



ENVIRONMENTAL ENGINEERING, INC  
6620 Owens Drive, Suite A • Pleasanton, CA 94588-3334  
TEL (925) 734-6400 • FAX (925) 734-6401

April 12, 2006

**RECEIVED**

By loprojectop at 9:22 am, Apr 17, 2006

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 "Installation of Air Sparge System and Additional Vapor Extraction Wells" 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,

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



**RECEIVED**

*By lopprojectop at 9:22 am, Apr 17, 2006*



**ENVIRONMENTAL ENGINEERING, INC**  
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**INSTALLATION OF AIR SPARGE SYSTEM  
&  
ADDITIONAL VAPOR EXTRACTION WELLS  
TONY'S EXPRESS AUTO SERVICE**

**3609 International Blvd  
Oakland, California**

**April 12, 2006**

**Project 2332**

**Prepared for**

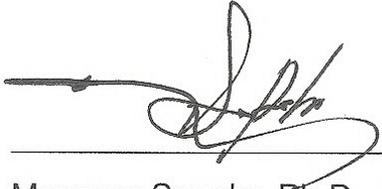
**Tony's Express Auto Service  
3609 International Boulevard  
Oakland, California**

**Prepared by**

**SOMA Environmental Engineering, Inc.  
6620 Owens Drive, Suite A  
Pleasanton, California**

## Certification

This report has been prepared by SOMA Environmental Engineering, Inc. on behalf of Mr. Abolghassem Razi, the property owner of 3609 International Boulevard, Oakland, California to detail the modification of the existing remedial system. In a letter dated March 23, 2005, the Alameda County Environmental Health Care Services Department approved SOMA's request, dated November 1, 2004, to modify the remedial system.



Mansour Sepehr, Ph.D., P.E.  
Principal Hydrogeologist



## Certification Statement

Chief Executive Officer

Abolghassem Razi  
Name

Owner  
Title

3609 International Boulevard  
Street Address

Oakland  
City

94601  
Zip

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that the qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

  
Signature

4-12-06  
Date

# Table Of Contents

<b>CERTIFICATION .....</b>	<b>II</b>
<b>TABLE OF CONTENTS .....</b>	<b>III</b>
<b>LIST OF FIGURES .....</b>	<b>IV</b>
<b>TABLE.....</b>	<b>IV</b>
<b>LIST OF APPENDICES.....</b>	<b>IV</b>
<b>1.0 INTRODUCTION .....</b>	<b>1</b>
1.1 BACKGROUND .....	1
<b>2.0 SCOPE OF WORK .....</b>	<b>2</b>
2.1 PERMIT ACQUISITION AND PREPARATION OF A SITE HEALTH AND SAFETY PLAN	2
2.2 INSTALLATION OF AIR SPARGE AND VAPOR EXTRACTION WELLS .....	3
2.3 INSTALLATION OF AIR SPARGE SYSTEM AND VAPOR EXTRACTION SYSTEM .....	3
<b>3.0 INSTALLATION OF DRAINAGE SYSTEM .....</b>	<b>4</b>
<b>4.0 AIR SPARGE AND VAPOR EXTRACTION SYSTEM OPERATION, MAINTENANCE AND SAMPLING.....</b>	<b>4</b>
<b>5.0 FUTURE ACTIVITIES.....</b>	<b>5</b>

## **List of Figures**

Figure 1: Site Vicinity Map

Figure 2: Location of Newly Installed Air Sparge Wells and Additional Vapor Extraction Wells

Figure 3: Well Construction Details: Air Sparge Wells

Figure 4: Well Construction Details: Vapor Extraction Wells

## **Table**

Table 1: Analytical Air Results, TPH-g, BTEX, & MtBE

## **List of Appendices**

Appendix A: Well Permits

Appendix B: Photo Documentation

Appendix C: Excavated Soils Analytical Results and Chain of Custody Form

Appendix D: Chain of Custody Form and Laboratory Report for the Air Sampling of SVE Wells

## **1.0 Introduction**

This report has been prepared by SOMA Environmental Engineering, Inc. (SOMA) on behalf of Mr. Abolghassem Razi, the property owner of 3609 International Boulevard, Oakland, California (the "Site"), as illustrated in Figure 1. The Site is located in an area consisting primarily of commercial and residential uses. This report documents the installation of the air sparge system and additional soil vapor extraction wells.

Air sparging technology was determined to be the best remedial method when considering both safety and cost issues. This technology should greatly reduce the impacted plume regions in the vicinity of the underground storage tank (UST) cavity (around wells MW-1 and MW-3) and the SVE system (around well MW-6).

### **1.1 Background**

In July 1993, Soil Tech Engineering removed one single-walled 10,000-gallon gasoline tank and one single-walled 6,000-gallon gasoline tank along with a 550-gallon waste oil tank from the Site. Three double-walled USTs replaced these tanks. Currently, there is one 10,000-gallon double-walled gasoline tank and two 6,000-gallon double-walled gasoline tanks beneath the Site. The locations of the USTs are shown in Figure 2.

In December 1997, Western Geo-Engineers (WEGE) conducted additional investigations and groundwater monitoring events. The results of the groundwater monitoring events indicated elevated levels of petroleum hydrocarbons and Methyl tertiary Butyl Ether (MtBE) in the groundwater.

In April 1999, Mr. Razi, the owner, retained SOMA to conduct groundwater monitoring, risk-based corrective action (RBCA), a corrective action plan (CAP), as well as soil and groundwater remediation, at the Site. The results of the RBCA study indicated that the Site is a high-risk groundwater site; therefore, the soil and groundwater in the on and off-site areas warranted remedial actions.

The source of the petroleum hydrocarbons in the groundwater was believed to have been the former USTs, which were used to store gasoline at the Site. The results of the CAP study indicated that the installation of a French drain combined with a vapor extraction system would be the most cost effective alternative for the Site's remediation.

In late August 1999, SOMA installed a French drain and groundwater treatment system to prevent further migration of the chemically impacted groundwater. In July 2000, SOMA installed a vapor extraction system.

In January 2002, Environmental Fabric removed the former product dispensers and installed new ones.

On July 25, 2003, SOMA installed an additional on-site extraction pump in the western French drain riser. The extraction pump was installed to create a capture zone in the region around the USTs and to contain off-site migration in the southwestern corner of the Site.

On April 1, 2005, SOMA conducted a pilot test to evaluate the use of ozone sparging to actively remediate the groundwater at the Site. Based on the test results, the sediment was determined to be permeable enough to allow for the operation of an ozone sparging system. However, based on the proposed locations of the ozone wells, in the vicinity of the UST cavity, as well as the high site groundwater concentrations, ozone sparging was considered an unsafe option. The ozone sparging system may have potentially led to an explosive condition within the UST cavity region. In a letter dated September 27, 2005, SOMA requested that air sparging technology replace the proposed ozone sparge system.

## **2.0 Scope of Work**

The scope of this report is to document the installation of the air sparge system. SOMA performed the following tasks:

- Task 1: Permit Acquisition and Preparation of a Site Health and Safety Plan
- Task 2: Installing Air Sparge and Vapor Extraction Wells
- Task 3: Installing an Air Sparge System and Vapor Extraction System

The following are brief descriptions of the above tasks.

### **2.1 Permit Acquisition and Preparation of a Site Health and Safety Plan**

Prior to the installation of the air sparge and vapor extraction wells all necessary permits were obtained from the Alameda County Public Works Agency-Water Resources Well Permit. The permits were issued on November 2, 2005: permit number W2005-1008 for the air sparge wells and W2005-1089 for the vapor extraction wells. Appendix A shows the well permits.

Prior to the commencement of the well installations, a site-specific health and safety plan (HASP) was prepared by SOMA. The HASP was designed to address safety provisions during field activities. It provided procedures to protect the field crew from physical and chemical hazards resulting from drilling and sampling. The HASP established personnel responsibilities, general safe work practices, field procedures, personal protective equipment standards, decontamination procedures, and emergency action plans.

## **2.2 Installation of Air Sparge and Vapor Extraction Wells**

Prior to the actual well installation, Precision Locating, a licensed utility locator of Brentwood, California, conducted a utility clearance check. This check was conducted to avoid coming in contact with any utility lines during the well installation.

From November 17 to 23, 2005, SOMA oversaw the installation of the air sparge wells and vapor extraction wells by Woodward Drilling, of Rio Vista, California. Figure 2 shows the locations of the air sparge wells and vapor extraction wells. The air sparge well construction details are shown in Figure 3. The vapor extraction well construction details are shown in Figure 4.

Five air sparge wells and three additional vapor extraction wells were installed onsite. The air sparge wells were installed to inject air into the saturated formation. The newly installed vapor extraction wells, along with the existing vapor extraction wells, will be used to collect any off gases, in the unsaturated zone, from the air sparging wells.

## **2.3 Installation of Air Sparge System and Vapor Extraction System**

Prior to the actual installation of the air sparge system, SOMA again retained Precision Locating to locate utility lines beneath the marked trench locations. From February 22, 2006 to March 6, 2006, SOMA oversaw the installation of the air sparge system by ACRC, Inc. (ACRC), a construction company in San Ramon, California.

On February 23, 2006, all concrete along the marked out trench lines was saw-cut by Vickers Concrete Cutting. After all the concrete was saw-cut, ACRC began removing concrete along the trench line using a Bobcat excavator with a chipping hammer. Trench plates were installed over the trenches once the concrete was removed. This was performed as a safety measure for cars and people crossing the open trenches. Appendix B shows the photo documentation of the installation of the remedial system.

The trench plates were later removed in sections, and the entire upper concrete layer was removed. The trenches were dug to an approximate depth of 2 feet below ground surface (bgs). The layout of the trench lines is displayed in Figure 2. All soil and concrete cuttings were stockpiled onsite in the vicinity southeast of the UST cavity. A composite soil sample was collected from the stockpile and analyzed by Curtis & Tompkins, Ltd. The results of this analysis are shown in Appendix C. The analytical results revealed that the soil was below the acceptable landfill requirements, and thus the soil and concrete were transported to the local landfill.

To prevent unsafe ambient air conditions during all field excavation activities, SOMA tested all removed soil and monitored the air conditions within and around the trench regions using a Photoionization Detector (PID). The ambient air conditions were tested to assess hydrocarbon levels within the workspace.

After excavating the piping trench, fine sand was placed at the bottom the trench. Then one-inch diameter and two-inch diameter PVC Schedule 40 piping was placed inside the trench over the sand. The PVC pipe was then covered with another sand layer. A one-inch pipe was routed from the remedial compound to each air sparge well (total of five one-inch pipes). A two-inch line was routed from the remedial compound and branched to each SVE well within the trench (total of one two-inch pipe). The trench was then filled to grade with approximately one-foot of concrete. The concrete was laced with rebar for added stability and support.

The installed two-inch and one-inch piping were connected at each wellhead and at the remedial compound. The piping system was then pressure tested to check for leaks. No leaks were observed throughout the lines. All one-inch lines were then connected into one local junction line and then connected into an air compressor. The air compressor is used to inject air into each air sparge well. The compressor is a GAST oil-less piston 115 VAC, 24 amp, 2 HP compressor.

To power the GAST compressor, an electrical line was run from the existing subpanel, near the GAC system, to a 50-amp subpanel, which was installed by ACRC near the GAST compressor. The existing conduit at the panel of the GAC system was replaced during this time. The air sparge system was initially started on March 15, 2006.

### **3.0 Installation of Drainage System**

Due to a poor surface water run-off collection system at the Site, during the rainy season the surface water containing petroleum hydrocarbons could have entered into the air sparge wells. Since some of the air sparge wells and vapor extractions wells are located within the area that could be flooded during heavy rainfall events, a drainage pipe was installed to collect surface run-off and improve the surface drainage system next to these remediation wells. During this process, a pipe carrying the excess rainwater run-off around the air sparge wells was connected to the canopy downspout pipe carrying the rainwater run-off.

### **4.0 Air Sparge and Vapor Extraction System Operation, Maintenance and Sampling**

Due to the loud noise associated with the GAST compressor, which caused the nearby residents of the station to complain, the remedial system was modified. SOMA contracted with Environmental Instruments, of Concord, California, to modify the system.

A timer was installed on the compressor to control operation of the air sparge system. The operational cycle of the compressor will now consist of a run time of 15 minutes and a shutdown time of 45 minutes. The system will be operational from 8 AM to 7 PM every day of the week.

To further reduce the noise level, Environmental Instruments rebuilt the existing vacuum eductor, which was built and installed in 2000. In addition, foam was placed around the vacuum eductor to act as a noise suppressant.

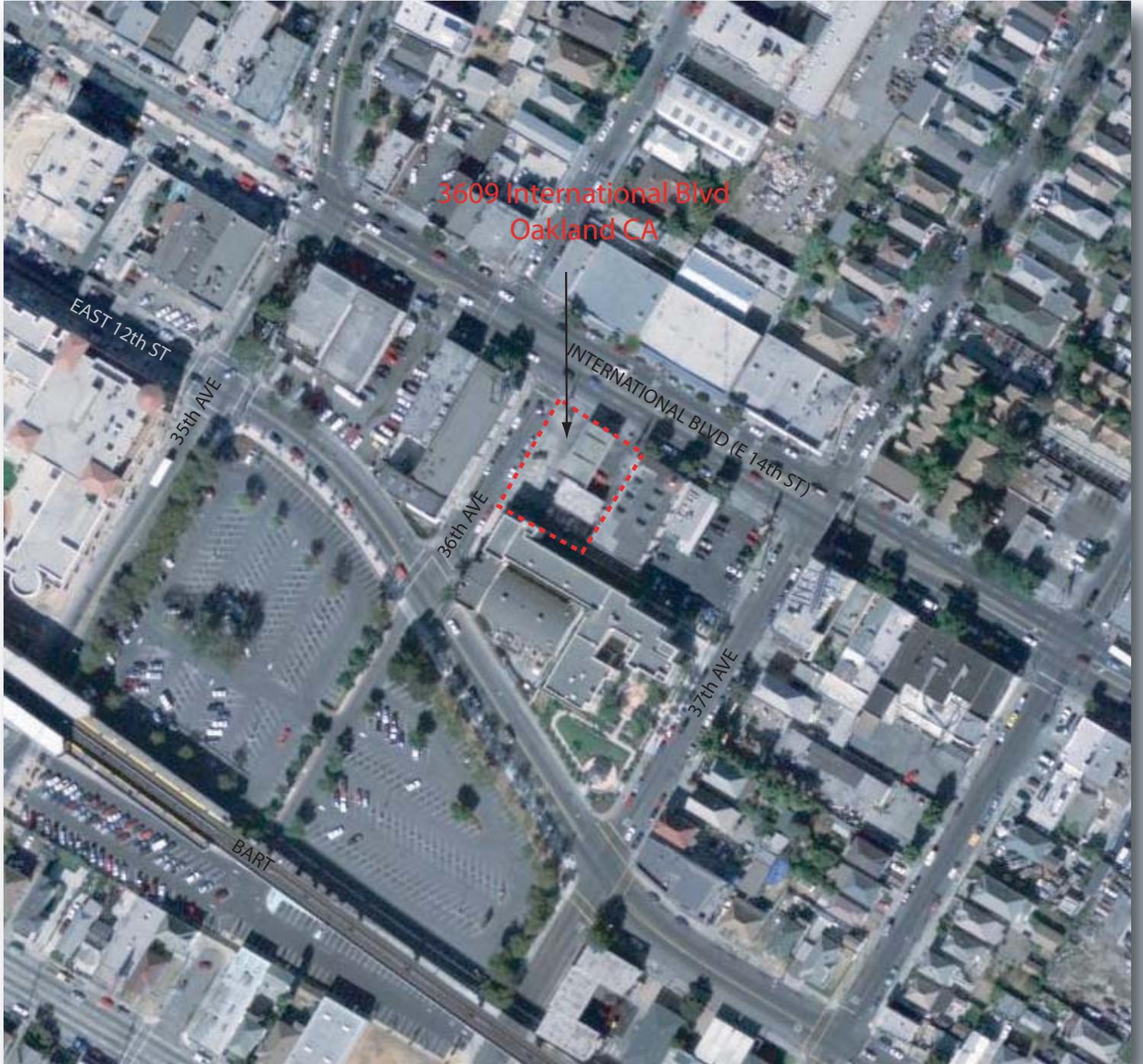
Pressure gauges were installed in each air sparge line (5) to monitor the air pressure to each wellhead from the GAST system.

On March 21, 2006, SOMA installed sample ports at each SVE well location. Air samples were then collected from each SVE well. The samples were taken to Sequoia Analytical in Concord, California for analysis. The samples were analyzed for TPH-g, BTEX, and MtBE. Table 1 summarizes the laboratory results of the air samples. Appendix D shows the laboratory report and chain of custody form.

## **5.0 Future Activities**

- Prior to the installation of the air sparge system, SOMA collected air samples from the previously existing SVE wells. Based on the sample results, which were non-detectable, the lines from SVE wells P-4 and ISL-1 to the vacuum pump were closed. To more effectively remediate the Site and obtain the optimal efficiency of the vacuum eductor, other SVE wells may be shutdown on an as needed basis.
- During the initial operation of the air sparge system, hydrocarbons presently trapped within the unsaturated zone will be released thereby creating higher hydrocarbon vapors. These vapors will be treated by the vapor extraction system. Therefore, the vapor carbon drums will need to be replaced more frequently.
- SOMA will provide detailed operation and maintenance activities to the BAAQMD on a quarterly basis.

# FIGURES



approximate scale in feet



Figure 1: Site vicinity map.

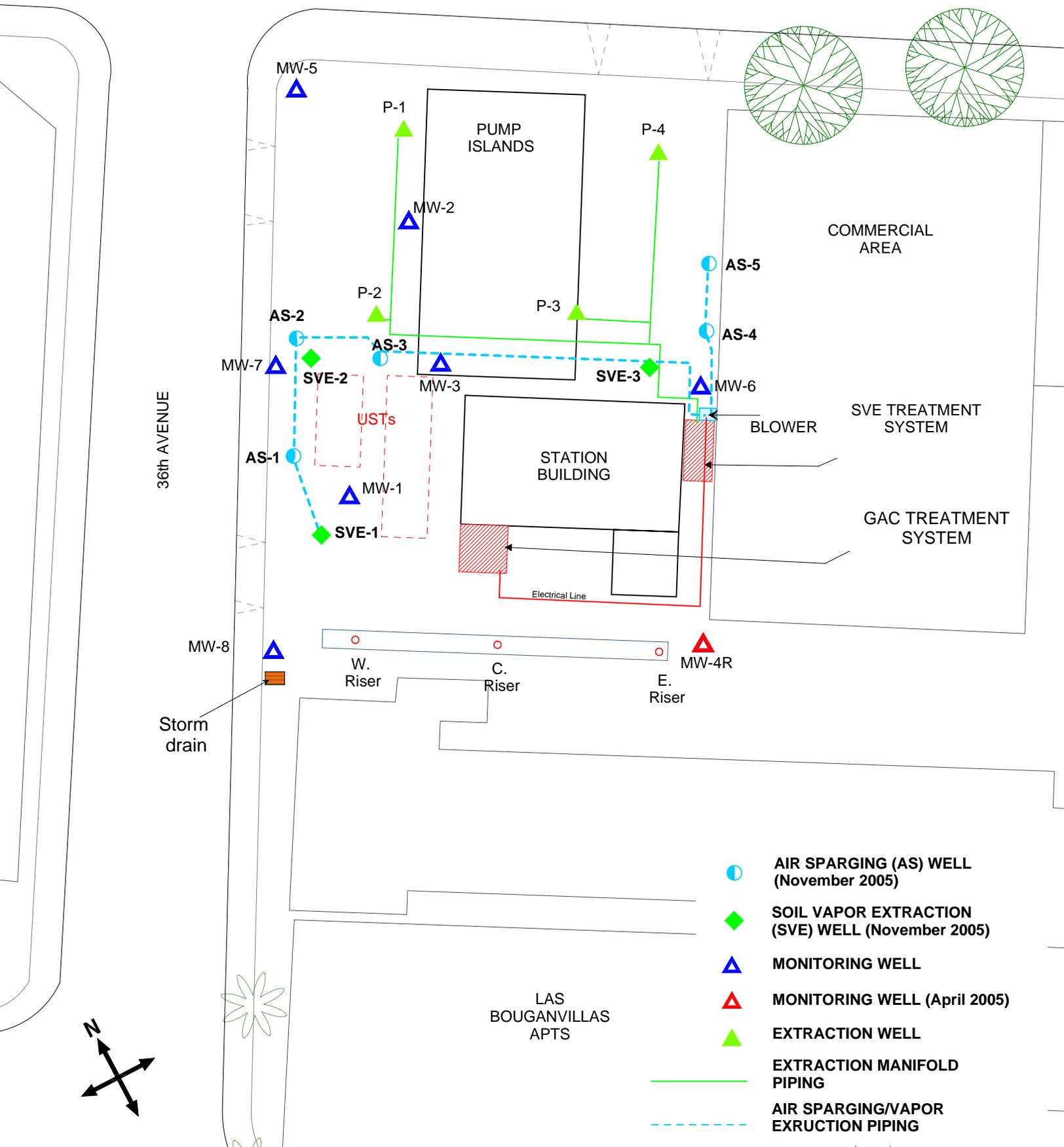


Figure 2: Site map showing air sparging wells and additional soil vapor extraction wells.

approximate scale in feet  
0 20 40

PROJECT: 2332

SITE LOCATION: 3609 International Boulevard, Oakland.

DRILLER: Woodward Drilling Company, Inc.

DRILLING METHOD: Hollow Steam Auger Drilling Technology.

DATE DRILLED: Nov 17-23, 2005

BORING DIAMETER: 8"

LOGGED BY: E Jennings

APPROVED BY: M Sepehr Ph. D., P.E.

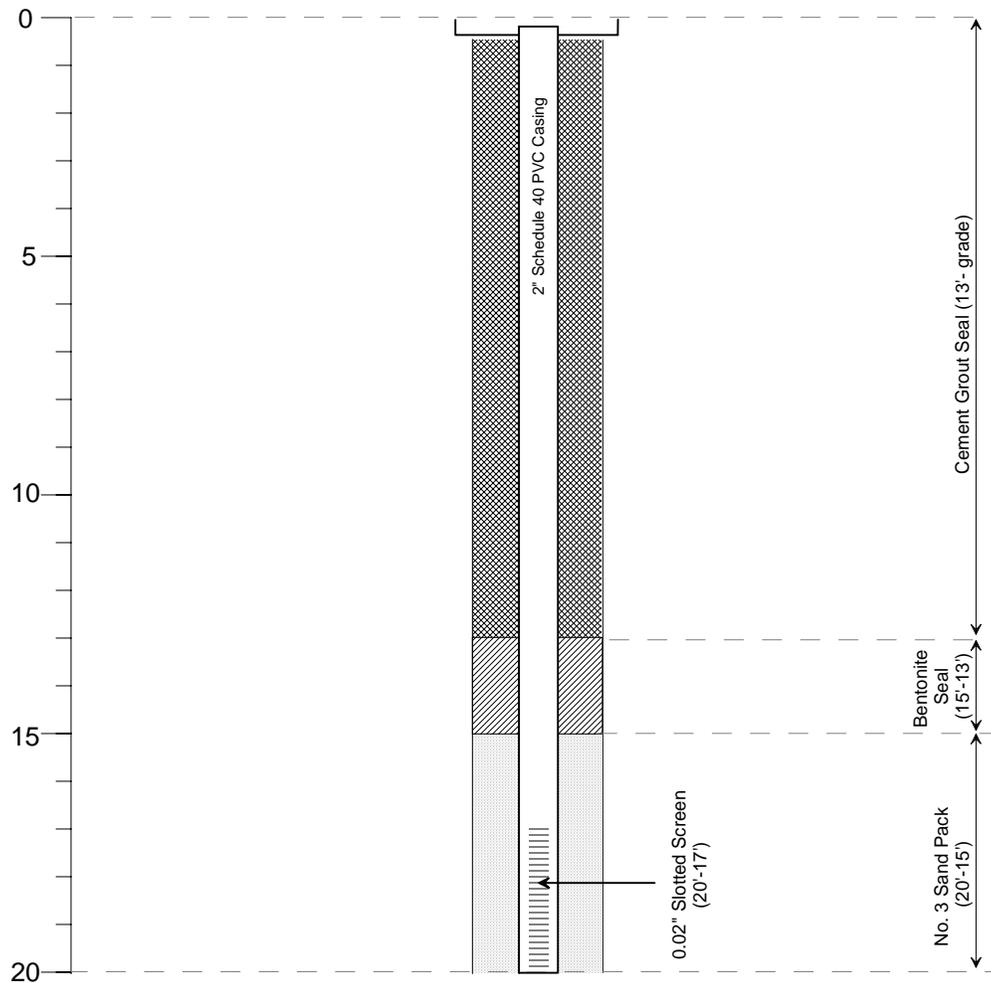


Figure 3: Well Construction Details: Air Sparge Wells

PROJECT: 2332

DATE DRILLED: Nov 17-23, 2005

SITE LOCATION: 3609 International Boulevard, Oakland.

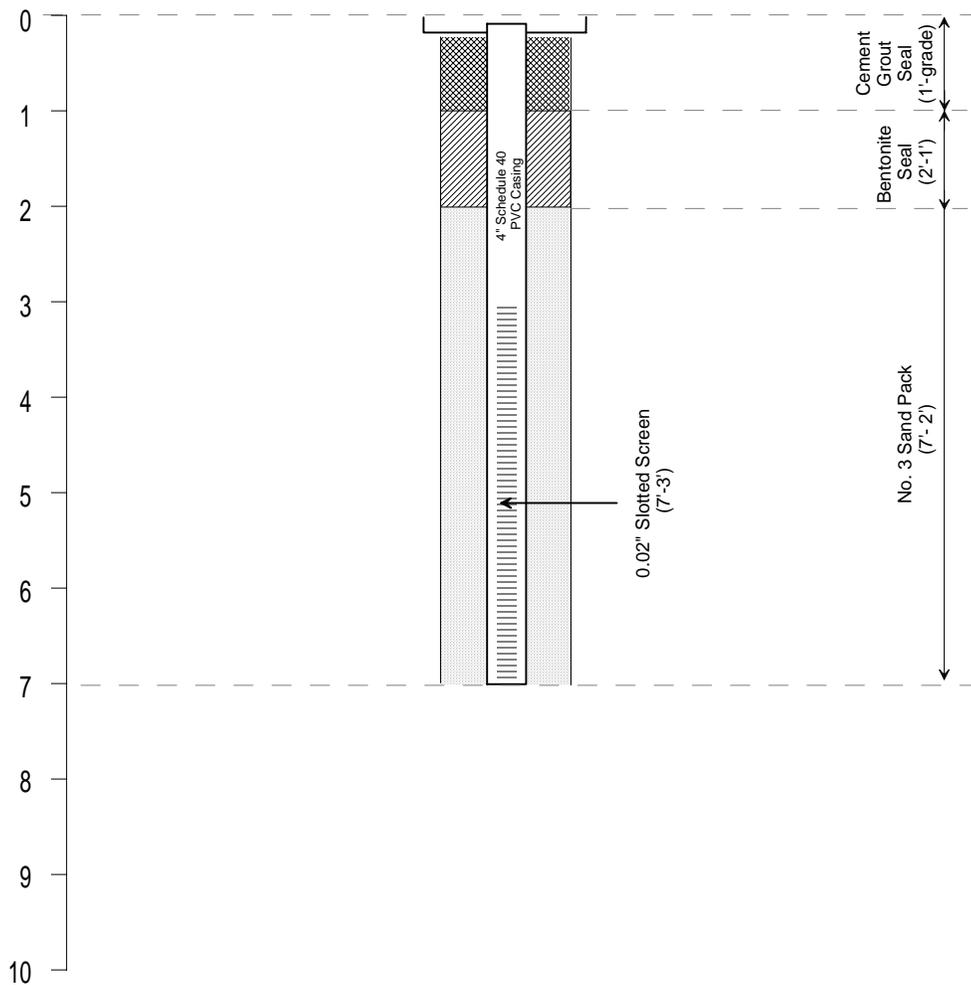
BORING DIAMETER: 10"

DRILLER: Woodward Drilling Company, Inc.

LOGGED BY: E Jennings

DRILLING METHOD: Hollow Steam Auger Drilling Technology.

APPROVED BY: M Sepehr Ph. D., P.E.



Total Depth 7' bgs

Figure 4: Well Construction Details: Vapor Extraction Wells

# TABLE

**Table 1**  
**Analytical Air Results: TPH-g, BTEX, & MtBE**  
**3609 International Blvd, Oakland, CA**

Date	TPH-g (ppmv)	Benzene (ppmv)	Toluene (ppmv)	Ethylbenzene (ppmv)	Total Xylenes (ppmv)	MtBE (ppmv)
<b>SVE-1</b>						
21-Mar-06	710	<0.16	<0.13	<0.12	<0.23	0.46
<b>SVE-2</b>						
21-Mar-06	660	<0.16	<0.13	<0.12	<0.23	<0.14
<b>SVE-3</b>						
21-Mar-06	15	<0.16	<0.13	<0.12	<0.23	<0.14

Notes:

<: Not Detected above the laboratory reporting limit.

\* : Duplicate Sample Result for well SVE-3.

E: Exceeds instrument calibration range.

# Appendix A

## Well Permits

# Alameda County Public Works Agency - Water Resources Well Permit



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

**Application Approved on:** 11/02/2005 **By** jamesy  
**Permits Issued:** W2005-1088 to W2005-1089

**Receipt Number:** WR2005-2176  
**Permits Valid from** 11/16/2005 **to** 11/18/2005

**Application Id:** 1130803020349  
**Site Location:** 3609 International Blvd

**City of Project Site:** Oakland

**Project Start Date:** Oakland, California  
11/16/2005

**Completion Date:** 11/18/2005

**Applicant:** Soma Environmental - Mansour Sepehr  
6620 Owens Drive Suite A, Pleasanton, CA 94588

**Phone:** 925-734-6400

**Property Owner:** Abolghassem Razi  
46 Montecito Road, San Rafael, CA 94901

**Phone:** 415-457-2178

**Client:** \*\* same as Property Owner \*\*  
**Contact:** Eric Jennings

**Phone:** 925-734-6400  
**Cell:** --

	<b>Total Due:</b>	\$400.00
	<b>Total Amount Paid:</b>	\$400.00
<b>Paid By:</b> MC		<b>PAID IN FULL</b>

## Works Requesting Permits:

Remediation Well Construction-Injection - 8 Wells  
Driller: Woodward Drilling - Lic #: 710079 - Method: hstem

**Work Total: \$200.00**

### Specifications

Permit #	Issued Date	Expire Date	Owner Well Id	Hole Diam.	Casing Diam.	Seal Depth	Max. Depth
W2005-1088	11/02/2005	02/14/2006	AS-1	8.00 in.	2.00 in.	5.00 ft	20.00 ft
W2005-1088	11/02/2005	02/14/2006	AS-2	8.00 in.	2.00 in.	5.00 ft	20.00 ft
W2005-1088	11/02/2005	02/14/2006	AS-3	8.00 in.	2.00 in.	5.00 ft	20.00 ft
W2005-1088	11/02/2005	02/14/2006	AS-4	8.00 in.	2.00 in.	5.00 ft	20.00 ft
W2005-1088	11/02/2005	02/14/2006	AS-5	8.00 in.	2.00 in.	5.00 ft	20.00 ft
W2005-1088	11/02/2005	02/14/2006	AS-6	8.00 in.	2.00 in.	5.00 ft	20.00 ft
W2005-1088	11/02/2005	02/14/2006	AS-7	8.00 in.	2.00 in.	5.00 ft	20.00 ft
W2005-1088	11/02/2005	02/14/2006	AS-8	8.00 in.	2.00 in.	5.00 ft	20.00 ft

### Specific Work Permit Conditions

1. Applicant shall contact James Yoo for an inspection time at 510-670-6633 at least five (5) working days prior to starting, once the permit has been approved. Confirm the scheduled date(s) at least 24 hours prior to drilling.
2. Minimum seal depth is 2 feet below ground surface (BGS).
3. Minimum surface seal thickness is two inches of cement grout placed by tremie
4. Copy of approved drilling permit must be on site at all times. Failure to present or show proof of the approved permit application on site shall result in a fine of \$500.00.

## Alameda County Public Works Agency - Water Resources Well Permit

5. Permittee shall assume entire responsibility for all activities and uses under this permit and shall indemnify, defend and save the Alameda County Public Works Agency, its officers, agents, and employees free and harmless from any and all expense, cost, liability in connection with or resulting from the exercise of this Permit including, but not limited to, properly damage, personal injury and wrongful death.

6. Permitte, permittee's contractors, consultants or agents shall be responsible to assure that all material or waters generated during drilling, boring destruction, and/or other activities associated with this Permit will be safely handled, properly managed, and disposed of according to all applicable federal, state, and local statutes regulating such. In no case shall these materials and/or waters be allowed to enter, or potentially enter, on or off-site storm sewers, dry wells, or waterways or be allowed to move off the property where work is being completed.

7. Compliance with the well-sealing specifications shall not exempt the well-sealing contractor from complying with appropriate State reporting-requirements related to well destruction (Sections 13750 through 13755 (Division 7, Chapter 10, Article 3) of the California Water Code). Contractor must complete State DWR Form 188 and mail original to the Alameda County Public Works Agency, Water Resources Section, within 60 days. Including permit number and site map.

---

Remediation Well Construction-Extraction - 4 Wells

Driller: Woodward Drilling - Lic #: 710079 - Method: hstem

**Work Total: \$200.00**

### Specifications

Permit #	Issued Date	Expire Date	Owner Well Id	Hole Diam.	Casing Diam.	Seal Depth	Max. Depth
W2005-1089	11/02/2005	02/14/2006	P-5	10.00 in.	4.00 in.	2.00 ft	10.00 ft
W2005-1089	11/02/2005	02/14/2006	P-6	10.00 in.	4.00 in.	2.00 ft	10.00 ft
W2005-1089	11/02/2005	02/14/2006	P-7	10.00 in.	4.00 in.	2.00 ft	10.00 ft
W2005-1089	11/02/2005	02/14/2006	P-8	10.00 in.	4.00 in.	2.00 ft	10.00 ft

### Specific Work Permit Conditions

1. Permittee shall assume entire responsibility for all activities and uses under this permit and shall indemnify, defend and save the Alameda County Public Works Agency, its officers, agents, and employees free and harmless from any and all expense, cost, liability in connection with or resulting from the exercise of this Permit including, but not limited to, properly damage, personal injury and wrongful death.

2. Permitte, permittee's contractors, consultants or agents shall be responsible to assure that all material or waters generated during drilling, boring destruction, and/or other activities associated with this Permit will be safely handled, properly managed, and disposed of according to all applicable federal, state, and local statutes regulating such. In no case shall these materials and/or waters be allowed to enter, or potentially enter, on or off-site storm sewers, dry wells, or waterways or be allowed to move off the property where work is being completed.

3. Compliance with the well-sealing specifications shall not exempt the well-sealing contractor from complying with appropriate State reporting-requirements related to well destruction (Sections 13750 through 13755 (Division 7, Chapter 10, Article 3) of the California Water Code). Contractor must complete State DWR Form 188 and mail original to the Alameda County Public Works Agency, Water Resources Section, within 60 days. Including permit number and site map.

4. Applicant shall contact James Yoo for an inspection time at 510-670-6633 at least five (5) working days prior to

## **Alameda County Public Works Agency - Water Resources Well Permit**

starting, once the permit has been approved. Confirm the scheduled date(s) at least 24 hours prior to drilling.

5. Minimum seal depth is 2 feet below ground surface (BGS).
  6. Minimum surface seal thickness is two inches of cement grout placed by tremie
  7. Copy of approved drilling permit must be on site at all times. Failure to present or show proof of the approved permit application on site shall result in a fine of \$500.00.
-

# PROGRAMS AND SERVICES

## Well Standards Program

The Alameda County Public Works Agency, Water Resources is located at:

399 Elmhurst Street

Hayward, CA 94544

For Driving Directions or General Info, Please Contact 510-670-5480 or wells@acpwa.org

For Drilling Permit information and process contact James Yoo at

Phone: 510-670-6633

FAX: 510-782-1939

Email: Jamesy@acpwa.org

Alameda County Public Works is the administering agency of General Ordinance Code, Chapter 6.88 . The purpose of this chapter is to provide for the regulation of groundwater wells and exploratory holes as required by California Water Code. The provisions of these laws are administered and enforced by Alameda County Public Works Agency through its Well Standards Program.

**Drilling Permit Jurisdictions in Alameda County:** There are four jurisdictions in Alameda County.

Location:	Agency with Jurisdiction	Contact Number
Berkeley	City of Berkeley	Ph: 510-981-7460 Fax: 510-540-5672
Fremont, Newark, Union City	Alameda County Water District	Ph: 510-668-4460 Fax: 510-651-1760
Pleasanton, Dublin, Livermore, Sunol	Zone 7 Water Agency	Ph: 925-454-5000 Fax: 510-454-5728

The Alameda County Public Works Agency, Water Resources has the responsibility and authority to issue drilling permits and to enforce the County Water Well Ordinance 73-68. This jurisdiction covers the western Alameda County area of **Oakland, Alameda, Piedmont, Emeryville, Albany, San Leandro, San Lorenzo, Castro Valley, and Hayward** . The purpose of the drilling permits are to ensure that any new well or the destruction of wells, including geotechnical investigations and environmental sampling within the above jurisdiction and within Alameda County will not cause pollution or contamination of ground water or otherwise jeopardize the health, safety or welfare of the people of Alameda County.

**Permits** are required for all work pertaining to wells and exploratory holes at any depth within the jurisdiction of the Well Standards Program. A completed permit application (30 Kb)\* , along with a site map, should be submitted at least **ten (10) working days prior to the planned start of work**. Submittals should be sent to the address or fax number provided on the application form. When submitting an application via fax, please use a high resolution scan to retain legibility.

Complete Permit Application Check List (24 Kb)\*

### Fees

**Beginning April 11, 2005** , the following fees shall apply:

A permit to construct, rehabilitate, or destroy wells, including cathodic protection wells, but excluding dewatering wells, shall cost \$300.00 per well.

A permit to bore exploratory holes, including temporary test wells, shall cost \$200 per site. A site includes the project parcel as well as any adjoining parcels.

Please make checks payable to: **Treasurer, County of Alameda**

## **Permit Fees are exempt to State & Federal Projects**

Applicants shall submit a letter from the agency requesting the fee exemption.

### **Scheduling Work/Inspections:**

Alameda County Public Works Agency (ACPWA), Water Resources Section requires scheduling and inspection of permitted work. All drilling activities must be scheduled in advance. Availability of inspections will vary from week to week and will come on a first come, first served bases. To ensure inspection availability on your desired or driller scheduled date, the following procedures are required:

Please contact **George Bolton at 510-670-5594** to schedule the inspection date and time (You must have drilling permit approved prior to scheduling).

Schedule the work as far in advance as possible (at least 5 days in advance); and confirm the scheduled drilling date(s) at least 24 hours prior to drilling.

Once the work has been scheduled, an ACPWA Inspector will coordinate the inspection requirements as well as how the Inspector can be reached if they are not at the site when inspection is required. Expect for special circumstances given, all work will require the inspection to be conducted during the working hours of 8:30am to 2:30pm., Monday to Friday, excluding holidays.

### **Request for Permit Extension:**

Permits are only valid from the start date to the completion date as stated on the drilling permit application and Conditions of Approval. To request an extension of a drilling permit application, applicants must request in writing prior to the completion date as set forth in the Conditions of Approval of the drilling permit application. Please send fax or email to Water Resources Section, Fax 510-782-1939 or email at wells@acpwa.org. There are no additional fees for permit extensions or for re-scheduling inspection dates. You may not extend your drilling permit dates beyond 90 days from the approval date of the permit application. **NO refunds** shall be given back after 90 days and the permit shall be deemed voided.

### **Cancel a Drilling Permit:**

Applicants may cancel a drilling permit only in writing by mail, fax or email to Water Resources Section, Fax 510-782-1939 or email at wells@acpwa.org. If you do not cancel your drilling permit application before the drilling completion date or notify in writing within 90 days, Alameda County Public Works Agency, Water Resources Section may void the permit and No refunds may be given back.

### **Refunds/Service Charge:**

A service charge of \$25.00 dollars for the first check returned and \$35.00 dollars for each subsequent check returned.

Applicants who cancel a drilling permit application **before** we issue the approved permit(s), will receive a **FULL** refund (at any amount) and will be mailed back within two weeks.

Applicants who cancel a drilling permit application **after** a permit has been issued will then be charged a service fee of \$50.00 (fifty Dollars). To collect the remaining funds will be determined by the amount of the refund to be refunded (see process below).

Board of Supervisors Minute Order, File No. 9763, dated January 9, 1996, gives blanket authority to the Auditor-Controller to process claims, from all County departments for the refund of fees which do not exceed \$500 (Five Hundred Dollars)(with the exception of the County Clerk whose limit is \$1,500).

Refunds over the amounts must be authorized by the Board of Supervisors Minute Order, File No. 9763 require specific approval by the Board of Supervisors.

The forms to request for refunds under \$500.00 (Five Hundred Dollars) are available at this office or any County Offices.

If the amount is exceeded, a Board letter and Minute Order must accompany the claim. Applicant shall fill out the request form and the County Fiscal department will process the request.

## **Enforcement**

Penalty. Any person who does any work for which a permit is required by this chapter and who fails to obtain a permit shall be guilty of a misdemeanor punishable by fine not exceeding Five Hundred Dollars (\$500.00) or by imprisonment not exceeding six months, or by both such fine and imprisonment, and such person shall be deemed guilty of a separate offense for each and every day or portion thereof during which any such violation is committed, continued, or permitted, and shall be subject to the same punishment as for the original offense. (Prior gen. code §3-160.6)

### **Enforcement actions will be determined by this office on a case-by-case basis**

Drilling without a permit shall be the cost of the permit(s) and a fine of \$500.00 (Five Hundred Dollars).

**Well Completion Reports** (State DWR-188 forms) must be filed with the Well Standards Program within 60 days of completing work. Staff will review the report, assign a state well number, and then forward it to the California Department of Water Resources (DWR). Drillers should not send completed reports to DWR directly. Failure to file a Well Completion Report or deliberate falsification of the information is a misdemeanor; it is also grounds for disciplinary action by the Contractors' State License Board. Also note that filed Well Completion Reports are considered private record protected by state law and can only be released to the well owner or those specifically authorized by government agencies. Links to pertinent forms are provided below.

Well Completion Report Form\*

Well Owner's Request Form for Previously Filed Forms (41Kb)\*

Government Authorization Form for the Release of Forms (46 Kb)\*

Site Hazard Information Form (51 Kb)\*

\* Adobe PDF Reader is Required.

# Appendix B

## Photo Documentation



*Concrete Cutting for Trenching*



*Removal of Concrete Cutting for Trenching*



*Trench Plating for Safety*



*Install of Remedial Piping*



*Trench to Well SVE-3*



*Install of Piping to Well SVE-3*



*Install of Piping from Air Sparge Wells AS-4 and AS-5 to Remedial Compound*



*Piping to Air Sparge Well*



*Sand Pack in Trench along Piping*



*Rebar Placed in Trench for Concrete Pour*



*Concrete Pour into Trench*



*Connection at SVE-1 Wellhead*



*Install of Drain Line at Down-Spouts of Canopy*



*Drain Lines at pumps*



*Install of Air Compressor for Air Sparging*

# **Appendix C**

Excavated Soils Analytical Results

and

Chain of Custody Form



Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878

2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

A N A L Y T I C A L   R E P O R T

Prepared for:

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

Date: 10-MAR-06  
Lab Job Number: 185252  
Project ID: 2334  
Location: 3609 International Blvd.

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signatures. The results contained in this report meet all requirements of NELAC and pertain only to those samples which were submitted for analysis.

Reviewed by:   
Project Manager

Reviewed by:   
Operations Manager

This package may be reproduced only in its entirety.

**CASE NARRATIVE**

Laboratory number: 185252  
Client: SOMA Environmental Engineering Inc.  
Project: 2334  
Location: 3609 International Blvd.  
Request Date: 03/01/06  
Samples Received: 03/01/06

This hardcopy data package contains sample and QC results for one two-point soil composite, requested for the above referenced project on 03/01/06. The samples were received on ice and intact.

**TPH-Purgeables and/or BTXE by GC (EPA 8015B and EPA 8021B):**

No analytical problems were encountered.

**Metals (EPA 6010B):**

No analytical problems were encountered.

**Curtis & Tompkins, Ltd.**  
 Analytical Laboratory Since 1878  
 2323 Fifth Street  
 Berkeley, CA 94710  
 (510)486-0900 Phone  
 (510)486-0532 Fax

C&T LOGIN # 185252

Sampler: TONY PERINI

Report To: Tony Perini

Company: SOMA Environmental

Telephone: 925-734-6400

Fax: 925-734-6401

Project No: 2334

Project Name: 3609 International Blvd. Oakland CA

Turnaround Time: Standard 48 hrs

Analysis

Lab No.	Sample ID.	Sampling Date Time	Matrix				# of Containers	Preservative												
			Soil	Water	Waste	Air		HCL	H2SO4	HNO3	ICE	none								
<u>1</u>	<u>SS-1 → A</u>	<u>3/1/06 12:15 PM</u>	*				1-Soil sleeve				*									
<u>2</u>	<u>SS-2 → A</u>	<u>3/1/06 12:17 PM</u>	*				1-Soil sleeve				*									
<u>-3</u>	<u>SS-1,2 Comp</u>		*				Soil sleeve				*									
			*				Soil sleeve				*									

TPHg 8015B	BTEX/MBE 8020B	Total Lead 6010A																		
*	*	*																		
*	*	*																		
<del>*</del>	<del>*</del>	<del>*</del>																		
<del>*</del>	<del>*</del>	<del>*</del>																		

Notes: EDF OUTPUT REQUIRED  
composite samples

REC'D intact; ON ICE JR

RELINQUISHED BY:

Tony Perini 3/1/06  
1 PM DATE/TIME

DATE/TIME

DATE/TIME

RECEIVED BY:

Jawann 3-1-06 1:00 PM  
 DATE/TIME

DATE/TIME

DATE/TIME

**Curtis & Tompkins Laboratories Analytical Report**

Lab #:	185252	Location:	3609 International Blvd.
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2334		
Field ID:	SS-1,2 COMP	Batch#:	110931
Matrix:	Soil	Sampled:	03/01/06
Basis:	as received	Received:	03/01/06
Diln Fac:	1.000	Analyzed:	03/02/06

Type: SAMPLE Lab ID: 185252-003

Analyte	Result	RL	Units	Analysis
Gasoline C7-C12	ND	1.1	mg/Kg	EPA 8015B
MTBE	ND	21	ug/Kg	EPA 8021B
Benzene	ND	5.3	ug/Kg	EPA 8021B
Toluene	ND	5.3	ug/Kg	EPA 8021B
Ethylbenzene	ND	5.3	ug/Kg	EPA 8021B
m,p-Xylenes	ND	5.3	ug/Kg	EPA 8021B
o-Xylene	ND	5.3	ug/Kg	EPA 8021B

Surrogate	%REC	Limits	Analysis
Trifluorotoluene (FID)	101	62-137	EPA 8015B
Bromofluorobenzene (FID)	91	60-148	EPA 8015B
Trifluorotoluene (PID)	74	66-127	EPA 8021B
Bromofluorobenzene (PID)	75	74-127	EPA 8021B

Type: BLANK Lab ID: QC329944

Analyte	Result	RL	Units	Analysis
Gasoline C7-C12	ND	1.0	mg/Kg	EPA 8015B
MTBE	ND	20	ug/Kg	EPA 8021B
Benzene	ND	5.0	ug/Kg	EPA 8021B
Toluene	ND	5.0	ug/Kg	EPA 8021B
Ethylbenzene	ND	5.0	ug/Kg	EPA 8021B
m,p-Xylenes	ND	5.0	ug/Kg	EPA 8021B
o-Xylene	ND	5.0	ug/Kg	EPA 8021B

Surrogate	%REC	Limits	Analysis
Trifluorotoluene (FID)	103	62-137	EPA 8015B
Bromofluorobenzene (FID)	97	60-148	EPA 8015B
Trifluorotoluene (PID)	83	66-127	EPA 8021B
Bromofluorobenzene (PID)	81	74-127	EPA 8021B

 ND= Not Detected  
 RL= Reporting Limit

## Batch QC Report

**Curtis & Tompkins Laboratories Analytical Report**

Lab #:	185252	Location:	3609 International Blvd.
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2334	Analysis:	EPA 8021B
Type:	LCS	Basis:	as received
Lab ID:	QC329942	Diln Fac:	1.000
Matrix:	Soil	Batch#:	110931
Units:	ug/Kg	Analyzed:	03/02/06

Analyte	Spiked	Result	%REC	Limits
MTBE	100.0	95.69	96	75-127
Benzene	100.0	89.79	90	80-120
Toluene	100.0	95.20	95	80-120
Ethylbenzene	100.0	91.94	92	80-120
m,p-Xylenes	100.0	99.41	99	80-120
o-Xylene	100.0	94.98	95	80-120

Surrogate	%REC	Limits
Trifluorotoluene (PID)	84	66-127
Bromofluorobenzene (PID)	85	74-127



Batch QC Report

**Curtis & Tompkins Laboratories Analytical Report**

Lab #:	185252	Location:	3609 International Blvd.
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2334	Analysis:	EPA 8015B
Type:	LCS	Basis:	as received
Lab ID:	QC329943	Diln Fac:	1.000
Matrix:	Soil	Batch#:	110931
Units:	mg/Kg	Analyzed:	03/02/06

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	10.00	10.16	102	80-120

Surrogate	%REC	Limits
Trifluorotoluene (FID)	120	62-137
Bromofluorobenzene (FID)	105	60-148



## Batch QC Report

## Curtis &amp; Tompkins Laboratories Analytical Report

Lab #:	185252	Location:	3609 International Blvd.
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2334	Analysis:	EPA 8015B
Field ID:	SS-1,2 COMP	Diln Fac:	1.000
MSS Lab ID:	185252-003	Batch#:	110931
Matrix:	Soil	Sampled:	03/01/06
Units:	mg/Kg	Received:	03/01/06
Basis:	as received	Analyzed:	03/02/06

Type: MS Lab ID: QC329993

Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12	0.1082	10.75	7.079	65	38-120

Surrogate	%REC	Limits
Trifluorotoluene (FID)	118	62-137
Bromofluorobenzene (FID)	103	60-148

Type: MSD Lab ID: QC329994

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	10.87	7.456	68	38-120	4	26

Surrogate	%REC	Limits
Trifluorotoluene (FID)	112	62-137
Bromofluorobenzene (FID)	96	60-148

**Lead**

Lab #:	185252	Location:	3609 International Blvd.
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 3050B
Project#:	2334	Analysis:	EPA 6010B
Analyte:	Lead	Diln Fac:	1.000
Field ID:	SS-1,2 COMP	Batch#:	110909
Matrix:	Soil	Sampled:	03/01/06
Units:	mg/Kg	Received:	03/01/06
Basis:	as received	Prepared:	03/02/06

Type	Lab ID	Result	RL	Analyzed
SAMPLE	185252-003	37	0.12	03/03/06
BLANK	QC329862	ND	0.15	03/02/06

ND= Not Detected  
 RL= Reporting Limit

## Batch QC Report

**Lead**

Lab #:	185252	Location:	3609 International Blvd.
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 3050B
Project#:	2334	Analysis:	EPA 6010B
Analyte:	Lead	Diln Fac:	1.000
Field ID:	ZZZZZZZZZZ	Batch#:	110909
MSS Lab ID:	185065-001	Sampled:	02/21/06
Matrix:	Soil	Received:	02/21/06
Units:	mg/Kg	Prepared:	03/02/06
Basis:	as received	Analyzed:	03/02/06

Type	Lab ID	MSS Result	Spiked	Result	%REC	Limits	RPD	Lim
BS	QC329863		100.0	95.63	96	80-120		
BSD	QC329864		100.0	95.79	96	80-120	0	20
MS	QC329865	11.97	92.59	93.97	89	57-120		
MSD	QC329866		108.7	110.7	91	57-120	2	20

# **Appendix D**

Chain of Custody Form and Laboratory Report  
for the Air Sampling Of SVE Wells



**SEQUOIA ANALYTICAL  
CHAIN OF CUSTODY**

- 885 Jarvis Drive • Morgan Hill, CA 95037 • (408) 776-9600 • FAX (408) 782-6308
- 1455 N. McDowell Blvd, Suite D • Petaluma, CA 94954 • (707) 792-1865 • FAX (707) 792-0342
- 819 Striker Ave., Suite B • Sacramento, CA 95834 • (916) 921-9600 • FAX (916) 921-0100
- 2430 Sprig Court, Suite G • Concord, CA 94520 • (925) 356-3150 • FAX (925) 356-0109

Company Name: SOMA Environmental Engineering Inc Project: 2334 - Oakland International  
 Mailing Address: 6620 Owens Drive, Suite A Billing Address (if different):  
 City: Pleasanton State: CA Zip Code: 94588  
 Telephone: 925-734-6400 Fax #: 925-734-6401 P.O. #:  
 Report To: Joyce Bobek E-mail Address: JBobek@somaenv.com QC Data:  Level II (standard)  Level III  Level IV  
 Sampler: \_\_\_\_\_ Date / Time Results Required: Starosta Sequoia's Work Order # \_\_\_\_\_

Turnaround Time:  10-15 Working Days (Standard TAT)  7 Working Days  5 Working Days  72 Hours  48 Hours  24 Hours  2-8 Hours

**MANDATORY:**  
 SDWA (Drinking Water)  
 CWA (Waste Water)  
 RCRA (Hazardous Waste)  
 Other

**ANALYSES REQUESTED (Please provide method)**

Client Sample ID.	Date / Time Sampled	Matrix Desc.	# of Cont.	Container Type	Sequoia's Sample #	ANALYSES REQUESTED (Please provide method)							Comment / Temp. (if required)	
1. <u>SVE-1</u>	<u>2:00 PM 3/21/06</u>	<u>Air</u>	<u>1</u>	<u>Telstar bag</u>	<u>OIA</u>									
2. <u>SVE-2</u>	<u>2:05 PM 3/21/06</u>	<u>Air</u>	<u>1</u>	<u>Telstar bag</u>	<u>OIA</u>									
3. <u>SVE-3</u>	<u>2:10 PM 3/21/06</u>	<u>Air</u>	<u>1</u>	<u>Telstar bag</u>	<u>OIA</u>									
4.														
5.														

Relinquished by / Co.: Tom 3:31 PM 3/21/06 Received by / Co.: Joyce Bobek Date / Time / Temp.: 3/21/06 3:31 PM  
 Relinquished by / Co.: \_\_\_\_\_ Received by / Co.: \_\_\_\_\_ Date / Time / Temp.: \_\_\_\_\_  
 Relinquished by / Co.: \_\_\_\_\_ Received by / Co.: \_\_\_\_\_ Date / Time / Temp.: \_\_\_\_\_  
 Relinquished by / Co.: \_\_\_\_\_ Received by / Co.: \_\_\_\_\_ Date / Time / Temp.: \_\_\_\_\_

Were Samples Received in Good Condition?  Yes  No Samples on Ice?  Yes  No Method of Shipment: \_\_\_\_\_ Page 1 of 1

White: Sequoia

Yellow: Sequoia

Pink: Client

MAR 22 08:45AM SEQUOIA/SAC



4 April, 2006

Joy Bobek  
Soma Environmental Eng.  
6620 Owens Drive, Suite A  
Pleasanton, CA. 94588

RE: N/A  
Work Order: S603455

Enclosed are the results of analyses for samples received by the laboratory on 03/21/06 15:31. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Tami Lindsay  
Project Manager

CA ELAP Certificate # 2630



Soma Environmental Eng.  
6620 Owens Drive, Suite A  
Pleasanton CA., 94588

Project:N/A  
Project Number:2334 Oakland International  
Project Manager:Joy Bobek

S603455  
**Reported:**  
04/04/06 15:50

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SVE-1	S603455-01	Air	03/21/06 14:00	03/21/06 15:31
SVE-2	S603455-02	Air	03/21/06 14:05	03/21/06 15:31
SVE-3	S603455-03	Air	03/21/06 14:10	03/21/06 15:31

Soma Environmental Eng.  
 6620 Owens Drive, Suite A  
 Pleasanton CA., 94588

 Project: N/A  
 Project Number: 2334 Oakland International  
 Project Manager: Joy Bobek

 S603455  
 Reported:  
 04/04/06 15:50

**Gasoline\BTEX\Oxygenates by EPA method 8260B**  
**Sequoia Analytical - Sacramento**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
---------	--------	-----------------	-------	----------	-------	----------	----------	--------	-------

**SVE-1 (S603455-01) Air Sampled: 03/21/06 14:00 Received: 03/21/06 15:31**

<b>Methyl tert-butyl ether</b>	<b>1.7</b>	0.50	mg/m <sup>3</sup> Air	1	6030398	03/23/06	03/23/06	EPA 8260B	
Benzene	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.50	"	"	"	"	"	"	
<i>Surrogate: Toluene-d8</i>		114 %	60-140		"	"	"	"	
<i>Surrogate: 4-BFB</i>		105 %	60-140		"	"	"	"	
<i>Surrogate: 1,2-DCA-d4</i>		102 %	60-140		"	"	"	"	
<b>Methyl tert-butyl ether</b>	<b>0.46</b>	0.14	ppmv	"	"	"	"	"	
Benzene	ND	0.16	"	"	"	"	"	"	
Ethylbenzene	ND	0.12	"	"	"	"	"	"	
Toluene	ND	0.13	"	"	"	"	"	"	
Xylenes (total)	ND	0.23	"	"	"	"	"	"	
<i>Surrogate: Toluene-d8</i>		114 %	60-140		"	"	"	"	
<i>Surrogate: 4-BFB</i>		105 %	60-140		"	"	"	"	
<i>Surrogate: 1,2-DCA-d4</i>		102 %	60-140		"	"	"	"	

**SVE-1 (S603455-01RE1) Air Sampled: 03/21/06 14:00 Received: 03/21/06 15:31**

<b>Gasoline Range Organics (C4-C12)</b>	<b>2500</b>	250	mg/m <sup>3</sup> Air	5	6030398	03/24/06	03/24/06	EPA 8260B	
<i>Surrogate: Toluene-d8</i>		98 %	60-140		"	"	"	"	
<i>Surrogate: 4-BFB</i>		99 %	60-140		"	"	"	"	
<i>Surrogate: 1,2-DCA-d4</i>		98 %	60-140		"	"	"	"	
<b>Gasoline Range Organics (C4-C12)</b>	<b>710</b>	71	ppmv	5	"	"	"	"	
<i>Surrogate: Toluene-d8</i>		98 %	60-140		"	"	"	"	
<i>Surrogate: 4-BFB</i>		99 %	60-140		"	"	"	"	
<i>Surrogate: 1,2-DCA-d4</i>		98 %	60-140		"	"	"	"	

Soma Environmental Eng.  
 6620 Owens Drive, Suite A  
 Pleasanton CA., 94588

 Project: N/A  
 Project Number: 2334 Oakland International  
 Project Manager: Joy Bobek

 S603455  
 Reported:  
 04/04/06 15:50

**Gasoline\BTEX\Oxygenates by EPA method 8260B**
**Sequoia Analytical - Sacramento**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>SVE-2 (S603455-02) Air Sampled: 03/21/06 14:05 Received: 03/21/06 15:31</b>									
Methyl tert-butyl ether	ND	0.50	mg/m <sup>3</sup> Air	1	6030398	03/24/06	03/24/06	EPA 8260B	
Benzene	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.50	"	"	"	"	"	"	
<i>Surrogate: Toluene-d8</i>		106 %	60-140		"	"	"	"	
<i>Surrogate: 4-BFB</i>		108 %	60-140		"	"	"	"	
<i>Surrogate: 1,2-DCA-d4</i>		100 %	60-140		"	"	"	"	
Methyl tert-butyl ether	ND	0.14	ppmv	"	"	"	"	"	
Benzene	ND	0.16	"	"	"	"	"	"	
Ethylbenzene	ND	0.12	"	"	"	"	"	"	
Toluene	ND	0.13	"	"	"	"	"	"	
Xylenes (total)	ND	0.23	"	"	"	"	"	"	
<i>Surrogate: Toluene-d8</i>		106 %	60-140		"	"	"	"	
<i>Surrogate: 4-BFB</i>		108 %	60-140		"	"	"	"	
<i>Surrogate: 1,2-DCA-d4</i>		100 %	60-140		"	"	"	"	
<b>SVE-2 (S603455-02RE1) Air Sampled: 03/21/06 14:05 Received: 03/21/06 15:31</b>									
<b>Gasoline Range Organics (C4-C12)</b>	<b>2300</b>	250	mg/m <sup>3</sup> Air	5	6030398	03/24/06	03/24/06	EPA 8260B	
<i>Surrogate: Toluene-d8</i>		96 %	60-140		"	"	"	"	
<i>Surrogate: 4-BFB</i>		99 %	60-140		"	"	"	"	
<i>Surrogate: 1,2-DCA-d4</i>		97 %	60-140		"	"	"	"	
<b>Gasoline Range Organics (C4-C12)</b>	<b>660</b>	71	ppmv	5	"	"	"	"	
<i>Surrogate: Toluene-d8</i>		96 %	60-140		"	"	"	"	
<i>Surrogate: 4-BFB</i>		99 %	60-140		"	"	"	"	
<i>Surrogate: 1,2-DCA-d4</i>		97 %	60-140		"	"	"	"	

Soma Environmental Eng.  
 6620 Owens Drive, Suite A  
 Pleasanton CA., 94588

 Project: N/A  
 Project Number: 2334 Oakland International  
 Project Manager: Joy Bobek

 S603455  
**Reported:**  
 04/04/06 15:50

**Gasoline\BTEX\Oxygenates by EPA method 8260B**
**Sequoia Analytical - Sacramento**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>SVE-3 (S603455-03) Air Sampled: 03/21/06 14:10 Received: 03/21/06 15:31</b>									
Methyl tert-butyl ether	ND	0.50	mg/m <sup>3</sup> Air	1	6030398	03/24/06	03/24/06	EPA 8260B	
Benzene	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.50	"	"	"	"	"	"	
<b>Gasoline Range Organics (C4-C12)</b>	<b>52</b>	<b>50</b>	"	"	"	"	"	"	
<i>Surrogate: Toluene-d8</i>		95 %	60-140		"	"	"	"	
<i>Surrogate: 4-BFB</i>		101 %	60-140		"	"	"	"	
<i>Surrogate: 1,2-DCA-d4</i>		98 %	60-140		"	"	"	"	
Methyl tert-butyl ether	ND	0.14	ppmv	"	"	"	"	"	
Benzene	ND	0.16	"	"	"	"	"	"	
Ethylbenzene	ND	0.12	"	"	"	"	"	"	
Toluene	ND	0.13	"	"	"	"	"	"	
Xylenes (total)	ND	0.23	"	"	"	"	"	"	
<b>Gasoline Range Organics (C4-C12)</b>	<b>15</b>	<b>14</b>	"	"	"	"	"	"	
<i>Surrogate: Toluene-d8</i>		95 %	60-140		"	"	"	"	
<i>Surrogate: 4-BFB</i>		101 %	60-140		"	"	"	"	
<i>Surrogate: 1,2-DCA-d4</i>		98 %	60-140		"	"	"	"	

Soma Environmental Eng.  
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 Pleasanton CA., 94588

 Project: N/A  
 Project Number: 2334 Oakland International  
 Project Manager: Joy Bobek

 S603455  
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 04/04/06 15:50

### Gasoline\BTEX\Oxygenates by EPA method 8260B - Quality Control

#### Sequoia Analytical - Sacramento

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 6030398 - EPA 5030B [P/T] / EPA 8260B**
**Blank (6030398-BLK1)**

Prepared &amp; Analyzed: 03/23/06

Ethanol	ND	50	mg/m <sup>3</sup> Air							
Ethanol	ND	27	ppmv							
Tert-butyl alcohol	ND	5.0	mg/m <sup>3</sup> Air							
Tert-butyl alcohol	ND	1.6	ppmv							
Methyl tert-butyl ether	ND	0.50	mg/m <sup>3</sup> Air							
Methyl tert-butyl ether	ND	0.14	ppmv							
Di-isopropyl ether	ND	0.12	"							
Di-isopropyl ether	ND	0.50	mg/m <sup>3</sup> Air							
Ethyl tert-butyl ether	ND	0.50	"							
Ethyl tert-butyl ether	ND	0.12	ppmv							
Tert-amyl methyl ether	ND	0.12	"							
Tert-amyl methyl ether	ND	0.50	mg/m <sup>3</sup> Air							
1,2-Dichloroethane	ND	0.12	ppmv							
1,2-Dichloroethane	ND	0.50	mg/m <sup>3</sup> Air							
1,2-Dibromoethane (EDB)	ND	0.50	"							
1,2-Dibromoethane (EDB)	ND	0.065	ppmv							
Benzene	ND	0.16	"							
Benzene	ND	0.50	mg/m <sup>3</sup> Air							
Ethylbenzene	ND	0.50	"							
Ethylbenzene	ND	0.12	ppmv							
Toluene	ND	0.50	mg/m <sup>3</sup> Air							
Toluene	ND	0.13	ppmv							
Xylenes (total)	ND	0.50	mg/m <sup>3</sup> Air							
Xylenes (total)	ND	0.23	ppmv							
Gasoline Range Organics (C4-C12)	ND	50	mg/m <sup>3</sup> Air							
Gasoline Range Organics (C4-C12)	ND	14	ppmv							
<i>Surrogate: Toluene-d8</i>	<i>1.89</i>		<i>mg/m<sup>3</sup> Air</i>	<i>2.00</i>		<i>94</i>	<i>60-140</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.501</i>		<i>ppmv</i>	<i>0.532</i>		<i>94</i>	<i>60-140</i>			
<i>Surrogate: 4-BFB</i>	<i>0.285</i>		<i>"</i>	<i>0.280</i>		<i>102</i>	<i>60-140</i>			
<i>Surrogate: 4-BFB</i>	<i>2.04</i>		<i>mg/m<sup>3</sup> Air</i>	<i>2.00</i>		<i>102</i>	<i>60-140</i>			
<i>Surrogate: 1,2-DCA-d4</i>	<i>1.98</i>		<i>"</i>	<i>2.00</i>		<i>99</i>	<i>60-140</i>			
<i>Surrogate: 1,2-DCA-d4</i>	<i>0.470</i>		<i>ppmv</i>	<i>0.475</i>		<i>99</i>	<i>60-140</i>			

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### Gasoline\BTEX\Oxygenates by EPA method 8260B - Quality Control

#### Sequoia Analytical - Sacramento

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 6030398 - EPA 5030B [P/T] / EPA 8260B**
**Blank (6030398-BLK2)**

Prepared &amp; Analyzed: 03/24/06

Ethanol	ND	50	mg/m <sup>3</sup> Air							
Ethanol	ND	27	ppmv							
Tert-butyl alcohol	ND	5.0	mg/m <sup>3</sup> Air							
Tert-butyl alcohol	ND	1.6	ppmv							
Methyl tert-butyl ether	ND	0.50	mg/m <sup>3</sup> Air							
Methyl tert-butyl ether	ND	0.14	ppmv							
Di-isopropyl ether	ND	0.50	mg/m <sup>3</sup> Air							
Di-isopropyl ether	ND	0.12	ppmv							
Ethyl tert-butyl ether	ND	0.50	mg/m <sup>3</sup> Air							
Ethyl tert-butyl ether	ND	0.12	ppmv							
Tert-amyl methyl ether	ND	0.50	mg/m <sup>3</sup> Air							
Tert-amyl methyl ether	ND	0.12	ppmv							
1,2-Dichloroethane	ND	0.50	mg/m <sup>3</sup> Air							
1,2-Dichloroethane	ND	0.12	ppmv							
1,2-Dibromoethane (EDB)	ND	0.50	mg/m <sup>3</sup> Air							
1,2-Dibromoethane (EDB)	ND	0.065	ppmv							
Benzene	ND	0.50	mg/m <sup>3</sup> Air							
Benzene	ND	0.16	ppmv							
Ethylbenzene	ND	0.50	mg/m <sup>3</sup> Air							
Ethylbenzene	ND	0.12	ppmv							
Toluene	ND	0.50	mg/m <sup>3</sup> Air							
Toluene	ND	0.13	ppmv							
Xylenes (total)	ND	0.50	mg/m <sup>3</sup> Air							
Xylenes (total)	ND	0.23	ppmv							
Gasoline Range Organics (C4-C12)	ND	50	mg/m <sup>3</sup> Air							
Gasoline Range Organics (C4-C12)	ND	14	ppmv							
<i>Surrogate: Toluene-d8</i>	<i>1.87</i>		<i>mg/m<sup>3</sup> Air</i>	<i>2.00</i>		<i>94</i>	<i>60-140</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.498</i>		<i>ppmv</i>	<i>0.532</i>		<i>94</i>	<i>60-140</i>			
<i>Surrogate: 4-BFB</i>	<i>2.03</i>		<i>mg/m<sup>3</sup> Air</i>	<i>2.00</i>		<i>102</i>	<i>60-140</i>			
<i>Surrogate: 4-BFB</i>	<i>0.284</i>		<i>ppmv</i>	<i>0.280</i>		<i>101</i>	<i>60-140</i>			
<i>Surrogate: 1,2-DCA-d4</i>	<i>1.90</i>		<i>mg/m<sup>3</sup> Air</i>	<i>2.00</i>		<i>95</i>	<i>60-140</i>			
<i>Surrogate: 1,2-DCA-d4</i>	<i>0.452</i>		<i>ppmv</i>	<i>0.475</i>		<i>95</i>	<i>60-140</i>			

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 Project: N/A  
 Project Number: 2334 Oakland International  
 Project Manager: Joy Bobek

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### Gasoline\BTEX\Oxygenates by EPA method 8260B - Quality Control

#### Sequoia Analytical - Sacramento

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 6030398 - EPA 5030B [P/T] / EPA 8260B**
**Laboratory Control Sample (6030398-BS1)**

Prepared &amp; Analyzed: 03/23/06

Methyl tert-butyl ether	2.09	0.14	ppmv	2.40		87	60-140			
Methyl tert-butyl ether	7.51	0.50	mg/m <sup>3</sup> Air	8.64		87	60-140			
Benzene	4.81	0.50	"	5.36		90	70-130			
Benzene	1.51	0.16	ppmv	1.68		90	70-130			
Toluene	6.78	0.13	"	8.06		84	70-130			
Toluene	25.5	0.50	mg/m <sup>3</sup> Air	30.3		84	70-130			
Gasoline Range Organics (C4-C12)	398	50	"	440		90	70-130			
Gasoline Range Organics (C4-C12)	113	14	ppmv	125		90	70-130			
<i>Surrogate: Toluene-d8</i>	<i>0.524</i>		<i>"</i>	<i>0.532</i>		<i>98</i>	<i>60-140</i>			
<i>Surrogate: Toluene-d8</i>	<i>1.97</i>		<i>mg/m<sup>3</sup> Air</i>	<i>2.00</i>		<i>98</i>	<i>60-140</i>			
<i>Surrogate: 4-BFB</i>	<i>2.00</i>		<i>"</i>	<i>2.00</i>		<i>100</i>	<i>60-140</i>			
<i>Surrogate: 4-BFB</i>	<i>0.280</i>		<i>ppmv</i>	<i>0.280</i>		<i>100</i>	<i>60-140</i>			
<i>Surrogate: 1,2-DCA-d4</i>	<i>2.02</i>		<i>mg/m<sup>3</sup> Air</i>	<i>2.00</i>		<i>101</i>	<i>60-140</i>			
<i>Surrogate: 1,2-DCA-d4</i>	<i>0.479</i>		<i>ppmv</i>	<i>0.475</i>		<i>101</i>	<i>60-140</i>			

**Laboratory Control Sample Dup (6030398-BSD1)**

Prepared &amp; Analyzed: 03/24/06

Methyl tert-butyl ether	7.91	0.50	mg/m <sup>3</sup> Air	8.64		92	60-140	5	25	
Methyl tert-butyl ether	2.20	0.14	ppmv	2.40		92	60-140	5	25	
Benzene	4.99	0.50	mg/m <sup>3</sup> Air	5.36		93	70-130	4	25	
Benzene	1.56	0.16	ppmv	1.68		93	70-130	3	25	
Toluene	25.1	0.50	mg/m <sup>3</sup> Air	30.3		83	70-130	2	25	
Toluene	6.68	0.13	ppmv	8.06		83	70-130	1	25	
Gasoline Range Organics (C4-C12)	394	50	mg/m <sup>3</sup> Air	440		90	70-130	1	25	
Gasoline Range Organics (C4-C12)	112	14	ppmv	125		90	70-130	0.9	25	
<i>Surrogate: Toluene-d8</i>	<i>1.90</i>		<i>mg/m<sup>3</sup> Air</i>	<i>2.00</i>		<i>95</i>	<i>60-140</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.506</i>		<i>ppmv</i>	<i>0.532</i>		<i>95</i>	<i>60-140</i>			
<i>Surrogate: 4-BFB</i>	<i>1.99</i>		<i>mg/m<sup>3</sup> Air</i>	<i>2.00</i>		<i>100</i>	<i>60-140</i>			
<i>Surrogate: 4-BFB</i>	<i>0.278</i>		<i>ppmv</i>	<i>0.280</i>		<i>99</i>	<i>60-140</i>			
<i>Surrogate: 1,2-DCA-d4</i>	<i>0.467</i>		<i>"</i>	<i>0.475</i>		<i>98</i>	<i>60-140</i>			
<i>Surrogate: 1,2-DCA-d4</i>	<i>1.97</i>		<i>mg/m<sup>3</sup> Air</i>	<i>2.00</i>		<i>98</i>	<i>60-140</i>			

Soma Environmental Eng.  
6620 Owens Drive, Suite A  
Pleasanton CA., 94588

Project:N/A  
Project Number:2334 Oakland International  
Project Manager:Joy Bobek

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04/04/06 15:50

#### Notes and Definitions

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