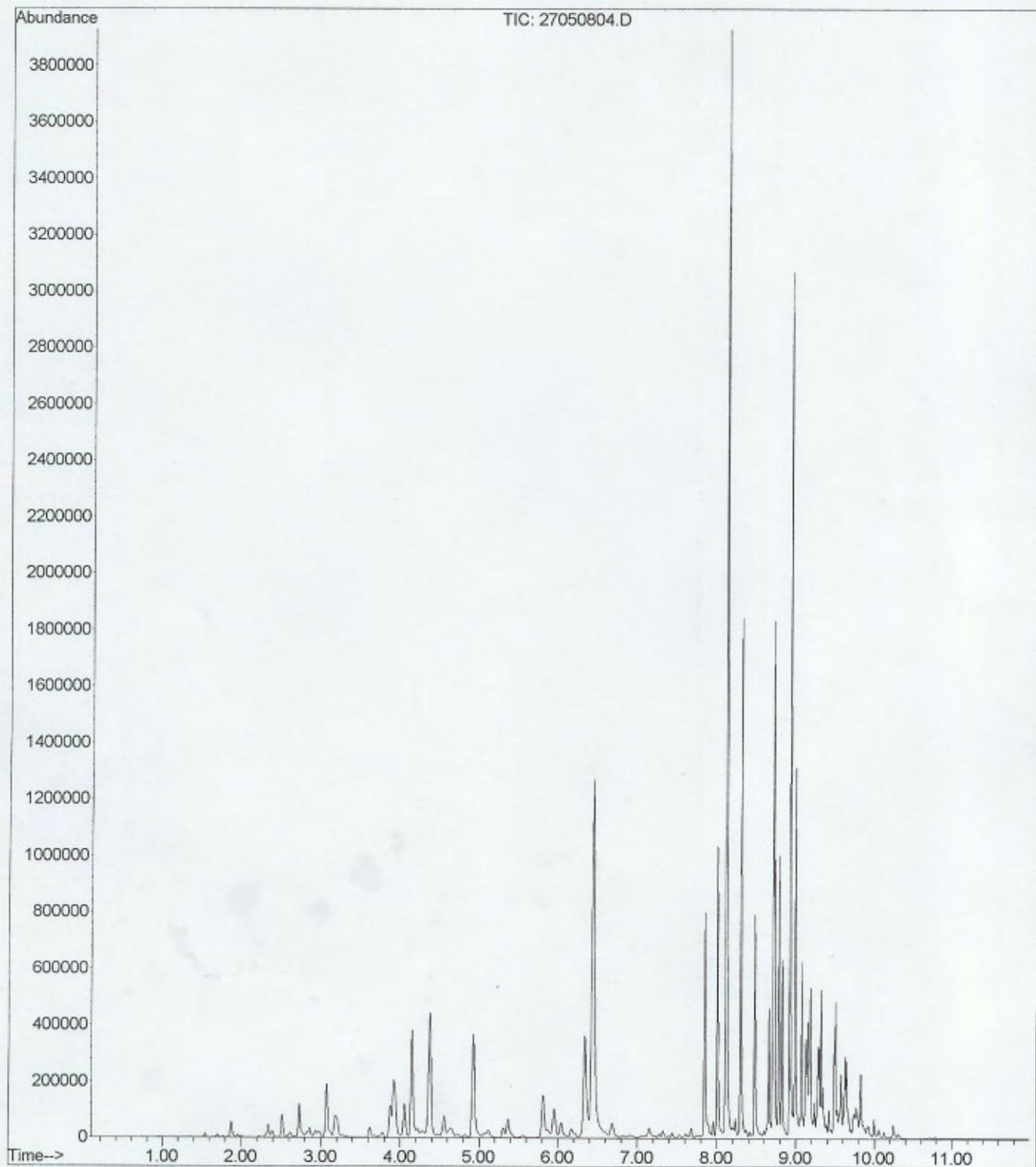
File : C:\MSDChem\1\DATA\2008-May-27-1732.b\27050806.D  
Operator :  
Acquired : 27 May 2008 7:52 pm using AcqMethod OXY32408.M  
Instrument : PAL GCMS  
Sample Name: BE82801-BLK1  
Misc Info :  
Vial Number: 6



File : C:\MSDChem\1\DATA\2008-May-27-1732.b\27050803.D  
Operator :  
Acquired : 27 May 2008 6:37 pm using AcqMethod OXY32408.M  
Instrument : PAL GCMS  
Sample Name: BE82801-BS1@voc  
Misc Info :  
Vial Number: 3



File : C:\MSDCHEM\1\DATA\2008-May-27-1732.b\27050804.D  
Operator :  
Acquired : 27 May 2008 7:02 pm using AcqMethod OXY32408.M  
Instrument : PAL GCMS  
Sample Name: BE82801-BS1@gas  
Misc Info :  
Vial Number: 4



## **CHAIN OF CUSTODY**

Pacific Analytical Laboratory

851 West Midway Ave., Suite 201B  
Alameda, CA 94501  
510-864-0364 phone  
510-864-0365 fax

Project No: 2335

PAL LOGIN # 9060009

Sampler: LUIS EVAZEGUI

Report To: Joyce Bobek

Project Name: 3609 International Blvd., Oakland, CA

**Company :** SOMA Environmental

#### **Turnaround Time: Standard**

**Telephone:** 925-734-6400

**Fax:** 925-734-6401

**Notes: EDF OUTPUT REQUIRED**

**RELINQUISHED BY:**

Entangled 6/10/08  
15:12 DATE/TIME

RECEIVED BY:

 06/10/08  
15:17 DATE/TIME

**DATE/TIME**

**DATE/TIME**

**DATE/TIME**

**DATE/TIME**



PAL  
Pacific Analytical Laboratory

851 West Midway Ave. Suite 201  
Alameda, CA 94501

Phone (510) 864-0364

---

26 June 2008

Mansour Sepehr  
SOMA Environmental Engineering Inc.  
6620 Owens Drive, Suite A  
Pleasanton, CA 94588

RE: 3609 International Blvd, Oakland

Work Order Number: 8060009

This Laboratory report has been reviewed for technical correctness and completeness. This entire report was reviewed and approved by the Laboratory Director or the Director's designee, as verified by the following signature.

Sincerely,

A handwritten signature in black ink, appearing to read "Maiid Akhavan".

---

Maiid Akhavan  
Laboratory Director



SOMA Environmental Engineering Inc.  
6620 Owens Drive, Suite A  
Pleasanton CA, 94588

Project: 3609 International Blvd, Oakland

Project Number: 2335

Project Manager: Mansour Sepehr

**Reported:**  
26-Jun-08 18:22

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-1	8060009-01	Water	09-Jun-08 10:30	10-Jun-08 18:37
MW-3	8060009-02	Water	09-Jun-08 10:20	10-Jun-08 18:37



SOMA Environmental Engineering Inc.  
6620 Owens Drive, Suite A  
Pleasanton CA, 94588

Project: 3609 International Blvd, Oakland

Project Number: 2335  
Project Manager: Mansour Sepehr

Reported:  
26-Jun-08 18:22

**Volatile Organic Compounds by EPA Method 8260B**  
**Pacific Analytical Laboratory**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>MW-1 (8060009-01) Water Sampled: 09-Jun-08 10:30 Received: 10-Jun-08 18:37</b>									
Gasoline (C6-C12)	ND	50.0	ug/l	1	BF81901	11-Jun-08	19-Jun-08	EPA 8260B	
Benzene	ND	0.500	"	"	"	"	"	"	"
Ethylbenzene	ND	0.500	"	"	"	"	"	"	"
m&p-Xylene	ND	2.00	"	"	"	"	"	"	"
o-xylene	ND	0.500	"	"	"	"	"	"	"
Toluene	ND	2.00	"	"	"	"	"	"	"
<b>MTBE</b>	<b>1.11</b>	0.500	"	"	"	"	"	"	"
Surrogate: 4-Bromofluorobenzene	92.8 %	70-130		"	"	"	"	"	"
Surrogate: Dibromofluoromethane	114 %	70-130		"	"	"	"	"	"
Surrogate: Perdeuterotoluene	102 %	70-130		"	"	"	"	"	"
<b>MW-3 (8060009-02RE1) Water Sampled: 09-Jun-08 10:20 Received: 10-Jun-08 18:37</b>									
Gasoline (C6-C12)	3770	50.0	ug/l	1	BF81901	11-Jun-08	19-Jun-08	EPA 8260B	
Benzene	177	0.500	"	"	"	"	"	"	"
Ethylbenzene	161	0.500	"	"	"	"	"	"	"
m&p-Xylene	105	2.00	"	"	"	"	"	"	"
o-xylene	104	0.500	"	"	"	"	"	"	"
Toluene	8.44	2.00	"	"	"	"	"	"	"
<b>MTBE</b>	<b>1.34</b>	0.500	"	"	"	"	"	"	"
Surrogate: 4-Bromofluorobenzene	104 %	70-130		"	"	"	"	"	"
Surrogate: Dibromofluoromethane	105 %	70-130		"	"	"	"	"	"
Surrogate: Perdeuterotoluene	107 %	70-130		"	"	"	"	"	"



SOMA Environmental Engineering Inc.  
6620 Owens Drive, Suite A  
Pleasanton CA, 94588

Project: 3609 International Blvd, Oakland

Project Number: 2335  
Project Manager: Mansour Sepehr

Reported:  
26-Jun-08 18:22

### Volatile Organic Compounds by EPA Method 8260B - Quality Control

#### Pacific Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD RPD	RPD Limit	Notes
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#### Batch BF81901 - EPA 5030 Water MS

##### Blank (BF81901-BLK1)

Prepared & Analyzed: 19-Jun-08

Surrogate: 4-Bromofluorobenzene	44.4	ug/l	50.0		88.8	70-130
Surrogate: Dibromofluoromethane	58.0	"	50.0		116	70-130
Surrogate: Perdeuterotoluene	48.3	"	50.0		96.6	70-130
Gasoline (C6-C12)	ND	50.0	"			
Benzene	ND	0.500	"			
Ethylbenzene	ND	0.500	"			
m&p-Xylene	ND	2.00	"			
o-xylene	ND	0.500	"			
Toluene	ND	2.00	"			
MTBE	ND	0.500	"			

##### LCS (BF81901-BS1)

Prepared & Analyzed: 19-Jun-08

Surrogate: 4-Bromofluorobenzene	50.6	ug/l	50.0		101	70-130
Surrogate: Dibromofluoromethane	50.6	"	50.0		101	70-130
Surrogate: Perdeuterotoluene	49.4	"	50.0		98.8	70-130
Gasoline (C6-C12)	2000	50.0	"	2000	100	70-130
Benzene	106	0.500	"	100	106	70-130
Toluene	105	2.00	"	100	105	70-130
MTBE	102	0.500	"	100	102	70-130

##### LCS Dup (BF81901-BSD1)

Prepared & Analyzed: 19-Jun-08

Surrogate: 4-Bromofluorobenzene	51.4	ug/l	50.0		103	70-130
Surrogate: Dibromofluoromethane	50.1	"	50.0		100	70-130
Surrogate: Perdeuterotoluene	49.2	"	50.0		98.4	70-130
Gasoline (C6-C12)	2050	50.0	"	2000	102	70-130
Benzene	102	0.500	"	100	102	70-130
Toluene	99.8	2.00	"	100	99.8	70-130
MTBE	93.3	0.500	"	100	93.3	70-130



SOMA Environmental Engineering Inc.  
6620 Owens Drive, Suite A  
Pleasanton CA, 94588

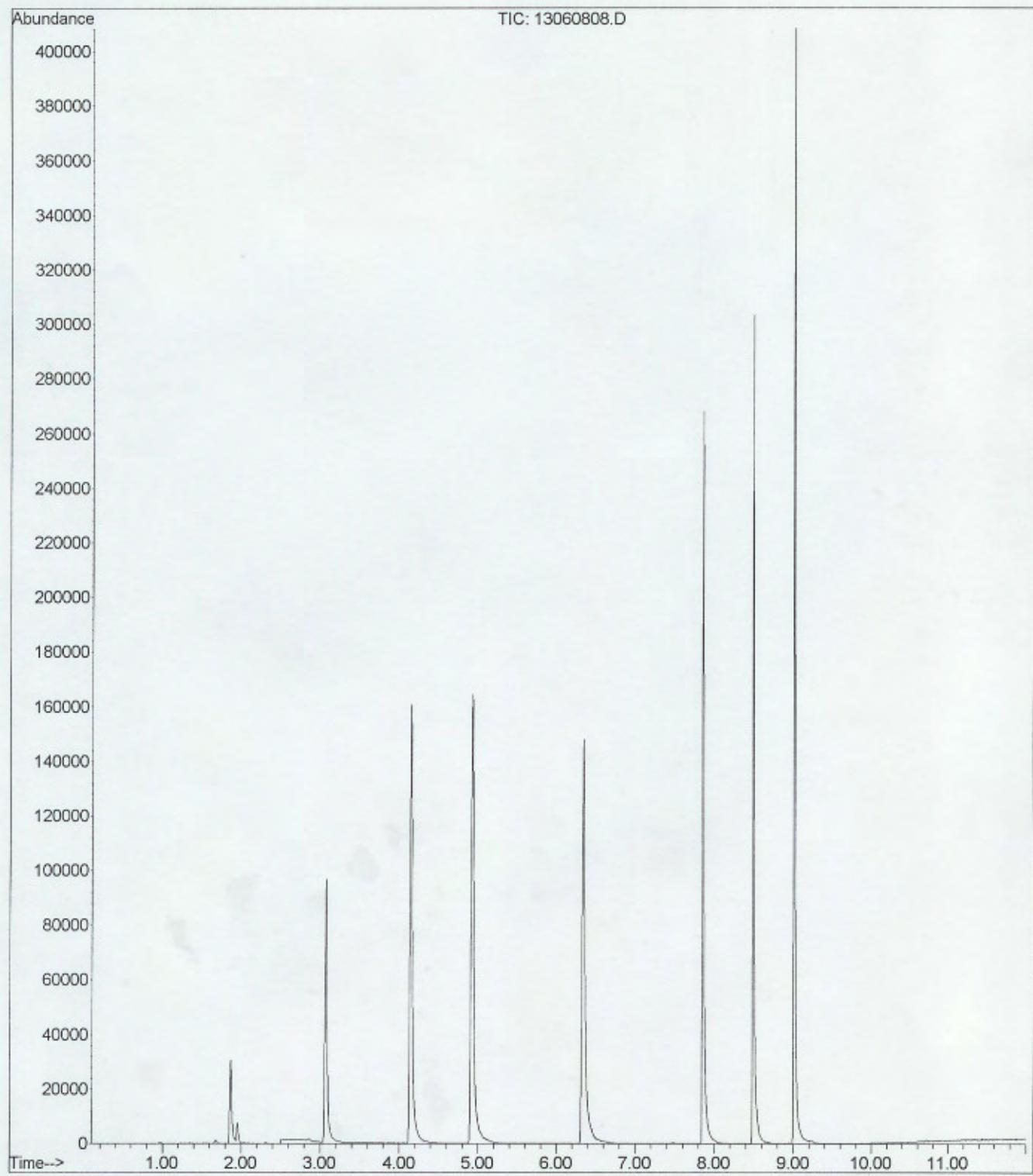
Project: 3609 International Blvd, Oakland  
Project Number: 2335  
Project Manager: Mansour Sepehr

**Reported:**  
26-Jun-08 18:22

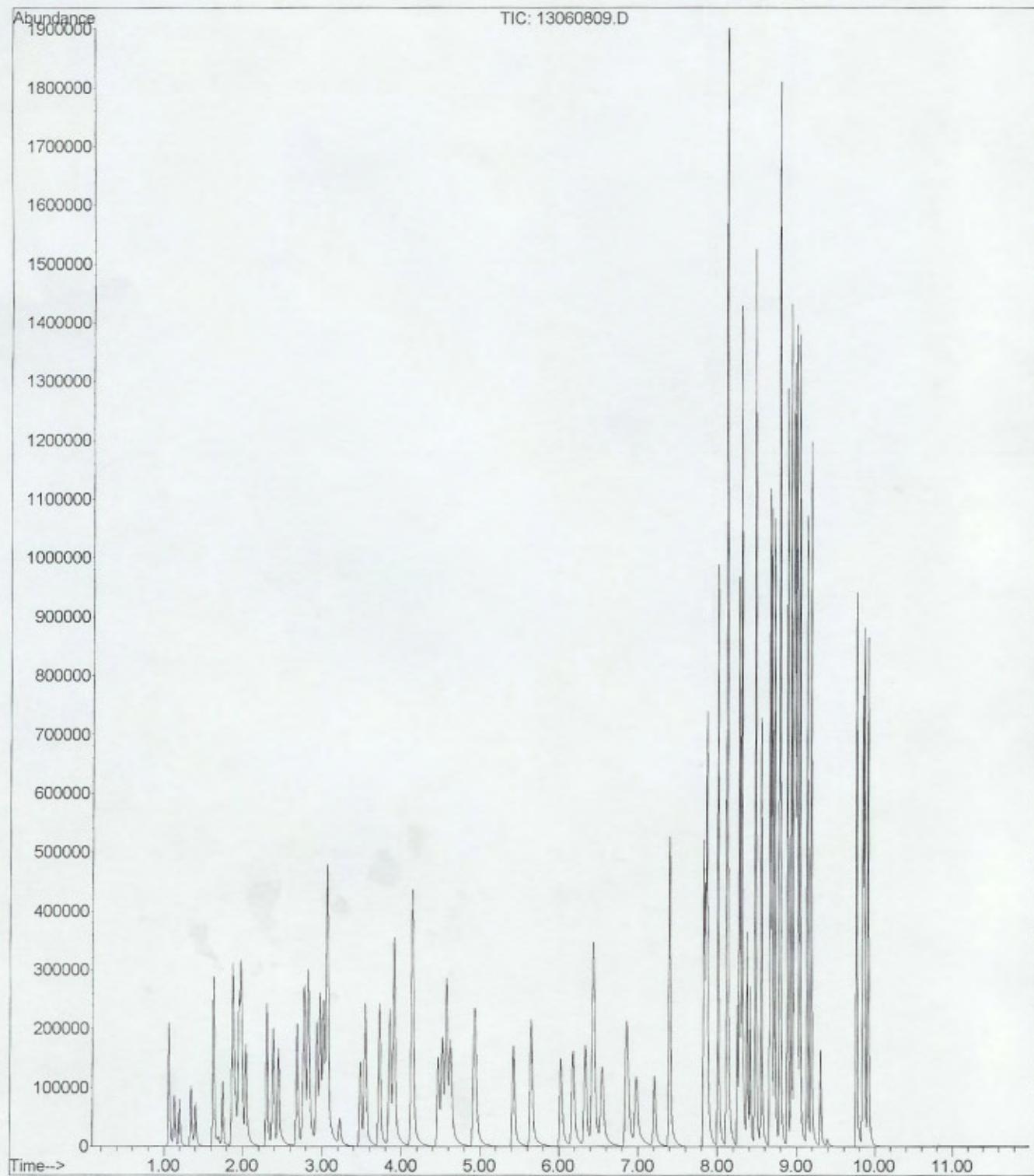
### Notes and Definitions

DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

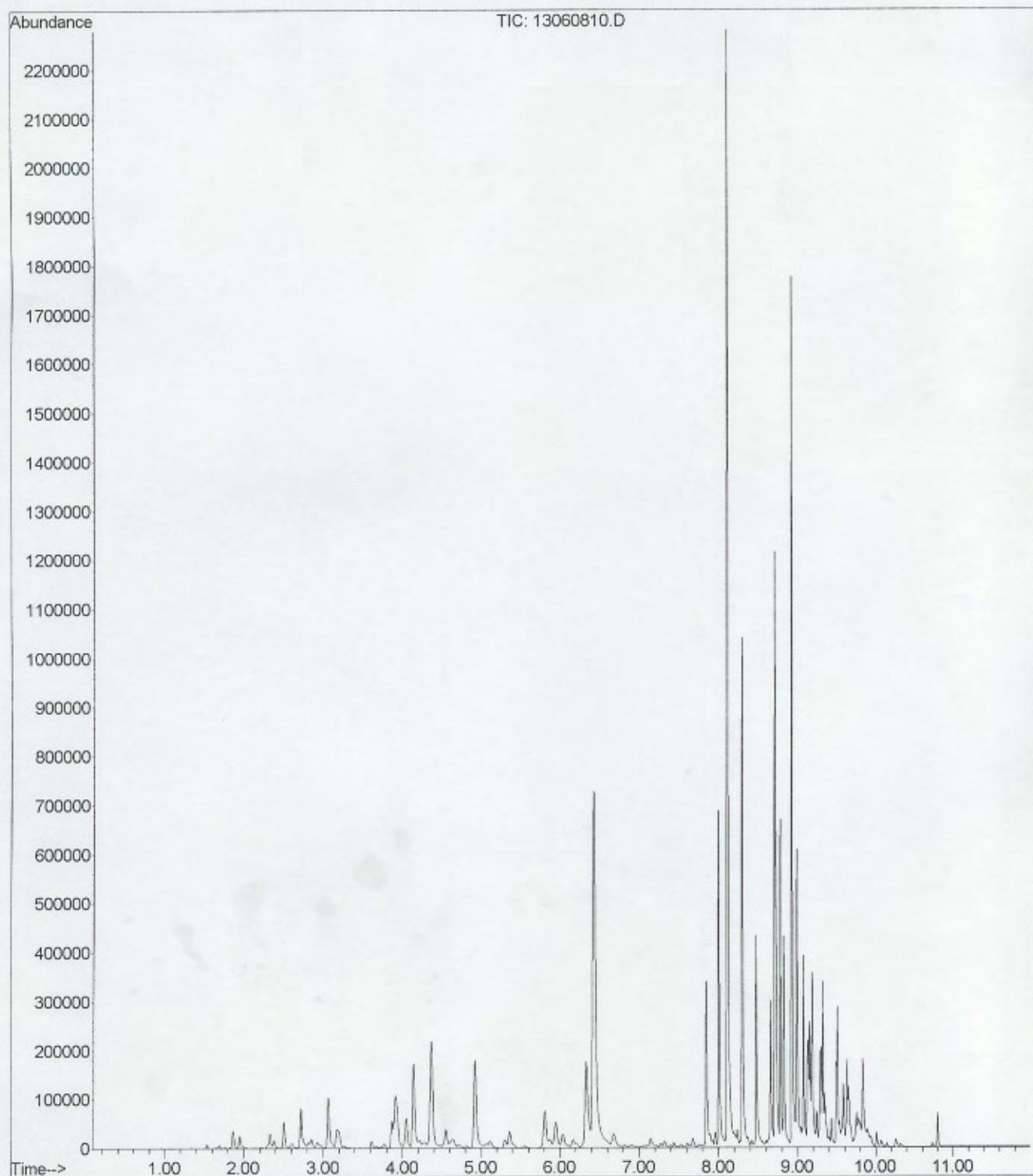
File : C:\MSDChem\1\DATA\2008-Jun-13-1602.b\13060808.D  
Operator :  
Acquired : 17 Jun 2008 3:40 pm using AcqMethod OXY32408.M  
Instrument : PAL GCMS  
Sample Name: BF81901-BLK1  
Misc Info :  
Vial Number: 8



File : C:\MSDChem\1\DATA\2008-Jun-13-1602.b\13060809.D  
Operator :  
Acquired : 17 Jun 2008 4:05 pm using AcqMethod OXY32408.M  
Instrument : PAL GCMS  
Sample Name: BF81901-BS1  
Misc Info :  
Vial Number: 9



File : C:\MSDChem\1\DATA\2008-Jun-13-1602.b\13060810.D  
Operator :  
Acquired : 17 Jun 2008 4:31 pm using AcqMethod OXY32408.M  
Instrument : PAL GCMS  
Sample Name: BF81901-BS1  
Misc Info :  
Vial Number: 10



## **CHAIN OF CUSTODY**

Pacific Analytical Laboratory

851 West Midway Ave., Suite 201B  
Alameda, CA 94501  
510-864-0364 phone  
510-864-0365 fax

Project No: 2335

**Project Name:** 3609 International Blvd., Oakland, CA **Company :** SOMA Environmental

**Turnaround Time:** Standard      **Telephone:** 925-734-6400

PAL LOGIN # 8060013

Sampler: Luis Elizéquiel

**Report To:** Joyce Bobek

**Company :** SOMA Environmental

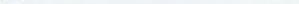
Fax: 925-734-6401

**Notes: EDF OUTPUT REQUIRED**

**RELINQUISHED BY:**

RECEIVED BY:

GREY → d13/08 6:20pm  
DATE/TIME  
← GREY 6/16/08 16:15  
DATE/TIME

E		06/16/08 DATE/TIME 16:20
E		DATE/TIME

DATE/TIM

E DATE/TIME



PAL  
Pacific Analytical Laboratory  
851 West Midway Ave. Suite 201  
Alameda, CA 94501

Phone (510) 864-0364

---

07 July 2008

Mansour Sepehr  
SOMA Environmental Engineering Inc.  
6620 Owens Drive, Suite A  
Pleasanton, CA 94588

RE: 3609 International Blvd, Oakland

Work Order Number: 8060013

This Laboratory report has been reviewed for technical correctness and completeness. This entire report was reviewed and approved by the Laboratory Director or the Director's designee, as verified by the following signature.

Sincerely,

A handwritten signature in black ink, appearing to read "Maiid Akhavan".

---

Maiid Akhavan  
Laboratory Director



SOMA Environmental Engineering Inc.  
6620 Owens Drive, Suite A  
Pleasanton CA, 94588

Project: 3609 International Blvd, Oakland

Project Number: 2335

Project Manager: Mansour Sepehr

**Reported:**  
07-Jul-08 13:08

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-1	8060013-01	Water	13-Jun-08 15:10	16-Jun-08 16:20
MW-3	8060013-02	Water	13-Jun-08 15:25	16-Jun-08 16:20

SOMA Environmental Engineering Inc.  
6620 Owens Drive, Suite A  
Pleasanton CA, 94588

Project: 3609 International Blvd, Oakland

Project Number: 2335  
Project Manager: Mansour Sepehr

**Reported:**  
07-Jul-08 13:08

### Volatile Organic Compounds by EPA Method 8260B

#### Pacific Analytical Laboratory

Analyte	Result	Reporting	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>MW-1 (8060013-01) Water Sampled: 13-Jun-08 15:10 Received: 16-Jun-08 16:20</b>										
Gasoline (C6-C12)	1730	50.0	ug/l	1	BF81901	19-Jun-08	19-Jun-08	EPA 8260B		
Benzene	10.6	0.500	"	"	"	"	"	"	"	
Ethylbenzene	52.7	0.500	"	"	"	"	"	"	"	
m&p-Xylene	66.2	2.00	"	"	"	"	"	"	"	
o-xylene	25.8	0.500	"	"	"	"	"	"	"	
Toluene	8.11	2.00	"	"	"	"	"	"	"	
MTBE	8.58	0.500	"	"	"	"	"	"	"	
Surrogate: 4-Bromofluorobenzene	99.2 %		70-130		"	"	"	"	"	
Surrogate: Dibromofluoromethane	104 %		70-130		"	"	"	"	"	
Surrogate: Perdeuterotoluene	104 %		70-130		"	"	"	"	"	
<b>MW-3 (8060013-02) Water Sampled: 13-Jun-08 15:25 Received: 16-Jun-08 16:20</b>										
Gasoline (C6-C12)	6910	550	ug/l	11	BF81901	19-Jun-08	19-Jun-08	EPA 8260B		
Benzene	534	5.50	"	"	"	"	"	"	"	
Ethylbenzene	233	5.50	"	"	"	"	"	"	"	
m&p-Xylene	836	22.0	"	"	"	"	"	"	"	
o-xylene	405	5.50	"	"	"	"	"	"	"	
Toluene	283	22.0	"	"	"	"	"	"	"	
MTBE	ND	5.50	"	"	"	"	"	"	"	
Surrogate: 4-Bromofluorobenzene	97.6 %		70-130		"	"	"	"	"	
Surrogate: Dibromofluoromethane	108 %		70-130		"	"	"	"	"	
Surrogate: Perdeuterotoluene	99.8 %		70-130		"	"	"	"	"	

SOMA Environmental Engineering Inc.  
6620 Owens Drive, Suite A  
Pleasanton CA, 94588

Project: 3609 International Blvd, Oakland

Project Number: 2335  
Project Manager: Mansour Sepehr

**Reported:**  
07-Jul-08 13:08

### Volatile Organic Compounds by EPA Method 8260B - Quality Control

#### Pacific Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD RPD	RPD Limit	Notes
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#### Batch BF81901 - EPA 5030 Water MS

##### Blank (BF81901-BLK1)

Prepared & Analyzed: 19-Jun-08

Surrogate: 4-Bromofluorobenzene	44.4	ug/l	50.0	88.8	70-130
Surrogate: Dibromofluoromethane	58.0	"	50.0	116	70-130
Surrogate: Perdeuterotoluene	48.3	"	50.0	96.6	70-130
Gasoline (C6-C12)	ND	50.0	"		
Benzene	ND	0.500	"		
Ethylbenzene	ND	0.500	"		
m&p-Xylene	ND	2.00	"		
o-xylene	ND	0.500	"		
Toluene	ND	2.00	"		
MTBE	ND	0.500	"		

##### LCS (BF81901-BS1)

Prepared & Analyzed: 19-Jun-08

Surrogate: 4-Bromofluorobenzene	50.6	ug/l	50.0	101	70-130
Surrogate: Dibromofluoromethane	50.6	"	50.0	101	70-130
Surrogate: Perdeuterotoluene	49.4	"	50.0	98.8	70-130
Gasoline (C6-C12)	2000	50.0	"	2000	100
Benzene	106	0.500	"	100	106
Toluene	105	2.00	"	100	105
MTBE	102	0.500	"	100	102

##### LCS Dup (BF81901-BSD1)

Prepared & Analyzed: 19-Jun-08

Surrogate: 4-Bromofluorobenzene	51.4	ug/l	50.0	103	70-130
Surrogate: Dibromofluoromethane	50.1	"	50.0	100	70-130
Surrogate: Perdeuterotoluene	49.2	"	50.0	98.4	70-130
Gasoline (C6-C12)	2050	50.0	"	2000	102
Benzene	102	0.500	"	100	102
Toluene	99.8	2.00	"	100	99.8
MTBE	93.3	0.500	"	100	93.3



SOMA Environmental Engineering Inc.  
6620 Owens Drive, Suite A  
Pleasanton CA, 94588

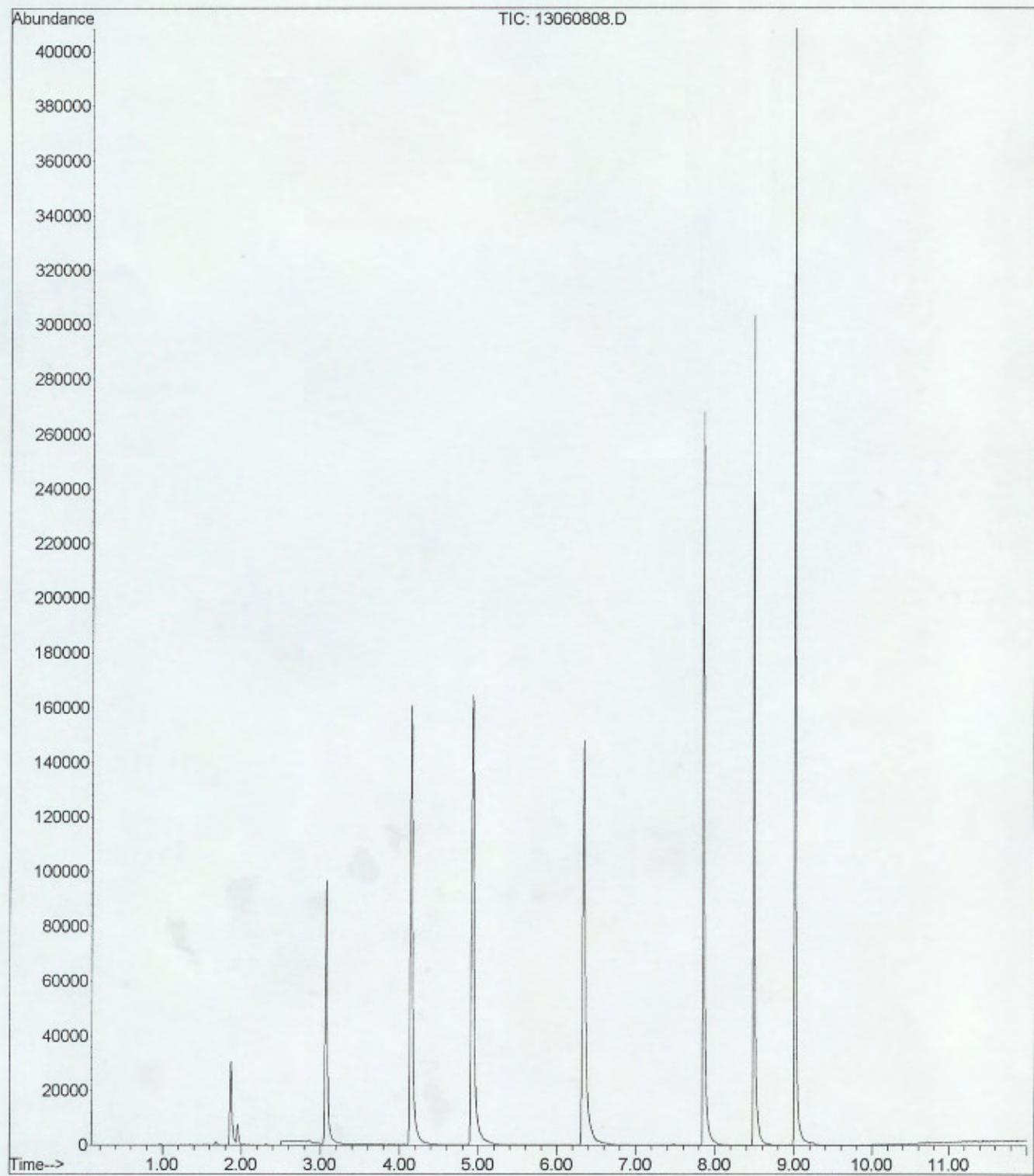
Project: 3609 International Blvd, Oakland  
Project Number: 2335  
Project Manager: Mansour Sepehr

**Reported:**  
07-Jul-08 13:08

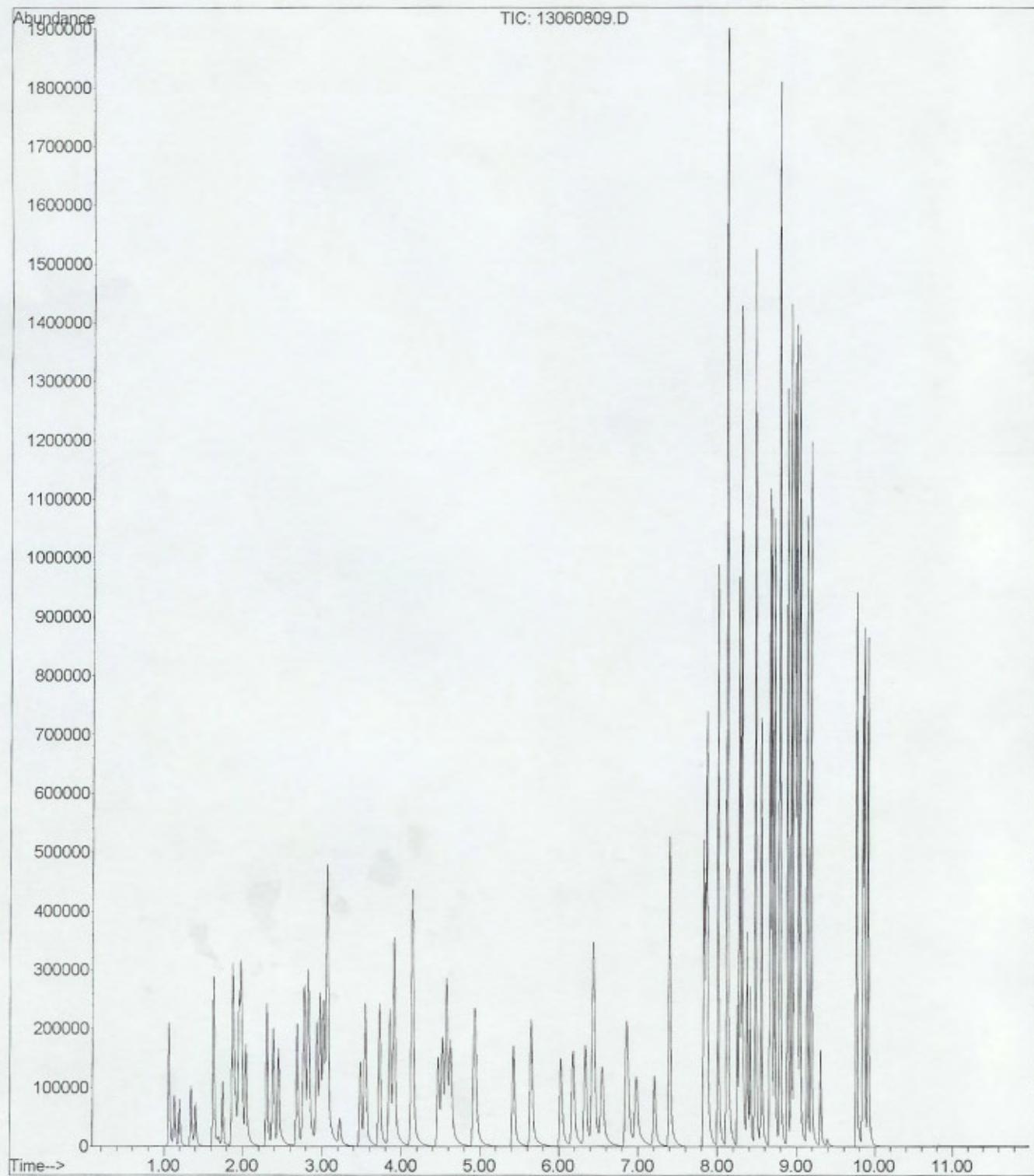
### Notes and Definitions

DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

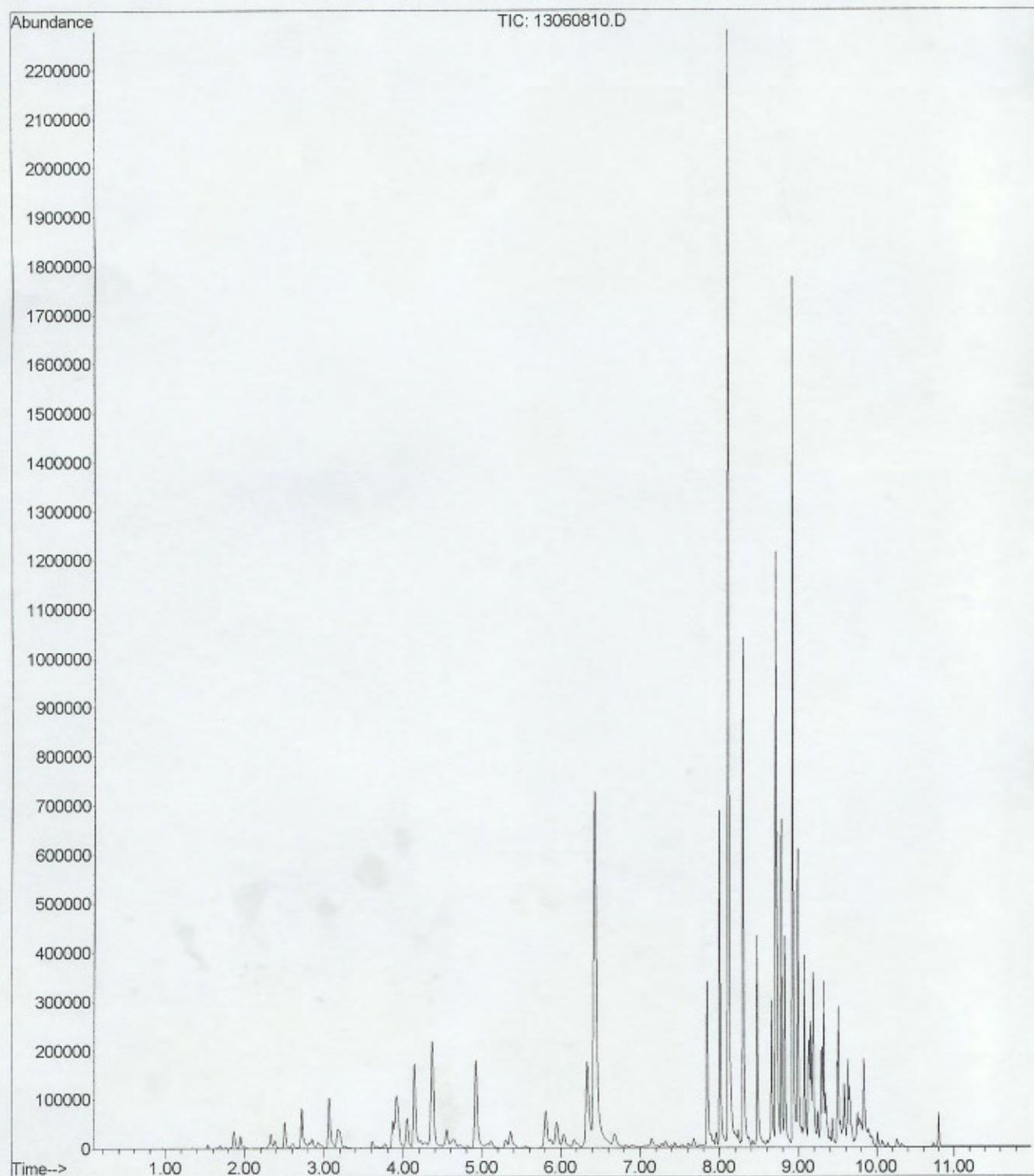
File : C:\MSDChem\1\DATA\2008-Jun-13-1602.b\13060808.D  
Operator :  
Acquired : 17 Jun 2008 3:40 pm using AcqMethod OXY32408.M  
Instrument : PAL GCMS  
Sample Name: BF81901-BLK1  
Misc Info :  
Vial Number: 8



File : C:\MSDChem\1\DATA\2008-Jun-13-1602.b\13060809.D  
Operator :  
Acquired : 17 Jun 2008 4:05 pm using AcqMethod OXY32408.M  
Instrument : PAL GCMS  
Sample Name: BF81901-BS1  
Misc Info :  
Vial Number: 9



File : C:\MSDChem\1\DATA\2008-Jun-13-1602.b\13060810.D  
Operator :  
Acquired : 17 Jun 2008 4:31 pm using AcqMethod OXY32408.M  
Instrument : PAL GCMS  
Sample Name: BF81901-BS1  
Misc Info :  
Vial Number: 10





June 20, 2008

Joyce Bobek  
Soma Environmental Engineering, Inc.  
6620 Owens Dr. Suite A  
Pleasanton, CA 94588  
TEL: (925) 734-6400  
FAX (925) 734-6401

RE: SVE Remediation

Order No.: 0806108

Dear Joyce Bobek:

Torrent Laboratory, Inc. received 2 samples on 6/13/2008 for the analyses presented in the following report.

All data for associated QC met EPA or laboratory specification(s) except where noted in the case narrative.

Reported data is applicable for only the samples received as part of the order number referenced above.

Torrent Laboratory, Inc, is certified by the State of California, ELAP #1991. If you have any questions regarding these tests results, please feel free to contact the Project Management Team at (408)263-5258;ext: 204.

Sincerely,

  
Scott J. Johnson  
Laboratory Director

6/20/08  
Date



# TORRENT LABORATORY, INC.

483 Sinclair Frontage Road • Milpitas, CA • Phone: (408) 263-5258 • Fax: (408) 263-8293

Visit us at [www.torrentlab.com](http://www.torrentlab.com) email: [analysis@torrentlab.com](mailto:analysis@torrentlab.com)

**Report prepared for:** Joyce Bobek  
Soma Environmental Engineering, Inc.

**Date Received:** 6/13/2008

**Date Reported:** 6/20/2008

<b>Client Sample ID:</b>	MW-3 INF	<b>Lab Sample ID:</b>	0806108-001
<b>Sample Location:</b>	3609 International Blvd	<b>Date Prepared:</b>	
<b>Sample Matrix:</b>	SOIL GAS		
<b>Date/Time Sampled</b>	6/12/2008 1:00:00 PM		

Parameters	Analysis Method	Date Analyzed	RL	Dilution Factor	MRL	Result	Units	Analytical Batch
Benzene	TO-15	6/13/2008	1.6	50	80	7700	µg/m³	P16570
Ethyl Benzene	TO-15	6/13/2008	1.67	50	84	1600	µg/m³	P16570
Ethyl tert-butyl ether (ETBE)	TO-15	6/13/2008	2.09	50	100	ND	µg/m³	P16570
m,p-Xylene	TO-15	6/13/2008	2.05	50	100	8100	µg/m³	P16570
MTBE	TO-15	6/13/2008	1.81	50	90	ND	µg/m³	P16570
o-xylene	TO-15	6/13/2008	2.7	50	140	1900	µg/m³	P16570
t-Butyl alcohol (t-Butanol)	TO-15	6/13/2008	1.515	50	76	ND	µg/m³	P16570
tert-Amyl methyl ether (TAME)	TO-15	6/13/2008	2.09	50	100	ND	µg/m³	P16570
Toluene	TO-15	6/13/2008	1.89	50	94	2300	µg/m³	P16570
Surr: 4-Bromofluorobenzene	TO-15	6/13/2008	0	50	65-135	92.8	%REC	P16570
Gasoline	TO-3(MOD)	6/13/2008	352	100	35000	1000000	µg/m³	T16570

Note: Although TPH as Gasoline constituents are present, TPH value includes a significant portion of non-gasoline hydrocarbons within range of C5-C12 quantified as Gasoline that biases the quantitation.

**Report prepared for:** Joyce Bobek  
Soma Environmental Engineering, Inc.

**Date Received:** 6/13/2008  
**Date Reported:** 6/20/2008

<b>Client Sample ID:</b>	MW-1 INF	<b>Lab Sample ID:</b>	0806108-002
<b>Sample Location:</b>	3609 International Blvd	<b>Date Prepared:</b>	
<b>Sample Matrix:</b>	SOIL GAS		
<b>Date/Time Sampled</b>	6/12/2008 2:00:00 PM		

Parameters	Analysis Method	Date Analyzed	RL	Dilution Factor	MRL	Result	Units	Analytical Batch
Benzene	TO-15	6/13/2008	1.6	50	80	1400	µg/m³	P16570
Ethyl Benzene	TO-15	6/13/2008	1.67	50	84	430	µg/m³	P16570
Ethyl tert-butyl ether (ETBE)	TO-15	6/13/2008	2.09	50	100	ND	µg/m³	P16570
m,p-Xylene	TO-15	6/13/2008	2.05	50	100	2100	µg/m³	P16570
MTBE	TO-15	6/13/2008	1.81	50	90	ND	µg/m³	P16570
o-xylene	TO-15	6/13/2008	2.7	50	140	580	µg/m³	P16570
t-Butyl alcohol (t-Butanol)	TO-15	6/13/2008	1.515	50	76	ND	µg/m³	P16570
tert-Amyl methyl ether (TAME)	TO-15	6/13/2008	2.09	50	100	ND	µg/m³	P16570
Toluene	TO-15	6/13/2008	1.89	50	94	ND	µg/m³	P16570
Surr: 4-Bromofluorobenzene	TO-15	6/13/2008	0	50	65-135	91.2	%REC	P16570
Gasoline	TO-3(MOD)	6/13/2008	352	100	35000	1100000	µg/m³	T16570

Note: Although TPH as Gasoline constituents are present, TPH value includes a significant portion of non-gasoline hydrocarbons within range of C5-C12 quantified as Gasoline that biases the quantitation.

**Definitions, legends and Notes**

Note	Description
ug/kg	Microgram per kilogram (ppb, part per billion).
ug/L	Microgram per liter (ppb, part per billion).
mg/kg	Milligram per kilogram (ppm, part per million).
mg/L	Milligram per liter (ppm, part per million).
LCS/LCSD	Laboratory control sample/laboratory control sample duplicate.
MDL	Method detection limit.
MRL	Modified reporting limit. When sample is subject to dilution, reporting limit times dilution factor yields MRL.
MS/MSD	Matrix spike/matrix spike duplicate.
N/A	Not applicable.
ND	Not detected at or above detection limit.
NR	Not reported.
QC	Quality Control.
RL	Reporting limit.
% RPD	Percent relative difference.
a	pH was measured immediately upon the receipt of the sample, but it was still done outside the holding time.
sub	Analyzed by subcontracting laboratory, Lab Certificate #

CLIENT: Soma Environmental Engineering, Inc.

Work Order: 0806108

Project: SVE Remediation

## ANALYTICAL QC SUMMARY REPORT

BatchID: P16570

Sample ID	<b>BLK-P16570</b>	SampType:	<b>MBLK</b>	TestCode:	<b>TO-15 Petrol</b>	Units:	<b>ppbv</b>	Prep Date:	<b>6/12/2008</b>	RunNo:	<b>16570</b>
Client ID:	<b>ZZZZZ</b>	Batch ID:	<b>P16570</b>	TestNo:	<b>TO-15</b>			Analysis Date:	<b>6/12/2008</b>	SeqNo:	<b>237972</b>
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD RPD Limit Qual
Benzene		ND	0.50								
Ethyl Benzene		ND	0.50								
Ethyl tert-butyl ether (ETBE)		ND	0.50								
m,p-Xylene		ND	1.0								
MTBE		ND	0.50								
o-xylene		ND	0.50								
t-Butyl alcohol (t-Butanol)		ND	0.50								
tert-Amyl methyl ether (TAME)		ND	0.50								
Toluene		ND	0.50								
Surr: 4-Bromofluorobenzene		17.72	0	20	0	88.6	65	135			

Sample ID	<b>LCS-P16570</b>	SampType:	<b>LCS</b>	TestCode:	<b>TO-15 Petrol</b>	Units:	<b>ppbv</b>	Prep Date:	<b>6/11/2008</b>	RunNo:	<b>16570</b>
Client ID:	<b>ZZZZZ</b>	Batch ID:	<b>P16570</b>	TestNo:	<b>TO-15</b>			Analysis Date:	<b>6/11/2008</b>	SeqNo:	<b>237973</b>
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD RPD Limit Qual
Benzene		15.87	0.50	20	0	79.4	70	130			
Ethyl Benzene		16.93	0.50	20	0	84.6	70	130			
Ethyl tert-butyl ether (ETBE)		16.64	0.50	20	0	83.2	70	130			
m,p-Xylene		34.47	1.0	40	0	86.2	70	130			
MTBE		17.36	0.50	20	0	86.8	70	130			
o-xylene		17.54	0.50	20	0	87.7	70	130			
t-Butyl alcohol (t-Butanol)		16.63	0.50	20	0	83.2	70	130			
tert-Amyl methyl ether (TAME)		17.94	0.50	20	0	89.7	70	130			
Toluene		17.53	0.50	20	0	87.6	70	130			
Surr: 4-Bromofluorobenzene		18.03	0	20	0	90.2	70	130			

Qualifiers: E Value above quantitation range  
 ND Not Detected at the Reporting Limit

H Holding times for preparation or analysis exceeded  
 R RPD outside accepted recovery limits

J Analyte detected below quantitation limits  
 S Spike Recovery outside accepted recovery limits

**CLIENT:** Soma Environmental Engineering, Inc.  
**Work Order:** 0806108  
**Project:** SVE Remediation

## ANALYTICAL QC SUMMARY REPORT

**BatchID:** P16570

Sample ID	LCSD-P16570	SampType:	LCSD	TestCode:	TO-15 Petrol	Units:	ppbv	Prep Date:	6/12/2008	RunNo:	16570	
Client ID:	ZZZZZ	Batch ID:	P16570	TestNo:	TO-15			Analysis Date:	6/12/2008	SeqNo:	237974	
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene		17.87	0.50	20	0	89.4	70	130	15.87	11.9	30	
Ethyl Benzene		17.72	0.50	20	0	88.6	70	130	16.93	4.56	30	
Ethyl tert-butyl ether (ETBE)		18.52	0.50	20	0	92.6	70	130	16.64	10.7	30	
m,p-Xylene		35.79	1.0	40	0	89.5	70	130	34.47	3.76	30	
MTBE		17.50	0.50	20	0	87.5	70	130	17.36	0.803	30	
o-xylene		18.19	0.50	20	0	91.0	70	130	17.54	3.64	30	
t-Butyl alcohol (t-Butanol)		18.47	0.50	20	0	92.4	70	130	16.63	10.5	30	
tert-Amyl methyl ether (TAME)		17.82	0.50	20	0	89.1	70	130	17.94	0.671	30	
Toluene		18.33	0.50	20	0	91.7	70	130	17.53	4.46	30	
Surr: 4-Bromofluorobenzene		18.27	0	20	0	91.4	70	130	0	0	0	

**Qualifiers:** E Value above quantitation range  
ND Not Detected at the Reporting Limit

H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits

J Analyte detected below quantitation limits  
S Spike Recovery outside accepted recovery limits

**CLIENT:** Soma Environmental Engineering, Inc.  
**Work Order:** 0806108  
**Project:** SVE Remediation

## ANALYTICAL QC SUMMARY REPORT

**BatchID:** T16570

Sample ID	MB-T16570	SampType:	MBLK	TestCode:	TO-3Gas (MO)	Units:	ppbv	Prep Date:	6/13/2008	RunNo:	16570	
Client ID:	ZZZZZ	Batch ID:	T16570	TestNo:	TO-3(MOD)			Analysis Date:	6/13/2008	SeqNo:	238127	
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline		ND	100									
Sample ID	LCS-T16570	SampType:	LCS	TestCode:	TO-3Gas (MO)	Units:	ppbv	Prep Date:	6/13/2008	RunNo:	16570	
Client ID:	ZZZZZ	Batch ID:	T16570	TestNo:	TO-3(MOD)			Analysis Date:	6/13/2008	SeqNo:	238129	
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline		211.4	100	250	0	84.6	50	150				
Sample ID	LCSD-T16570	SampType:	LCSD	TestCode:	TO-3Gas (MO)	Units:	ppbv	Prep Date:	6/13/2008	RunNo:	16570	
Client ID:	ZZZZZ	Batch ID:	T16570	TestNo:	TO-3(MOD)			Analysis Date:	6/13/2008	SeqNo:	238130	
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline		203.2	100	250	0	81.3	50	150	211.4	3.98	30	

**Qualifiers:** E Value above quantitation range  
ND Not Detected at the Reporting Limit

H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits

J Analyte detected below quantitation limits  
S Spike Recovery outside accepted recovery limits





June 18, 2008

Joyce Bobek  
Soma Environmental Engineering, Inc.  
6620 Owens Dr. Suite A  
Pleasanton, CA 94588  
TEL: (925) 734-6400  
FAX (925) 734-6401

RE: 2335

Order No.: 0806064

Dear Joyce Bobek:

Torrent Laboratory, Inc. received 3 samples on 6/10/2008 for the analyses presented in the following report.

All data for associated QC met EPA or laboratory specification(s) except where noted in the case narrative.

Reported data is applicable for only the samples received as part of the order number referenced above.

Torrent Laboratory, Inc, is certified by the State of California, ELAP #1991. If you have any questions regarding these tests results, please feel free to contact the Project Management Team at (408)263-5258;ext: 204.

Sincerely,

  
Laboratory Director

6/18/08  
Date



# TORRENT LABORATORY, INC.

483 Sinclair Frontage Road • Milpitas, CA • Phone: (408) 263-5258 • Fax: (408) 263-8293

Visit us at [www.torrentlab.com](http://www.torrentlab.com) email: [analysis@torrentlab.com](mailto:analysis@torrentlab.com)

Report prepared for: Joyce Bobek  
Soma Environmental Engineering, Inc.

Date Received: 6/10/2008

Date Reported: 6/18/2008

**Client Sample ID:** MW-3 EFF      **Lab Sample ID:** 0806064-001  
**Sample Location:** 3609 International Blvd      **Date Prepared:**  
**Sample Matrix:** SOIL GAS  
**Date/Time Sampled** 6/10/2008 8:00:00 AM

Parameters	Analysis Method	Date Analyzed	RL	Dilution Factor	MRL	Result	Units	Analytical Batch
1,1 - Dichloroethene	TO-15	6/12/2008	1.99	10	20	ND	µg/m³	R16570
1,1,1,2-Tetrachloroethane	TO-15	6/12/2008	3.44	10	34	ND	µg/m³	R16570
1,1,1-Trichloroethane	TO-15	6/12/2008	2.73	10	27	ND	µg/m³	R16570
1,1,2,2-Tetrachloroethane	TO-15	6/12/2008	3.44	10	34	ND	µg/m³	R16570
1,1,2-Trichloroethane	TO-15	6/12/2008	2.73	10	27	ND	µg/m³	R16570
1,1-Dichloroethane	TO-15	6/12/2008	2.03	10	20	ND	µg/m³	R16570
1,2,4-Trichlorobenzene	TO-15	6/12/2008	3.56	10	36	ND	µg/m³	R16570
1,2,4-Trimethylbenzene	TO-15	6/12/2008	2.46	10	25	ND	µg/m³	R16570
1,2-Dibromoethane(Ethylene dibromide)	TO-15	6/12/2008	3.84	10	38	ND	µg/m³	R16570
1,2-Dichlorobenzene	TO-15	6/12/2008	3.01	10	30	ND	µg/m³	R16570
1,2-Dichloroethane	TO-15	6/12/2008	2.03	10	20	ND	µg/m³	R16570
1,2-Dichloropropane	TO-15	6/12/2008	2.31	10	23	ND	µg/m³	R16570
1,3,5-Trimethylbenzene	TO-15	6/12/2008	2.46	10	25	ND	µg/m³	R16570
1,3-Butadiene	TO-15	6/12/2008	1.11	10	11	ND	µg/m³	R16570
1,3-Dichlorobenzene	TO-15	6/12/2008	3.01	10	30	ND	µg/m³	R16570
1,4-Dichlorobenzene	TO-15	6/12/2008	3.01	10	30	ND	µg/m³	R16570
1,4-Dioxane	TO-15	6/12/2008	1.8	10	18	ND	µg/m³	R16570
2-Butanone (MEK)	TO-15	6/12/2008	1.48	10	15	ND	µg/m³	R16570
2-Hexanone	TO-15	6/12/2008	2.05	10	20	ND	µg/m³	R16570
4-Ethyl Toluene	TO-15	6/12/2008	2.46	10	25	ND	µg/m³	R16570
4-Methyl-2-Pentanone (MIBK)	TO-15	6/12/2008	2.05	10	20	ND	µg/m³	R16570
Acetone	TO-15	6/12/2008	9.52	10	95	ND	µg/m³	R16570
Benzene	TO-15	6/12/2008	1.6	10	16	ND	µg/m³	R16570
Benzyl Chloride	TO-15	6/12/2008	2.88	10	29	ND	µg/m³	R16570
Bromodichloromethane	TO-15	6/12/2008	3.35	10	34	ND	µg/m³	R16570
Bromoform	TO-15	6/12/2008	5.17	10	52	ND	µg/m³	R16570
Bromomethane	TO-15	6/12/2008	1.94	10	19	ND	µg/m³	R16570
Carbon Disulfide	TO-15	6/12/2008	1.56	10	16	ND	µg/m³	R16570
Carbon Tetrachloride	TO-15	6/12/2008	3.15	10	32	ND	µg/m³	R16570
Chlorobenzene	TO-15	6/12/2008	2.3	10	23	ND	µg/m³	R16570
Chloroethane	TO-15	6/12/2008	1.32	10	13	ND	µg/m³	R16570
Chloroform	TO-15	6/12/2008	2.44	10	24	ND	µg/m³	R16570
Chloromethane	TO-15	6/12/2008	1.04	10	10	ND	µg/m³	R16570
cis-1,2-dichloroethene	TO-15	6/12/2008	1.98	10	20	ND	µg/m³	R16570
cis-1,3-Dichloropropene	TO-15	6/12/2008	2.27	10	23	ND	µg/m³	R16570
Dibromochloromethane	TO-15	6/12/2008	4.26	10	43	ND	µg/m³	R16570

**Report prepared for:** Joyce Bobek  
Soma Environmental Engineering, Inc.

**Date Received:** 6/10/2008  
**Date Reported:** 6/18/2008

<b>Client Sample ID:</b>	MW-3 EFF	<b>Lab Sample ID:</b>	0806064-001
<b>Sample Location:</b>	3609 International Blvd	<b>Date Prepared:</b>	
<b>Sample Matrix:</b>	SOIL GAS		
<b>Date/Time Sampled</b>	6/10/2008 8:00:00 AM		

Parameters	Analysis Method	Date Analyzed	RL	Dilution Factor	MRL	Result	Units	Analytical Batch
Dichlorodifluoromethane	TO-15	6/12/2008	2.48	10	25	ND	µg/m³	R16570
Diisopropyl ether (DIPE)	TO-15	6/12/2008	2.09	10	21	ND	µg/m³	R16570
Ethyl Acetate	TO-15	6/12/2008	1.8	10	18	ND	µg/m³	R16570
Ethyl Benzene	TO-15	6/12/2008	2.17	10	22	ND	µg/m³	R16570
Ethyl tert-butyl ether (ETBE)	TO-15	6/12/2008	2.09	10	21	ND	µg/m³	R16570
Freon 113	TO-15	6/12/2008	3.83	10	38	ND	µg/m³	R16570
Hexachlorobutadiene	TO-15	6/12/2008	5.34	10	53	ND	µg/m³	R16570
Hexane	TO-15	6/12/2008	3.52	10	35	ND	µg/m³	R16570
Isopropanol	TO-15	6/12/2008	16.4	10	160	ND	µg/m³	R16570
m,p-Xylene	TO-15	6/12/2008	2.05	10	20	ND	µg/m³	R16570
Methylene Chloride	TO-15	6/12/2008	3.61	10	36	ND	µg/m³	R16570
MTBE	TO-15	6/12/2008	1.81	10	18	ND	µg/m³	R16570
Naphthalene	TO-15	6/12/2008	2.62	10	26	ND	µg/m³	R16570
o-xylene	TO-15	6/12/2008	2.17	10	22	ND	µg/m³	R16570
Styrene	TO-15	6/12/2008	2.13	10	21	ND	µg/m³	R16570
t-Butyl alcohol (t-Butanol)	TO-15	6/12/2008	1.515	10	15	110	µg/m³	R16570
tert-Amyl methyl ether (TAME)	TO-15	6/12/2008	2.09	10	21	ND	µg/m³	R16570
Tetrachloroethene	TO-15	6/12/2008	3.39	10	34	ND	µg/m³	R16570
Toluene	TO-15	6/12/2008	1.89	10	19	ND	µg/m³	R16570
trans-1,2-Dichloroethene	TO-15	6/12/2008	1.98	10	20	ND	µg/m³	R16570
Trichloroethene	TO-15	6/12/2008	2.69	10	27	ND	µg/m³	R16570
Trichlorofluoromethane	TO-15	6/12/2008	2.48	10	25	ND	µg/m³	R16570
Vinyl Acetate	TO-15	6/12/2008	1.76	10	18	ND	µg/m³	R16570
Vinyl Chloride	TO-15	6/12/2008	1.28	10	13	ND	µg/m³	R16570
Surr: 4-Bromofluorobenzene	TO-15	6/12/2008	0	10	65-135	88.8	%REC	R16570

Note: The reporting limits were raised due to insufficient sample volume supplied. Results reported to the MDL.

Gasoline	TO-3(MOD)	6/12/2008	352	10	3500	ND	µg/m³	G16570
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Note: See comment for TO\_15 analysis.

**Report prepared for:** Joyce Bobek

Soma Environmental Engineering, Inc.

**Date Received:** 6/10/2008

**Date Reported:** 6/18/2008

<b>Client Sample ID:</b>	MW-3 INF	<b>Lab Sample ID:</b>	0806064-002
<b>Sample Location:</b>	3609 International Blvd	<b>Date Prepared:</b>	
<b>Sample Matrix:</b>	SOIL GAS		
<b>Date/Time Sampled</b>	6/10/2008 8:20:00 AM		

Parameters	Analysis Method	Date Analyzed	RL	Dilution Factor	MRL	Result	Units	Analytical Batch
1,1 - Dichloroethene	TO-15	6/12/2008	0.794	500	400	ND	µg/m³	R16570
1,1,1,2-Tetrachloroethane	TO-15	6/12/2008	0.687	500	340	ND	µg/m³	R16570
1,1,1-Trichloroethane	TO-15	6/12/2008	0.819	500	410	ND	µg/m³	R16570
1,1,2,2-Tetrachloroethane	TO-15	6/12/2008	1.0305	500	520	ND	µg/m³	R16570
1,1,2-Trichloroethane	TO-15	6/12/2008	1.0374	500	520	ND	µg/m³	R16570
1,1-Dichloroethane	TO-15	6/12/2008	0.6885	500	340	ND	µg/m³	R16570
1,2,4-Trichlorobenzene	TO-15	6/12/2008	0.4984	500	250	ND	µg/m³	R16570
1,2,4-Trimethylbenzene	TO-15	6/12/2008	0.8856	500	440	1900	µg/m³	R16570
1,2-Dibromoethane(Ethylene dibromide)	TO-15	6/12/2008	1.0752	500	540	ND	µg/m³	R16570
1,2-Dichlorobenzene	TO-15	6/12/2008	0.601	500	300	ND	µg/m³	R16570
1,2-Dichloroethane	TO-15	6/12/2008	0.648	500	320	ND	µg/m³	R16570
1,2-Dichloropropane	TO-15	6/12/2008	1.0164	500	510	ND	µg/m³	R16570
1,3,5-Trimethylbenzene	TO-15	6/12/2008	0.6888	500	340	1060 J	µg/m³	R16570
1,3-Butadiene	TO-15	6/12/2008	0.5967	500	300	ND	µg/m³	R16570
1,3-Dichlorobenzene	TO-15	6/12/2008	0.3606	500	180	ND	µg/m³	R16570
1,4-Dichlorobenzene	TO-15	6/12/2008	0.6611	500	330	ND	µg/m³	R16570
1,4-Dioxane	TO-15	6/12/2008	0.504	500	250	ND	µg/m³	R16570
2-Butanone (MEK)	TO-15	6/12/2008	0.4425	500	220	ND	µg/m³	R16570
2-Hexanone	TO-15	6/12/2008	0.861	500	430	ND	µg/m³	R16570
4-Ethyl Toluene	TO-15	6/12/2008	0.738	500	370	2300	µg/m³	R16570
4-Methyl-2-Pentanone (MIBK)	TO-15	6/12/2008	0.656	500	330	ND	µg/m³	R16570
Acetone	TO-15	6/12/2008	0.5712	500	290	ND	µg/m³	R16570
Benzene	TO-15	6/12/2008	0.8932	500	450	8300	µg/m³	R16570
Benzyl Chloride	TO-15	6/12/2008	0.69	500	340	ND	µg/m³	R16570
Bromodichloromethane	TO-15	6/12/2008	0.871	500	440	ND	µg/m³	R16570
Bromoform	TO-15	6/12/2008	1.7578	500	880	ND	µg/m³	R16570
Bromomethane	TO-15	6/12/2008	0.776	500	390	ND	µg/m³	R16570
Carbon Disulfide	TO-15	6/12/2008	0.4976	500	250	ND	µg/m³	R16570
Carbon Tetrachloride	TO-15	6/12/2008	0.9435	500	470	ND	µg/m³	R16570
Chlorobenzene	TO-15	6/12/2008	0.4232	500	210	ND	µg/m³	R16570
Chloroethane	TO-15	6/12/2008	0.396	500	200	ND	µg/m³	R16570
Chloroform	TO-15	6/12/2008	1.952	500	980	ND	µg/m³	R16570
Chloromethane	TO-15	6/12/2008	0.7245	500	360	ND	µg/m³	R16570
cis-1,2-dichloroethene	TO-15	6/12/2008	0.5544	500	280	ND	µg/m³	R16570
cis-1,3-Dichloropropene	TO-15	6/12/2008	0.3632	500	180	ND	µg/m³	R16570
Dibromochloromethane	TO-15	6/12/2008	0.9372	500	470	ND	µg/m³	R16570
Dichlorodifluoromethane	TO-15	6/12/2008	0.7425	500	370	ND	µg/m³	R16570
Diisopropyl ether (DIPE)	TO-15	6/12/2008	0.6688	500	330	ND	µg/m³	R16570
Ethyl Acetate	TO-15	6/12/2008	0.4248	500	210	ND	µg/m³	R16570
Ethyl Benzene	TO-15	6/12/2008	0.31062	500	160	2100	µg/m³	R16570
Ethyl tert-butyl ether (ETBE)	TO-15	6/12/2008	0.6688	500	330	ND	µg/m³	R16570
Freon 113	TO-15	6/12/2008	0.9192	500	460	ND	µg/m³	R16570
Hexachlorobutadiene	TO-15	6/12/2008	1.8139	500	910	ND	µg/m³	R16570

These analyses were performed according to State  
of California Environmental Laboratory  
Accreditation program, Certificate # 1991

**Report prepared for:** Joyce Bobek  
Soma Environmental Engineering, Inc.

**Date Received:** 6/10/2008  
**Date Reported:** 6/18/2008

<b>Client Sample ID:</b>	MW-3 INF	<b>Lab Sample ID:</b>	0806064-002
<b>Sample Location:</b>	3609 International Blvd	<b>Date Prepared:</b>	
<b>Sample Matrix:</b>	SOIL GAS		
<b>Date/Time Sampled</b>	6/10/2008 8:20:00 AM		

Parameters	Analysis Method	Date Analyzed	RL	Dilution Factor	MRL	Result	Units	Analytical Batch
Hexane	TO-15	6/12/2008	1.7952	500	900	17000	µg/m³	R16570
Isopropanol	TO-15	6/12/2008	1.6359	500	820	ND	µg/m³	R16570
m,p-Xylene	TO-15	6/12/2008	0.492	500	250	11000	µg/m³	R16570
Methylene Chloride	TO-15	6/12/2008	0.6859	500	340	ND	µg/m³	R16570
MTBE	TO-15	6/12/2008	0.5054	500	250	ND	µg/m³	R16570
Naphthalene	TO-15	6/12/2008	2.62	500	1300	ND	µg/m³	R16570
o-xylene	TO-15	6/12/2008	0.62062	500	310	2400	µg/m³	R16570
Styrene	TO-15	6/12/2008	0.639	500	320	ND	µg/m³	R16570
t-Butyl alcohol (t-Butanol)	TO-15	6/12/2008	0.4898	500	240	ND	µg/m³	R16570
tert-Amyl methyl ether (TAME)	TO-15	6/12/2008	0.6688	500	330	ND	µg/m³	R16570
Tetrachloroethene	TO-15	6/12/2008	1.2882	500	640	ND	µg/m³	R16570
Toluene	TO-15	6/12/2008	0.5278	500	260	ND	µg/m³	R16570
trans-1,2-Dichloroethene	TO-15	6/12/2008	0.5544	500	280	ND	µg/m³	R16570
Trichloroethene	TO-15	6/12/2008	0.52626	500	260	ND	µg/m³	R16570
Trichlorofluoromethane	TO-15	6/12/2008	0.693	500	350	ND	µg/m³	R16570
Vinyl Acetate	TO-15	6/12/2008	0.64064	500	320	ND	µg/m³	R16570
Vinyl Chloride	TO-15	6/12/2008	0.24832	500	120	ND	µg/m³	R16570
Surr: 4-Bromofluorobenzene	TO-15	6/12/2008	0	500	65-135	87.7	%REC	R16570

Note: Results reported to the MDL. Values reported between the MDL and RL should be considered as estimated and are qualified with the appropriate "J" flag.

Gasoline TO-3(MOD) 6/12/2008 352 1000 350000 1290000x µg/m³ G16570

Note: x- Although gasoline compounds are present, results are elevated due to a significant portion of non-gasoline hydrocarbons within range of C5-C12 quantified as Gasoline.

**Report prepared for:** Joyce Bobek

Soma Environmental Engineering, Inc.

**Date Received:** 6/10/2008

**Date Reported:** 6/18/2008

<b>Client Sample ID:</b>	MW-1 INF	<b>Lab Sample ID:</b>	0806064-003
<b>Sample Location:</b>	3609 International Blvd	<b>Date Prepared:</b>	
<b>Sample Matrix:</b>	SOIL GAS		
<b>Date/Time Sampled</b>	6/10/2008 9:30:00 AM		

Parameters	Analysis Method	Date Analyzed	RL	Dilution Factor	MRL	Result	Units	Analytical Batch
1,1 - Dichloroethene	TO-15	6/12/2008	0.794	500	400	ND	µg/m³	R16570
1,1,1,2-Tetrachloroethane	TO-15	6/12/2008	0.687	500	340	ND	µg/m³	R16570
1,1,1-Trichloroethane	TO-15	6/12/2008	0.819	500	410	ND	µg/m³	R16570
1,1,2,2-Tetrachloroethane	TO-15	6/12/2008	1.0305	500	520	ND	µg/m³	R16570
1,1,2-Trichloroethane	TO-15	6/12/2008	1.0374	500	520	ND	µg/m³	R16570
1,1-Dichloroethane	TO-15	6/12/2008	0.6885	500	340	ND	µg/m³	R16570
1,2,4-Trichlorobenzene	TO-15	6/12/2008	0.4984	500	250	ND	µg/m³	R16570
1,2,4-Trimethylbenzene	TO-15	6/12/2008	0.8856	500	440	1700	µg/m³	R16570
1,2-Dibromoethane(Ethylene dibromide)	TO-15	6/12/2008	1.0752	500	540	ND	µg/m³	R16570
1,2-Dichlorobenzene	TO-15	6/12/2008	0.601	500	300	ND	µg/m³	R16570
1,2-Dichloroethane	TO-15	6/12/2008	0.648	500	320	ND	µg/m³	R16570
1,2-Dichloropropane	TO-15	6/12/2008	1.0164	500	510	ND	µg/m³	R16570
1,3,5-Trimethylbenzene	TO-15	6/12/2008	0.6888	500	340	860 J	µg/m³	R16570
1,3-Butadiene	TO-15	6/12/2008	0.5967	500	300	ND	µg/m³	R16570
1,3-Dichlorobenzene	TO-15	6/12/2008	0.3606	500	180	ND	µg/m³	R16570
1,4-Dichlorobenzene	TO-15	6/12/2008	0.6611	500	330	ND	µg/m³	R16570
1,4-Dioxane	TO-15	6/12/2008	0.504	500	250	ND	µg/m³	R16570
2-Butanone (MEK)	TO-15	6/12/2008	0.4425	500	220	ND	µg/m³	R16570
2-Hexanone	TO-15	6/12/2008	0.861	500	430	ND	µg/m³	R16570
4-Ethyl Toluene	TO-15	6/12/2008	0.738	500	370	1800	µg/m³	R16570
4-Methyl-2-Pentanone (MIBK)	TO-15	6/12/2008	0.656	500	330	ND	µg/m³	R16570
Acetone	TO-15	6/12/2008	0.5712	500	290	970 J	µg/m³	R16570
Benzene	TO-15	6/12/2008	0.8932	500	450	1500	µg/m³	R16570
Benzyl Chloride	TO-15	6/12/2008	0.69	500	340	ND	µg/m³	R16570
Bromodichloromethane	TO-15	6/12/2008	0.871	500	440	ND	µg/m³	R16570
Bromoform	TO-15	6/12/2008	1.7578	500	880	ND	µg/m³	R16570
Bromomethane	TO-15	6/12/2008	0.776	500	390	ND	µg/m³	R16570
Carbon Disulfide	TO-15	6/12/2008	0.4976	500	250	ND	µg/m³	R16570
Carbon Tetrachloride	TO-15	6/12/2008	0.9435	500	470	ND	µg/m³	R16570
Chlorobenzene	TO-15	6/12/2008	0.4232	500	210	ND	µg/m³	R16570
Chloroethane	TO-15	6/12/2008	0.396	500	200	ND	µg/m³	R16570
Chloroform	TO-15	6/12/2008	1.952	500	980	ND	µg/m³	R16570
Chloromethane	TO-15	6/12/2008	0.7245	500	360	ND	µg/m³	R16570
cis-1,2-dichloroethene	TO-15	6/12/2008	0.5544	500	280	ND	µg/m³	R16570
cis-1,3-Dichloropropene	TO-15	6/12/2008	0.3632	500	180	ND	µg/m³	R16570
Dibromochloromethane	TO-15	6/12/2008	0.9372	500	470	ND	µg/m³	R16570
Dichlorodifluoromethane	TO-15	6/12/2008	0.7425	500	370	ND	µg/m³	R16570
Diisopropyl ether (DIPE)	TO-15	6/12/2008	0.6688	500	330	ND	µg/m³	R16570
Ethyl Acetate	TO-15	6/12/2008	0.4248	500	210	ND	µg/m³	R16570
Ethyl Benzene	TO-15	6/12/2008	0.31062	500	160	1040 J	µg/m³	R16570
Ethyl tert-butyl ether (ETBE)	TO-15	6/12/2008	0.6688	500	330	ND	µg/m³	R16570
Freon 113	TO-15	6/12/2008	0.9192	500	460	ND	µg/m³	R16570
Hexachlorobutadiene	TO-15	6/12/2008	1.8139	500	910	ND	µg/m³	R16570

These analyses were performed according to State  
of California Environmental Laboratory  
Accreditation program, Certificate # 1991

**Report prepared for:** Joyce Bobek  
Soma Environmental Engineering, Inc.

**Date Received:** 6/10/2008  
**Date Reported:** 6/18/2008

<b>Client Sample ID:</b>	MW-1 INF	<b>Lab Sample ID:</b>	0806064-003
<b>Sample Location:</b>	3609 International Blvd	<b>Date Prepared:</b>	
<b>Sample Matrix:</b>	SOIL GAS		
<b>Date/Time Sampled</b>	6/10/2008 9:30:00 AM		

Parameters	Analysis Method	Date Analyzed	RL	Dilution Factor	MRL	Result	Units	Analytical Batch
Hexane	TO-15	6/12/2008	1.7952	500	900	ND	µg/m³	R16570
Isopropanol	TO-15	6/12/2008	1.6359	500	820	ND	µg/m³	R16570
m,p-Xylene	TO-15	6/12/2008	0.492	500	250	5300	µg/m³	R16570
Methylene Chloride	TO-15	6/12/2008	0.6859	500	340	ND	µg/m³	R16570
MTBE	TO-15	6/12/2008	0.5054	500	250	ND	µg/m³	R16570
Naphthalene	TO-15	6/12/2008	2.62	500	1300	ND	µg/m³	R16570
o-xylene	TO-15	6/12/2008	0.62062	500	310	1200	µg/m³	R16570
Styrene	TO-15	6/12/2008	0.639	500	320	ND	µg/m³	R16570
t-Butyl alcohol (t-Butanol)	TO-15	6/12/2008	0.4898	500	240	ND	µg/m³	R16570
tert-Amyl methyl ether (TAME)	TO-15	6/12/2008	0.6688	500	330	ND	µg/m³	R16570
Tetrachloroethene	TO-15	6/12/2008	1.2882	500	640	ND	µg/m³	R16570
Toluene	TO-15	6/12/2008	0.5278	500	260	550 J	µg/m³	R16570
trans-1,2-Dichloroethene	TO-15	6/12/2008	0.5544	500	280	ND	µg/m³	R16570
Trichloroethene	TO-15	6/12/2008	0.52626	500	260	ND	µg/m³	R16570
Trichlorofluoromethane	TO-15	6/12/2008	0.693	500	350	ND	µg/m³	R16570
Vinyl Acetate	TO-15	6/12/2008	0.64064	500	320	ND	µg/m³	R16570
Vinyl Chloride	TO-15	6/12/2008	0.24832	500	120	ND	µg/m³	R16570
Surr: 4-Bromofluorobenzene	TO-15	6/12/2008	0	500	65-135	88.4	%REC	R16570

Note: Results reported to the MDL. Values reported between the MDL and RL should be considered as estimated and are qualified with the appropriate "J" flag.

Gasoline TO-3(MOD) 6/12/2008 352 1000 350000 1250000x µg/m³ G16570

Note: x- Although gasoline compounds are present, results are elevated due to a significant portion of non-gasoline hydrocarbons within range of C5-C12 quantified as Gasoline.

**Definitions, legends and Notes**

Note	Description
ug/kg	Microgram per kilogram (ppb, part per billion).
ug/L	Microgram per liter (ppb, part per billion).
mg/kg	Milligram per kilogram (ppm, part per million).
mg/L	Milligram per liter (ppm, part per million).
LCS/LCSD	Laboratory control sample/laboratory control sample duplicate.
MDL	Method detection limit.
MRL	Modified reporting limit. When sample is subject to dilution, reporting limit times dilution factor yields MRL.
MS/MSD	Matrix spike/matrix spike duplicate.
N/A	Not applicable.
ND	Not detected at or above detection limit.
NR	Not reported.
QC	Quality Control.
RL	Reporting limit.
% RPD	Percent relative difference.
a	pH was measured immediately upon the receipt of the sample, but it was still done outside the holding time.
sub	Analyzed by subcontracting laboratory, Lab Certificate #

**CLIENT:** Soma Environmental Engineering, Inc.  
**Work Order:** 0806064  
**Project:** 2335

**ANALYTICAL QC SUMMARY REPORT****BatchID: G16570**

Sample ID	<b>MB-G16570</b>	SampType:	<b>MBLK</b>	TestCode:	<b>TO-3Gas (MO)</b>	Units:	<b>ppbv</b>	Prep Date:	<b>6/12/2008</b>	RunNo:	<b>16570</b>
Client ID:	<b>ZZZZZ</b>	Batch ID:	<b>G16570</b>	TestNo:	<b>TO-3(MOD)</b>			Analysis Date:	<b>6/12/2008</b>	SeqNo:	<b>237629</b>
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD RPDLimit Qual
Gasoline		ND	100								
Sample ID	<b>LCS-G16570</b>	SampType:	<b>LCS</b>	TestCode:	<b>TO-3Gas (MO)</b>	Units:	<b>ppbv</b>	Prep Date:	<b>6/12/2008</b>	RunNo:	<b>16570</b>
Client ID:	<b>ZZZZZ</b>	Batch ID:	<b>G16570</b>	TestNo:	<b>TO-3(MOD)</b>			Analysis Date:	<b>6/12/2008</b>	SeqNo:	<b>237636</b>
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD RPDLimit Qual
Gasoline		436.4	100	500	0	87.3	50	150			
Sample ID	<b>LCSD-G16570</b>	SampType:	<b>LCSD</b>	TestCode:	<b>TO-3Gas (MO)</b>	Units:	<b>ppbv</b>	Prep Date:	<b>6/12/2008</b>	RunNo:	<b>16570</b>
Client ID:	<b>ZZZZZ</b>	Batch ID:	<b>G16570</b>	TestNo:	<b>TO-3(MOD)</b>			Analysis Date:	<b>6/12/2008</b>	SeqNo:	<b>237637</b>
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD RPDLimit Qual
Gasoline		436.7	100	500	0	87.3	50	150	436.4	0.0685	30

**Qualifiers:** E Value above quantitation range  
 ND Not Detected at the Reporting Limit

H Holding times for preparation or analysis exceeded  
 R RPD outside accepted recovery limits

J Analyte detected below quantitation limits  
 S Spike Recovery outside accepted recovery limits

**CLIENT:** Soma Environmental Engineering, Inc.  
**Work Order:** 0806064  
**Project:** 2335

## ANALYTICAL QC SUMMARY REPORT

**BatchID:** R16570

Sample ID	MB-R16570	SampType:	MBLK	TestCode:	TO-15	Units:	ppbv	Prep Date:	6/10/2008	RunNo:	16570		
Client ID:	ZZZZZ	Batch ID:	R16570	TestNo:	TO-15			Analysis Date:	6/10/2008	SeqNo:	237434		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1 - Dichloroethene		ND			0.20								
1,1,1,2-Tetrachloroethane		ND			0.10								
1,1,1-Trichloroethane		ND			0.15								
1,1,2,2-Tetrachloroethane		ND			0.15								
1,1,2-Trichloroethane		ND			0.19								
1,1-Dichloroethane		ND			0.17								
1,2,4-Trichlorobenzene		ND			0.070								
1,2,4-Trimethylbenzene		ND			0.18								
1,2-Dibromoethane(Ethylene dibromide)		ND			0.14								
1,2-Dichlorobenzene		ND			0.10								
1,2-Dichloroethane		ND			0.16								
1,2-Dichloropropane		ND			0.22								
1,3,5-Trimethylbenzene		ND			0.14								
1,3-Butadiene		ND			0.27								
1,3-Dichlorobenzene		ND			0.060								
1,4-Dichlorobenzene		ND			0.11								
1,4-Dioxane		ND			0.14								
2-Butanone (MEK)		ND			0.15								
2-Hexanone		ND			0.21								
4-Ethyl Toluene		ND			0.15								
4-Methyl-2-Pentanone (MIBK)		ND			0.16								
Acetone		ND			0.24								
Benzene		ND			0.28								
Benzyl Chloride		ND			0.12								
Bromodichloromethane		ND			0.13								
Bromoform		ND			0.17								
Bromomethane		ND			0.20								
Carbon Disulfide		ND			0.16								
Carbon Tetrachloride		ND			0.15								
Chlorobenzene		ND			0.092								
Chloroethane		ND			0.15								

**Qualifiers:** E Value above quantitation range  
ND Not Detected at the Reporting Limit

H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits

J Analyte detected below quantitation limits  
S Spike Recovery outside accepted recovery limits

**CLIENT:** Soma Environmental Engineering, Inc.  
**Work Order:** 0806064  
**Project:** 2335

## ANALYTICAL QC SUMMARY REPORT

**BatchID:** R16570

Sample ID	MB-R16570	SampType:	MBLK	TestCode:	TO-15	Units:	ppbv	Prep Date:	6/10/2008	RunNo:	16570		
Client ID:	ZZZZZ	Batch ID:	R16570	TestNo:	TO-15			Analysis Date:	6/10/2008	SeqNo:	237434		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloroform		ND			0.40								
Chloromethane		ND			0.35								
cis-1,2-dichloroethene		ND			0.14								
cis-1,3-Dichloropropene		ND			0.080								
Dibromochloromethane		ND			0.11								
Dichlorodifluoromethane		ND			0.15								
Diisopropyl ether (DIPE)		ND			0.16								
Ethyl Acetate		ND			0.12								
Ethyl Benzene		ND			0.093								
Ethyl tert-butyl ether (ETBE)		ND			0.16								
Freon 113		ND			0.12								
Hexachlorobutadiene		ND			0.17								
Hexane		ND			0.51								
Isopropanol		ND			0.40								
m,p-Xylene		ND			0.12								
Methylene Chloride		ND			0.19								
MTBE		ND			0.14								
Naphthalene		ND			0.50								
o-xylene		ND			0.14								
Styrene		ND			0.15								
t-Butyl alcohol (t-Butanol)		ND			0.16								
tert-Amyl methyl ether (TAME)		ND			0.16								
Tetrachloroethene		ND			0.19								
Toluene		ND			0.14								
trans-1,2-Dichloroethene		ND			0.14								
Trichloroethene		ND			0.098								
Trichlorofluoromethane		ND			0.14								
Vinyl Acetate		ND			0.18								
Vinyl Chloride		ND			0.097								
Surr: 4-Bromofluorobenzene		20.41		0	20	0	102	65	135				

**Qualifiers:** E Value above quantitation range  
ND Not Detected at the Reporting Limit

H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits

J Analyte detected below quantitation limits  
S Spike Recovery outside accepted recovery limits

**CLIENT:** Soma Environmental Engineering, Inc.  
**Work Order:** 0806064  
**Project:** 2335

## ANALYTICAL QC SUMMARY REPORT

**BatchID:** R16570

Sample ID	MB-1R16570	SampType:	MBLK	TestCode:	TO-15	Units:	ppbv	Prep Date:	6/11/2008	RunNo:	16570		
Client ID:	ZZZZZ	Batch ID:	R16570	TestNo:	TO-15			Analysis Date:	6/11/2008	SeqNo:	237567		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1 - Dichloroethene		ND			0.20								
1,1,1,2-Tetrachloroethane		ND			0.10								
1,1,1-Trichloroethane		ND			0.15								
1,1,2,2-Tetrachloroethane		ND			0.15								
1,1,2-Trichloroethane		ND			0.19								
1,1-Dichloroethane		ND			0.17								
1,2,4-Trichlorobenzene		ND			0.070								
1,2,4-Trimethylbenzene		ND			0.18								
1,2-Dibromoethane(Ethylene dibromide)		ND			0.14								
1,2-Dichlorobenzene		ND			0.10								
1,2-Dichloroethane		ND			0.16								
1,2-Dichloropropane		ND			0.22								
1,3,5-Trimethylbenzene		ND			0.14								
1,3-Butadiene		ND			0.27								
1,3-Dichlorobenzene		ND			0.060								
1,4-Dichlorobenzene		ND			0.11								
1,4-Dioxane		ND			0.14								
2-Butanone (MEK)		ND			0.15								
2-Hexanone		ND			0.21								
4-Ethyl Toluene		ND			0.15								
4-Methyl-2-Pentanone (MIBK)		ND			0.16								
Acetone		ND			0.24								
Benzene		ND			0.28								
Benzyl Chloride		ND			0.12								
Bromodichloromethane		ND			0.13								
Bromoform		ND			0.17								
Bromomethane		ND			0.20								
Carbon Disulfide		ND			0.16								
Carbon Tetrachloride		ND			0.15								
Chlorobenzene		ND			0.092								
Chloroethane		ND			0.15								

**Qualifiers:** E Value above quantitation range  
ND Not Detected at the Reporting Limit

H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits

J Analyte detected below quantitation limits  
S Spike Recovery outside accepted recovery limits

**CLIENT:** Soma Environmental Engineering, Inc.  
**Work Order:** 0806064  
**Project:** 2335

## ANALYTICAL QC SUMMARY REPORT

**BatchID:** R16570

Sample ID	MB-1R16570	SampType:	MBLK	TestCode:	TO-15	Units:	ppbv	Prep Date:	6/11/2008	RunNo:	16570		
Client ID:	ZZZZZ	Batch ID:	R16570	TestNo:	TO-15			Analysis Date:	6/11/2008	SeqNo:	237567		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloroform		ND			0.40								
Chloromethane		ND			0.35								
cis-1,2-dichloroethene		ND			0.14								
cis-1,3-Dichloropropene		ND			0.080								
Dibromochloromethane		ND			0.11								
Dichlorodifluoromethane		ND			0.15								
Diisopropyl ether (DIPE)		ND			0.16								
Ethyl Acetate		ND			0.12								
Ethyl Benzene		ND			0.093								
Ethyl tert-butyl ether (ETBE)		ND			0.16								
Freon 113		ND			0.12								
Hexachlorobutadiene		ND			0.17								
Hexane		ND			0.51								
Isopropanol		ND			0.40								
m,p-Xylene		ND			0.12								
Methylene Chloride		ND			0.19								
MTBE		ND			0.14								
Naphthalene		ND			0.50								
o-xylene		ND			0.14								
Styrene		ND			0.15								
t-Butyl alcohol (t-Butanol)		ND			0.16								
tert-Amyl methyl ether (TAME)		ND			0.16								
Tetrachloroethene		ND			0.19								
Toluene		ND			0.14								
trans-1,2-Dichloroethene		ND			0.14								
Trichloroethene		ND			0.098								
Trichlorofluoromethane		ND			0.14								
Vinyl Acetate		ND			0.18								
Vinyl Chloride		ND			0.097								
Surr: 4-Bromofluorobenzene		17.93		0	20	0	89.7	65	135				

**Qualifiers:** E Value above quantitation range  
ND Not Detected at the Reporting Limit

H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits

J Analyte detected below quantitation limits  
S Spike Recovery outside accepted recovery limits

**CLIENT:** Soma Environmental Engineering, Inc.  
**Work Order:** 0806064  
**Project:** 2335

## ANALYTICAL QC SUMMARY REPORT

**BatchID: R16570**

Sample ID	LCS-R16570	SampType:	LCS	TestCode:	TO-15	Units:	ppbv	Prep Date:	6/10/2008	RunNo:	16570	
Client ID:	ZZZZZ	Batch ID:	R16570	TestNo:	TO-15				Analysis Date:	6/10/2008	SeqNo:	237435
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1 - Dichloroethene		17.91	0.50	20	0	89.6	65	135				
1,1,1,2-Tetrachloroethane		19.61	0.50	20	0	98.0	65	135				
1,1,1-Trichloroethane		19.25	0.50	20	0	96.2	65	135				
1,1,2,2-Tetrachloroethane		19.38	0.50	20	0	96.9	65	135				
1,1,2-Trichloroethane		19.92	0.50	20	0	99.6	65	135				
1,1-Dichloroethane		18.04	0.50	20	0	90.2	65	135				
1,2,4-Trichlorobenzene		19.78	0.50	20	0	98.9	65	135				
1,2,4-Trimethylbenzene		19.81	0.50	20	0	99.0	65	135				
1,2-Dibromoethane(Ethylene dibromide)		20.38	0.50	20	0	102	65	135				
1,2-Dichlorobenzene		19.20	0.50	20	0	96.0	65	135				
1,2-Dichloroethane		20.86	0.50	20	0	104	65	135				
1,2-Dichloropropane		20.29	0.50	20	0	101	65	135				
1,3,5-Trimethylbenzene		19.80	0.50	20	0	99.0	65	135				
1,3-Butadiene		17.86	1.0	20	0	89.3	65	135				
1,3-Dichlorobenzene		19.26	0.50	20	0	96.3	65	135				
1,4-Dichlorobenzene		19.22	0.50	20	0	96.1	65	135				
1,4-Dioxane		21.08	0.50	20	0	105	65	135				
2-Butanone (MEK)		18.82	0.50	20	0	94.1	65	135				
2-Hexanone		19.82	0.50	20	0	99.1	65	135				
4-Ethyl Toluene		19.61	0.50	20	0	98.0	65	135				
4-Methyl-2-Pentanone (MIBK)		20.13	0.50	20	0	101	65	135				
Acetone		19.13	4.0	20	0	95.7	65	135				
Benzene		18.25	0.50	20	0	91.2	65	135				
Benzyl Chloride		20.25	0.50	20	0	101	65	135				
Bromodichloromethane		21.17	0.50	20	0	106	65	135				
Bromoform		19.46	0.50	20	0	97.3	65	135				
Bromomethane		18.72	0.50	20	0	93.6	65	135				
Carbon Disulfide		18.73	0.50	20	0	93.6	65	135				
Carbon Tetrachloride		19.48	0.50	20	0	97.4	65	135				
Chlorobenzene		19.79	0.50	20	0	99.0	65	135				
Chloroethane		18.90	0.50	20	0	94.5	65	135				

**Qualifiers:** E Value above quantitation range  
ND Not Detected at the Reporting Limit

H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits

J Analyte detected below quantitation limits  
S Spike Recovery outside accepted recovery limits

**CLIENT:** Soma Environmental Engineering, Inc.  
**Work Order:** 0806064  
**Project:** 2335

## ANALYTICAL QC SUMMARY REPORT

**BatchID: R16570**

Sample ID	LCS-R16570	SampType:	LCS	TestCode:	TO-15	Units:	ppbv	Prep Date:	6/10/2008	RunNo:	16570	
Client ID:	ZZZZZ	Batch ID:	R16570	TestNo:	TO-15				Analysis Date:	6/10/2008	SeqNo:	237435
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloroform		19.64	0.50	20	0	98.2	65	135				
Chloromethane		23.53	0.50	20	0	118	65	135				
cis-1,2-dichloroethene		18.35	0.50	20	0	91.8	65	135				
cis-1,3-Dichloropropene		20.69	0.50	20	0	103	65	135				
Dibromochloromethane		20.27	0.50	20	0	101	65	135				
Ethyl Acetate		19.43	0.50	20	0	97.2	65	135				
Ethyl Benzene		19.42	0.50	20	0	97.1	65	135				
Ethyl tert-butyl ether (ETBE)		18.64	0.50	20	0	93.2	65	135				
Freon 113		18.80	0.50	20	0	94.0	65	135				
Hexachlorobutadiene		20.13	0.50	20	0	101	65	135				
Hexane		18.40	2.0	20	0	92.0	65	135				
Isopropanol		20.20	4.0	20	0	101	65	135				
m,p-Xylene		39.03	0.50	40	0	97.6	65	135				
Methylene Chloride		18.34	1.0	20	0	91.7	65	135				
MTBE		19.32	0.50	20	0	96.6	65	135				
Naphthalene		19.52	5.0	20	0	97.6	65	135				
o-xylene		19.97	0.50	20	0	99.8	65	135				
Styrene		19.63	0.50	20	0	98.2	65	135				
t-Butyl alcohol (t-Butanol)		18.44	0.50	20	0	92.2	65	135				
tert-Amyl methyl ether (TAME)		21.30	0.50	20	0	106	65	135				
Tetrachloroethene		20.45	0.50	20	0	102	65	135				
Toluene		20.41	0.50	20	0	102	65	135				
trans-1,2-Dichloroethene		18.09	0.50	20	0	90.4	65	135				
Trichloroethene		20.23	0.50	20	0	101	65	135				
Trichlorofluoromethane		18.14	0.50	20	0	90.7	65	135				
Vinyl Acetate		20.38	0.50	20	0	102	65	135				
Vinyl Chloride		19.47	0.50	20	0	97.4	65	135				
Surr: 4-Bromofluorobenzene		20.48	0	20	0	102	65	135				

**Qualifiers:** E Value above quantitation range  
ND Not Detected at the Reporting Limit

H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits

J Analyte detected below quantitation limits  
S Spike Recovery outside accepted recovery limits

**CLIENT:** Soma Environmental Engineering, Inc.  
**Work Order:** 0806064  
**Project:** 2335

## ANALYTICAL QC SUMMARY REPORT

**BatchID: R16570**

Sample ID	LCSD-R16570	SampType:	LCSD	TestCode:	TO-15	Units:	ppbv	Prep Date:	6/11/2008	RunNo:	16570	
Client ID:	ZZZZZ	Batch ID:	R16570	TestNo:	TO-15	Analysis Date:			6/11/2008	SeqNo:	237436	
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1 - Dichloroethene		16.50	0.50	20	0	82.5	65	135	17.91	8.20	30	
1,1,1,2-Tetrachloroethane		17.06	0.50	20	0	85.3	65	135	19.61	13.9	30	
1,1,1-Trichloroethane		16.71	0.50	20	0	83.6	65	135	19.25	14.1	30	
1,1,2,2-Tetrachloroethane		16.99	0.50	20	0	85.0	65	135	19.38	13.1	30	
1,1,2-Trichloroethane		17.20	0.50	20	0	86.0	65	135	19.92	14.7	30	
1,1-Dichloroethane		16.30	0.50	20	0	81.5	65	135	18.04	10.1	30	
1,2,4-Trichlorobenzene		17.37	0.50	20	0	86.8	65	135	19.78	13.0	30	
1,2,4-Trimethylbenzene		17.70	0.50	20	0	88.5	65	135	19.81	11.3	30	
1,2-Dibromoethane(Ethylene dibromide)		17.62	0.50	20	0	88.1	65	135	20.38	14.5	30	
1,2-Dichlorobenzene		17.31	0.50	20	0	86.6	65	135	19.2	10.4	30	
1,2-Dichloroethane		18.01	0.50	20	0	90.0	65	135	20.86	14.7	30	
1,2-Dichloropropane		16.98	0.50	20	0	84.9	65	135	20.29	17.8	30	
1,3,5-Trimethylbenzene		17.33	0.50	20	0	86.7	65	135	19.8	13.3	30	
1,3-Butadiene		16.30	1.0	20	0	81.5	65	135	17.86	9.13	30	
1,3-Dichlorobenzene		17.56	0.50	20	0	87.8	65	135	19.26	9.23	30	
1,4-Dichlorobenzene		17.52	0.50	20	0	87.6	65	135	19.22	9.25	30	
1,4-Dioxane		18.42	0.50	20	0	92.1	65	135	21.08	13.5	30	
2-Butanone (MEK)		16.88	0.50	20	0	84.4	65	135	18.82	10.9	30	
2-Hexanone		17.91	0.50	20	0	89.6	65	135	19.82	10.1	30	
4-Ethyl Toluene		17.54	0.50	20	0	87.7	65	135	19.61	11.1	30	
4-Methyl-2-Pentanone (MIBK)		18.03	0.50	20	0	90.2	65	135	20.13	11.0	30	
Acetone		17.17	4.0	20	0	85.8	65	135	19.13	10.8	30	
Benzene		15.87	0.50	20	0	79.4	65	135	18.25	14.0	30	
Benzyl Chloride		18.05	0.50	20	0	90.2	65	135	20.25	11.5	30	
Bromodichloromethane		18.04	0.50	20	0	90.2	65	135	21.17	16.0	30	
Bromoform		17.44	0.50	20	0	87.2	65	135	19.46	10.9	30	
Bromomethane		16.04	0.50	20	0	80.2	65	135	18.72	15.4	30	
Carbon Disulfide		16.63	0.50	20	0	83.2	65	135	18.73	11.9	30	
Carbon Tetrachloride		16.47	0.50	20	0	82.4	65	135	19.48	16.7	30	
Chlorobenzene		17.11	0.50	20	0	85.6	65	135	19.79	14.5	30	
Chloroethane		16.23	0.50	20	0	81.2	65	135	18.9	15.2	30	

**Qualifiers:** E Value above quantitation range  
ND Not Detected at the Reporting Limit

H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits

J Analyte detected below quantitation limits  
S Spike Recovery outside accepted recovery limits

**CLIENT:** Soma Environmental Engineering, Inc.  
**Work Order:** 0806064  
**Project:** 2335

## ANALYTICAL QC SUMMARY REPORT

**BatchID: R16570**

Sample ID	LCSD-R16570	SampType:	LCSD	TestCode:	TO-15	Units:	ppbv	Prep Date:	6/11/2008	RunNo:	16570	
Client ID:	ZZZZZ	Batch ID:	R16570	TestNo:	TO-15	Analysis Date:			6/11/2008	SeqNo:	237436	
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloroform		16.34	0.50	20	0	81.7	65	135	19.64	18.3	30	
Chloromethane		16.83	0.50	20	0	84.2	65	135	23.53	33.2	30	
cis-1,2-dichloroethene		16.49	0.50	20	0	82.5	65	135	18.35	10.7	30	
cis-1,3-Dichloropropene		17.94	0.50	20	0	89.7	65	135	20.69	14.2	30	
Dibromochloromethane		17.37	0.50	20	0	86.8	65	135	20.27	15.4	30	
Ethyl Acetate		17.28	0.50	20	0	86.4	65	135	19.43	11.7	30	
Ethyl Benzene		16.93	0.50	20	0	84.6	65	135	19.42	13.7	30	
Ethyl tert-butyl ether (ETBE)		16.64	0.50	20	0	83.2	65	135	18.64	11.3	30	
Freon 113		17.04	0.50	20	0	85.2	65	135	18.8	9.82	30	
Hexachlorobutadiene		17.41	0.50	20	0	87.0	65	135	20.13	14.5	30	
Hexane		16.19	2.0	20	0	81.0	65	135	18.4	12.8	30	
Isopropanol		16.72	4.0	20	0	83.6	65	135	20.2	18.9	30	
m,p-Xylene		34.47	0.50	40	0	86.2	65	135	39.03	12.4	30	
Methylene Chloride		16.62	1.0	20	0	83.1	65	135	18.34	9.84	30	
MTBE		17.36	0.50	20	0	86.8	65	135	19.32	10.7	30	
Naphthalene		17.26	5.0	20	0	86.3	65	135	19.52	12.3	30	
o-xylene		17.54	0.50	20	0	87.7	65	135	19.97	13.0	30	
Styrene		17.60	0.50	20	0	88.0	65	135	19.63	10.9	30	
t-Butyl alcohol (t-Butanol)		16.63	0.50	20	0	83.2	65	135	18.44	10.3	30	
tert-Amyl methyl ether (TAME)		17.94	0.50	20	0	89.7	65	135	21.3	17.1	30	
Tetrachloroethene		17.02	0.50	20	0	85.1	65	135	20.45	18.3	30	
Toluene		17.53	0.50	20	0	87.6	65	135	20.41	15.2	30	
trans-1,2-Dichloroethene		16.60	0.50	20	0	83.0	65	135	18.09	8.59	30	
Trichloroethene		17.17	0.50	20	0	85.8	65	135	20.23	16.4	30	
Trichlorofluoromethane		16.56	0.50	20	0	82.8	65	135	18.14	9.11	30	
Vinyl Acetate		17.92	0.50	20	0	89.6	65	135	20.38	12.8	30	
Vinyl Chloride		16.89	0.50	20	0	84.4	65	135	19.47	14.2	30	
Surr: 4-Bromofluorobenzene		18.03	0	20	0	90.2	65	135	0	0	30	

**Qualifiers:** E Value above quantitation range  
ND Not Detected at the Reporting Limit

H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits

J Analyte detected below quantitation limits  
S Spike Recovery outside accepted recovery limits



483 Sinclair Frontage Road  
Milpitas, CA 95035  
Phone: 408.263.5258 RE  
FAX: 408.263.8293  
[www.torrentlab.com](http://www.torrentlab.com)

# **CHAIN OF CUSTODY**

**LAB WORK ORDER NO.**

0806064

• NOTE: SHADED AREAS ARE FOR TORRENT LAB USE ONLY.

Company Name: SUMA Environmental Engr., Inc.		Location of Sampling: 3609 International Blvd., Oakland, CA.
Address: 6620 Owens Dr. Suite A		Purpose: Soil Vapor Extraction + Remediation
City: Pleasanton	State: CA	Zip Code: 94588
Telephone: 925.734.6401		Special Instructions / Comments:
REPORT TO: Joyce Bobek		SAMPLER: Jesse Arellano
		P.O. #: 2335
		EMAIL: <a href="mailto:jbobek@sumainv.com">jbobek@sumainv.com</a>

#### **TURNAROUND TIME:**

#### **SAMPLE TYPE**

## REPORT FORMAT

- 10 Work Days
- 3 Work Days
- Noon - Nxt Day
- 7 Work Days
- 2 Work Days
- 2 - 8 Hours
- 5 Work Days
- 1 Work Day
- Other

- Storm Water
- Waste Water
- Ground Water
- Soil

- QC Level I
- EDF
- Excel / EDI

TO-3  
TPH-gas  
TO-15  
mt OE,  
Oxygenates

**ANALYSIS  
REQUESTED**

1 Relinquished By: Jesse Acosta Print: Jesse Acosta Date: 6/10/08 Time: 1200 Received By: Moore Print: Moore Date: 6/10 Time: 1343  
2 Relinquished By:  Joyce Bobek Print: Joyce Bobek Date: 6/10/08 Time: 13:43 Received By: Moore Print: Moore Date: 6/10 Time: 14:30

Were Samples Received in Good Condition?  Yes  NO      Samples on Ice?  Yes  NO      Method of Shipment *UPS*  
Sample seals intact?  Yes  NO  N/A

NOTE: Samples are discarded by the laboratory 30 days from date of receipt unless other arrangements are made.

**Log In By:** \_\_\_\_\_ **Date:** \_\_\_\_\_ **Log In Reviewed By:** \_\_\_\_\_ **Date:** \_\_\_\_\_